



Short-Term Energy Outlook (STEO)

Forecast highlights

Winter Fuels Outlook

- EIA projects average U.S. household expenditures for natural gas, heating oil, electricity, and propane will increase this winter (October 1 through March 31) compared with last winter. Based on projections from the National Oceanic and Atmospheric Administration (NOAA), forecast temperatures this winter, measured using heating degree days, are 3% warmer than the previous 10-year average but colder than last winter, which was 15% warmer than the 10-year average nationally.
- Forecast average household expenditures for heating oil, propane, and natural gas are 38%, 26%, and 22% higher than last winter, respectively, because of higher expected heating demand and higher fuel prices. However, expenditures for heating oil and propane this winter are forecast to be 32% and 18% lower, respectively, than in average of the five winters prior to last winter. Natural gas expenditures this winter are forecast to be similar to expenditures in the five winters prior to last year. Higher forecast heating demand contributes to electricity expenditures that are 5% higher than last winter, despite largely unchanged prices (for further discussion see the [Winter Fuels Outlook](#) supplement).

Global petroleum and liquid fuels

- U.S. crude oil production averaged 9.4 million barrels per day (b/d) in 2015, and it is forecast to average 8.7 million b/d in 2016 and 8.6 million b/d in 2017. Forecast production in 2017 is almost 0.1 million b/d higher than in the previous forecast.
- Brent crude oil prices are forecast to average \$43/barrel (b) in 2016 and \$51/b in 2017, \$1/b higher and \$1/b lower than forecast in last month's STEO, respectively. West Texas Intermediate (WTI) crude oil prices are forecast to average about \$1/b less than Brent in 2016 and in 2017. The current values of futures and options contracts suggest high uncertainty in the price outlook. NYMEX contract values for January 2017 delivery traded during the five-day period ending October 6 suggest a price range from \$37/b to \$68/b encompasses the market expectation of WTI prices in January 2017.
- Isolated refinery outages and a [disruption to the Colonial Pipeline system](#) contributed to U.S. average retail regular gasoline prices in September increasing by 4 cents/gallon (gal)

from August to an average of \$2.22/gal. With a return to normal refinery and pipeline operations, the switch to less-expensive winter gasoline blends, and the typical seasonal decline in gasoline consumption, EIA expects gasoline prices to fall an average of \$1.97/gal in January. Retail gasoline prices are forecast to average \$2.12/gal in 2016 and \$2.26/gal in 2017.

- Global oil inventory builds are forecast to average 0.7 million b/d in 2016 and 0.3 million b/d in 2017.

Natural gas

- Natural gas marketed production fell from 79.7 billion cubic feet per day (Bcf/d) in September 2015 to 76.5 Bcf/d in July 2016. EIA expects marketed natural gas production to average 77.5 Bcf/d in 2016, a decrease of 1.6% from the 2015 level, which would be the first annual decline since 2005. Forecast production increases by 3.7 Bcf/d in 2017.
- Henry Hub spot prices are forecast to average \$3.04/million British thermal units (MMBtu) in the fourth quarter of 2016 and \$3.07/MMBtu in 2017. Natural gas futures contracts for January 2017 delivery traded during the five-day period ending October 6 averaged \$3.34/MMBtu. NYMEX contract values for January 2017 delivery traded during the five-day period ending October 6 suggest a price range from \$2.28/MMBtu to \$4.88/MMBtu encompasses the market expectation of Henry Hub natural gas prices in January 2017.

Electricity, coal, renewables, and emissions

- EIA expects the share of U.S. total utility-scale electricity generation from natural gas will average 35% this year, and the share from coal will average 30%. Last year, both fuels supplied about 33% of total U.S. electricity generation. In 2017, natural gas and coal are forecast to generate about 34% and 31% of electricity, respectively, as natural gas prices are forecast to increase. Nonhydropower renewables are forecast to generate 8% of electricity generation in 2016 and 9% in 2017. Generation shares of nuclear and hydropower are forecast to be relatively unchanged from 2016 to 2017.
- **Coal exports** in July 2016 totaled 3.3 million short tons (MMst), which was 40% lower than in June and the lowest amount of coal exported in any month since February 2007. Exports for the first seven months of 2016 were 32% lower than in the same period in 2015. EIA forecasts U.S. coal exports will decline by 26% in 2016 to 55 MMst, the lowest level since 2006. Exports are expected to decline by an additional 5% in 2017.
- Although starting from a relatively low base, utility-scale solar generating capacity increases from 10 gigawatts (GW) at the end of 2014 to 27 GW in 2017, which is an average annual growth rate of 39%, the highest growth rate among sources of renewable electricity generation.

- After declining by 2.8% in 2015, energy-related carbon dioxide emissions in [the first six months of 2016 were the lowest for that period since 1991](#). For all of 2016, emissions are projected to decline by 1.4%, and then increase by 0.6% in 2017. Energy-related CO₂ emissions are sensitive to changes in weather, economic growth, and energy prices.

Petroleum and natural gas markets review

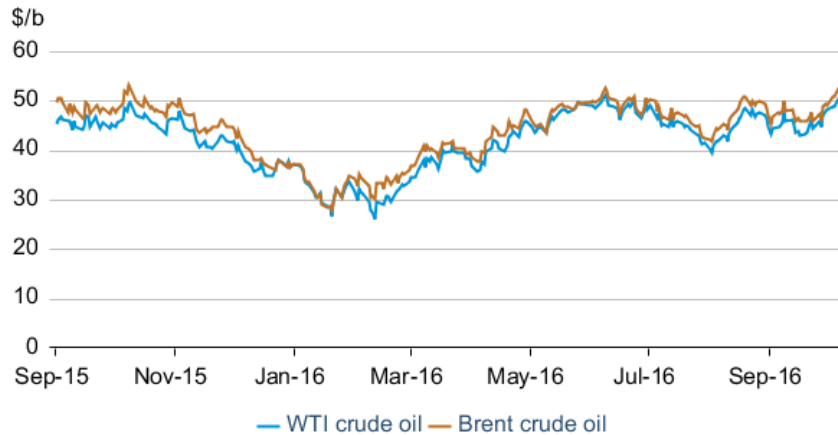
Crude oil

Prices: Front-month futures prices for Brent and West Texas Intermediate (WTI) crude oil increased toward the end of September and the first week of October, settling at \$52.51 per barrel (b) and \$50.44/b, respectively, on October 6 (**Figure 1**). Monthly average spot prices for Brent and WTI increased slightly from August to September.

After an unofficial meeting in Algeria on September 28, members of members of the Organization of the Petroleum Exporting Countries (OPEC) announced a framework agreement that could lead to a cap on OPEC crude oil production around 32.5 to 33.0 million barrels per day (b/d) in 2017. Important details of the agreement, including target outputs for individual countries, still remain to be decided and agreed upon at a regular OPEC meeting in November. Even if such a decision/agreement is actually reached, the extent of compliance with whatever targets are stated remains an important question in light of past experience. Notwithstanding the recent framework agreement, the total OPEC production forecast for 2017 of 33.0 million b/d in the October STEO is almost unchanged from the September forecast.

EIA's October STEO Brent crude oil price forecast for the fourth quarter of 2016 and the first quarter of 2017 is \$48/b, about \$3/b dollars higher than in the September forecast, reflecting recent price movements and a reduction in near-term downside price risks. However, the forecast for prices toward the end of 2017 has actually been reduced, with prices for 2017 as a whole slightly below the September forecast. The recent activity of U.S. onshore producers, along with expectations of higher U.S. production in 2017, is one of the drivers for lowering EIA's Brent crude oil forecast in the fourth quarter of 2017 to \$55/b from a forecast of \$58/b in the September STEO.

Figure 1. Crude oil front-month futures prices

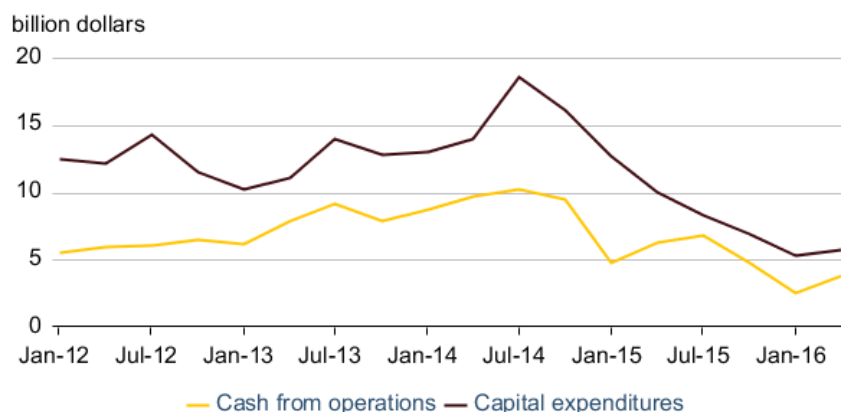


eia Bloomberg L.P.

Second-quarter 2016 financial results for 46 publicly traded U.S. onshore oil producers showed improved financial conditions compared with the first quarter (**Figure 2**). Cash from operations increased from the first quarter to the second quarter of 2016, reflecting higher crude oil prices. Many companies improved operating efficiency, reduced costs, and improved their balance sheets as crude oil prices stabilized. Higher prices also provided the opportunity for these companies to hedge future production at more favorable price levels, with recent price increases likely encouraging additional hedging activity.

Capital expenditures at these companies also rose in the second quarter from the first quarter, the only quarter-over-quarter increase since 2014. Even last year, when higher oil prices in the spring and summer also led to increased cash flow, these companies were still reducing capital expenditures. [Rising active rig counts implied renewed drilling](#) across U.S. basins, and [several merger and acquisition announcements](#) suggest that some companies were actively expanding investment budgets in the second quarter of this year.

Figure 2. Cash flow and capital expenditures for select U.S. oil producers



Crude oil supply and inventories: Increased oil production from Libya and Russia, along with the potential for reduced disruptions to Nigeria’s production, and a recovery in U.S. crude oil production beginning in mid-2017 are contributing to expectations of looser 2017 balances in this STEO compared with last month. In Libya, crude oil production averaged 310,000 b/d in September. However, total crude oil output reached nearly 500,000 b/d at the end of the month, following the suspension of force majeure at a number of the ports that were previously blocked by militants aligned with the Petroleum Facilities Guard.

In Russia, recent oil production has been higher than previously forecast, with production exceeding previous records in recent months. In addition, the start-up of new fields, including Lukoil’s Pyakyakhinskoye field (early September), Filanovsky field (late September), the East Messoyakha (end September), and Rosneft’s Suzun (October), has resulted in a higher-than-previously-expected outlook for Russian production. EIA now forecasts Russia’s oil production to increase by 190,000 b/d in 2016 and by 20,000 b/d in 2017. Previously, EIA had forecast declining Russian production in 2017.

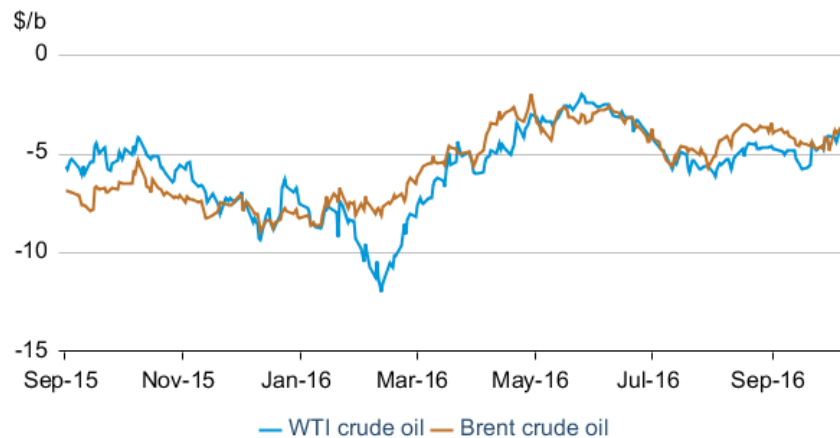
Disrupted volumes of Nigerian crude oil are set to partially return in October as the loading schedules for Qua Iboe and Forcados crude oil streams indicate about 500,000 b/d of extra supply could return to the market.

Some of the additional crude oil volumes could add supplies to the European market and put some downward pressure on Brent prices for delivery in the coming months. The Brent 1st month-13th month futures prices spread, a measure of contango (when near-term futures prices are at a discount to further-dated futures prices), settled at -\$3.70/b on October 6 (**Figure 3**). The shape of the futures curve is relatively unchanged since September 1, which is somewhat unusual because contango typically narrows when front-month prices are rising.

In contrast to the shape of the Brent futures curve, contango in the WTI futures curve decreased, with the 1st-13th spread settling at -\$3.77/b on October 6. Hurricane Hermine

disrupted crude oil imports into the Gulf Coast in September, contributing to large [inventory declines](#) and likely providing some support to front-month WTI prices.

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

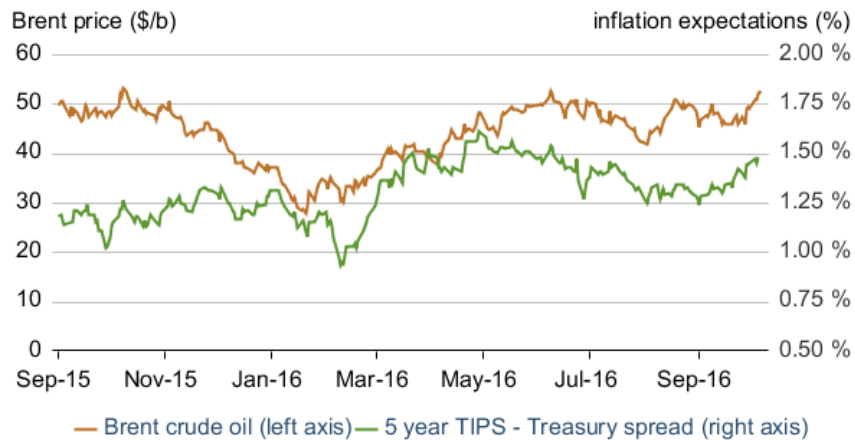


 Bloomberg L.P.

Crude oil demand and inflation expectations: The outlook for global crude oil demand in the October STEO has been revised modestly downward from the September STEO, with global oil demand expected to grow by 1.3 million b/d in both 2016 and 2017. In September, Manufacturing Purchasing Manager Indexes for most major economies around the world indicated expanding manufacturing activity and economies that had contracting manufacturing sectors, such as Brazil, Russia, and Turkey, improved from the prior month. Projections for real oil-weighted GDP growth in non-OECD countries also remained stable at 3.6% for 2017. Despite the recent improvement in macroeconomic indicators, downside risks remain in the oil demand forecast.

U.S. inflation expectations for the next five years, as measured by the difference between yields on Treasury Inflation Protected Securities (TIPS) and five-year treasury bonds, rose to near 1.5% as the U.S. Consumer Price Index (CPI) and the Core CPI (which excludes food and energy costs) for August were both above expectations (**Figure 4**). Inflation levels and crude oil price are typically positively correlated, because energy and transportation costs can affect prices for a wide range of goods and services. The Federal Open Market Committee (FOMC) [met in late September](#), and, although the FOMC decided not to raise interest rates, market participants are expecting a rate increase in the next few months.

Figure 4. Crude oil and inflation expectations



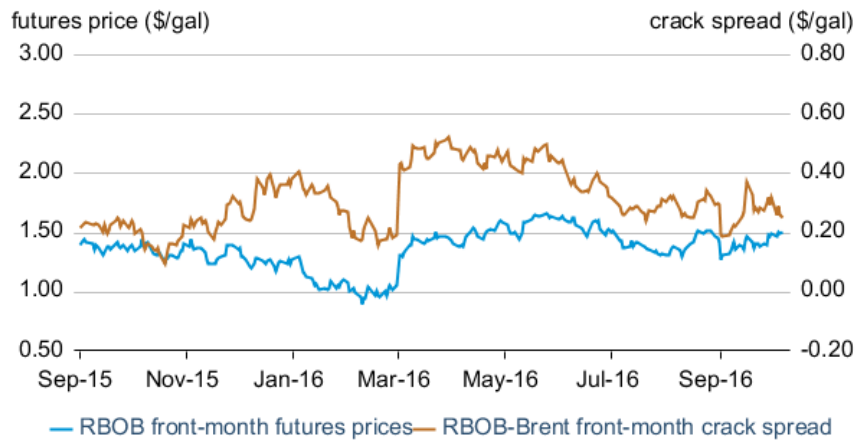
eia Bloomberg, Federal Reserve Bank of St. Louis

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) rose through September and settled at \$1.50 per gallon (gal) on October 6. The RBOB-Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) also increased over the same period. The average crack spread in September was slightly higher than the level last year at this time (**Figure 5**). [Total U.S. gross inputs to refineries](#) declined through September because of a combination of planned maintenance and unplanned outages, which may have contributed to increasing gasoline prices and crack spreads.

Based on initial data, EIA estimates U.S. gasoline consumption in September reached a record high for that month, continuing the trend of year-over-year growth in gasoline consumption seen in 2016. The latest data from the Federal Highway Administration show that U.S. [vehicle miles traveled](#) in June and July set consecutive record highs. Increased travel, because of a combination of [generally low gasoline prices](#), [growing employment](#), and [rising wages](#), has likely contributed to continued growth in gasoline consumption this year.

Figure 5. Historical RBOB futures prices and crack spread



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Gasoline Spot Price Differentials: Some of the increase in the RBOB-Brent crack spread was also in response to transportation constraints in the U.S. gasoline spot market. The [Line 1 pipeline in the Colonial Pipeline system](#) was unexpectedly shut down for about two weeks in September after a leak was discovered in a section of the pipeline in Alabama. Line 1 transports gasoline from the U.S. Gulf Coast, home to roughly 50% of U.S. refining capacity, to markets in the Southeast as far north as Greensboro, North Carolina, from which other pipelines within the Colonial Pipeline system transport the fuel to locations farther north, ending in New Jersey.

Because of the pipeline outage, gasoline stocks in both the Southeast and the Middle Atlantic regions, respectively reported as [Petroleum Administration for Defense Districts \(PADDs\) 1C and 1B](#), declined in September, while gasoline stocks along the Gulf Coast (PADD 3) rose. As a result, the New York Harbor-Gulf Coast conventional gasoline spot price spread rose sharply in mid-September (**Figure 6**). After service was restored on Line 1 toward the end of September, the gasoline price spread between New York Harbor and the U.S. Gulf Coast declined.

Figure 6. New York Harbor - Gulf Coast conventional gasoline spot price differentials

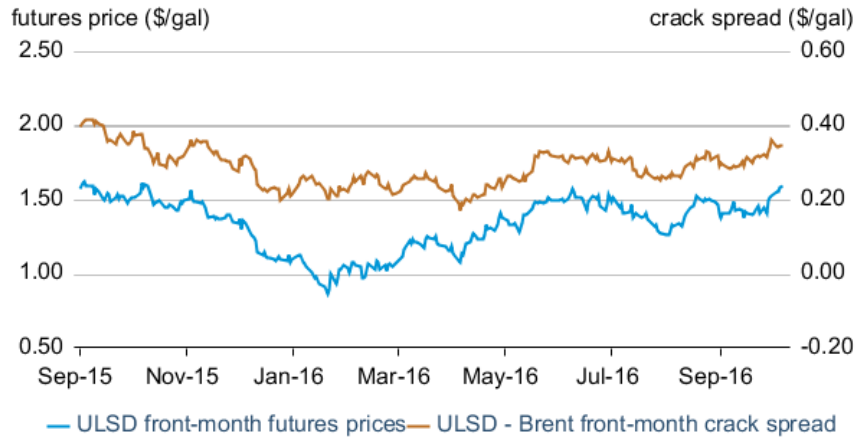


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Ultra-low Sulfur Diesel Prices: The front-month futures price for the New York Harbor Ultra-low Sulfur Diesel (ULSD) contract rose in September and settled at \$1.60/gal on October 6. The ULSD-Brent crack spread also rose over the same period (**Figure 7**).

The ULSD crack spread rose despite high U.S. distillate inventory levels. Total U.S. distillate stocks at the end of September were at the highest level since February, as U.S. distillate consumption in third quarter of 2016 was estimated to be the lowest for any quarter since 2009. Distillate market fundamentals globally, however, may not be as weak compared with the U.S. distillate market, and are likely supporting the ULSD crack spread. Gasoil stocks in the European storage hub of Amsterdam-Rotterdam-Antwerp declined in September and are now lower than year-ago inventory levels. Middle distillate stocks in Singapore declined strongly from a five-year high set in mid-September. Inventory draws in these trading hubs may be the result of current refinery maintenance in Europe and expected maintenance at large export refineries in the Middle East that routinely supply these markets during the coming months.

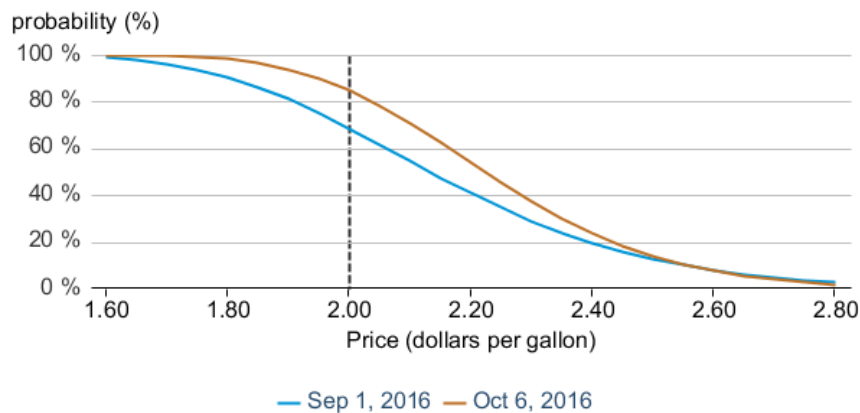
Figure 7. Historical ULSD futures price and crack spread



eia Bloomberg L.P.

Market-Derived Probabilities: Futures and options prices show that market expectations for ULSD prices this winter rose over the past month. The January 2017 ULSD futures contract averaged \$1.59/gal for the five trading days ending October 6 and has an 85% probability of exceeding \$2.00/gal at expiration (**Figure 8**). The same contract for the five trading days ending September 1 had a 68% probability of exceeding \$2.00/gal. Note that futures and options traded on the New York Mercantile Exchange reflect wholesale distillate prices, which do not include costs associated with delivery or taxes.

Figure 8. Probability of the January 2017 ULSD contract exceeding different price levels at expiration



eia U.S. Energy Information Administration, CME Group

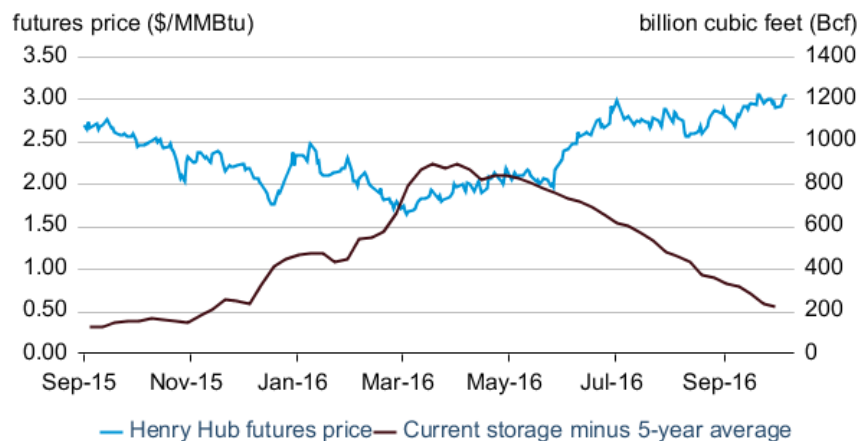
Natural gas

Prices and inventories: The front-month natural gas contract for delivery at Henry Hub settled at \$3.05 per million British thermal units (MMBtu) on October 6. On September 20, the contract settled above \$3/MMBtu for the first time since May 2015 (**Figure 9**). The September average

spot price for natural gas at Henry Hub increased by 17 cents/MMBtu compared with the average price in August.

Current natural gas futures prices are higher than at any point during the last winter heating season, reflecting a combination of higher demand for natural gas for electricity generation, lower-than-normal inventory builds, and the market’s expectation for colder temperatures this winter compared with temperatures last winter. EIA estimates that natural gas used for [electricity generation](#) in the third quarter of 2016 reached a record both in absolute level and as a share of total generation. This increase in natural gas-fired electricity generation contributed to the slowing build of [U.S. working natural gas inventories](#), which were 2.5 trillion cubic feet, at the beginning of April, a record high level for the start of the injection season. EIA currently forecasts that working natural gas inventories will reach nearly 4 trillion cubic feet at the end of October, before inventories start their seasonal decline sometime in November.

Figure 9. U.S. natural gas prices and storage



 U.S. EIA, Bloomberg L.P.

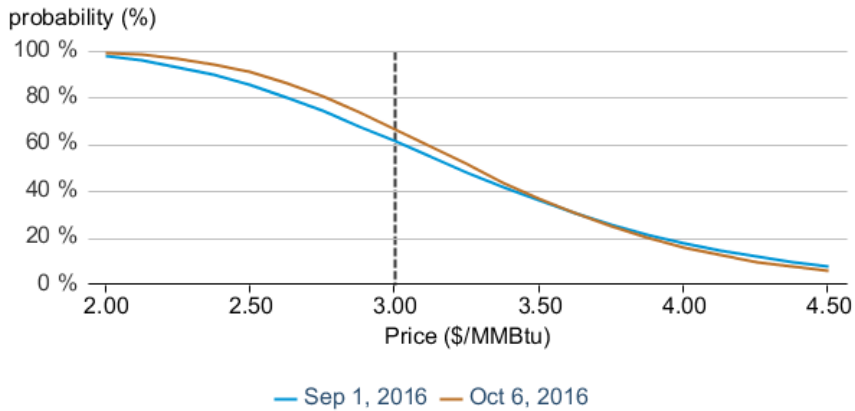
January 2017 prices in Northeast: The price of natural gas for January 2017 delivery to Transco Zone 6 (New York) and Algonquin City Gate (Boston) averaged \$8.79/MMBtu and \$7.54/MMBtu, respectively, in September (**Figure 10**). The lower prices for 2017 compared with average January spot prices in 2014 through 2016 reflect [increased pipeline capacity](#) into the Northeast. However, these prices are still higher compared with spot prices in producing areas, like the Marcellus or Utica, implying that transportation constraints could cause prices in major Northeast demand centers to move higher during periods of cold temperatures and increased demand for home heating this winter.

Figure 10. Northeast natural gas prices for January 2017 delivery



Market-Derived Probabilities: The January 2017 Henry Hub futures contract averaged \$3.34/MMBtu for the five trading days ending October 6 and has a 67% probability of exceeding \$3.00/MMBtu at expiration. The same contract for the five trading days ending September 1 had a 61% probability of exceeding \$3.00/MMBtu (**Figure 11**).

Figure 11. Probability of the January 2017 Henry Hub contract expiring above price levels



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Notable forecast changes

- U.S. crude oil production is forecast to average 8.7 million b/d in 2016 and 8.6 million b/d in 2017. Forecast production in 2017 is almost 0.1 million b/d higher than in the previous forecast. The forecast for U.S. crude oil production between the fourth quarter of 2016 and the second quarter of 2017 has been lowered slightly, but by the fourth quarter of 2017, production is more than 0.2 million b/d higher than previously forecast. The higher production forecast is the result of changes in modeling methodology applied to the Lower 48 states excluding federal Gulf of Mexico. Most important in the new methodology, all horizontal wells drilled since 2014 are fit with individual decline curves and projected out to 2020 before being aggregated to state and sub-state region levels. Aggregate decline curve parameters are also calculated for all other wells by state and intrastate regions.
- Global oil inventory builds are forecast to average 0.7 million b/d in 2016 and 0.3 million b/d in 2017, which are 0.1 million b/d lower and 0.3 million b/d higher, respectively, than in the previous forecast. Estimated global inventory builds are lower in 2016 because of reductions in supply expectations based on historical data, particularly for OPEC, China, and other Asia. In 2017, forecast inventory builds are higher, largely because of higher expected oil production in Russia and the United States, along with lower expected global oil consumption.
- Although annual average Brent prices are largely unchanged from the previous forecast, prices in the fourth quarter of 2016 and first quarter of 2017 are now forecast to average \$48/b, \$3/b higher than previously forecast. The higher forecast reflects lower expected global oil inventory builds during 2016 and lower risk of OPEC crude oil production coming in above forecast levels in 2017. Brent prices in the fourth quarter of 2017 are now expected to average \$55/b, \$3/b lower than previously forecast. The lower forecast reflects higher expected oil production in Russia and the United States.
- EIA forecasts gasoline consumption to grow by 160,000 b/d (1.7%) in 2016 and by 50,000 b/d (0.5%) in 2017. The 2017 forecast is up from zero expected growth in the previous forecast.
- Natural gas marketed production is forecast to average 77.5 Bcf/d in 2016 and 81.2 Bcf/d in 2017, which are 1.7 Bcf/d and 0.4 Bcf/d lower than in the previous forecast, respectively. These changes reflect forecast adjustments based on lower-than-expected drilling activity that has contributed to actual data coming in below previously forecast levels.
- For more information, please see a [detailed table of forecast changes](#).

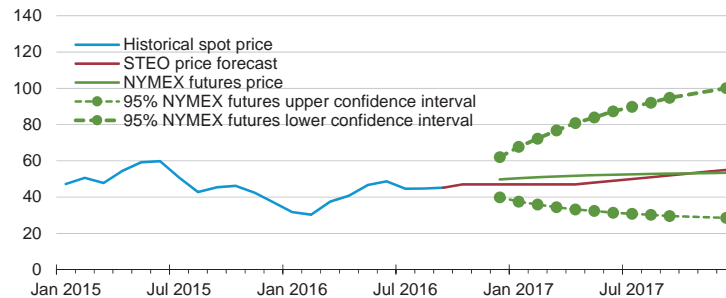
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views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



Short-Term Energy Outlook

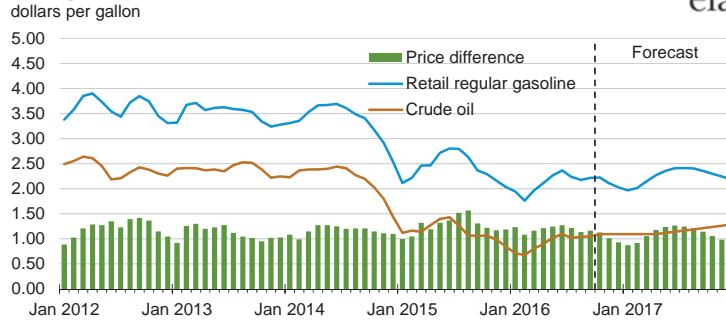
Chart Gallery for October 2016

West Texas intermediate (WTI) crude oil price
dollars per barrel



Note: Confidence interval derived from options market information for the 5 trading days ending Oct 6, 2016. Intervals not calculated for months with sparse trading in near-the-money options contracts.
Source: Short-Term Energy Outlook, October 2016.

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

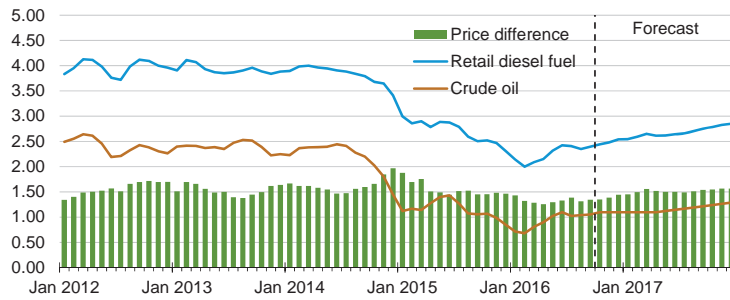


Crude oil price is composite refiner acquisition cost. Retail prices include state and federal taxes.

Source: Short-Term Energy Outlook, October 2016.

U.S. diesel fuel and crude oil prices

dollars per gallon

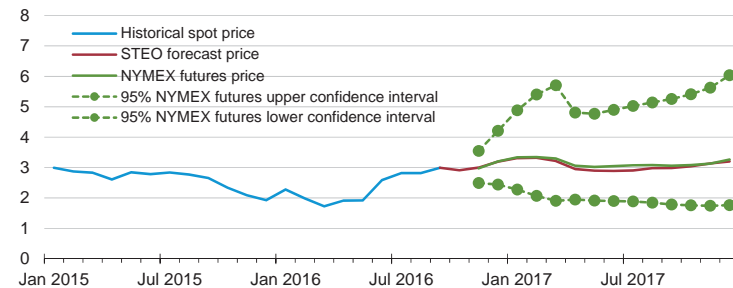


Crude oil price is composite refiner acquisition cost. Retail prices include state and federal taxes.

Source: Short-Term Energy Outlook, October 2016.

Henry hub natural gas price

dollars per million Btu

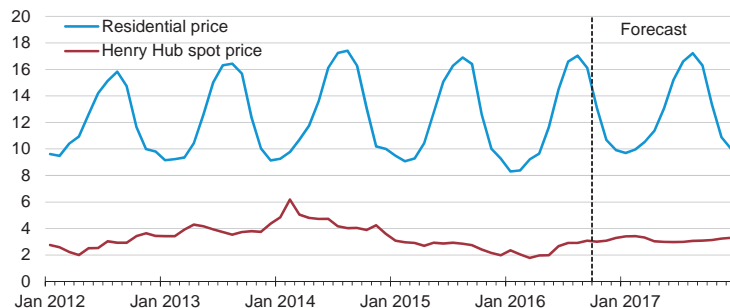


Note: Confidence interval derived from options market information for the 5 trading days ending Oct 6, 2016. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, October 2016.

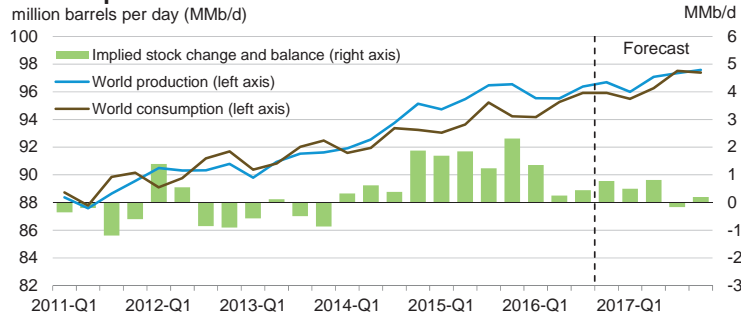
U.S. natural gas prices

dollars per thousand cubic feet



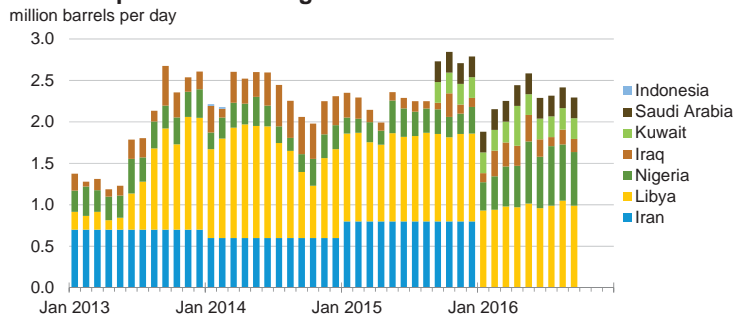
Source: Short-Term Energy Outlook, October 2016.

World liquid fuels production and consumption balance



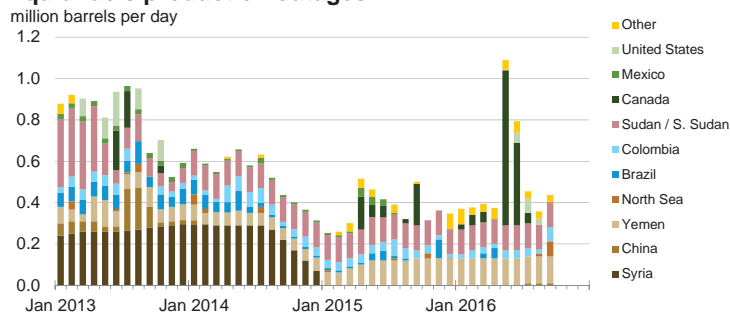
Source: Short-Term Energy Outlook, October 2016.

Estimated historical unplanned OPEC crude oil production outages



Source: Short-Term Energy Outlook, October 2016.

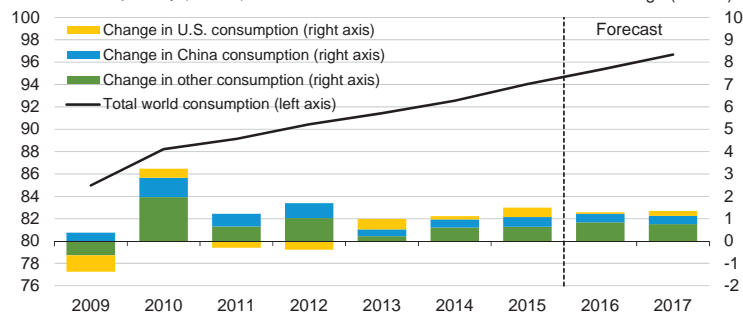
Estimated historical unplanned non-OPEC liquid fuels production outages



Source: Short-Term Energy Outlook, October 2016.

World liquid fuels consumption

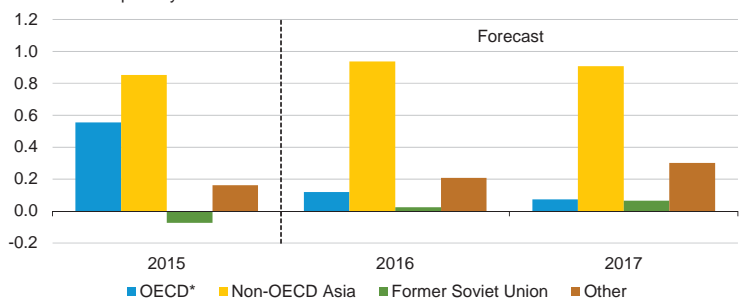
million barrels per day (MMb/d)



Source: Short-Term Energy Outlook, October 2016.

World liquid fuels consumption growth

million barrels per day

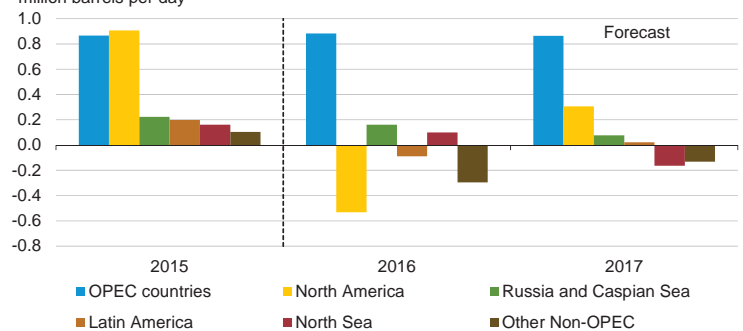


* Countries belonging to the Organization for Economic Cooperation and Development

Source: Short-Term Energy Outlook, October 2016.

World crude oil and liquid fuels production growth

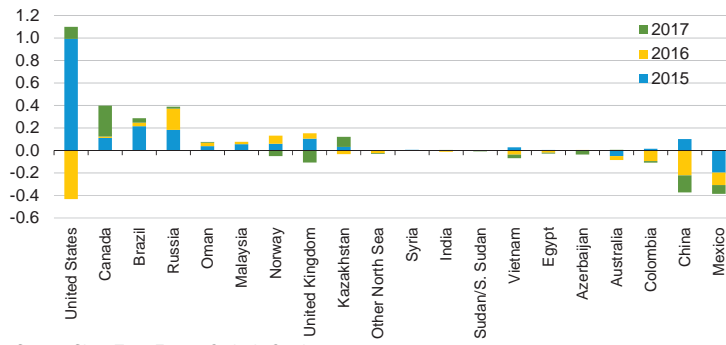
million barrels per day



Source: Short-Term Energy Outlook, October 2016.

Non-OPEC crude oil and liquid fuels production growth

million barrels per day

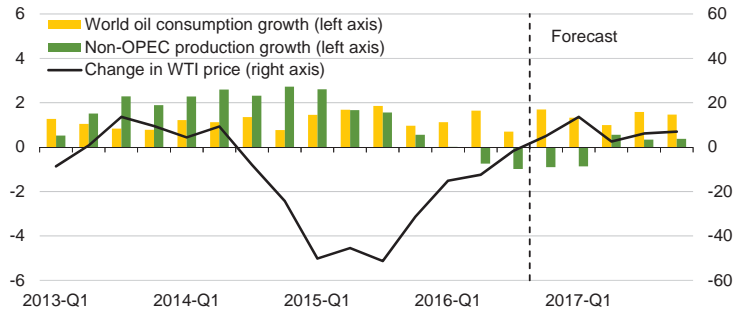


Source: Short-Term Energy Outlook, October 2016.

World consumption and non-OPEC production growth

million barrels per day

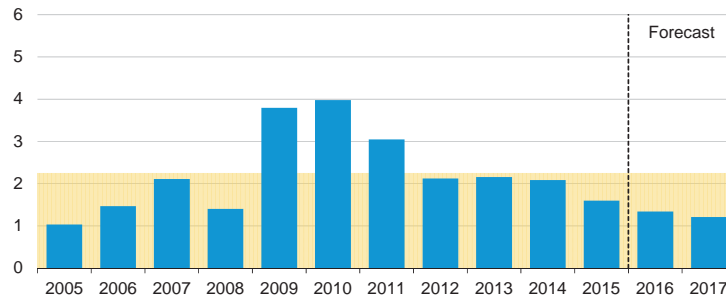
dollars per barrel



Source: Short-Term Energy Outlook, October 2016.

OPEC surplus crude oil production capacity

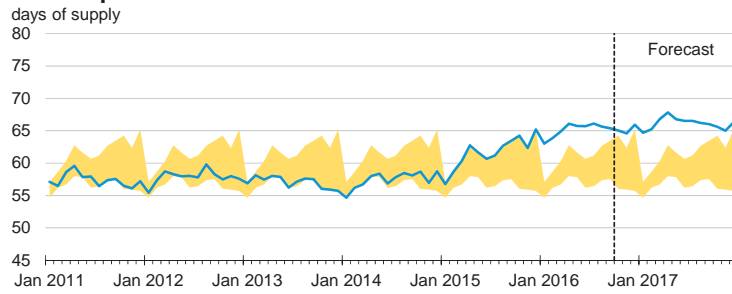
million barrels per day



Note: Shaded area represents 2005-2015 average (2.3 million barrels per day).

Source: Short-Term Energy Outlook, October 2016.

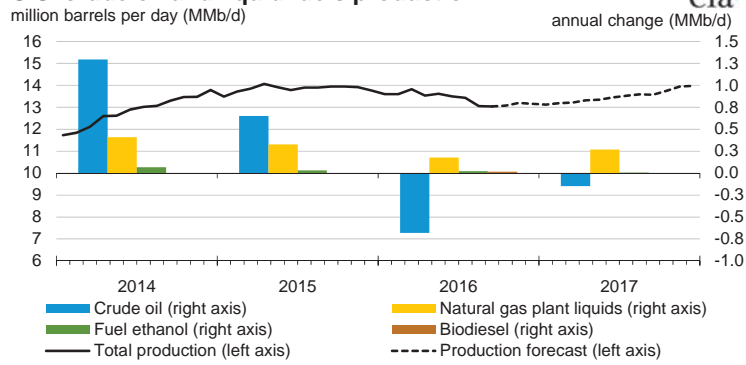
OECD commercial stocks of crude oil and other liquids



Note: Colored band around days of supply of crude oil and other liquids stocks represents the range between the minimum and maximum from Jan. 2011 - Dec. 2015.

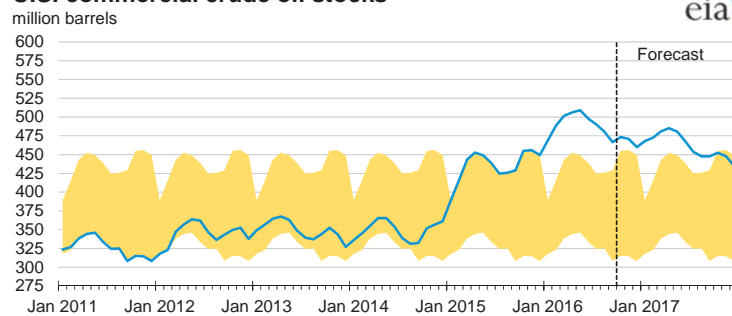
Source: Short-Term Energy Outlook, October 2016.

U.S. crude oil and liquid fuels production



Source: Short-Term Energy Outlook, October 2016.

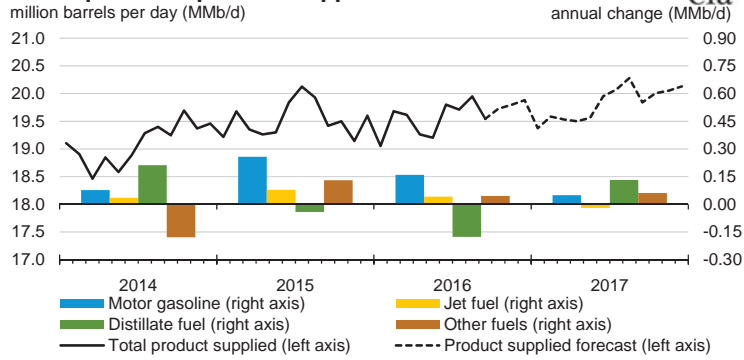
U.S. commercial crude oil stocks



Note: Colored band around storage levels represents the range between the minimum and maximum from Jan. 2011 - Dec. 2015.

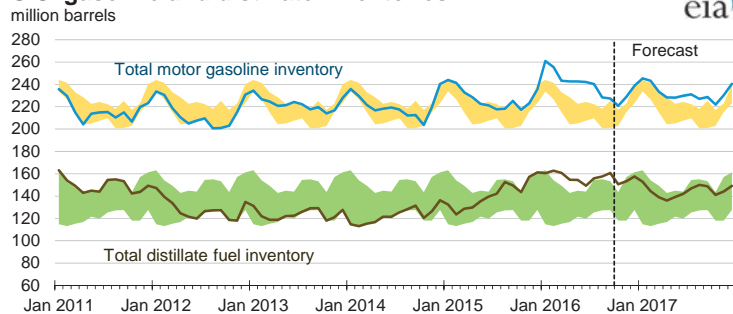
Source: Short-Term Energy Outlook, October 2016.

U.S. liquid fuels product supplied



Source: Short-Term Energy Outlook, October 2016.

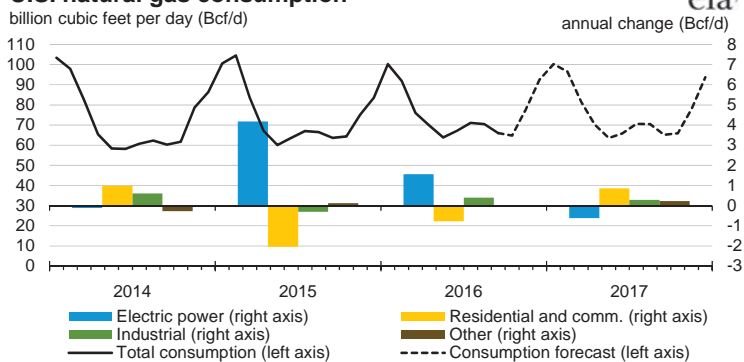
U.S. gasoline and distillate inventories



Note: Colored bands around storage levels represent the range between the minimum and maximum from Jan. 2011 - Dec. 2015.

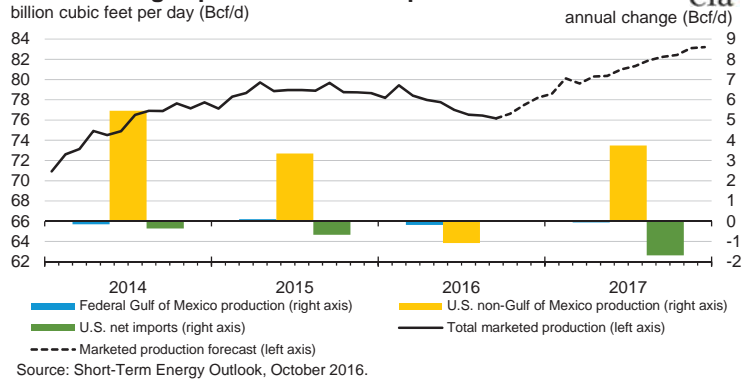
Source: Short-Term Energy Outlook, October 2016.

U.S. natural gas consumption

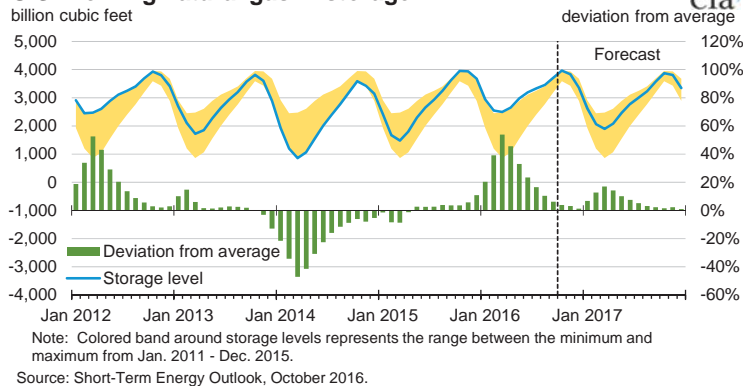


Source: Short-Term Energy Outlook, October 2016.

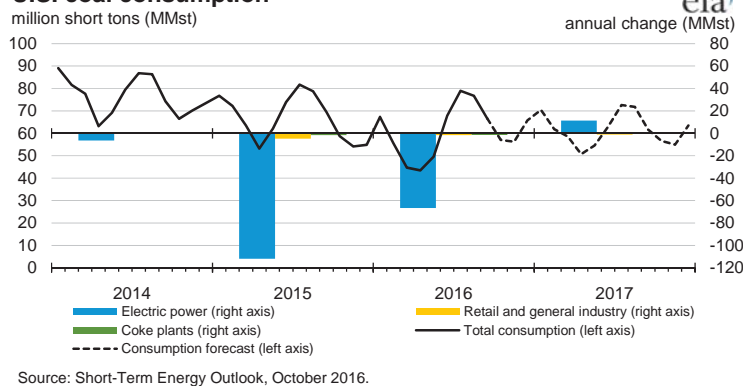
U.S. natural gas production and imports



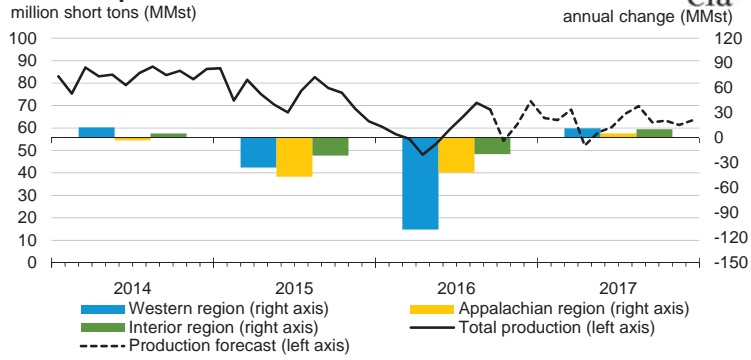
U.S. working natural gas in storage



U.S. coal consumption

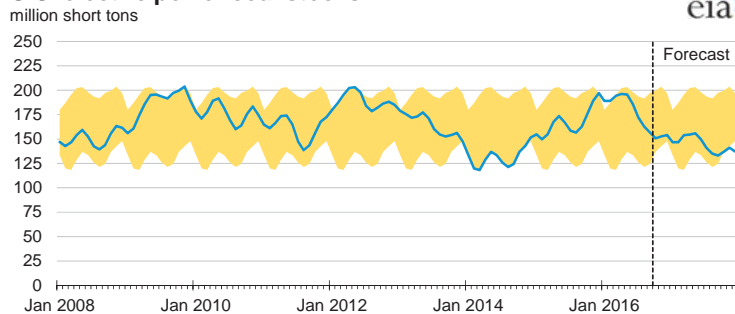


U.S. coal production



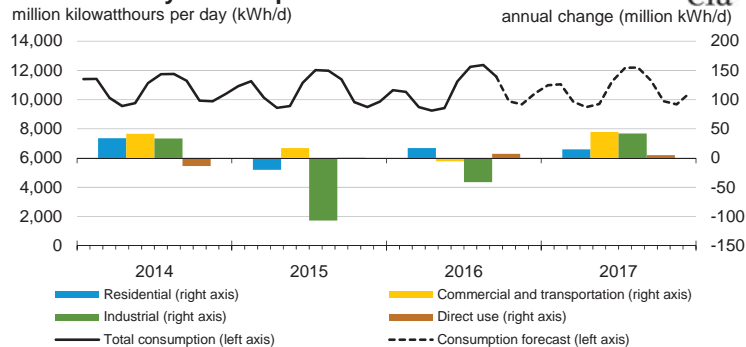
Source: Short-Term Energy Outlook, October 2016.

U.S. electric power coal stocks



Source: Short-Term Energy Outlook, October 2016.

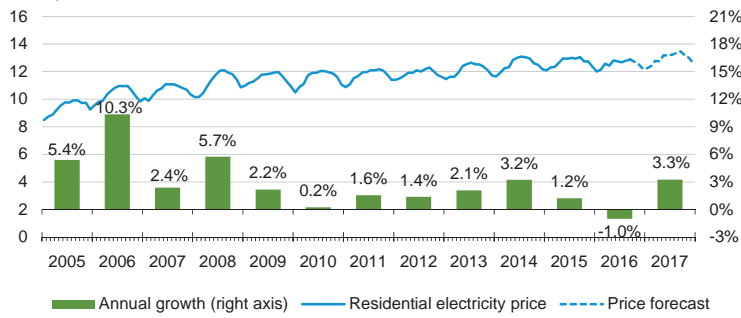
U.S. electricity consumption



Source: Short-Term Energy Outlook, October 2016.

U.S. residential electricity price

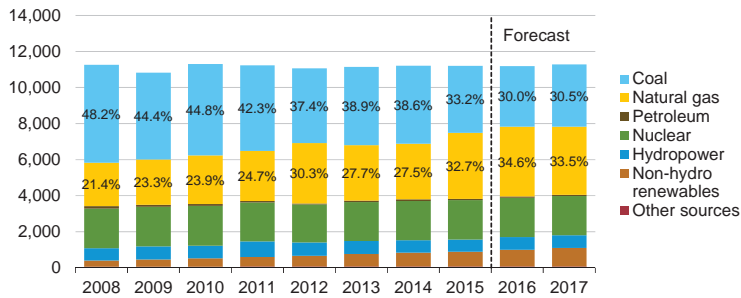
cents per kilowatthour



Source: Short-Term Energy Outlook, October 2016.

U.S. electricity generation by fuel, all sectors

thousand megawatthours per day

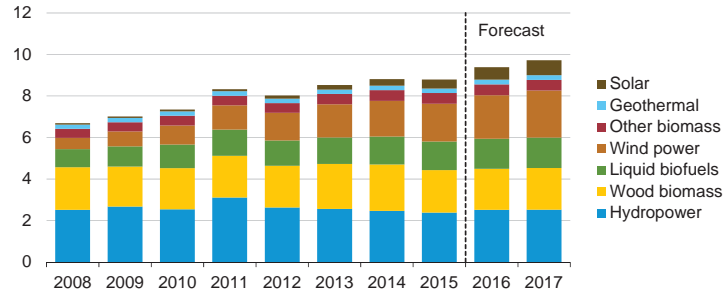


Note: Labels show percentage share of total generation provided by coal and natural gas.

Source: Short-Term Energy Outlook, October 2016.

U.S. renewable energy supply

quadrillion British thermal units (Btu)

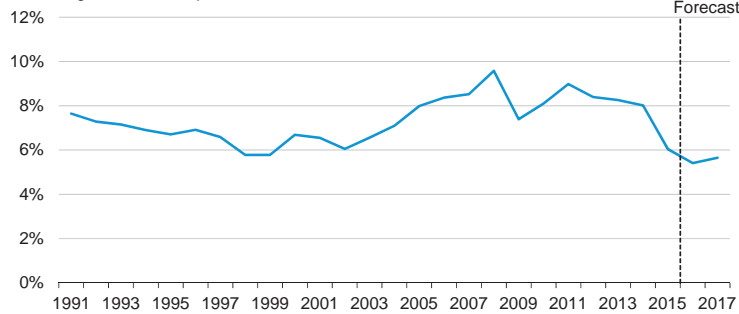


Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: Short-Term Energy Outlook, October 2016.

U.S. annual energy expenditures

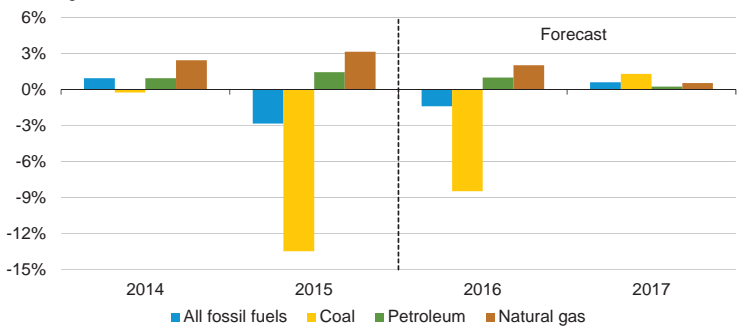
share of gross domestic product



Source: Short-Term Energy Outlook, October 2016.

U.S. energy-related carbon dioxide emissions

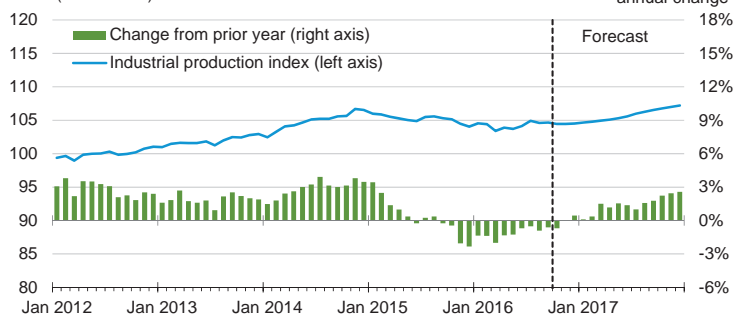
annual growth



Source: Short-Term Energy Outlook, October 2016.

U.S. total industrial production index

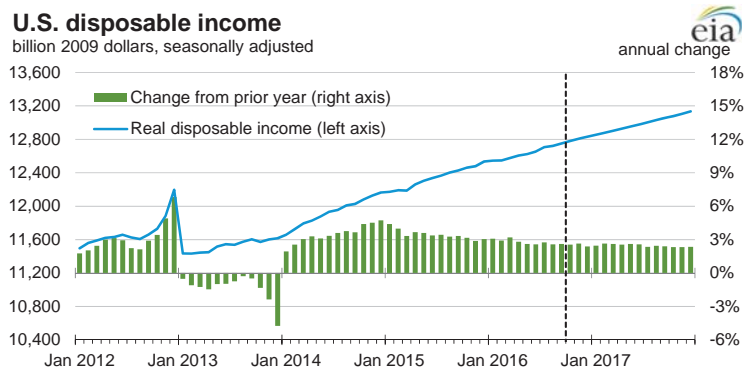
index (2007 = 100)



Source: Short-Term Energy Outlook, October 2016.

U.S. disposable income

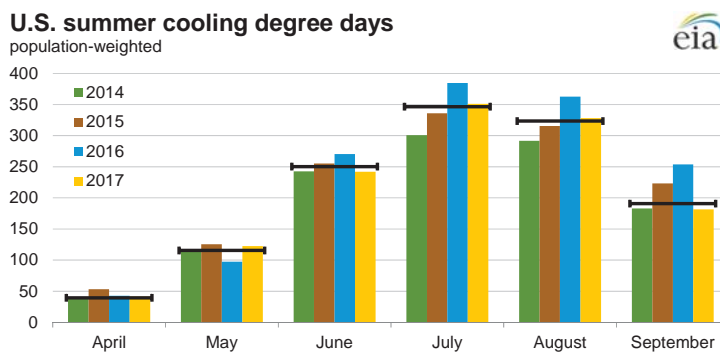
billion 2009 dollars, seasonally adjusted



Source: Short-Term Energy Outlook, October 2016.

U.S. summer cooling degree days

population-weighted

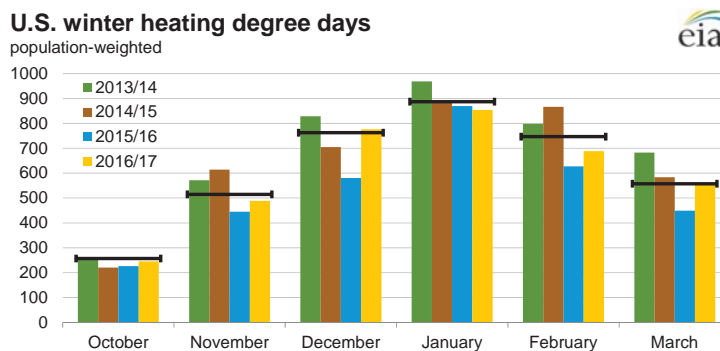


Note: EIA calculations based on from the National Oceanic and Atmospheric Administration data. Horizontal lines indicate each month's prior 10-year average (2007-2016). Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, October 2016.

U.S. winter heating degree days

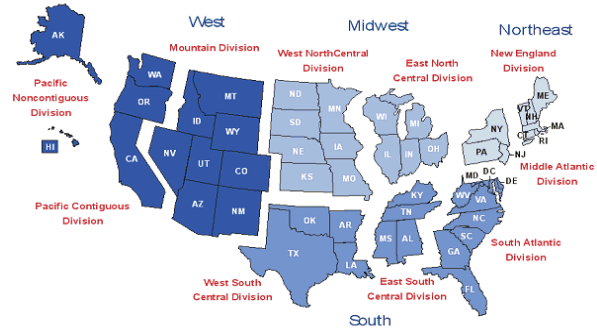
population-weighted



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Horizontal lines indicate each month's prior 10-year average (Oct 2006 - Mar 2016). Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, October 2016.

U.S. census regions and divisions



Source: Short-Term Energy Outlook, October 2016.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

Fuel / Region	Winter of							Forecast	
	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	% Change
Natural Gas									
Northeast									
Consumption (Mcf**)	75.7	80.7	66.4	76.1	84.0	84.7	67.7	76.9	13.6
Price (\$/mcf)	13.31	12.66	12.21	11.71	11.53	10.85	10.20	11.56	13.3
Expenditures (\$)	1,007	1,022	812	891	969	919	691	889	28.8
Midwest									
Consumption (Mcf)	78.6	80.2	65.4	77.6	88.1	83.1	67.7	76.7	13.4
Price (\$/mcf)	9.44	9.23	8.99	8.36	8.69	8.56	7.61	8.70	14.4
Expenditures (\$)	742	740	587	648	766	711	515	668	29.7
South									
Consumption (Mcf)	53.2	49.3	40.8	46.5	52.1	50.5	40.7	45.9	12.8
Price (\$/mcf)	11.52	11.02	11.45	10.71	10.77	10.84	10.88	11.88	9.1
Expenditures (\$)	613	543	468	497	561	547	443	545	23.1
West									
Consumption (Mcf)	49.9	49.4	49.1	48.6	46.4	41.4	45.8	45.2	-1.3
Price (\$/mcf)	9.91	9.67	9.35	9.13	9.96	10.67	9.90	10.54	6.5
Expenditures (\$)	494	478	459	444	462	442	453	476	5.1
U.S. Average									
Consumption (Mcf)	64.4	65.0	55.7	62.5	68.0	64.8	55.7	61.3	10.0
Price (\$/mcf)	10.83	10.46	10.25	9.72	9.97	9.91	9.31	10.37	11.3
Expenditures (\$)	698	679	570	607	677	642	519	635	22.4
Heating Oil									
U.S. Average									
Consumption (gallons)	544.7	580.7	471.1	545.4	607.1	608.0	481.4	553.3	14.9
Price (\$/gallon)	2.85	3.38	3.73	3.87	3.88	3.04	2.06	2.48	20.1
Expenditures (\$)	1,552	1,965	1,757	2,113	2,353	1,849	992	1,370	38.1
Electricity									
Northeast									
Consumption (kWh***)	6,847	7,076	6,436	6,862	7,221	7,251	6,494	6,907	6.4
Price (\$/kwh)	0.152	0.154	0.154	0.152	0.163	0.168	0.165	0.167	1.1
Expenditures (\$)	1,039	1,091	993	1,046	1,177	1,222	1,071	1,152	7.5
Midwest									
Consumption (kWh)	8,660	8,733	7,897	8,588	9,168	8,858	8,031	8,538	6.3
Price (\$/kwh)	0.099	0.105	0.111	0.112	0.112	0.118	0.121	0.123	1.8
Expenditures (\$)	856	914	875	958	1,031	1,043	972	1,052	8.2
South									
Consumption (kWh)	8,482	8,220	7,466	7,972	8,381	8,281	7,458	7,903	6.0
Price (\$/kwh)	0.103	0.104	0.107	0.107	0.109	0.111	0.111	0.110	-0.3
Expenditures (\$)	873	855	797	851	913	919	827	873	5.6
West									
Consumption (kWh)	7,239	7,216	7,190	7,150	6,981	6,600	6,947	6,904	-0.6
Price (\$/kwh)	0.110	0.112	0.115	0.119	0.123	0.126	0.130	0.131	0.9
Expenditures (\$)	799	809	825	848	860	835	901	903	0.3
U.S. Average									
Consumption (kWh)	7,935	7,842	7,251	7,670	7,980	7,801	7,238	7,590	4.9
Price (\$/kwh)	0.110	0.113	0.116	0.117	0.120	0.123	0.124	0.125	0.5
Expenditures (\$)	873	884	842	895	955	960	896	945	5.4

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

Fuel / Region	Winter of							Forecast	
	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	% Change
Propane									
Northeast									
Consumption (gallons)	672.0	717.5	595.6	675.8	745.1	751.2	607.2	686.6	13.1
Price* (\$/gallon)	2.98	3.24	3.34	3.00	3.56	3.00	2.71	2.90	7.0
Expenditures (\$)	2,004	2,321	1,990	2,031	2,653	2,254	1,646	1,991	21.0
Midwest									
Consumption (gallons)	779.6	791.9	644.3	766.4	868.6	813.3	667.7	757.2	13.4
Price* (\$/gallon)	1.99	2.11	2.23	1.74	2.61	1.91	1.47	1.68	14.3
Expenditures (\$)	1,548	1,674	1,437	1,333	2,267	1,553	982	1,272	29.6

Number of households by primary space heating fuel (thousands)

Northeast									
Natural gas	10,992	11,118	11,236	11,345	11,522	11,724	11,842	11,959	1.0
Heating oil	6,016	5,858	5,701	5,458	5,241	5,101	4,971	4,827	-2.9
Propane	733	744	761	813	845	860	873	878	0.6
Electricity	2,645	2,776	2,894	3,011	3,036	3,104	3,222	3,307	2.6
Wood	501	512	548	582	585	566	541	536	-0.9
Other/None	311	315	324	377	436	438	434	452	4.2
Midwest									
Natural gas	18,050	17,977	18,019	18,054	18,072	18,167	18,092	18,046	-0.3
Heating oil	451	419	393	360	336	318	299	280	-6.5
Propane	2,098	2,073	2,037	2,063	2,088	2,079	2,076	2,061	-0.7
Electricity	4,715	4,922	5,119	5,333	5,422	5,500	5,722	5,924	3.5
Wood	616	618	631	640	632	612	602	612	1.7
Other/None	283	289	282	319	353	350	350	362	3.3
South									
Natural gas	13,731	13,657	13,636	13,681	13,793	13,906	13,914	13,962	0.3
Heating oil	906	853	790	738	698	680	656	623	-5.1
Propane	2,165	2,098	2,024	1,982	1,943	1,924	1,888	1,828	-3.2
Electricity	25,791	26,555	27,283	27,857	28,230	28,802	29,483	30,158	2.3
Wood	586	599	609	612	616	587	581	601	3.4
Other/None	314	309	304	367	419	408	405	410	1.3
West									
Natural gas	14,939	15,020	15,021	15,009	15,059	15,216	15,318	15,434	0.8
Heating oil	289	279	261	247	234	225	218	209	-4.0
Propane	940	914	885	909	930	917	910	899	-1.2
Electricity	7,877	8,126	8,439	8,671	8,754	8,919	9,221	9,489	2.9
Wood	721	725	736	728	744	747	724	731	1.0
Other/None	850	850	829	903	1,015	1,076	1,074	1,076	0.2
U.S. Totals									
Natural gas	57,713	57,771	57,912	58,088	58,446	59,014	59,166	59,401	0.4
Heating oil	7,662	7,408	7,145	6,803	6,509	6,324	6,144	5,938	-3.3
Propane	5,936	5,829	5,707	5,766	5,806	5,780	5,746	5,667	-1.4
Electricity	41,029	42,380	43,734	44,873	45,442	46,325	47,649	48,878	2.6
Wood	2,424	2,454	2,524	2,563	2,576	2,512	2,448	2,480	1.3
Other/None	1,758	1,763	1,739	1,965	2,222	2,272	2,263	2,300	1.7

Heating degree days

Northeast	4,933	5,337	4,217	4,964	5,594	5,644	4,318	5,042	16.8
Midwest	5,639	5,773	4,484	5,544	6,451	6,003	4,687	5,471	16.7
South	2,867	2,629	2,019	2,426	2,783	2,689	2,010	2,375	18.1
West	3,285	3,258	3,229	3,181	2,989	2,565	2,946	2,897	-1.7
U.S. Average	3,936	3,938	3,223	3,720	4,108	3,880	3,198	3,610	12.9

Note: Winter covers the period October 1 through March 31. Fuel prices are nominal prices. Fuel consumption per household is based only on households that use that fuel as the primary space-heating fuel. Included in fuel consumption is consumption for water heating, appliances, and lighting (electricity). Per-household consumption based on an average of EIA 2005 and 2009 Residential Energy Consumption Surveys corrected for actual and projected heating degree days. Number of households using heating oil includes kerosene.

* Prices exclude taxes

** thousand cubic feet

*** kilowatthour

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Energy Supply															
Crude Oil Production (a) (million barrels per day)	9.49	9.47	9.41	9.30	<i>9.17</i>	<i>8.85</i>	<i>8.47</i>	<i>8.45</i>	<i>8.50</i>	<i>8.54</i>	<i>8.53</i>	<i>8.77</i>	9.42	<i>8.73</i>	<i>8.59</i>
Dry Natural Gas Production (billion cubic feet per day)	73.44	74.50	74.51	74.08	<i>73.77</i>	<i>72.44</i>	<i>71.26</i>	<i>72.50</i>	<i>74.54</i>	<i>75.76</i>	<i>76.83</i>	<i>77.76</i>	74.14	<i>72.49</i>	<i>76.23</i>
Coal Production (million short tons)	240	212	237	207	<i>173</i>	<i>161</i>	<i>205</i>	<i>188</i>	<i>196</i>	<i>171</i>	<i>199</i>	<i>188</i>	897	<i>726</i>	<i>753</i>
Energy Consumption															
Liquid Fuels (million barrels per day)	19.41	19.47	19.83	19.42	<i>19.45</i>	<i>19.42</i>	<i>19.74</i>	<i>19.80</i>	<i>19.49</i>	<i>19.67</i>	<i>20.07</i>	<i>20.06</i>	19.53	<i>19.60</i>	<i>19.83</i>
Natural Gas (billion cubic feet per day)	95.94	63.57	65.73	74.34	<i>89.38</i>	<i>66.92</i>	<i>69.23</i>	<i>78.41</i>	<i>92.69</i>	<i>66.50</i>	<i>68.80</i>	<i>79.17</i>	74.81	<i>75.97</i>	<i>76.73</i>
Coal (b) (million short tons)	212	189	230	168	<i>168</i>	<i>161</i>	<i>222</i>	<i>179</i>	<i>191</i>	<i>168</i>	<i>206</i>	<i>175</i>	799	<i>730</i>	<i>740</i>
Electricity (billion kilowatt hours per day)	10.75	10.05	11.80	9.73	<i>10.21</i>	<i>9.97</i>	<i>12.07</i>	<i>9.99</i>	<i>10.61</i>	<i>10.15</i>	<i>11.90</i>	<i>10.01</i>	10.58	<i>10.56</i>	<i>10.67</i>
Renewables (c) (quadrillion Btu)	2.39	2.41	2.32	2.43	<i>2.62</i>	<i>2.61</i>	<i>2.43</i>	<i>2.49</i>	<i>2.51</i>	<i>2.78</i>	<i>2.63</i>	<i>2.62</i>	9.55	<i>10.15</i>	<i>10.53</i>
Total Energy Consumption (d) (quadrillion Btu)	26.30	22.95	24.41	23.68	<i>25.34</i>	<i>23.03</i>	<i>24.48</i>	<i>24.22</i>	<i>25.39</i>	<i>22.97</i>	<i>24.34</i>	<i>24.49</i>	97.35	<i>97.07</i>	<i>97.19</i>
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	48.48	57.85	46.55	41.94	<i>33.35</i>	<i>45.46</i>	<i>44.85</i>	<i>47.00</i>	<i>47.00</i>	<i>48.03</i>	<i>51.00</i>	<i>53.97</i>	48.67	<i>42.78</i>	<i>49.99</i>
Natural Gas Henry Hub Spot (dollars per million Btu)	2.90	2.75	2.76	2.12	<i>2.00</i>	<i>2.14</i>	<i>2.88</i>	<i>3.04</i>	<i>3.29</i>	<i>2.92</i>	<i>2.96</i>	<i>3.13</i>	2.63	<i>2.51</i>	<i>3.07</i>
Coal (dollars per million Btu)	2.27	2.25	2.22	2.15	<i>2.13</i>	<i>2.14</i>	<i>2.17</i>	<i>2.19</i>	<i>2.20</i>	<i>2.24</i>	<i>2.27</i>	<i>2.23</i>	2.23	<i>2.16</i>	<i>2.24</i>
Macroeconomic															
Real Gross Domestic Product (billion chained 2009 dollars - SAAR)	16,269	16,374	16,455	16,491	<i>16,525</i>	<i>16,570</i>	<i>16,690</i>	<i>16,790</i>	<i>16,908</i>	<i>17,009</i>	<i>17,105</i>	<i>17,191</i>	16,397	<i>16,644</i>	<i>17,053</i>
Percent change from prior year	3.3	3.0	2.2	1.9	<i>1.6</i>	<i>1.2</i>	<i>1.4</i>	<i>1.8</i>	<i>2.3</i>	<i>2.6</i>	<i>2.5</i>	<i>2.4</i>	2.6	<i>1.5</i>	<i>2.5</i>
GDP Implicit Price Deflator (Index, 2009=100)	109.3	109.9	110.3	110.5	<i>110.6</i>	<i>111.3</i>	<i>111.8</i>	<i>112.4</i>	<i>113.1</i>	<i>113.6</i>	<i>114.1</i>	<i>114.7</i>	110.0	<i>111.5</i>	<i>113.9</i>
Percent change from prior year	1.1	1.1	1.0	1.1	<i>1.2</i>	<i>1.2</i>	<i>1.4</i>	<i>1.7</i>	<i>2.2</i>	<i>2.1</i>	<i>2.1</i>	<i>2.1</i>	1.1	<i>1.4</i>	<i>2.1</i>
Real Disposable Personal Income (billion chained 2009 dollars - SAAR)	12,183	12,300	12,399	12,491	<i>12,556</i>	<i>12,627</i>	<i>12,726</i>	<i>12,806</i>	<i>12,879</i>	<i>12,952</i>	<i>13,030</i>	<i>13,106</i>	12,343	<i>12,679</i>	<i>12,992</i>
Percent change from prior year	3.9	3.6	3.3	3.0	<i>3.1</i>	<i>2.7</i>	<i>2.6</i>	<i>2.5</i>	<i>2.6</i>	<i>2.6</i>	<i>2.4</i>	<i>2.3</i>	3.5	<i>2.7</i>	<i>2.5</i>
Manufacturing Production Index (Index, 2012=100)	103.2	103.4	103.9	103.7	<i>103.9</i>	<i>103.7</i>	<i>104.3</i>	<i>104.6</i>	<i>105.3</i>	<i>105.6</i>	<i>106.3</i>	<i>107.1</i>	103.6	<i>104.1</i>	<i>106.1</i>
Percent change from prior year	2.1	1.1	0.9	0.1	<i>0.6</i>	<i>0.3</i>	<i>0.4</i>	<i>0.8</i>	<i>1.4</i>	<i>1.9</i>	<i>1.9</i>	<i>2.4</i>	1.1	<i>0.5</i>	<i>1.9</i>
Weather															
U.S. Heating Degree-Days	2,340	442	49	1,252	<i>1,946</i>	<i>480</i>	<i>39</i>	<i>1,511</i>	<i>2,099</i>	<i>471</i>	<i>70</i>	<i>1,499</i>	4,084	<i>3,977</i>	<i>4,139</i>
U.S. Cooling Degree-Days	46	434	875	133	<i>54</i>	<i>411</i>	<i>1,001</i>	<i>96</i>	<i>44</i>	<i>406</i>	<i>861</i>	<i>97</i>	1,489	<i>1,561</i>	<i>1,407</i>

- = no data available

Prices are not adjusted for inflation.

(a) Includes lease condensate.

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

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model. Macroeconomic projections are based on Global Insight Model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

Table 2. Energy Prices

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Crude Oil (dollars per barrel)															
West Texas Intermediate Spot Average	48.48	57.85	46.55	41.94	33.35	45.46	44.85	<i>47.00</i>	<i>47.00</i>	<i>48.03</i>	<i>51.00</i>	<i>53.97</i>	48.67	<i>42.78</i>	<i>49.99</i>
Brent Spot Average	53.91	61.65	50.43	43.55	33.89	45.57	45.80	<i>48.00</i>	<i>48.00</i>	<i>49.03</i>	<i>52.00</i>	<i>54.97</i>	52.32	<i>43.43</i>	<i>50.99</i>
U.S. Imported Average	46.37	56.07	45.59	37.88	28.83	40.35	41.05	<i>43.50</i>	<i>43.50</i>	<i>44.49</i>	<i>47.50</i>	<i>50.50</i>	46.34	<i>38.48</i>	<i>46.53</i>
U.S. Refiner Average Acquisition Cost	47.94	57.47	47.67	40.48	30.84	42.23	43.59	<i>46.00</i>	<i>46.00</i>	<i>47.01</i>	<i>49.98</i>	<i>53.02</i>	48.40	<i>40.75</i>	<i>49.06</i>
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	159	201	184	145	119	158	150	<i>137</i>	<i>135</i>	<i>162</i>	<i>165</i>	<i>150</i>	173	<i>141</i>	<i>153</i>
Diesel Fuel	176	189	161	141	109	141	144	<i>152</i>	<i>157</i>	<i>161</i>	<i>171</i>	<i>181</i>	167	<i>137</i>	<i>168</i>
Heating Oil	178	180	151	129	99	125	133	<i>146</i>	<i>155</i>	<i>153</i>	<i>162</i>	<i>175</i>	157	<i>121</i>	<i>161</i>
Refiner Prices to End Users															
Jet Fuel	172	186	156	138	107	134	140	<i>148</i>	<i>154</i>	<i>156</i>	<i>166</i>	<i>177</i>	163	<i>132</i>	<i>164</i>
No. 6 Residual Fuel Oil (a)	136	154	124	101	69	89	107	<i>114</i>	<i>115</i>	<i>115</i>	<i>123</i>	<i>130</i>	126	<i>94</i>	<i>121</i>
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	227	266	260	216	190	225	221	<i>212</i>	<i>205</i>	<i>235</i>	<i>239</i>	<i>224</i>	243	<i>212</i>	<i>226</i>
Gasoline All Grades (b)	236	275	269	226	200	235	232	<i>223</i>	<i>215</i>	<i>245</i>	<i>250</i>	<i>236</i>	252	<i>223</i>	<i>237</i>
On-highway Diesel Fuel	292	285	263	243	208	230	238	<i>249</i>	<i>260</i>	<i>262</i>	<i>270</i>	<i>282</i>	271	<i>231</i>	<i>269</i>
Heating Oil	288	276	247	224	195	205	213	<i>238</i>	<i>254</i>	<i>250</i>	<i>257</i>	<i>273</i>	265	<i>212</i>	<i>260</i>
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	2.99	2.83	2.84	2.18	2.06	2.21	2.97	<i>3.13</i>	<i>3.38</i>	<i>3.00</i>	<i>3.05</i>	<i>3.22</i>	2.71	<i>2.59</i>	<i>3.16</i>
Henry Hub Spot (dollars per million Btu)	2.90	2.75	2.76	2.12	2.00	2.14	2.88	<i>3.04</i>	<i>3.29</i>	<i>2.92</i>	<i>2.96</i>	<i>3.13</i>	2.63	<i>2.51</i>	<i>3.07</i>
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	4.67	3.74	3.71	3.41	3.44	2.93	3.74	<i>4.27</i>	<i>4.75</i>	<i>3.99</i>	<i>4.00</i>	<i>4.37</i>	3.91	<i>3.61</i>	<i>4.30</i>
Commercial Sector	7.94	8.17	8.45	7.40	6.84	7.25	8.32	<i>7.86</i>	<i>8.12</i>	<i>8.47</i>	<i>8.83</i>	<i>8.16</i>	7.89	<i>7.38</i>	<i>8.27</i>
Residential Sector	9.29	12.02	16.52	10.08	8.53	11.16	16.57	<i>10.65</i>	<i>10.00</i>	<i>12.59</i>	<i>16.70</i>	<i>10.81</i>	10.36	<i>10.18</i>	<i>11.10</i>
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.27	2.25	2.22	2.15	2.13	2.14	2.17	<i>2.19</i>	<i>2.20</i>	<i>2.24</i>	<i>2.27</i>	<i>2.23</i>	2.23	<i>2.16</i>	<i>2.24</i>
Natural Gas	4.09	3.12	3.09	2.72	2.65	2.51	3.19	<i>3.68</i>	<i>4.16</i>	<i>3.40</i>	<i>3.27</i>	<i>3.80</i>	3.22	<i>3.02</i>	<i>3.61</i>
Residual Fuel Oil (c)	10.82	11.64	10.48	7.76	6.15	8.51	8.96	<i>9.21</i>	<i>9.17</i>	<i>9.81</i>	<i>9.73</i>	<i>10.01</i>	10.36	<i>8.20</i>	<i>9.67</i>
Distillate Fuel Oil	15.61	15.17	13.19	11.74	9.02	11.02	12.11	<i>13.15</i>	<i>13.78</i>	<i>13.91</i>	<i>14.42</i>	<i>15.51</i>	14.43	<i>11.31</i>	<i>14.37</i>
Retail Prices (cents per kilowatthour)															
Industrial Sector	6.79	6.81	7.32	6.63	6.42	6.66	7.21	<i>6.66</i>	<i>6.56</i>	<i>6.84</i>	<i>7.37</i>	<i>6.80</i>	6.90	<i>6.75</i>	<i>6.90</i>
Commercial Sector	10.46	10.54	10.95	10.36	10.08	10.32	10.72	<i>10.30</i>	<i>10.24</i>	<i>10.59</i>	<i>11.06</i>	<i>10.62</i>	10.59	<i>10.37</i>	<i>10.64</i>
Residential Sector	12.24	12.85	12.99	12.59	12.21	12.67	12.78	<i>12.46</i>	<i>12.45</i>	<i>13.05</i>	<i>13.34</i>	<i>12.92</i>	12.67	<i>12.54</i>	<i>12.95</i>

- = no data available

Prices are not adjusted for inflation.

(a) Average for all sulfur contents.

(b) Average self-service cash price.

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

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

Prices exclude taxes unless otherwise noted.

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Supply (million barrels per day) (a)															
OECD	26.76	26.51	26.89	27.12	26.97	25.92	26.21	26.30	26.33	26.39	26.39	26.92	26.82	26.35	26.51
U.S. (50 States)	14.93	15.19	15.21	15.17	14.96	14.88	14.50	14.44	14.43	14.66	14.88	15.21	15.12	14.69	14.80
Canada	4.69	4.16	4.56	4.62	4.73	3.98	4.63	4.72	4.79	4.76	4.78	4.84	4.51	4.52	4.79
Mexico	2.68	2.58	2.62	2.62	2.57	2.51	2.50	2.48	2.46	2.45	2.42	2.41	2.62	2.51	2.43
North Sea (b)	3.00	3.10	2.95	3.20	3.24	3.11	3.11	3.19	3.18	3.04	2.81	2.96	3.06	3.16	3.00
Other OECD	1.46	1.49	1.55	1.52	1.47	1.45	1.47	1.47	1.47	1.48	1.49	1.50	1.50	1.47	1.49
Non-OECD	67.98	68.96	69.58	69.42	68.57	69.61	70.17	70.40	69.66	70.69	70.96	70.67	68.99	69.69	70.50
OPEC	37.59	38.30	38.77	38.60	38.37	39.09	39.67	39.66	39.70	40.08	40.30	40.17	38.32	39.20	40.07
Crude Oil Portion	31.06	31.74	32.20	32.03	31.76	32.41	32.84	32.78	32.75	33.08	33.23	33.04	31.76	32.45	33.03
Other Liquids (c)	6.53	6.56	6.57	6.57	6.61	6.68	6.83	6.88	6.95	7.00	7.07	7.13	6.56	6.75	7.04
Eurasia	14.18	14.02	14.01	14.17	14.37	14.22	14.05	14.41	14.44	14.42	14.22	14.27	14.10	14.26	14.34
China	4.68	4.76	4.73	4.72	4.59	4.47	4.42	4.53	4.32	4.35	4.34	4.38	4.72	4.50	4.35
Other Non-OECD	11.52	11.90	12.06	11.93	11.24	11.83	12.03	11.80	11.20	11.84	12.09	11.84	11.86	11.73	11.75
Total World Supply	94.73	95.48	96.47	96.54	95.53	95.53	96.38	96.70	96.00	97.08	97.35	97.59	95.81	96.04	97.01
Non-OPEC Supply	57.14	57.18	57.70	57.94	57.16	56.44	56.71	57.04	56.30	57.00	57.05	57.42	57.49	56.84	56.94
Consumption (million barrels per day) (d)															
OECD	46.63	45.64	46.92	46.46	46.72	45.97	46.42	47.01	46.76	45.76	46.69	47.19	46.41	46.53	46.60
U.S. (50 States)	19.41	19.47	19.83	19.42	19.45	19.42	19.74	19.80	19.49	19.67	20.07	20.06	19.53	19.60	19.83
U.S. Territories	0.37	0.37	0.37	0.37	0.40	0.40	0.40	0.40	0.42	0.42	0.42	0.42	0.37	0.40	0.42
Canada	2.43	2.33	2.45	2.40	2.39	2.36	2.38	2.37	2.31	2.25	2.36	2.35	2.41	2.37	2.32
Europe	13.43	13.54	14.13	13.68	13.60	13.82	13.94	13.87	13.66	13.42	13.88	13.81	13.70	13.81	13.69
Japan	4.70	3.80	3.85	4.14	4.43	3.70	3.71	4.07	4.29	3.61	3.64	3.99	4.12	3.98	3.88
Other OECD	6.29	6.12	6.28	6.44	6.45	6.28	6.25	6.50	6.58	6.38	6.32	6.57	6.28	6.37	6.46
Non-OECD	46.41	48.00	48.31	47.77	47.45	49.30	49.51	48.92	48.74	50.51	50.82	50.19	47.63	48.80	50.07
Eurasia	4.71	4.65	4.92	4.90	4.73	4.66	4.93	4.92	4.78	4.71	4.99	4.97	4.80	4.81	4.86
Europe	0.72	0.73	0.75	0.75	0.73	0.74	0.76	0.76	0.74	0.75	0.77	0.77	0.74	0.75	0.76
China	10.87	11.46	11.42	11.37	11.25	11.87	11.72	11.77	11.58	12.22	12.17	12.11	11.28	11.65	12.02
Other Asia	12.22	12.44	11.97	12.30	12.80	13.01	12.50	12.88	13.34	13.57	13.03	13.41	12.24	12.80	13.34
Other Non-OECD	17.89	18.71	19.26	18.45	17.94	19.02	19.59	18.59	18.29	19.26	19.87	18.92	18.58	18.79	19.09
Total World Consumption	93.04	93.63	95.23	94.23	94.17	95.28	95.93	95.92	95.50	96.27	97.52	97.39	94.04	95.33	96.67
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	-0.63	-0.64	-0.33	-0.14	-0.41	-0.28	-0.01	0.56	0.20	-0.35	-0.09	0.57	-0.43	-0.03	0.08
Other OECD	-0.31	-0.36	-0.42	-0.29	0.02	-0.21	-0.15	-0.48	-0.25	-0.16	0.09	-0.27	-0.35	-0.21	-0.15
Other Stock Draws and Balance	-0.75	-0.85	-0.49	-1.88	-0.98	0.24	-0.29	-0.86	-0.45	-0.31	0.17	-0.50	-0.99	-0.47	-0.27
Total Stock Draw	-1.69	-1.84	-1.24	-2.32	-1.36	-0.25	-0.45	-0.78	-0.50	-0.81	0.16	-0.20	-1.77	-0.71	-0.33
End-of-period Commercial Crude Oil and Other Liquids Inventories															
U.S. Commercial Inventory	1,192	1,247	1,276	1,289	1,326	1,352	1,352	1,301	1,283	1,315	1,323	1,272	1,289	1,301	1,272
OECD Commercial Inventory	2,772	2,859	2,934	2,967	2,997	3,041	3,056	3,049	3,054	3,100	3,100	3,073	2,967	3,049	3,073

- = 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, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

OPEC = Organization of Petroleum Exporting Countries: Algeria, Angola, Ecuador, 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 offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
North America	22.29	21.93	22.39	22.40	22.25	21.36	21.63	<i>21.64</i>	<i>21.68</i>	<i>21.87</i>	<i>22.09</i>	<i>22.45</i>	22.25	<i>21.72</i>	<i>22.03</i>
Canada	4.69	4.16	4.56	4.62	4.73	3.98	4.63	<i>4.72</i>	<i>4.79</i>	<i>4.76</i>	<i>4.78</i>	<i>4.84</i>	4.51	<i>4.52</i>	<i>4.79</i>
Mexico	2.68	2.58	2.62	2.62	2.57	2.51	2.50	<i>2.48</i>	<i>2.46</i>	<i>2.45</i>	<i>2.42</i>	<i>2.41</i>	2.62	<i>2.51</i>	<i>2.43</i>
United States	14.93	15.19	15.21	15.17	14.96	14.88	14.50	<i>14.44</i>	<i>14.43</i>	<i>14.66</i>	<i>14.88</i>	<i>15.21</i>	15.12	<i>14.69</i>	<i>14.80</i>
Central and South America	4.95	5.42	5.65	5.43	4.75	5.40	5.60	<i>5.36</i>	<i>4.79</i>	<i>5.41</i>	<i>5.62</i>	<i>5.37</i>	5.37	<i>5.28</i>	<i>5.30</i>
Argentina	0.70	0.71	0.72	0.72	0.70	0.69	0.72	<i>0.72</i>	<i>0.71</i>	<i>0.69</i>	<i>0.72</i>	<i>0.72</i>	0.71	<i>0.71</i>	<i>0.71</i>
Brazil	2.75	3.23	3.50	3.24	2.65	3.36	3.56	<i>3.29</i>	<i>2.73</i>	<i>3.38</i>	<i>3.59</i>	<i>3.31</i>	3.18	<i>3.21</i>	<i>3.25</i>
Colombia	1.06	1.05	1.00	1.02	0.98	0.93	0.92	<i>0.92</i>	<i>0.94</i>	<i>0.92</i>	<i>0.92</i>	<i>0.91</i>	1.03	<i>0.94</i>	<i>0.92</i>
Other Central and S. America	0.45	0.43	0.43	0.45	0.42	0.43	0.41	<i>0.42</i>	<i>0.41</i>	<i>0.42</i>	<i>0.40</i>	<i>0.42</i>	0.44	<i>0.42</i>	<i>0.41</i>
Europe	3.95	4.05	3.91	4.15	4.19	4.05	4.04	<i>4.13</i>	<i>4.11</i>	<i>3.97</i>	<i>3.75</i>	<i>3.90</i>	4.02	<i>4.10</i>	<i>3.93</i>
Norway	1.94	1.94	1.92	2.03	2.04	1.95	2.02	<i>2.11</i>	<i>2.08</i>	<i>1.97</i>	<i>1.93</i>	<i>1.95</i>	1.96	<i>2.03</i>	<i>1.98</i>
United Kingdom (offshore)	0.88	0.97	0.85	0.99	1.05	1.00	0.92	<i>0.92</i>	<i>0.94</i>	<i>0.91</i>	<i>0.74</i>	<i>0.87</i>	0.93	<i>0.97</i>	<i>0.86</i>
Other North Sea	0.18	0.18	0.18	0.17	0.15	0.16	0.16	<i>0.16</i>	<i>0.16</i>	<i>0.15</i>	<i>0.15</i>	<i>0.15</i>	0.18	<i>0.16</i>	<i>0.15</i>
Eurasia	14.20	14.03	14.03	14.19	14.38	14.23	14.06	<i>14.42</i>	<i>14.45</i>	<i>14.44</i>	<i>14.24</i>	<i>14.29</i>	14.11	<i>14.28</i>	<i>14.35</i>
Azerbaijan	0.89	0.85	0.85	0.83	0.87	0.87	0.85	<i>0.85</i>	<i>0.84</i>	<i>0.83</i>	<i>0.82</i>	<i>0.81</i>	0.86	<i>0.86</i>	<i>0.83</i>
Kazakhstan	1.80	1.76	1.70	1.75	1.79	1.70	1.64	<i>1.75</i>	<i>1.79</i>	<i>1.80</i>	<i>1.81</i>	<i>1.82</i>	1.75	<i>1.72</i>	<i>1.81</i>
Russia	11.00	10.96	11.01	11.14	11.27	11.19	11.08	<i>11.33</i>	<i>11.33</i>	<i>11.32</i>	<i>11.12</i>	<i>11.18</i>	11.03	<i>11.22</i>	<i>11.24</i>
Turkmenistan	0.29	0.27	0.28	0.27	0.27	0.28	0.29	<i>0.28</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	0.28	<i>0.28</i>	<i>0.29</i>
Other Eurasia	0.20	0.19	0.19	0.18	0.18	0.19	0.21	<i>0.20</i>	<i>0.20</i>	<i>0.20</i>	<i>0.20</i>	<i>0.19</i>	0.19	<i>0.20</i>	<i>0.20</i>
Middle East	1.18	1.13	1.13	1.13	1.14	1.14	1.14	<i>1.14</i>	<i>1.15</i>	<i>1.14</i>	<i>1.14</i>	<i>1.14</i>	1.14	<i>1.14</i>	<i>1.14</i>
Oman	0.97	0.98	1.00	1.00	1.02	1.01	1.03	<i>1.02</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.02</i>	0.99	<i>1.02</i>	<i>1.03</i>
Syria	0.03	0.03	0.03	0.03	0.03	0.03	0.03	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	<i>0.03</i>	0.03	<i>0.03</i>	<i>0.03</i>
Yemen	0.11	0.04	0.02	0.02	0.02	0.02	0.01	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	<i>0.01</i>	0.05	<i>0.02</i>	<i>0.01</i>
Asia and Oceania	8.44	8.49	8.47	8.50	8.34	8.16	8.12	<i>8.22</i>	<i>8.00</i>	<i>8.02</i>	<i>8.03</i>	<i>8.08</i>	8.48	<i>8.21</i>	<i>8.04</i>
Australia	0.39	0.39	0.45	0.43	0.39	0.37	0.38	<i>0.38</i>	<i>0.39</i>	<i>0.39</i>	<i>0.39</i>	<i>0.40</i>	0.42	<i>0.38</i>	<i>0.39</i>
China	4.68	4.76	4.73	4.72	4.59	4.47	4.42	<i>4.53</i>	<i>4.32</i>	<i>4.35</i>	<i>4.34</i>	<i>4.38</i>	4.72	<i>4.50</i>	<i>4.35</i>
India	1.01	1.00	1.01	1.02	1.00	0.99	1.01	<i>1.00</i>	<i>1.00</i>	<i>1.00</i>	<i>1.01</i>	<i>1.01</i>	1.01	<i>1.00</i>	<i>1.01</i>
Malaysia	0.77	0.74	0.69	0.73	0.76	0.74	0.76	<i>0.76</i>	<i>0.75</i>	<i>0.75</i>	<i>0.76</i>	<i>0.76</i>	0.74	<i>0.76</i>	<i>0.76</i>
Vietnam	0.36	0.34	0.35	0.36	0.33	0.33	0.30	<i>0.29</i>	<i>0.29</i>	<i>0.29</i>	<i>0.28</i>	<i>0.28</i>	0.35	<i>0.32</i>	<i>0.28</i>
Africa	2.12	2.12	2.12	2.14	2.09	2.10	2.10	<i>2.13</i>	<i>2.11</i>	<i>2.15</i>	<i>2.17</i>	<i>2.19</i>	2.12	<i>2.11</i>	<i>2.15</i>
Egypt	0.71	0.70	0.71	0.71	0.69	0.69	0.69	<i>0.69</i>	<i>0.68</i>	<i>0.68</i>	<i>0.68</i>	<i>0.67</i>	0.71	<i>0.69</i>	<i>0.68</i>
Equatorial Guinea	0.27	0.27	0.27	0.27	0.24	0.24	0.25	<i>0.25</i>	<i>0.23</i>	<i>0.23</i>	<i>0.23</i>	<i>0.23</i>	0.27	<i>0.25</i>	<i>0.23</i>
Sudan and South Sudan	0.26	0.26	0.26	0.26	0.26	0.26	0.26	<i>0.26</i>	<i>0.25</i>	<i>0.25</i>	<i>0.25</i>	<i>0.25</i>	0.26	<i>0.26</i>	<i>0.25</i>
Total non-OPEC liquids	57.14	57.18	57.70	57.94	57.16	56.44	56.71	<i>57.04</i>	<i>56.30</i>	<i>57.00</i>	<i>57.05</i>	<i>57.42</i>	57.49	<i>56.84</i>	<i>56.94</i>
OPEC non-crude liquids	6.53	6.56	6.57	6.57	6.61	6.68	6.83	<i>6.88</i>	<i>6.95</i>	<i>7.00</i>	<i>7.07</i>	<i>7.13</i>	6.56	<i>6.75</i>	<i>7.04</i>
Non-OPEC + OPEC non-crude	63.68	63.74	64.26	64.52	63.77	63.11	63.54	<i>63.92</i>	<i>63.25</i>	<i>64.00</i>	<i>64.12</i>	<i>64.54</i>	64.05	<i>63.59</i>	<i>63.98</i>
Unplanned non-OPEC Production Outages	0.27	0.46	0.40	0.34	0.38	0.76	0.42	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	0.37	<i>n/a</i>	<i>n/a</i>

- = no data available

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Crude Oil															
Algeria	1.10	1.10	1.10	1.10	1.05	1.04	1.05	-	-	-	-	-	1.10	-	-
Angola	1.75	1.77	1.82	1.78	1.78	1.79	1.80	-	-	-	-	-	1.78	-	-
Ecuador	0.55	0.54	0.55	0.57	0.54	0.55	0.55	-	-	-	-	-	0.55	-	-
Gabon	0.22	0.21	0.22	0.22	0.21	0.21	0.21	-	-	-	-	-	0.21	-	-
Indonesia	0.67	0.69	0.69	0.69	0.73	0.75	0.75	-	-	-	-	-	0.68	-	-
Iran	2.80	2.80	2.80	2.80	3.03	3.57	3.64	-	-	-	-	-	2.80	-	-
Iraq	3.49	3.97	4.30	4.35	4.29	4.38	4.42	-	-	-	-	-	4.03	-	-
Kuwait	2.57	2.53	2.50	2.45	2.48	2.43	2.52	-	-	-	-	-	2.51	-	-
Libya	0.40	0.45	0.38	0.39	0.35	0.31	0.29	-	-	-	-	-	0.40	-	-
Nigeria	2.00	1.83	1.86	1.90	1.77	1.56	1.50	-	-	-	-	-	1.90	-	-
Qatar	0.68	0.68	0.68	0.68	0.66	0.68	0.68	-	-	-	-	-	0.68	-	-
Saudi Arabia	9.73	10.07	10.22	10.00	9.98	10.33	10.59	-	-	-	-	-	10.01	-	-
United Arab Emirates	2.70	2.70	2.70	2.70	2.60	2.57	2.72	-	-	-	-	-	2.70	-	-
Venezuela	2.40	2.40	2.40	2.40	2.30	2.23	2.11	-	-	-	-	-	2.40	-	-
OPEC Total	31.06	31.74	32.20	32.03	31.76	32.41	32.84	32.78	32.75	33.08	33.23	33.04	31.76	32.45	33.03
Other Liquids (a)	6.53	6.56	6.57	6.57	6.61	6.68	6.83	6.88	6.95	7.00	7.07	7.13	6.56	6.75	7.04
Total OPEC Supply	37.59	38.30	38.77	38.60	38.37	39.09	39.67	39.66	39.70	40.08	40.30	40.17	38.32	39.20	40.07
Crude Oil Production Capacity															
Africa	5.47	5.36	5.37	5.38	5.16	4.92	4.85	5.18	5.34	5.40	5.40	5.41	5.40	5.03	5.39
South America	2.95	2.94	2.95	2.97	2.84	2.78	2.66	2.61	2.55	2.54	2.50	2.50	2.95	2.72	2.52
Middle East	23.89	24.28	24.53	24.53	24.88	25.23	25.54	25.55	25.57	25.59	25.63	25.66	24.31	25.30	25.61
Asia	0.70	0.71	0.69	0.69	0.73	0.75	0.75	0.73	0.73	0.72	0.71	0.69	0.70	0.74	0.71
OPEC Total	33.00	33.30	33.54	33.58	33.61	33.68	33.79	34.08	34.20	34.25	34.25	34.26	33.36	33.79	34.24
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
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
Middle East	1.92	1.53	1.33	1.55	1.84	1.26	0.96	1.30	1.45	1.17	1.02	1.22	1.58	1.34	1.21
Asia	0.03	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
OPEC Total	1.94	1.56	1.34	1.56	1.84	1.27	0.96	1.30	1.45	1.17	1.02	1.22	1.60	1.34	1.21
Unplanned OPEC Production Outages	2.56	2.62	2.74	2.78	2.09	2.44	2.34	n/a	n/a	n/a	n/a	n/a	2.68	n/a	n/a

- = no data available

OPEC = Organization of Petroleum Exporting Countries: Algeria, Angola, Gabon, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates (Middle East); Indonesia (Asia).

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 3d. World Petroleum and Other Liquids Consumption (million barrels per day)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				2015	2016	2017
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
North America	23.79	23.78	24.36	23.88	23.82	23.73	24.07	<i>24.13</i>	<i>23.77</i>	<i>23.91</i>	<i>24.38</i>	<i>24.37</i>	23.95	<i>23.94</i>	<i>24.11</i>
Canada	2.43	2.33	2.45	2.40	2.39	2.36	2.38	<i>2.37</i>	<i>2.31</i>	<i>2.25</i>	<i>2.36</i>	<i>2.35</i>	2.41	<i>2.37</i>	<i>2.32</i>
Mexico	1.94	1.97	2.07	2.05	1.98	1.94	1.94	<i>1.95</i>	<i>1.95</i>	<i>1.97</i>	<i>1.94</i>	<i>1.95</i>	2.01	<i>1.95</i>	<i>1.95</i>
United States	19.41	19.47	19.83	19.42	19.45	19.42	19.74	<i>19.80</i>	<i>19.49</i>	<i>19.67</i>	<i>20.07</i>	<i>20.06</i>	19.53	<i>19.60</i>	<i>19.83</i>
Central and South America	7.09	7.34	7.36	7.36	7.06	7.34	7.40	<i>7.38</i>	<i>7.10</i>	<i>7.37</i>	<i>7.40</i>	<i>7.38</i>	7.29	<i>7.30</i>	<i>7.31</i>
Brazil	3.00	3.11	3.18	3.17	2.93	3.04	3.11	<i>3.10</i>	<i>2.88</i>	<i>2.99</i>	<i>3.06</i>	<i>3.04</i>	3.12	<i>3.04</i>	<i>3.00</i>
Europe	14.15	14.27	14.88	14.43	14.33	14.56	14.70	<i>14.63</i>	<i>14.40</i>	<i>14.17</i>	<i>14.65</i>	<i>14.58</i>	14.44	<i>14.56</i>	<i>14.45</i>
Eurasia	4.74	4.67	4.95	4.93	4.76	4.69	4.97	<i>4.95</i>	<i>4.82</i>	<i>4.74</i>	<i>5.02</i>	<i>5.01</i>	4.82	<i>4.84</i>	<i>4.90</i>
Russia	3.39	3.34	3.54	3.53	3.35	3.30	3.50	<i>3.48</i>	<i>3.34</i>	<i>3.29</i>	<i>3.48</i>	<i>3.47</i>	3.45	<i>3.41</i>	<i>3.40</i>
Middle East	7.83	8.42	8.97	8.14	7.79	8.64	9.26	<i>8.23</i>	<i>8.06</i>	<i>8.79</i>	<i>9.41</i>	<i>8.43</i>	8.34	<i>8.48</i>	<i>8.68</i>
Asia and Oceania	31.55	31.27	30.87	31.63	32.37	32.29	31.54	<i>32.59</i>	<i>33.15</i>	<i>33.11</i>	<i>32.50</i>	<i>33.45</i>	31.33	<i>32.20</i>	<i>33.05</i>
China	10.87	11.46	11.42	11.37	11.25	11.87	11.72	<i>11.77</i>	<i>11.58</i>	<i>12.22</i>	<i>12.17</i>	<i>12.11</i>	11.28	<i>11.65</i>	<i>12.02</i>
Japan	4.70	3.80	3.85	4.14	4.43	3.70	3.71	<i>4.07</i>	<i>4.29</i>	<i>3.61</i>	<i>3.64</i>	<i>3.99</i>	4.12	<i>3.98</i>	<i>3.88</i>
India	4.19	4.17	3.82	4.13	4.54	4.50	4.13	<i>4.48</i>	<i>4.87</i>	<i>4.85</i>	<i>4.44</i>	<i>4.80</i>	4.08	<i>4.41</i>	<i>4.74</i>
Africa	3.89	3.88	3.84	3.86	4.04	4.03	3.99	<i>4.01</i>	<i>4.20</i>	<i>4.19</i>	<i>4.14</i>	<i>4.17</i>	3.86	<i>4.02</i>	<i>4.17</i>
Total OECD Liquid Fuels Consumption	46.63	45.64	46.92	46.46	46.72	45.97	46.42	<i>47.01</i>	<i>46.76</i>	<i>45.76</i>	<i>46.69</i>	<i>47.19</i>	46.41	<i>46.53</i>	<i>46.60</i>
Total non-OECD Liquid Fuels Consumption	46.41	48.00	48.31	47.77	47.45	49.30	49.51	<i>48.92</i>	<i>48.74</i>	<i>50.51</i>	<i>50.82</i>	<i>50.19</i>	47.63	<i>48.80</i>	<i>50.07</i>
Total World Liquid Fuels Consumption	93.04	93.63	95.23	94.23	94.17	95.28	95.93	<i>95.92</i>	<i>95.50</i>	<i>96.27</i>	<i>97.52</i>	<i>97.39</i>	94.04	<i>95.33</i>	<i>96.67</i>
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2010 Q1 = 100	116.4	117.0	117.7	118.3	118.9	119.4	120.2	<i>121.0</i>	<i>121.7</i>	<i>122.6</i>	<i>123.5</i>	<i>124.4</i>	117.3	<i>119.9</i>	<i>123.0</i>
Percent change from prior year	2.8	2.6	2.4	2.2	2.1	2.0	2.1	<i>2.3</i>	<i>2.4</i>	<i>2.7</i>	<i>2.7</i>	<i>2.8</i>	2.5	<i>2.1</i>	<i>2.7</i>
OECD Index, 2010 Q1 = 100	109.6	110.1	110.6	111.0	111.4	111.7	112.2	<i>112.7</i>	<i>113.3</i>	<i>113.9</i>	<i>114.5</i>	<i>115.0</i>	110.3	<i>112.0</i>	<i>114.2</i>
Percent change from prior year	2.3	2.3	2.2	1.9	1.6	1.5	1.4	<i>1.6</i>	<i>1.7</i>	<i>2.0</i>	<i>2.0</i>	<i>2.0</i>	2.2	<i>1.5</i>	<i>1.9</i>
Non-OECD Index, 2010 Q1 = 100	125.1	125.9	126.6	127.6	128.4	129.2	130.4	<i>131.6</i>	<i>132.6</i>	<i>133.9</i>	<i>135.1</i>	<i>136.5</i>	126.3	<i>129.9</i>	<i>134.5</i>
Percent change from prior year	3.4	3.0	2.8	2.6	2.7	2.7	2.9	<i>3.1</i>	<i>3.2</i>	<i>3.6</i>	<i>3.7</i>	<i>3.8</i>	2.9	<i>2.8</i>	<i>3.6</i>
Real U.S. Dollar Exchange Rate (a)															
Index, January 2010 = 100	119.40	119.70	123.03	124.94	128.77	127.69	128.83	<i>130.74</i>	<i>131.92</i>	<i>132.29</i>	<i>132.41</i>	<i>132.28</i>	121.77	<i>129.01</i>	<i>132.23</i>
Percent change from prior year	10.2	10.8	12.7	9.8	7.8	6.7	4.7	<i>4.6</i>	<i>2.4</i>	<i>3.6</i>	<i>2.8</i>	<i>1.2</i>	10.9	<i>5.9</i>	<i>2.5</i>

- = no data available

OECD = Organisation for Economic Co-operation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Finland,

France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal,

Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

(a) Weighted geometric mean of real indices for various countries with weights equal to each country's share of world oil consumption in the base period. Exchange rate is measured in foreign currency per U.S. dollar.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.**Historical data:** Latest data available from Energy Information Administration international energy statistics.

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	9.49	9.47	9.41	9.30	9.17	8.85	8.47	8.45	8.50	8.54	8.53	8.77	9.42	8.73	8.59
Alaska	0.50	0.48	0.44	0.51	0.51	0.49	0.42	0.48	0.48	0.46	0.42	0.48	0.48	0.48	0.46
Federal Gulf of Mexico (b)	1.43	1.44	1.62	1.57	1.61	1.58	1.56	1.72	1.80	1.83	1.75	1.88	1.51	1.62	1.82
Lower 48 States (excl GOM)	7.56	7.56	7.35	7.21	7.05	6.78	6.49	6.25	6.23	6.25	6.36	6.41	7.42	6.64	6.31
Crude Oil Net Imports (c)	6.84	6.73	6.96	7.05	7.46	7.19	7.57	7.67	7.37	7.60	7.84	7.43	6.90	7.47	7.56
SPR Net Withdrawals	0.00	-0.03	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.01	0.00	0.00
Commercial Inventory Net Withdrawals	-0.91	0.05	0.11	-0.22	-0.57	0.04	0.34	0.07	-0.24	0.15	0.22	0.13	-0.24	-0.03	0.07
Crude Oil Adjustment (d)	0.08	0.24	0.12	0.08	-0.06	0.15	0.22	0.15	0.19	0.19	0.21	0.15	0.13	0.11	0.19
Total Crude Oil Input to Refineries	15.48	16.46	16.59	16.21	16.00	16.22	16.60	16.35	15.83	16.48	16.80	16.50	16.19	16.29	16.41
Other Supply															
Refinery Processing Gain	1.04	1.06	1.08	1.07	1.07	1.10	1.10	1.07	1.03	1.06	1.09	1.08	1.06	1.08	1.06
Natural Gas Plant Liquids Production	3.15	3.34	3.40	3.47	3.38	3.57	3.55	3.58	3.55	3.70	3.90	4.00	3.34	3.52	3.79
Renewables and Oxygenate Production (e)	1.05	1.10	1.10	1.11	1.12	1.13	1.15	1.12	1.12	1.13	1.13	1.12	1.09	1.13	1.13
Fuel Ethanol Production	0.96	0.96	0.96	0.99	0.99	0.97	1.01	0.98	1.00	1.00	0.99	0.99	0.97	0.99	0.99
Petroleum Products Adjustment (f)	0.20	0.21	0.21	0.22	0.21	0.22	0.22	0.23	0.22	0.23	0.24	0.24	0.21	0.22	0.23
Product Net Imports (c)	-1.81	-2.06	-2.14	-2.74	-2.48	-2.51	-2.54	-3.02	-2.70	-2.43	-2.78	-3.31	-2.19	-2.64	-2.81
Hydrocarbon Gas Liquids	-0.67	-0.79	-0.91	-0.86	-1.00	-1.10	-1.01	-1.18	-1.19	-1.25	-1.36	-1.45	-0.81	-1.07	-1.31
Unfinished Oils	0.30	0.30	0.40	0.18	0.30	0.41	0.32	0.29	0.31	0.32	0.33	0.27	0.29	0.33	0.31
Other HC/Oxygenates	-0.07	-0.09	-0.06	-0.07	-0.10	-0.08	-0.06	-0.04	-0.08	-0.06	-0.04	-0.04	-0.07	-0.07	-0.05
Motor Gasoline Blend Comp.	0.41	0.53	0.60	0.29	0.34	0.65	0.54	0.39	0.40	0.66	0.52	0.42	0.46	0.48	0.50
Finished Motor Gasoline	-0.44	-0.31	-0.40	-0.47	-0.56	-0.47	-0.50	-0.63	-0.52	-0.43	-0.40	-0.56	-0.40	-0.54	-0.48
Jet Fuel	-0.06	0.01	-0.05	-0.06	-0.03	-0.04	-0.01	-0.09	-0.04	0.00	0.02	-0.09	-0.04	-0.04	-0.02
Distillate Fuel Oil	-0.68	-1.05	-1.09	-1.07	-0.85	-1.21	-1.19	-1.07	-0.94	-1.04	-1.20	-1.16	-0.98	-1.08	-1.09
Residual Fuel Oil	-0.12	-0.20	-0.12	-0.10	-0.06	-0.06	-0.05	-0.13	-0.15	-0.20	-0.17	-0.13	-0.13	-0.07	-0.16
Other Oils (g)	-0.49	-0.46	-0.50	-0.58	-0.52	-0.62	-0.58	-0.56	-0.50	-0.43	-0.48	-0.58	-0.51	-0.57	-0.50
Product Inventory Net Withdrawals	0.29	-0.65	-0.42	0.08	0.17	-0.32	-0.35	0.48	0.43	-0.50	-0.31	0.43	-0.18	0.00	0.01
Total Supply	19.41	19.47	19.83	19.42	19.47	19.42	19.74	19.80	19.49	19.67	20.07	20.06	19.53	19.61	19.83
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	2.78	2.37	2.39	2.66	2.73	2.25	2.37	2.72	2.73	2.34	2.50	2.83	2.55	2.52	2.60
Unfinished Oils	-0.03	0.07	-0.02	-0.05	0.01	-0.06	-0.02	0.04	0.00	-0.01	-0.01	0.03	-0.01	-0.01	0.00
Motor Gasoline	8.84	9.29	9.41	9.17	9.09	9.44	9.52	9.31	9.07	9.52	9.57	9.38	9.18	9.34	9.39
Fuel Ethanol blended into Motor Gasoline	0.87	0.92	0.94	0.91	0.91	0.94	0.97	0.93	0.90	0.95	0.95	0.94	0.91	0.94	0.94
Jet Fuel	1.46	1.57	1.60	1.57	1.50	1.61	1.70	1.54	1.47	1.59	1.65	1.57	1.55	1.59	1.57
Distillate Fuel Oil	4.26	3.90	3.96	3.86	3.90	3.80	3.63	3.95	4.07	3.91	3.84	3.99	4.00	3.82	3.95
Residual Fuel Oil	0.25	0.20	0.30	0.28	0.31	0.40	0.38	0.28	0.26	0.23	0.26	0.27	0.26	0.34	0.26
Other Oils (g)	1.85	2.07	2.19	1.92	1.89	1.98	2.16	1.97	1.89	2.10	2.25	2.00	2.01	2.00	2.06
Total Consumption	19.41	19.47	19.83	19.42	19.45	19.42	19.74	19.80	19.49	19.67	20.07	20.06	19.53	19.60	19.83
Total Petroleum and Other Liquids Net Imports	5.03	4.68	4.83	4.32	4.97	4.68	5.03	4.65	4.68	5.17	5.06	4.12	4.71	4.83	4.76
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	443.2	438.8	429.1	449.2	501.5	498.0	466.6	459.9	481.2	467.6	447.6	435.4	449.2	459.9	435.4
Hydrocarbon Gas Liquids	140.5	196.0	229.2	197.0	154.4	211.8	253.9	205.2	170.3	218.9	250.7	206.5	197.0	205.2	206.5
Unfinished Oils	85.0	86.3	89.0	82.9	91.4	86.7	81.7	78.7	89.2	88.1	85.6	79.1	82.9	78.7	79.1
Other HC/Oxygenates	27.0	25.2	23.9	27.1	28.2	27.7	26.7	27.0	29.1	28.0	27.3	27.5	27.1	27.0	27.5
Total Motor Gasoline	232.9	221.1	225.2	235.5	243.3	242.1	227.4	238.7	233.5	229.8	228.7	240.5	235.5	238.7	240.5
Finished Motor Gasoline	26.7	25.2	29.0	28.6	26.5	24.9	25.3	27.9	27.1	25.7	26.7	28.2	28.6	27.9	28.2
Motor Gasoline Blend Comp.	206.2	195.9	196.2	206.9	216.9	217.2	202.1	210.9	206.4	204.1	202.0	212.3	206.9	210.9	212.3
Jet Fuel	38.3	43.8	40.5	40.4	43.8	40.4	44.1	40.3	40.1	41.5	43.8	40.1	40.4	40.3	40.1
Distillate Fuel Oil	128.7	139.6	149.4	161.3	160.6	149.2	160.6	157.6	138.9	141.9	148.8	149.1	161.3	157.6	149.1
Residual Fuel Oil	38.4	42.0	41.6	42.1	44.5	40.3	39.2	39.6	41.6	42.0	39.4	39.8	42.1	39.6	39.8
Other Oils (g)	58.3	54.6	48.4	53.9	58.4	55.6	52.2	54.3	59.5	57.3	51.2	53.6	53.9	54.3	53.6
Total Commercial Inventory	1,192	1,247	1,276	1,289	1,326	1,352	1,352	1,301	1,283	1,315	1,323	1,272	1,289	1,301	1,272
Crude Oil in SPR	691	694	695	695	695	695	695	695	695	695	695	694	695	695	694

- = no data available

(a) Includes lease condensate.

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

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

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

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

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

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

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

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
HGL Production															
Natural Gas Processing Plants															
Ethane	1.07	1.12	1.12	1.21	1.20	1.34	1.28	1.31	1.33	1.38	1.48	1.56	1.13	1.28	1.44
Propane	1.09	1.15	1.16	1.17	1.15	1.17	1.16	1.18	1.16	1.20	1.25	1.27	1.14	1.16	1.22
Butanes	0.59	0.64	0.66	0.65	0.63	0.63	0.65	0.65	0.64	0.67	0.69	0.69	0.63	0.64	0.67
Natural Gasoline (Pentanes Plus)	0.39	0.44	0.47	0.44	0.41	0.43	0.46	0.44	0.41	0.45	0.49	0.47	0.43	0.43	0.46
Refinery and Blender Net Production															
Ethane/Ethylene	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00
Propane/Propylene	0.54	0.58	0.56	0.55	0.58	0.60	0.58	0.58	0.58	0.61	0.60	0.58	0.56	0.58	0.59
Butanes/Butylenes	-0.08	0.27	0.19	-0.19	-0.11	0.26	0.19	-0.17	-0.06	0.25	0.19	-0.17	0.05	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	-0.06	-0.07	-0.06	-0.07	-0.08	-0.09	-0.11	-0.15	-0.18	-0.21	-0.25	-0.28	-0.06	-0.11	-0.23
Propane/Propylene	-0.39	-0.48	-0.54	-0.55	-0.65	-0.68	-0.59	-0.67	-0.69	-0.69	-0.68	-0.76	-0.49	-0.65	-0.70
Butanes/Butylenes	-0.05	-0.09	-0.11	-0.08	-0.07	-0.12	-0.11	-0.16	-0.12	-0.16	-0.19	-0.17	-0.08	-0.11	-0.16
Natural Gasoline (Pentanes Plus)	-0.17	-0.15	-0.21	-0.16	-0.20	-0.21	-0.20	-0.21	-0.20	-0.19	-0.24	-0.24	-0.17	-0.21	-0.22
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.40	0.27	0.32	0.50	0.43	0.28	0.31	0.44	0.37	0.27	0.31	0.44	0.37	0.36	0.35
Natural Gasoline (Pentanes Plus)	0.15	0.14	0.16	0.15	0.14	0.15	0.16	0.16	0.15	0.16	0.16	0.16	0.15	0.15	0.16
HGL Consumption															
Ethane/Ethylene	1.05	1.05	1.04	1.15	1.10	1.08	1.15	1.20	1.15	1.14	1.24	1.30	1.07	1.13	1.21
Propane/Propylene	1.46	0.97	1.01	1.21	1.41	0.88	0.94	1.23	1.36	0.91	0.99	1.25	1.16	1.11	1.13
Butanes/Butylenes	0.18	0.25	0.24	0.21	0.18	0.25	0.20	0.22	0.16	0.23	0.21	0.21	0.22	0.21	0.20
Natural Gasoline (Pentanes Plus)	0.10	0.09	0.10	0.09	0.04	0.04	0.08	0.07	0.05	0.06	0.06	0.07	0.10	0.06	0.06
HGL Inventories (million barrels)															
Ethane/Ethylene	31.81	31.91	32.55	34.37	33.76	45.19	53.74	52.37	50.72	54.01	53.96	54.25	32.67	46.30	53.25
Propane/Propylene	59.23	84.75	100.19	96.25	66.38	85.18	104.13	91.01	63.55	83.15	99.50	85.07	96.25	91.01	85.07
Butanes/Butylenes	32.48	59.16	76.30	45.96	32.39	54.10	74.83	43.82	37.14	60.22	75.64	48.42	45.96	43.82	48.42
Natural Gasoline (Pentanes Plus)	17.22	20.49	18.90	20.52	20.40	20.94	21.31	19.17	18.19	20.81	21.26	19.79	20.52	19.17	19.79
Refinery and Blender Net Inputs															
Crude Oil	15.48	16.46	16.59	16.21	16.00	16.22	16.60	16.35	15.83	16.48	16.80	16.50	16.19	16.29	16.41
Hydrocarbon Gas Liquids	0.54	0.41	0.47	0.64	0.57	0.43	0.46	0.60	0.52	0.43	0.47	0.60	0.52	0.52	0.50
Other Hydrocarbons/Oxygenates	1.12	1.18	1.20	1.17	1.15	1.22	1.23	1.24	1.19	1.24	1.27	1.25	1.17	1.21	1.24
Unfinished Oils	0.26	0.22	0.39	0.30	0.19	0.53	0.40	0.28	0.19	0.34	0.37	0.32	0.29	0.35	0.31
Motor Gasoline Blend Components	0.66	0.85	0.73	0.41	0.31	0.82	0.88	0.49	0.66	0.91	0.74	0.51	0.66	0.63	0.71
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	18.06	19.11	19.38	18.73	18.22	19.22	19.57	18.96	18.40	19.41	19.64	19.18	18.82	18.99	19.16
Refinery Processing Gain															
.....	1.04	1.06	1.08	1.07	1.07	1.10	1.10	1.07	1.03	1.06	1.09	1.08	1.06	1.08	1.06
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.47	0.86	0.76	0.37	0.47	0.86	0.77	0.41	0.52	0.87	0.79	0.42	0.61	0.63	0.65
Finished Motor Gasoline	9.43	9.78	9.96	9.85	9.68	10.06	10.16	10.15	9.79	10.14	10.16	10.14	9.75	10.01	10.06
Jet Fuel	1.51	1.61	1.61	1.63	1.57	1.61	1.75	1.59	1.51	1.60	1.65	1.61	1.59	1.63	1.59
Distillate Fuel	4.83	5.00	5.09	5.01	4.70	4.80	4.86	4.91	4.73	4.91	5.04	5.08	4.98	4.82	4.94
Residual Fuel	0.43	0.44	0.41	0.39	0.40	0.42	0.42	0.41	0.43	0.44	0.41	0.41	0.42	0.41	0.42
Other Oils (a)	2.44	2.48	2.63	2.55	2.47	2.57	2.70	2.55	2.45	2.51	2.67	2.60	2.53	2.57	2.56
Total Refinery and Blender Net Production	19.10	20.17	20.46	19.80	19.29	20.32	20.67	20.02	19.43	20.47	20.72	20.26	19.89	20.08	20.22
Refinery Distillation Inputs															
.....	15.76	16.68	16.86	16.40	16.27	16.50	16.94	16.60	16.11	16.69	17.05	16.74	16.43	16.58	16.65
Refinery Operable Distillation Capacity															
.....	17.96	17.99	18.11	18.17	18.31	18.36	18.40	18.50	18.55	18.55	18.55	18.55	18.06	18.39	18.55
Refinery Distillation Utilization Factor															
.....	0.88	0.93	0.93	0.90	0.89	0.90	0.92	0.90	0.87	0.90	0.92	0.90	0.91	0.90	0.90

- = no data available

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

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

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

Petroleum Supply Annual, DOE/EIA-0340/2; *Weekly Petroleum Status Report*, DOE/EIA-0208.

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Prices (cents per gallon)															
Refiner Wholesale Price	159	201	184	145	119	158	150	<i>137</i>	<i>135</i>	<i>162</i>	<i>165</i>	<i>150</i>	173	<i>141</i>	<i>153</i>
Gasoline Regular Grade Retail Prices Including Taxes															
PADD 1	228	259	247	211	187	220	215	<i>212</i>	<i>207</i>	<i>232</i>	<i>236</i>	<i>226</i>	236	<i>209</i>	<i>226</i>
PADD 2	216	256	253	209	176	221	215	<i>203</i>	<i>198</i>	<i>230</i>	<i>234</i>	<i>218</i>	234	<i>204</i>	<i>220</i>
PADD 3	204	240	228	190	167	201	199	<i>187</i>	<i>184</i>	<i>211</i>	<i>214</i>	<i>200</i>	216	<i>188</i>	<i>203</i>
PADD 4	207	261	276	218	184	221	226	<i>210</i>	<i>191</i>	<i>223</i>	<i>240</i>	<i>224</i>	241	<i>211</i>	<i>220</i>
PADD 5	271	328	327	264	241	265	264	<i>253</i>	<i>235</i>	<i>272</i>	<i>278</i>	<i>255</i>	298	<i>256</i>	<i>260</i>
U.S. Average	227	266	260	216	190	225	221	<i>212</i>	<i>205</i>	<i>235</i>	<i>239</i>	<i>224</i>	243	<i>212</i>	<i>226</i>
Gasoline All Grades Including Taxes	236	275	269	226	200	235	232	<i>223</i>	<i>215</i>	<i>245</i>	<i>250</i>	<i>236</i>	252	<i>223</i>	<i>237</i>
End-of-period Inventories (million barrels)															
Total Gasoline Inventories															
PADD 1	64.5	61.4	62.6	60.7	65.9	73.0	59.8	<i>62.1</i>	<i>62.2</i>	<i>64.0</i>	<i>62.5</i>	<i>64.2</i>	60.7	<i>62.1</i>	<i>64.2</i>
PADD 2	52.9	50.4	47.0	53.7	56.7	53.3	49.1	<i>51.6</i>	<i>52.3</i>	<i>49.7</i>	<i>49.9</i>	<i>52.0</i>	53.7	<i>51.6</i>	<i>52.0</i>
PADD 3	79.8	74.6	78.1	84.6	83.0	80.4	83.9	<i>85.3</i>	<i>81.1</i>	<i>80.5</i>	<i>80.8</i>	<i>84.8</i>	84.6	<i>85.3</i>	<i>84.8</i>
PADD 4	6.5	6.8	7.2	7.7	8.4	7.5	6.9	<i>7.7</i>	<i>7.1</i>	<i>7.2</i>	<i>7.3</i>	<i>7.8</i>	7.7	<i>7.7</i>	<i>7.8</i>
PADD 5	29.2	28.0	30.3	28.7	29.4	27.9	27.8	<i>32.0</i>	<i>30.8</i>	<i>28.3</i>	<i>28.3</i>	<i>31.7</i>	28.7	<i>32.0</i>	<i>31.7</i>
U.S. Total	232.9	221.1	225.2	235.5	243.3	242.1	227.4	<i>238.7</i>	<i>233.5</i>	<i>229.8</i>	<i>228.7</i>	<i>240.5</i>	235.5	<i>238.7</i>	<i>240.5</i>
Finished Gasoline Inventories															
U.S. Total	26.7	25.2	29.0	28.6	26.5	24.9	25.3	<i>27.9</i>	<i>27.1</i>	<i>25.7</i>	<i>26.7</i>	<i>28.2</i>	28.6	<i>27.9</i>	<i>28.2</i>
Gasoline Blending Components Inventories															
U.S. Total	206.2	195.9	196.2	206.9	216.9	217.2	202.1	<i>210.9</i>	<i>206.4</i>	<i>204.1</i>	<i>202.0</i>	<i>212.3</i>	206.9	<i>210.9</i>	<i>212.3</i>

- = no data available

Prices are not adjusted for inflation.

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Supply (billion cubic feet per day)															
Total Marketed Production	78.03	79.17	79.17	78.72	78.66	77.58	76.38	<i>77.43</i>	<i>79.41</i>	<i>80.55</i>	<i>81.83</i>	<i>82.91</i>	78.78	<i>77.51</i>	<i>81.19</i>
Alaska	0.99	0.93	0.86	0.98	0.98	0.86	0.82	<i>0.92</i>	<i>0.97</i>	<i>0.82</i>	<i>0.75</i>	<i>0.92</i>	0.94	<i>0.90</i>	<i>0.87</i>
Federal GOM (a)	3.27	3.54	3.81	3.49	3.48	3.34	3.24	<i>3.31</i>	<i>3.35</i>	<i>3.33</i>	<i>3.21</i>	<i>3.22</i>	3.53	<i>3.34</i>	<i>3.28</i>
Lower 48 States (excl GOM)	73.77	74.70	74.49	74.25	74.20	73.38	72.32	<i>73.20</i>	<i>75.09</i>	<i>76.40</i>	<i>77.86</i>	<i>78.76</i>	74.30	<i>73.27</i>	<i>77.04</i>
Total Dry Gas Production	73.44	74.50	74.51	74.08	73.77	72.44	71.26	<i>72.50</i>	<i>74.54</i>	<i>75.76</i>	<i>76.83</i>	<i>77.76</i>	74.14	<i>72.49</i>	<i>76.23</i>
LNG Gross Imports	0.43	0.08	0.26	0.24	0.33	0.19	0.17	<i>0.19</i>	<i>0.27</i>	<i>0.15</i>	<i>0.17</i>	<i>0.22</i>	0.25	<i>0.22</i>	<i>0.20</i>
LNG Gross Exports	0.06	0.06	0.09	0.10	0.15	0.40	0.53	<i>0.80</i>	<i>1.10</i>	<i>1.39</i>	<i>1.68</i>	<i>1.68</i>	0.08	<i>0.47</i>	<i>1.46</i>
Pipeline Gross Imports	8.36	6.69	6.69	7.06	8.08	7.84	8.02	<i>7.95</i>	<i>7.93</i>	<i>6.76</i>	<i>7.16</i>	<i>7.50</i>	7.20	<i>7.97</i>	<i>7.34</i>
Pipeline Gross Exports	4.98	4.36	4.81	5.08	5.64	5.38	5.14	<i>4.57</i>	<i>4.89</i>	<i>5.16</i>	<i>5.13</i>	<i>5.64</i>	4.81	<i>5.18</i>	<i>5.21</i>
Supplemental Gaseous Fuels	0.16	0.16	0.16	0.16	0.17	0.13	0.15	<i>0.15</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	<i>0.16</i>	0.16	<i>0.15</i>	<i>0.16</i>
Net Inventory Withdrawals	18.50	-12.99	-10.48	-0.55	13.08	-7.79	-5.61	<i>3.86</i>	<i>16.23</i>	<i>-9.73</i>	<i>-8.60</i>	<i>2.48</i>	-1.46	<i>0.88</i>	<i>0.03</i>
Total Supply	95.85	64.02	66.24	75.81	89.66	67.04	68.32	<i>79.28</i>	<i>93.13</i>	<i>66.54</i>	<i>68.90</i>	<i>80.80</i>	75.40	<i>76.06</i>	<i>77.29</i>
Balancing Item (b)	0.09	-0.45	-0.50	-1.47	-0.27	-0.12	0.91	<i>-0.88</i>	<i>-0.44</i>	<i>-0.04</i>	<i>-0.10</i>	<i>-1.64</i>	-0.59	<i>-0.09</i>	<i>-0.56</i>
Total Primary Supply	95.94	63.57	65.73	74.34	89.38	66.92	69.23	<i>78.41</i>	<i>92.69</i>	<i>66.50</i>	<i>68.80</i>	<i>79.17</i>	74.81	<i>75.97</i>	<i>76.73</i>
Consumption (billion cubic feet per day)															
Residential	27.46	6.82	3.47	13.02	22.46	7.13	3.54	<i>15.25</i>	<i>24.51</i>	<i>7.13</i>	<i>3.61</i>	<i>15.34</i>	12.63	<i>12.08</i>	<i>12.60</i>
Commercial	15.93	5.80	4.42	9.02	13.43	5.98	4.52	<i>10.26</i>	<i>14.56</i>	<i>6.13</i>	<i>4.55</i>	<i>10.38</i>	8.76	<i>8.54</i>	<i>8.88</i>
Industrial	22.71	19.66	19.27	20.97	22.59	20.20	20.05	<i>21.34</i>	<i>22.94</i>	<i>20.47</i>	<i>20.10</i>	<i>21.84</i>	20.64	<i>21.04</i>	<i>21.33</i>
Electric Power (c)	23.05	25.28	32.50	25.07	24.27	27.58	35.10	<i>25.24</i>	<i>23.87</i>	<i>26.60</i>	<i>34.23</i>	<i>24.98</i>	26.50	<i>28.06</i>	<i>27.44</i>
Lease and Plant Fuel	4.31	4.37	4.37	4.34	4.34	4.28	4.21	<i>4.27</i>	<i>4.38</i>	<i>4.44</i>	<i>4.52</i>	<i>4.57</i>	4.35	<i>4.28</i>	<i>4.48</i>
Pipeline and Distribution Use	2.37	1.53	1.59	1.81	2.18	1.63	1.69	<i>1.92</i>	<i>2.29</i>	<i>1.61</i>	<i>1.67</i>	<i>1.94</i>	1.83	<i>1.86</i>	<i>1.87</i>
Vehicle Use	0.11	0.11	0.11	0.11	0.11	0.11	0.12	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>	0.11	<i>0.11</i>	<i>0.12</i>
Total Consumption	95.94	63.57	65.73	74.34	89.38	66.92	69.23	<i>78.41</i>	<i>92.69</i>	<i>66.50</i>	<i>68.80</i>	<i>79.17</i>	74.81	<i>75.97</i>	<i>76.73</i>
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	1,480	2,656	3,622	3,675	2,496	3,196	3,712	<i>3,357</i>	<i>1,896</i>	<i>2,782</i>	<i>3,573</i>	<i>3,345</i>	3,675	<i>3,357</i>	<i>3,345</i>
East Region (d)	239	573	856	853	436	655	899	<i>774</i>	<i>325</i>	<i>604</i>	<i>832</i>	<i>731</i>	853	<i>774</i>	<i>731</i>
Midwest Region (d)	253	566	973	989	543	763	1,045	<i>915</i>	<i>411</i>	<i>658</i>	<i>1,002</i>	<i>879</i>	989	<i>915</i>	<i>879</i>
South Central Region (d)	575	1,002	1,206	1,304	1,080	1,236	1,181	<i>1,140</i>	<i>769</i>	<i>997</i>	<i>1,131</i>	<i>1,157</i>	1,304	<i>1,140</i>	<i>1,157</i>
Mountain Region (d)	113	155	203	186	145	197	237	<i>202</i>	<i>138</i>	<i>171</i>	<i>226</i>	<i>211</i>	186	<i>202</i>	<i>211</i>
Pacific Region (d)	276	336	359	320	266	316	318	<i>293</i>	<i>221</i>	<i>320</i>	<i>350</i>	<i>336</i>	320	<i>293</i>	<i>336</i>
Alaska	24	24	25	24	25	30	32	<i>32</i>	<i>32</i>	<i>32</i>	<i>32</i>	<i>32</i>	24	<i>32</i>	<i>32</i>

- = no data available

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

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

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

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

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

LNG: liquefied natural gas.

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 5b. U.S. Regional Natural Gas Prices (dollars per thousand cubic feet)
 U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Wholesale/Spot															
Henry Hub Spot Price	2.99	2.83	2.84	2.18	2.06	2.21	2.97	3.13	<i>3.38</i>	<i>3.00</i>	<i>3.05</i>	<i>3.22</i>	2.71	<i>2.59</i>	<i>3.16</i>
Residential Retail															
New England	13.09	13.33	16.17	12.55	11.79	13.13	17.08	13.38	<i>13.05</i>	<i>14.26</i>	<i>16.87</i>	<i>13.46</i>	13.19	<i>12.83</i>	<i>13.64</i>
Middle Atlantic	9.53	11.20	16.32	10.99	8.84	10.70	16.32	11.73	<i>10.69</i>	<i>13.07</i>	<i>17.26</i>	<i>11.93</i>	10.52	<i>10.50</i>	<i>11.84</i>
E. N. Central	7.78	10.58	16.71	7.96	6.78	9.31	16.94	8.61	<i>8.26</i>	<i>11.43</i>	<i>16.93</i>	<i>8.84</i>	8.67	<i>8.31</i>	<i>9.35</i>
W. N. Central	8.66	11.94	17.74	9.38	7.38	10.77	17.88	9.77	<i>8.88</i>	<i>11.33</i>	<i>17.53</i>	<i>9.76</i>	9.79	<i>9.22</i>	<i>9.99</i>
S. Atlantic	10.74	16.68	22.48	14.02	10.22	15.30	22.68	13.29	<i>11.85</i>	<i>16.71</i>	<i>22.35</i>	<i>13.15</i>	12.93	<i>12.67</i>	<i>13.52</i>
E. S. Central	9.34	14.36	19.42	11.83	8.52	13.12	19.19	11.36	<i>9.90</i>	<i>13.97</i>	<i>19.22</i>	<i>11.66</i>	10.92	<i>10.54</i>	<i>11.40</i>
W. S. Central	8.47	13.97	19.94	12.10	8.27	14.10	19.82	12.54	<i>10.48</i>	<i>14.95</i>	<i>19.75</i>	<i>12.00</i>	10.77	<i>11.31</i>	<i>12.37</i>
Mountain	9.57	10.87	14.57	8.56	8.21	9.65	14.12	9.67	<i>9.65</i>	<i>11.07</i>	<i>14.57</i>	<i>9.96</i>	9.77	<i>9.35</i>	<i>10.37</i>
Pacific	11.46	11.40	12.05	10.88	10.97	11.26	12.22	10.91	<i>11.31</i>	<i>11.62</i>	<i>12.17</i>	<i>11.26</i>	11.32	<i>11.16</i>	<i>11.46</i>
U.S. Average	9.29	12.02	16.52	10.08	8.53	11.16	16.57	10.65	<i>10.00</i>	<i>12.59</i>	<i>16.70</i>	<i>10.81</i>	10.36	<i>10.18</i>	<i>11.10</i>
Commercial Retail															
New England	10.77	10.13	9.69	9.13	8.76	9.58	10.22	10.45	<i>10.79</i>	<i>10.45</i>	<i>10.29</i>	<i>10.36</i>	10.21	<i>9.54</i>	<i>10.58</i>
Middle Atlantic	7.91	7.48	6.62	7.01	6.84	6.41	6.46	7.49	<i>8.12</i>	<i>7.71</i>	<i>7.37</i>	<i>8.04</i>	7.49	<i>6.90</i>	<i>7.94</i>
E. N. Central	6.95	7.51	8.83	6.30	5.86	6.58	8.82	7.00	<i>7.14</i>	<i>8.32</i>	<i>9.07</i>	<i>7.25</i>	7.01	<i>6.57</i>	<i>7.48</i>
W. N. Central	7.65	8.03	9.10	6.70	6.27	6.98	8.74	7.38	<i>7.67</i>	<i>7.86</i>	<i>8.84</i>	<i>7.49</i>	7.56	<i>6.94</i>	<i>7.73</i>
S. Atlantic	8.48	9.21	9.62	8.92	7.54	8.32	9.49	9.07	<i>9.22</i>	<i>9.64</i>	<i>10.18</i>	<i>9.42</i>	8.83	<i>8.37</i>	<i>9.46</i>
E. S. Central	8.54	9.62	10.00	8.90	7.49	8.57	9.75	9.01	<i>8.72</i>	<i>9.51</i>	<i>10.12</i>	<i>9.34</i>	8.93	<i>8.37</i>	<i>9.16</i>
W. S. Central	7.16	7.17	8.00	7.26	6.29	6.89	8.04	7.56	<i>7.50</i>	<i>7.87</i>	<i>8.20</i>	<i>7.62</i>	7.31	<i>7.02</i>	<i>7.70</i>
Mountain	8.28	8.35	9.03	7.23	6.94	7.08	8.03	7.49	<i>7.95</i>	<i>8.33</i>	<i>8.95</i>	<i>7.89</i>	8.02	<i>7.25</i>	<i>8.10</i>
Pacific	9.22	8.45	8.71	8.16	8.38	8.13	8.61	8.39	<i>8.84</i>	<i>8.76</i>	<i>9.07</i>	<i>8.80</i>	8.64	<i>8.37</i>	<i>8.85</i>
U.S. Average	7.94	8.17	8.45	7.40	6.84	7.25	8.32	7.86	<i>8.12</i>	<i>8.47</i>	<i>8.83</i>	<i>8.16</i>	7.89	<i>7.38</i>	<i>8.27</i>
Industrial Retail															
New England	9.10	7.61	6.10	6.77	7.07	6.88	6.74	8.42	<i>8.80</i>	<i>8.04</i>	<i>7.73</i>	<i>8.52</i>	7.77	<i>7.28</i>	<i>8.39</i>
Middle Atlantic	8.31	7.58	7.11	7.12	6.73	6.18	5.84	7.38	<i>7.93</i>	<i>7.29</i>	<i>7.51</i>	<i>8.01</i>	7.82	<i>6.68</i>	<i>7.79</i>
E. N. Central	6.41	5.63	5.52	5.15	5.05	4.73	5.78	6.04	<i>6.60</i>	<i>6.22</i>	<i>6.20</i>	<i>6.25</i>	5.88	<i>5.39</i>	<i>6.40</i>
W. N. Central	5.81	4.53	4.41	4.37	4.28	3.56	4.18	5.05	<i>5.57</i>	<i>4.75</i>	<i>4.64</i>	<i>5.16</i>	4.87	<i>4.33</i>	<i>5.08</i>
S. Atlantic	5.46	4.51	4.52	4.28	4.40	3.84	4.76	5.29	<i>5.54</i>	<i>5.04</i>	<i>5.04</i>	<i>5.32</i>	4.72	<i>4.57</i>	<i>5.26</i>
E. S. Central	5.15	4.28	4.14	3.84	3.96	3.38	4.33	4.89	<i>5.17</i>	<i>4.61</i>	<i>4.62</i>	<i>4.96</i>	4.39	<i>4.15</i>	<i>4.86</i>
W. S. Central	3.22	2.94	3.09	2.51	2.28	2.15	3.14	3.38	<i>3.61</i>	<i>3.20</i>	<i>3.34</i>	<i>3.44</i>	2.94	<i>2.75</i>	<i>3.40</i>
Mountain	6.62	6.22	6.12	5.67	5.28	5.06	5.71	5.90	<i>6.14</i>	<i>5.76</i>	<i>5.98</i>	<i>5.94</i>	6.18	<i>5.50</i>	<i>5.97</i>
Pacific	7.29	6.54	6.59	6.46	6.65	6.04	6.42	6.59	<i>6.90</i>	<i>6.32</i>	<i>6.53</i>	<i>6.62</i>	6.74	<i>6.44</i>	<i>6.61</i>
U.S. Average	4.67	3.74	3.71	3.41	3.44	2.93	3.74	4.27	<i>4.75</i>	<i>3.99</i>	<i>4.00</i>	<i>4.37</i>	3.91	<i>3.61</i>	<i>4.30</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 - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Supply (million short tons)															
Production	240.3	212.5	237.0	207.2	173.0	160.5	204.6	<i>187.7</i>	<i>196.2</i>	<i>170.6</i>	<i>198.6</i>	<i>188.1</i>	897.0	<i>725.9</i>	<i>753.5</i>
Appalachia	62.4	54.7	56.7	48.2	44.3	43.2	47.5	<i>45.4</i>	<i>48.9</i>	<i>45.3</i>	<i>47.7</i>	<i>44.0</i>	222.0	<i>180.4</i>	<i>185.8</i>
Interior	45.2	39.8	45.1	37.5	36.9	34.4	38.7	<i>37.9</i>	<i>39.6</i>	<i>35.4</i>	<i>41.9</i>	<i>41.7</i>	167.6	<i>148.0</i>	<i>158.5</i>
Western	132.7	118.0	135.3	121.5	91.8	82.8	118.4	<i>104.4</i>	<i>107.7</i>	<i>90.0</i>	<i>109.0</i>	<i>102.5</i>	507.4	<i>397.4</i>	<i>409.2</i>
Primary Inventory Withdrawals	-0.7	0.3	3.1	-1.6	-1.0	3.2	0.4	<i>-1.6</i>	<i>0.2</i>	<i>1.9</i>	<i>-1.3</i>	<i>0.2</i>	1.1	<i>1.0</i>	<i>1.1</i>
Imports	3.0	2.6	3.0	2.7	2.7	2.3	2.8	<i>2.7</i>	<i>2.2</i>	<i>2.4</i>	<i>3.3</i>	<i>2.9</i>	11.3	<i>10.5</i>	<i>10.7</i>
Exports	22.0	19.8	16.9	15.3	14.2	14.2	11.8	<i>14.3</i>	<i>11.5</i>	<i>13.1</i>	<i>13.2</i>	<i>14.2</i>	74.0	<i>54.5</i>	<i>52.0</i>
Metallurgical Coal	13.5	12.7	10.3	9.4	10.2	10.1	8.4	<i>9.6</i>	<i>8.3</i>	<i>9.2</i>	<i>7.9</i>	<i>9.1</i>	46.0	<i>38.2</i>	<i>34.5</i>
Steam Coal	8.5	7.0	6.6	5.9	4.0	4.2	3.4	<i>4.8</i>	<i>3.2</i>	<i>3.9</i>	<i>5.3</i>	<i>5.1</i>	28.0	<i>16.3</i>	<i>17.5</i>
Total Primary Supply	220.6	195.6	226.1	193.0	160.6	151.8	195.9	<i>174.5</i>	<i>187.0</i>	<i>161.9</i>	<i>187.3</i>	<i>177.0</i>	835.4	<i>682.8</i>	<i>713.2</i>
Secondary Inventory Withdrawals	-2.4	-12.8	3.5	-33.8	3.1	8.2	28.3	<i>2.1</i>	<i>1.2</i>	<i>3.7</i>	<i>16.2</i>	<i>-4.5</i>	-45.4	<i>41.7</i>	<i>16.6</i>
Waste Coal (a)	2.7	2.1	2.9	2.2	2.5	2.5	2.5	<i>2.5</i>	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	<i>2.6</i>	9.9	<i>9.8</i>	<i>10.2</i>
Total Supply	220.9	185.0	232.6	161.4	166.1	162.4	226.6	<i>179.1</i>	<i>190.8</i>	<i>168.1</i>	<i>206.1</i>	<i>175.0</i>	800.0	<i>734.3</i>	<i>740.0</i>
Consumption (million short tons)															
Coke Plants	5.2	5.0	5.0	4.5	4.2	4.0	5.1	<i>5.1</i>	<i>4.3</i>	<i>4.0</i>	<i>5.2</i>	<i>4.9</i>	19.7	<i>18.3</i>	<i>18.4</i>
Electric Power Sector (b)	196.3	174.6	215.5	153.3	152.4	147.4	208.3	<i>164.9</i>	<i>176.9</i>	<i>155.1</i>	<i>191.8</i>	<i>160.7</i>	739.7	<i>673.0</i>	<i>684.4</i>
Retail and Other Industry	11.0	9.6	9.6	9.9	11.0	9.3	8.9	<i>9.1</i>	<i>9.6</i>	<i>9.0</i>	<i>9.1</i>	<i>9.5</i>	40.0	<i>38.4</i>	<i>37.2</i>
Residential and Commercial	0.6	0.3	0.3	0.4	0.8	0.4	0.2	<i>0.2</i>	<i>0.4</i>	<i>0.2</i>	<i>0.3</i>	<i>0.3</i>	1.5	<i>1.7</i>	<i>1.3</i>
Other Industrial	10.4	9.3	9.3	9.5	10.2	8.9	8.7	<i>8.9</i>	<i>9.2</i>	<i>8.8</i>	<i>8.9</i>	<i>9.1</i>	38.5	<i>36.7</i>	<i>36.0</i>
Total Consumption	212.4	189.2	230.0	167.7	167.6	160.8	222.3	<i>179.1</i>	<i>190.8</i>	<i>168.1</i>	<i>206.1</i>	<i>175.0</i>	799.4	<i>729.7</i>	<i>740.0</i>
Discrepancy (c)	8.5	-4.2	2.6	-6.3	-1.5	1.7	4.4	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	0.6	<i>4.6</i>	<i>0.0</i>
End-of-period Inventories (million short tons)															
Primary Inventories (d)	39.6	39.3	36.2	37.8	38.8	35.6	35.2	<i>36.9</i>	<i>36.7</i>	<i>34.7</i>	<i>36.0</i>	<i>35.8</i>	37.8	<i>36.9</i>	<i>35.8</i>
Secondary Inventories	161.2	174.0	170.4	204.2	201.1	193.0	164.6	<i>162.5</i>	<i>161.3</i>	<i>157.6</i>	<i>141.4</i>	<i>145.9</i>	204.2	<i>162.5</i>	<i>145.9</i>
Electric Power Sector	155.0	167.0	162.7	197.1	194.3	185.5	156.7	<i>154.2</i>	<i>154.0</i>	<i>149.7</i>	<i>133.0</i>	<i>137.2</i>	197.1	<i>154.2</i>	<i>137.2</i>
Retail and General Industry	3.7	3.9	4.3	4.4	4.8	5.1	5.7	<i>6.0</i>	<i>5.3</i>	<i>5.5</i>	<i>6.1</i>	<i>6.3</i>	4.4	<i>6.0</i>	<i>6.3</i>
Coke Plants	2.1	2.6	3.0	2.2	1.5	1.9	1.8	<i>1.8</i>	<i>1.5</i>	<i>1.9</i>	<i>1.8</i>	<i>1.8</i>	2.2	<i>1.8</i>	<i>1.8</i>
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	6.11	6.11	6.11	6.11	5.95	5.95	5.95	<i>5.95</i>	<i>5.80</i>	<i>5.80</i>	<i>5.80</i>	<i>5.80</i>	6.11	<i>5.95</i>	<i>5.80</i>
Total Raw Steel Production															
(Million short tons per day)	0.247	0.242	0.248	0.226	0.238	0.247	0.238	<i>0.214</i>	<i>0.217</i>	<i>0.228</i>	<i>0.206</i>	<i>0.175</i>	0.241	<i>0.234</i>	<i>0.206</i>
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	2.27	2.25	2.22	2.15	2.13	2.14	2.17	<i>2.19</i>	<i>2.20</i>	<i>2.24</i>	<i>2.27</i>	<i>2.23</i>	2.23	<i>2.16</i>	<i>2.24</i>

- = no data available

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Electricity Supply (billion kilowatthours per day)															
Electricity Generation	11.36	10.77	12.46	10.21	10.67	10.77	12.77	<i>10.53</i>	<i>11.07</i>	<i>10.92</i>	<i>12.52</i>	<i>10.59</i>	11.20	<i>11.19</i>	<i>11.28</i>
Electric Power Sector (a)	10.93	10.36	12.01	9.78	10.24	10.35	12.31	<i>10.09</i>	<i>10.63</i>	<i>10.49</i>	<i>12.05</i>	<i>10.16</i>	10.77	<i>10.75</i>	<i>10.83</i>
Comm. and Indus. Sectors (b)	0.43	0.41	0.45	0.43	0.43	0.43	0.46	<i>0.43</i>	<i>0.44</i>	<i>0.43</i>	<i>0.47</i>	<i>0.44</i>	0.43	<i>0.44</i>	<i>0.44</i>
Net Imports	0.17	0.20	0.20	0.16	0.18	0.17	0.18	<i>0.13</i>	<i>0.15</i>	<i>0.15</i>	<i>0.19</i>	<i>0.13</i>	0.18	<i>0.17</i>	<i>0.15</i>
Total Supply	11.52	10.97	12.66	10.37	10.85	10.95	12.95	<i>10.66</i>	<i>11.22</i>	<i>11.07</i>	<i>12.70</i>	<i>10.73</i>	11.38	<i>11.36</i>	<i>11.43</i>
Losses and Unaccounted for (c)	0.77	0.92	0.86	0.63	0.64	0.98	0.89	<i>0.67</i>	<i>0.61</i>	<i>0.92</i>	<i>0.80</i>	<i>0.72</i>	0.80	<i>0.79</i>	<i>0.76</i>
Electricity Consumption (billion kilowatthours per day unless noted)															
Retail Sales	10.37	9.69	11.40	9.35	9.83	9.59	11.66	<i>9.61</i>	<i>10.22</i>	<i>9.77</i>	<i>11.49</i>	<i>9.62</i>	10.20	<i>10.17</i>	<i>10.28</i>
Residential Sector	4.20	3.35	4.51	3.29	3.81	3.37	4.79	<i>3.44</i>	<i>4.06</i>	<i>3.38</i>	<i>4.55</i>	<i>3.48</i>	3.84	<i>3.85</i>	<i>3.87</i>
Commercial Sector	3.60	3.65	4.12	3.51	3.51	3.63	4.16	<i>3.57</i>	<i>3.59</i>	<i>3.71</i>	<i>4.17</i>	<i>3.57</i>	3.72	<i>3.72</i>	<i>3.76</i>
Industrial Sector	2.55	2.67	2.76	2.53	2.49	2.57	2.69	<i>2.58</i>	<i>2.55</i>	<i>2.66</i>	<i>2.74</i>	<i>2.56</i>	2.63	<i>2.58</i>	<i>2.63</i>
Transportation Sector	0.02	0.02	0.02	0.02	0.02	0.02	0.02	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	<i>0.02</i>	0.02	<i>0.02</i>	<i>0.02</i>
Direct Use (d)	0.38	0.36	0.40	0.38	0.38	0.38	0.40	<i>0.38</i>	<i>0.39</i>	<i>0.38</i>	<i>0.41</i>	<i>0.39</i>	0.38	<i>0.39</i>	<i>0.39</i>
Total Consumption	10.75	10.05	11.80	9.73	10.21	9.97	12.07	<i>9.99</i>	<i>10.61</i>	<i>10.15</i>	<i>11.90</i>	<i>10.01</i>	10.58	<i>10.56</i>	<i>10.67</i>
Average residential electricity usage per customer (kWh)	2,922	2,349	3,188	2,321	2,656	2,341	3,359	<i>2,405</i>	<i>2,772</i>	<i>2,330</i>	<i>3,167</i>	<i>2,411</i>	10,779	<i>10,761</i>	<i>10,680</i>
Prices															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.27	2.25	2.22	2.15	2.13	2.14	2.17	<i>2.19</i>	<i>2.20</i>	<i>2.24</i>	<i>2.27</i>	<i>2.23</i>	2.23	<i>2.16</i>	<i>2.24</i>
Natural Gas	4.09	3.12	3.09	2.72	2.65	2.51	3.19	<i>3.68</i>	<i>4.16</i>	<i>3.40</i>	<i>3.27</i>	<i>3.80</i>	3.22	<i>3.02</i>	<i>3.61</i>
Residual Fuel Oil	10.82	11.64	10.48	7.76	6.15	8.51	8.96	<i>9.21</i>	<i>9.17</i>	<i>9.81</i>	<i>9.73</i>	<i>10.01</i>	10.36	<i>8.20</i>	<i>9.67</i>
Distillate Fuel Oil	15.61	15.17	13.19	11.74	9.02	11.02	12.11	<i>13.15</i>	<i>13.78</i>	<i>13.91</i>	<i>14.42</i>	<i>15.51</i>	14.43	<i>11.31</i>	<i>14.37</i>
Retail Prices (cents per kilowatthour)															
Residential Sector	12.24	12.85	12.99	12.59	12.21	12.67	12.78	<i>12.46</i>	<i>12.45</i>	<i>13.05</i>	<i>13.34</i>	<i>12.92</i>	12.67	<i>12.54</i>	<i>12.95</i>
Commercial Sector	10.46	10.54	10.95	10.36	10.08	10.32	10.72	<i>10.30</i>	<i>10.24</i>	<i>10.59</i>	<i>11.06</i>	<i>10.62</i>	10.59	<i>10.37</i>	<i>10.64</i>
Industrial Sector	6.79	6.81	7.32	6.63	6.42	6.66	7.21	<i>6.66</i>	<i>6.56</i>	<i>6.84</i>	<i>7.37</i>	<i>6.80</i>	6.90	<i>6.75</i>	<i>6.90</i>

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

Prices are not adjusted for inflation.

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

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Residential Sector															
New England	152	112	144	112	133	109	150	118	141	112	141	121	130	128	129
Middle Atlantic	423	321	423	306	367	309	461	321	393	313	422	325	368	365	363
E. N. Central	587	428	556	434	522	447	626	465	559	444	584	470	501	515	514
W. N. Central	325	232	309	243	298	243	318	258	321	239	317	262	277	279	285
S. Atlantic	1,078	889	1,137	809	969	874	1,250	868	1,042	875	1,161	879	978	991	989
E. S. Central	390	275	384	254	337	274	424	282	365	280	394	286	326	329	331
W. S. Central	602	503	782	479	525	512	806	488	555	521	769	490	592	583	584
Mountain	235	240	333	237	240	251	333	238	250	247	347	241	261	266	271
Pacific contiguous	396	337	425	400	406	336	408	386	419	338	409	387	389	384	388
AK and HI	13	12	13	14	13	12	12	13	13	11	12	13	13	13	12
Total	4,202	3,349	4,505	3,288	3,811	3,368	4,788	3,437	4,056	3,380	4,555	3,475	3,835	3,852	3,867
Commercial Sector															
New England	147	139	159	137	141	137	155	138	142	137	155	135	146	143	142
Middle Atlantic	444	417	478	404	424	408	482	406	430	414	473	404	436	430	430
E. N. Central	509	490	544	471	489	493	553	485	507	500	552	486	503	505	511
W. N. Central	281	269	305	265	272	271	305	271	283	277	310	274	280	280	286
S. Atlantic	805	859	939	795	792	843	972	808	803	865	950	805	850	854	856
E. S. Central	235	239	279	222	226	242	290	227	235	245	285	227	244	247	248
W. S. Central	499	534	630	506	485	530	629	513	497	548	645	520	542	540	553
Mountain	240	256	289	246	240	258	290	252	249	268	300	255	258	260	268
Pacific contiguous	424	433	479	449	418	428	469	452	430	437	484	445	447	442	449
AK and HI	16	16	17	17	16	16	16	17	17	16	16	17	16	16	16
Total	3,603	3,651	4,119	3,511	3,505	3,627	4,163	3,567	3,592	3,707	4,169	3,568	3,722	3,716	3,760
Industrial Sector															
New England	49	50	52	49	46	46	49	48	47	47	50	46	50	48	48
Middle Atlantic	198	196	204	188	193	191	198	193	199	197	204	192	197	194	198
E. N. Central	520	525	531	493	504	504	513	498	508	513	522	491	517	505	508
W. N. Central	237	240	252	231	223	228	246	240	233	241	254	237	240	234	241
S. Atlantic	375	406	406	379	362	384	391	377	371	396	400	376	391	378	386
E. S. Central	279	287	290	265	266	269	275	271	284	282	281	271	280	270	280
W. S. Central	433	462	492	458	456	471	486	468	449	478	495	462	461	471	471
Mountain	217	235	251	223	214	232	255	228	218	240	256	226	232	232	235
Pacific contiguous	227	251	266	234	215	236	263	244	227	248	267	239	245	240	245
AK and HI	13	13	15	14	13	14	15	14	14	14	15	14	14	14	14
Total	2,546	2,666	2,757	2,535	2,492	2,574	2,690	2,582	2,550	2,657	2,744	2,556	2,626	2,585	2,627
Total All Sectors (a)															
New England	350	302	357	299	322	294	356	306	332	297	348	304	327	319	320
Middle Atlantic	1,077	944	1,115	909	995	918	1,152	931	1,034	936	1,111	933	1,011	999	1,004
E. N. Central	1,618	1,444	1,632	1,399	1,516	1,446	1,694	1,449	1,575	1,458	1,659	1,449	1,523	1,526	1,535
W. N. Central	844	742	866	739	793	742	869	769	837	757	881	773	797	794	812
S. Atlantic	2,262	2,158	2,486	1,986	2,127	2,106	2,617	2,056	2,220	2,141	2,514	2,064	2,223	2,227	2,235
E. S. Central	904	801	953	741	830	785	989	779	884	807	960	784	850	846	859
W. S. Central	1,535	1,499	1,904	1,444	1,467	1,514	1,921	1,470	1,502	1,548	1,910	1,473	1,596	1,594	1,609
Mountain	692	731	874	707	695	741	878	719	716	755	904	722	752	758	775
Pacific contiguous	1,050	1,023	1,172	1,085	1,042	1,003	1,142	1,085	1,078	1,025	1,162	1,073	1,083	1,068	1,085
AK and HI	43	41	44	44	42	41	44	44	43	41	43	44	43	43	43
Total	10,374	9,685	11,402	9,354	9,829	9,589	11,663	9,608	10,221	9,766	11,491	9,620	10,204	10,174	10,276

- = 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 Kilowatt-hour)
 U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Residential Sector															
New England	20.43	20.29	18.35	18.62	19.11	19.25	18.55	<i>18.82</i>	<i>19.48</i>	<i>19.72</i>	<i>19.39</i>	<i>19.38</i>	19.43	<i>18.91</i>	<i>19.48</i>
Middle Atlantic	15.77	16.07	16.47	16.04	15.28	15.88	16.05	<i>15.82</i>	<i>15.73</i>	<i>16.50</i>	<i>16.87</i>	<i>16.47</i>	16.09	<i>15.77</i>	<i>16.39</i>
E. N. Central	12.22	13.21	13.16	13.09	12.51	13.25	13.02	<i>13.09</i>	<i>12.98</i>	<i>13.92</i>	<i>13.77</i>	<i>13.77</i>	12.88	<i>12.96</i>	<i>13.59</i>
W. N. Central	10.24	12.16	12.46	11.22	10.62	12.31	12.78	<i>11.31</i>	<i>10.84</i>	<i>12.70</i>	<i>13.14</i>	<i>11.63</i>	11.48	<i>11.76</i>	<i>12.06</i>
S. Atlantic	11.37	11.91	12.14	11.70	11.42	11.75	11.76	<i>11.42</i>	<i>11.57</i>	<i>12.02</i>	<i>12.26</i>	<i>11.83</i>	11.79	<i>11.60</i>	<i>11.93</i>
E. S. Central	10.34	11.15	10.89	10.95	10.36	10.94	10.69	<i>10.52</i>	<i>10.42</i>	<i>11.33</i>	<i>11.27</i>	<i>10.90</i>	10.79	<i>10.62</i>	<i>10.97</i>
W. S. Central	10.67	11.35	11.03	10.81	10.35	10.72	10.69	<i>10.62</i>	<i>10.58</i>	<i>11.19</i>	<i>11.36</i>	<i>11.11</i>	10.96	<i>10.60</i>	<i>11.09</i>
Mountain	11.31	12.21	12.33	11.34	11.03	11.91	12.18	<i>11.42</i>	<i>11.24</i>	<i>12.19</i>	<i>12.51</i>	<i>11.72</i>	11.85	<i>11.69</i>	<i>11.97</i>
Pacific	13.69	13.47	15.76	13.89	14.13	13.95	16.09	<i>14.06</i>	<i>14.24</i>	<i>13.89</i>	<i>16.26</i>	<i>14.37</i>	14.26	<i>14.60</i>	<i>14.73</i>
U.S. Average	12.24	12.85	12.99	12.59	12.21	12.67	12.78	<i>12.46</i>	<i>12.45</i>	<i>13.05</i>	<i>13.34</i>	<i>12.92</i>	12.67	<i>12.54</i>	<i>12.95</i>
Commercial Sector															
New England	16.92	15.21	14.91	14.86	15.30	15.00	15.56	<i>15.49</i>	<i>15.98</i>	<i>15.59</i>	<i>16.13</i>	<i>15.99</i>	15.47	<i>15.34</i>	<i>15.93</i>
Middle Atlantic	13.07	13.04	13.72	12.57	11.92	12.49	13.29	<i>12.24</i>	<i>12.10</i>	<i>12.81</i>	<i>13.65</i>	<i>12.55</i>	13.13	<i>12.52</i>	<i>12.80</i>
E. N. Central	9.72	9.96	10.04	9.81	9.63	9.88	9.82	<i>9.65</i>	<i>9.76</i>	<i>10.15</i>	<i>10.11</i>	<i>9.91</i>	9.89	<i>9.75</i>	<i>9.99</i>
W. N. Central	8.57	9.52	9.95	8.89	8.86	9.70	9.98	<i>8.74</i>	<i>9.05</i>	<i>9.97</i>	<i>10.28</i>	<i>8.99</i>	9.25	<i>9.34</i>	<i>9.60</i>
S. Atlantic	9.66	9.45	9.59	9.35	9.38	9.27	9.50	<i>9.55</i>	<i>9.55</i>	<i>9.56</i>	<i>9.91</i>	<i>9.99</i>	9.52	<i>9.43</i>	<i>9.76</i>
E. S. Central	10.21	10.38	10.27	10.17	9.98	9.99	10.02	<i>9.86</i>	<i>9.99</i>	<i>10.40</i>	<i>10.52</i>	<i>10.24</i>	10.26	<i>9.97</i>	<i>10.30</i>
W. S. Central	8.05	7.89	7.94	7.72	7.65	7.74	7.93	<i>7.86</i>	<i>7.81</i>	<i>7.96</i>	<i>8.18</i>	<i>8.05</i>	7.90	<i>7.81</i>	<i>8.01</i>
Mountain	9.37	9.95	10.21	9.37	9.00	9.75	10.00	<i>9.37</i>	<i>9.03</i>	<i>9.85</i>	<i>10.14</i>	<i>9.52</i>	9.75	<i>9.55</i>	<i>9.67</i>
Pacific	12.23	13.30	15.61	13.44	12.21	13.08	14.75	<i>12.95</i>	<i>12.25</i>	<i>13.23</i>	<i>14.98</i>	<i>13.45</i>	13.71	<i>13.29</i>	<i>13.53</i>
U.S. Average	10.46	10.54	10.95	10.36	10.08	10.32	10.72	<i>10.30</i>	<i>10.24</i>	<i>10.59</i>	<i>11.06</i>	<i>10.62</i>	10.59	<i>10.37</i>	<i>10.64</i>
Industrial Sector															
New England	13.18	11.85	11.87	11.85	12.20	11.79	12.87	<i>12.82</i>	<i>13.31</i>	<i>12.54</i>	<i>13.44</i>	<i>13.25</i>	12.17	<i>12.43</i>	<i>13.14</i>
Middle Atlantic	7.90	7.22	7.36	7.06	7.04	7.02	7.23	<i>6.89</i>	<i>7.20</i>	<i>7.17</i>	<i>7.27</i>	<i>6.97</i>	7.39	<i>7.05</i>	<i>7.15</i>
E. N. Central	6.87	6.77	7.06	6.76	6.74	6.83	6.97	<i>6.77</i>	<i>6.84</i>	<i>7.00</i>	<i>7.11</i>	<i>6.87</i>	6.87	<i>6.83</i>	<i>6.96</i>
W. N. Central	6.49	6.88	7.51	6.48	6.65	7.08	7.61	<i>6.50</i>	<i>6.72</i>	<i>7.19</i>	<i>7.75</i>	<i>6.63</i>	6.85	<i>6.97</i>	<i>7.09</i>
S. Atlantic	6.55	6.38	6.90	6.26	6.16	6.34	6.88	<i>6.43</i>	<i>6.31</i>	<i>6.56</i>	<i>7.04</i>	<i>6.55</i>	6.53	<i>6.46</i>	<i>6.62</i>
E. S. Central	5.78	5.95	6.58	5.74	5.48	5.72	6.43	<i>5.82</i>	<i>5.63</i>	<i>5.97</i>	<i>6.67</i>	<i>5.98</i>	6.02	<i>5.87</i>	<i>6.07</i>
W. S. Central	5.69	5.53	5.73	5.27	5.06	5.03	5.63	<i>5.48</i>	<i>5.38</i>	<i>5.42</i>	<i>5.90</i>	<i>5.69</i>	5.56	<i>5.31</i>	<i>5.60</i>
Mountain	6.16	6.65	7.17	6.00	5.81	6.29	7.05	<i>6.16</i>	<i>5.96</i>	<i>6.47</i>	<i>7.26</i>	<i>6.35</i>	6.52	<i>6.36</i>	<i>6.54</i>
Pacific	8.00	8.94	10.46	9.21	7.98	9.08	9.98	<i>8.55</i>	<i>7.61</i>	<i>8.75</i>	<i>9.89</i>	<i>8.68</i>	9.21	<i>8.95</i>	<i>8.79</i>
U.S. Average	6.79	6.81	7.32	6.63	6.42	6.66	7.21	<i>6.66</i>	<i>6.56</i>	<i>6.84</i>	<i>7.37</i>	<i>6.80</i>	6.90	<i>6.75</i>	<i>6.90</i>
All Sectors (a)															
New England	17.90	16.51	15.83	15.74	16.39	16.04	16.42	<i>16.32</i>	<i>17.06</i>	<i>16.62</i>	<i>17.03</i>	<i>16.89</i>	16.51	<i>16.30</i>	<i>16.91</i>
Middle Atlantic	13.17	12.85	13.58	12.58	12.21	12.47	13.33	<i>12.35</i>	<i>12.52</i>	<i>12.83</i>	<i>13.68</i>	<i>12.74</i>	13.08	<i>12.63</i>	<i>12.97</i>
E. N. Central	9.71	9.76	10.13	9.75	9.66	9.85	10.14	<i>9.76</i>	<i>9.96</i>	<i>10.19</i>	<i>10.45</i>	<i>10.13</i>	9.84	<i>9.86</i>	<i>10.19</i>
W. N. Central	8.63	9.50	10.14	8.89	8.90	9.75	10.33	<i>8.90</i>	<i>9.09</i>	<i>9.95</i>	<i>10.58</i>	<i>9.16</i>	9.30	<i>9.49</i>	<i>9.71</i>
S. Atlantic	9.96	9.89	10.31	9.71	9.76	9.76	10.18	<i>9.77</i>	<i>9.95</i>	<i>10.01</i>	<i>10.54</i>	<i>10.15</i>	9.99	<i>9.89</i>	<i>10.18</i>
E. S. Central	8.90	9.06	9.40	8.85	8.69	8.86	9.31	<i>8.69</i>	<i>8.77</i>	<i>9.17</i>	<i>9.70</i>	<i>9.01</i>	9.07	<i>8.91</i>	<i>9.18</i>
W. S. Central	8.41	8.33	8.64	7.96	7.81	7.90	8.50	<i>8.02</i>	<i>8.11</i>	<i>8.26</i>	<i>8.87</i>	<i>8.33</i>	8.36	<i>8.09</i>	<i>8.42</i>
Mountain	9.02	9.63	10.14	8.96	8.72	9.40	9.97	<i>9.03</i>	<i>8.87</i>	<i>9.54</i>	<i>10.23</i>	<i>9.26</i>	9.48	<i>9.32</i>	<i>9.52</i>
Pacific	11.85	12.28	14.48	12.68	12.08	12.42	14.12	<i>12.34</i>	<i>12.04</i>	<i>12.35</i>	<i>14.25</i>	<i>12.71</i>	12.88	<i>12.77</i>	<i>12.88</i>
U.S. Average	10.27	10.31	10.88	10.13	9.98	10.16	10.75	<i>10.09</i>	<i>10.20</i>	<i>10.42</i>	<i>11.08</i>	<i>10.43</i>	10.42	<i>10.27</i>	<i>10.55</i>

- = no data available

Prices are not adjusted for inflation.

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

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

Regions refer to U.S. Census divisions.

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
United States															
Coal	4,091	3,512	4,276	2,988	3,066	2,972	4,148	3,254	3,648	3,150	3,813	3,161	3,715	3,362	3,443
Natural Gas	3,248	3,477	4,392	3,503	3,427	3,777	4,723	3,546	3,357	3,631	4,615	3,515	3,658	3,870	3,782
Petroleum (a)	124	61	72	57	69	63	75	64	78	69	76	65	78	68	72
Other Gases	38	34	40	30	40	35	38	31	41	36	38	31	36	36	37
Nuclear	2,248	2,133	2,286	2,070	2,245	2,155	2,267	2,059	2,232	2,053	2,272	2,129	2,184	2,182	2,172
Renewable Energy Sources:	1,590	1,528	1,373	1,533	1,802	1,747	1,504	1,552	1,696	1,953	1,682	1,669	1,506	1,651	1,750
Conventional Hydropower	803	691	617	644	846	814	623	611	686	836	745	645	688	723	728
Wind	506	534	442	610	665	613	518	622	679	723	529	688	523	604	654
Wood Biomass	118	112	122	112	114	103	118	115	118	110	124	118	116	112	118
Waste Biomass	58	59	61	62	59	60	59	59	58	58	59	59	60	59	58
Geothermal	48	46	45	45	46	45	46	47	48	47	47	47	46	46	47
Solar	57	87	86	60	74	112	130	86	94	167	161	100	73	101	131
Pumped Storage Hydropower	-16	-11	-18	-11	-12	-14	-23	-16	-13	-12	-16	-15	-14	-16	-14
Other Nonrenewable Fuels (b)	33	37	39	37	35	37	38	36	35	37	39	36	36	37	37
Total Generation	11,355	10,770	12,460	10,207	10,671	10,772	12,771	10,527	11,074	10,917	12,518	10,592	11,198	11,188	11,278
Northeast Census Region															
Coal	292	175	203	139	163	142	174	154	224	137	136	131	202	158	157
Natural Gas	483	534	714	543	515	603	797	588	542	589	739	580	569	626	613
Petroleum (a)	46	2	5	2	7	3	6	5	9	4	6	5	14	5	6
Other Gases	2	2	2	1	2	2	2	1	2	2	2	1	2	2	2
Nuclear	545	499	542	499	543	461	522	483	527	486	542	508	521	503	515
Hydropower (c)	93	99	98	102	115	99	90	95	98	104	97	96	98	100	99
Other Renewables (d)	76	65	58	73	77	63	65	77	82	72	70	82	68	70	77
Other Nonrenewable Fuels (b)	11	12	12	12	11	12	12	12	11	12	12	12	12	12	12
Total Generation	1,548	1,388	1,634	1,373	1,435	1,384	1,669	1,415	1,496	1,406	1,604	1,415	1,485	1,476	1,480
South Census Region															
Coal	1,716	1,539	1,908	1,167	1,272	1,350	1,909	1,284	1,482	1,443	1,701	1,219	1,582	1,454	1,461
Natural Gas	1,971	2,075	2,465	1,975	2,004	2,239	2,634	1,927	1,898	2,178	2,605	1,943	2,122	2,202	2,157
Petroleum (a)	42	24	29	22	30	31	34	24	31	29	31	24	29	30	29
Other Gases	15	13	15	14	15	13	16	15	16	13	16	15	14	15	15
Nuclear	974	956	1,001	872	951	998	1,001	915	996	920	1,025	961	951	966	976
Hydropower (c)	122	108	94	145	191	85	81	133	160	91	92	134	117	122	119
Other Renewables (d)	231	267	255	287	326	303	306	327	358	387	318	370	260	315	358
Other Nonrenewable Fuels (b)	14	15	16	15	15	16	16	14	15	16	16	14	15	15	15
Total Generation	5,084	4,999	5,783	4,497	4,804	5,035	5,997	4,638	4,955	5,077	5,805	4,679	5,091	5,120	5,130
Midwest Census Region															
Coal	1,578	1,302	1,578	1,166	1,203	1,111	1,498	1,236	1,339	1,174	1,483	1,256	1,405	1,262	1,313
Natural Gas	300	257	340	285	361	371	458	352	360	342	445	329	296	386	369
Petroleum (a)	12	11	13	9	10	9	11	10	12	11	13	10	11	10	11
Other Gases	14	13	16	8	15	13	14	8	16	14	14	8	13	13	13
Nuclear	553	529	570	547	573	543	571	510	545	495	536	502	550	550	520
Hydropower (c)	44	47	42	37	45	40	39	33	37	43	43	34	43	39	39
Other Renewables (d)	251	218	168	277	281	245	187	276	295	279	203	299	228	247	269
Other Nonrenewable Fuels (b)	4	5	5	5	4	4	5	5	4	4	5	5	5	4	5
Total Generation	2,757	2,382	2,731	2,335	2,494	2,336	2,782	2,430	2,609	2,363	2,743	2,443	2,550	2,511	2,539
West Census Region															
Coal	505	496	587	517	427	370	567	580	602	397	493	555	526	487	512
Natural Gas	494	611	874	699	546	563	834	680	557	522	825	663	671	656	642
Petroleum (a)	23	22	25	23	21	21	24	26	26	24	26	27	23	23	26
Other Gases	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7
Nuclear	176	149	172	152	178	152	172	150	164	152	169	158	162	163	161
Hydropower (c)	527	426	365	348	482	577	390	334	378	586	497	367	416	445	457
Other Renewables (d)	230	287	276	252	273	322	324	261	275	379	346	273	261	295	318
Other Nonrenewable Fuels (b)	4	5	5	5	5	5	5	5	5	5	6	5	5	5	5
Total Generation	1,967	2,002	2,311	2,002	1,938	2,017	2,322	2,043	2,014	2,072	2,367	2,056	2,071	2,081	2,128

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

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

(c) Conventional hydroelectric and pumped storage generation.

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

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

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

Projections: EIA Regional Short-Term Energy Model.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Fuel Consumption for Electricity Generation, All Sectors															
United States															
Coal (thousand st/d)	2,185	1,922	2,347	1,667	1,678	1,622	2,267	1,794	1,966	1,705	2,086	1,747	2,030	1,841	1,876
Natural Gas (million cf/d)	24,017	26,265	33,602	26,144	25,305	28,659	36,216	26,285	24,906	27,657	35,364	26,060	27,530	29,128	28,519
Petroleum (thousand b/d)	215	108	126	100	122	114	135	114	138	122	134	116	137	121	127
Residual Fuel Oil	76	26	33	26	30	23	34	27	32	29	32	27	40	29	30
Distillate Fuel Oil	66	25	24	25	30	24	31	27	34	27	29	27	35	28	29
Petroleum Coke (a)	61	52	65	46	57	64	66	55	64	61	68	57	56	61	63
Other Petroleum Liquids (b)	13	4	4	3	5	3	4	5	8	4	5	5	6	4	6
Northeast Census Region															
Coal (thousand st/d)	133	82	99	68	82	68	83	75	105	65	66	64	95	77	75
Natural Gas (million cf/d)	3,638	4,102	5,595	4,107	3,888	4,605	6,164	4,406	4,085	4,486	5,727	4,355	4,365	4,768	4,667
Petroleum (thousand b/d)	75	5	9	4	13	5	12	8	17	8	11	8	23	9	11
South Census Region															
Coal (thousand st/d)	888	819	1,023	638	672	719	1,013	688	772	759	907	659	842	774	774
Natural Gas (million cf/d)	14,399	15,637	18,741	14,727	14,714	16,939	20,153	14,257	13,996	16,562	19,888	14,354	15,885	16,519	16,211
Petroleum (thousand b/d)	79	45	53	41	56	57	65	45	58	54	58	44	54	56	54
Midwest Census Region															
Coal (thousand st/d)	880	742	895	668	680	627	851	702	749	660	836	709	796	715	739
Natural Gas (million cf/d)	2,329	2,014	2,725	2,211	2,729	2,936	3,753	2,724	2,784	2,718	3,660	2,563	2,320	3,037	2,933
Petroleum (thousand b/d)	24	23	26	18	19	20	21	21	21	20	22	20	23	20	21
West Census Region															
Coal (thousand st/d)	285	280	331	293	244	209	320	330	339	221	277	315	297	276	288
Natural Gas (million cf/d)	3,651	4,513	6,541	5,100	3,973	4,179	6,147	4,898	4,041	3,891	6,089	4,789	4,960	4,803	4,708
Petroleum (thousand b/d)	37	36	39	37	34	32	37	41	41	39	42	43	37	36	41
End-of-period U.S. Fuel Inventories Held by Electric Power Sector															
Coal (million short tons)	155.0	167.0	162.7	197.1	194.3	185.5	156.7	154.2	154.0	149.7	133.0	137.2	197.1	154.2	137.2
Residual Fuel Oil (mmb)	10.2	10.5	10.6	12.4	11.9	12.1	12.2	12.9	13.4	13.0	12.5	13.0	12.4	12.9	13.0
Distillate Fuel Oil (mmb)	16.7	16.7	17.2	17.4	16.9	17.2	17.0	17.3	17.4	17.3	17.2	17.5	17.4	17.3	17.5
Petroleum Coke (mmb)	4.1	5.2	5.5	6.7	6.2	4.5	4.3	4.2	4.2	4.2	4.1	4.1	6.7	4.2	4.1

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

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model.

Table 8. U.S. Renewable Energy Consumption (Quadrillion Btu)

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Electric Power Sector															
Hydroelectric Power (a)	0.684	0.594	0.538	0.560	0.728	0.701	0.542	<i>0.531</i>	<i>0.584</i>	<i>0.720</i>	<i>0.650</i>	<i>0.561</i>	2.376	<i>2.503</i>	<i>2.514</i>
Wood Biomass (b)	0.063	0.057	0.067	0.060	0.062	0.048	0.064	<i>0.063</i>	<i>0.065</i>	<i>0.060</i>	<i>0.074</i>	<i>0.068</i>	0.246	<i>0.237</i>	<i>0.267</i>
Waste Biomass (c)	0.067	0.066	0.070	0.071	0.069	0.071	0.070	<i>0.068</i>	<i>0.066</i>	<i>0.067</i>	<i>0.070</i>	<i>0.068</i>	0.274	<i>0.277</i>	<i>0.271</i>
Wind	0.433	0.462	0.386	0.533	0.575	0.530	0.453	<i>0.543</i>	<i>0.580</i>	<i>0.625</i>	<i>0.462</i>	<i>0.601</i>	1.814	<i>2.100</i>	<i>2.269</i>
Geothermal	0.041	0.040	0.039	0.040	0.040	0.039	0.041	<i>0.042</i>	<i>0.041</i>	<i>0.040</i>	<i>0.041</i>	<i>0.041</i>	0.159	<i>0.161</i>	<i>0.164</i>
Solar	0.047	0.073	0.074	0.052	0.062	0.095	0.112	<i>0.074</i>	<i>0.079</i>	<i>0.142</i>	<i>0.139</i>	<i>0.085</i>	0.246	<i>0.343</i>	<i>0.446</i>
Subtotal	1.335	1.292	1.174	1.315	1.536	1.485	1.281	<i>1.321</i>	<i>1.416</i>	<i>1.655</i>	<i>1.436</i>	<i>1.425</i>	5.116	<i>5.622</i>	<i>5.932</i>
Industrial Sector															
Hydroelectric Power (a)	0.004	0.003	0.002	0.003	0.004	0.003	0.002	<i>0.003</i>	<i>0.004</i>	<i>0.003</i>	<i>0.002</i>	<i>0.003</i>	0.013	<i>0.013</i>	<i>0.012</i>
Wood Biomass (b)	0.324	0.320	0.324	0.321	0.316	0.310	0.317	<i>0.315</i>	<i>0.306</i>	<i>0.302</i>	<i>0.313</i>	<i>0.315</i>	1.290	<i>1.258</i>	<i>1.236</i>
Waste Biomass (c)	0.046	0.049	0.050	0.049	0.047	0.047	0.047	<i>0.050</i>	<i>0.049</i>	<i>0.048</i>	<i>0.048</i>	<i>0.050</i>	0.195	<i>0.191</i>	<i>0.195</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>
Biofuel Losses and Co-products (f)	0.189	0.192	0.195	0.200	0.196	0.193	0.198	<i>0.199</i>	<i>0.197</i>	<i>0.199</i>	<i>0.200</i>	<i>0.199</i>	0.776	<i>0.786</i>	<i>0.796</i>
Subtotal	0.568	0.570	0.576	0.578	0.567	0.559	0.570	<i>0.572</i>	<i>0.561</i>	<i>0.557</i>	<i>0.568</i>	<i>0.573</i>	2.292	<i>2.267</i>	<i>2.259</i>
Commercial Sector															
Wood Biomass (b)	0.018	0.018	0.018	0.018	0.018	0.018	0.019	<i>0.019</i>	<i>0.020</i>	<i>0.020</i>	<i>0.020</i>	<i>0.019</i>	0.073	<i>0.075</i>	<i>0.078</i>
Waste Biomass (c)	0.013	0.010	0.010	0.012	0.012	0.011	0.012	<i>0.013</i>	<i>0.012</i>	<i>0.011</i>	<i>0.012</i>	<i>0.013</i>	0.045	<i>0.049</i>	<i>0.048</i>
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>
Subtotal	0.050	0.053	0.054	0.050	0.052	0.057	0.038	<i>0.038</i>	<i>0.038</i>	<i>0.037</i>	<i>0.038</i>	<i>0.038</i>	0.207	<i>0.186</i>	<i>0.150</i>
Residential Sector															
Wood Biomass (b)	0.106	0.108	0.109	0.109	0.096	0.096	0.105	<i>0.105</i>	<i>0.106</i>	<i>0.106</i>	<i>0.106</i>	<i>0.106</i>	0.432	<i>0.403</i>	<i>0.426</i>
Geothermal	0.010	0.010	0.010	0.010	0.011	0.011	0.011	<i>0.011</i>	<i>0.011</i>	<i>0.011</i>	<i>0.011</i>	<i>0.011</i>	0.041	<i>0.044</i>	<i>0.045</i>
Solar (d)	0.022	0.035	0.037	0.026	0.028	0.043	0.078	<i>0.078</i>	<i>0.033</i>	<i>0.050</i>	<i>0.091</i>	<i>0.091</i>	0.120	<i>0.228</i>	<i>0.265</i>
Subtotal	0.139	0.152	0.156	0.145	0.135	0.150	0.195	<i>0.195</i>	<i>0.150</i>	<i>0.168</i>	<i>0.209</i>	<i>0.209</i>	0.592	<i>0.674</i>	<i>0.736</i>
Transportation Sector															
Ethanol (e)	0.267	0.284	0.293	0.284	0.283	0.290	0.298	<i>0.292</i>	<i>0.277</i>	<i>0.295</i>	<i>0.299</i>	<i>0.295</i>	1.129	<i>1.163</i>	<i>1.166</i>
Biomass-based Diesel (e)	0.034	0.059	0.066	0.057	0.051	0.066	0.082	<i>0.077</i>	<i>0.065</i>	<i>0.069</i>	<i>0.079</i>	<i>0.077</i>	0.215	<i>0.275</i>	<i>0.290</i>
Subtotal	0.301	0.343	0.359	0.341	0.334	0.356	0.378	<i>0.369</i>	<i>0.342</i>	<i>0.364</i>	<i>0.378</i>	<i>0.372</i>	1.344	<i>1.437</i>	<i>1.456</i>
All Sectors Total															
Hydroelectric Power (a)	0.687	0.598	0.540	0.563	0.732	0.705	0.545	<i>0.534</i>	<i>0.587</i>	<i>0.723</i>	<i>0.652</i>	<i>0.564</i>	2.389	<i>2.516</i>	<i>2.527</i>
Wood Biomass (b)	0.512	0.503	0.518	0.508	0.492	0.473	0.507	<i>0.502</i>	<i>0.498</i>	<i>0.488</i>	<i>0.513</i>	<i>0.509</i>	2.040	<i>1.974</i>	<i>2.008</i>
Waste Biomass (c)	0.126	0.125	0.130	0.132	0.128	0.129	0.130	<i>0.131</i>	<i>0.127</i>	<i>0.126</i>	<i>0.130</i>	<i>0.131</i>	0.514	<i>0.518</i>	<i>0.514</i>
Wind	0.433	0.462	0.386	0.533	0.575	0.530	0.453	<i>0.543</i>	<i>0.580</i>	<i>0.625</i>	<i>0.462</i>	<i>0.601</i>	1.814	<i>2.100</i>	<i>2.269</i>
Geothermal	0.057	0.056	0.056	0.056	0.057	0.056	0.058	<i>0.059</i>	<i>0.058</i>	<i>0.058</i>	<i>0.059</i>	<i>0.059</i>	0.224	<i>0.229</i>	<i>0.233</i>
Solar	0.083	0.127	0.130	0.092	0.106	0.160	0.187	<i>0.154</i>	<i>0.113</i>	<i>0.194</i>	<i>0.232</i>	<i>0.178</i>	0.431	<i>0.607</i>	<i>0.718</i>
Ethanol (e)	0.272	0.289	0.298	0.289	0.287	0.295	0.309	<i>0.297</i>	<i>0.282</i>	<i>0.300</i>	<i>0.304</i>	<i>0.300</i>	1.148	<i>1.188</i>	<i>1.185</i>
Biomass-based Diesel (e)	0.034	0.059	0.066	0.057	0.051	0.066	0.082	<i>0.077</i>	<i>0.065</i>	<i>0.069</i>	<i>0.079</i>	<i>0.077</i>	0.215	<i>0.275</i>	<i>0.290</i>
Biofuel Losses and Co-products (f)	0.189	0.192	0.195	0.200	0.196	0.193	0.198	<i>0.199</i>	<i>0.197</i>	<i>0.199</i>	<i>0.200</i>	<i>0.199</i>	0.776	<i>0.786</i>	<i>0.796</i>
Total Consumption	2.392	2.410	2.318	2.430	2.624	2.606	2.429	<i>2.495</i>	<i>2.507</i>	<i>2.781</i>	<i>2.629</i>	<i>2.616</i>	9.551	<i>10.153</i>	<i>10.533</i>

- = no data available

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

(b) Wood and wood-derived fuels.

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

(d) Includes small-scale solar thermal and photovoltaic energy used in the commercial, industrial, and electric power sectors.

(e) 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.

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

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Macroeconomic															
Real Gross Domestic Product															
(billion chained 2009 dollars - SAAR)	16,269	16,374	16,455	16,491	16,525	16,570	16,690	16,790	16,908	17,009	17,105	17,191	16,397	16,644	17,053
Real Personal Consumption Expend.															
(billion chained 2009 dollars - SAAR)	11,102	11,181	11,256	11,319	11,365	11,487	11,585	11,657	11,723	11,786	11,855	11,911	11,215	11,524	11,819
Real Fixed Investment															
(billion chained 2009 dollars - SAAR)	2,727	2,756	2,795	2,793	2,787	2,769	2,790	2,824	2,865	2,908	2,942	2,975	2,768	2,792	2,922
Business Inventory Change															
(billion chained 2009 dollars - SAAR)	129	105	77	63	42	-19	-15	-13	6	20	26	33	93	-1	21
Real Government Expenditures															
(billion chained 2009 dollars - SAAR)	2,858	2,881	2,894	2,902	2,913	2,902	2,915	2,929	2,938	2,941	2,942	2,943	2,884	2,915	2,941
Real Exports of Goods & Services															
(billion chained 2009 dollars - SAAR)	2,121	2,136	2,120	2,106	2,102	2,108	2,114	2,124	2,141	2,160	2,181	2,205	2,121	2,112	2,172
Real Imports of Goods & Services															
(billion chained 2009 dollars - SAAR)	2,642	2,660	2,668	2,672	2,668	2,670	2,681	2,718	2,751	2,792	2,828	2,862	2,661	2,684	2,809
Real Disposable Personal Income															
(billion chained 2009 dollars - SAAR)	12,183	12,300	12,399	12,491	12,556	12,627	12,726	12,806	12,879	12,952	13,030	13,106	12,343	12,679	12,992
Non-Farm Employment															
(millions)	140.8	141.5	142.2	142.9	143.5	144.0	144.6	145.1	145.6	146.0	146.3	146.6	141.8	144.3	146.1
Civilian Unemployment Rate															
(percent)	5.6	5.4	5.2	5.0	4.9	4.9	4.9	4.9	4.9	4.8	4.8	4.8	5.3	4.9	4.8
Housing Starts															
(millions - SAAR)	0.99	1.16	1.16	1.13	1.15	1.16	1.20	1.21	1.27	1.33	1.37	1.42	1.11	1.18	1.35
Industrial Production Indices (Index, 2012=100)															
Total Industrial Production	105.8	105.1	105.5	104.6	104.1	103.9	104.7	104.5	104.8	105.3	106.2	107.0	105.2	104.3	105.8
Manufacturing	103.2	103.4	103.9	103.7	103.9	103.7	104.3	104.6	105.3	105.6	106.3	107.1	103.6	104.1	106.1
Food	103.1	102.6	103.4	103.2	104.4	104.7	105.3	105.8	106.4	106.9	107.5	108.0	103.1	105.1	107.2
Paper	98.9	98.5	97.0	96.6	96.4	95.7	95.6	95.2	95.1	95.1	95.2	95.3	97.7	95.7	95.2
Petroleum and Coal Products	102.4	104.7	105.7	106.9	106.5	105.4	107.1	107.6	108.3	108.8	109.3	109.7	104.9	106.7	109.0
Chemicals	97.9	97.9	97.7	98.5	99.1	98.4	99.0	99.3	99.9	100.8	101.7	102.7	98.0	98.9	101.3
Nonmetallic Mineral Products	111.3	111.7	113.0	116.1	117.1	115.6	116.5	117.7	119.0	120.2	121.3	122.5	113.0	116.7	120.8
Primary Metals	98.2	97.1	96.6	95.0	94.8	95.5	94.2	93.8	94.1	93.9	93.9	93.6	96.7	94.6	93.9
Coal-weighted Manufacturing (a)	102.0	102.1	102.2	102.5	102.8	102.1	102.5	102.5	103.1	103.7	104.2	104.7	102.2	102.5	103.9
Distillate-weighted Manufacturing (a)	104.4	104.5	105.3	106.0	106.2	105.5	106.3	106.7	107.5	108.3	109.0	109.7	105.0	106.2	108.6
Electricity-weighted Manufacturing (a)	102.9	103.1	103.3	103.3	103.5	102.9	103.5	103.6	104.2	104.6	105.3	105.9	103.1	103.4	105.0
Natural Gas-weighted Manufacturing (a)	102.3	103.4	103.5	104.1	104.4	103.6	104.7	104.8	105.6	106.5	107.4	108.4	103.3	104.4	107.0
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	2.35	2.37	2.38	2.38	2.38	2.39	2.40	2.42	2.43	2.45	2.46	2.48	2.37	2.40	2.45
Producer Price Index: All Commodities															
(index, 1982=1.00)	1.92	1.92	1.90	1.87	1.83	1.84	1.88	1.89	1.90	1.91	1.92	1.94	1.90	1.86	1.92
Producer Price Index: Petroleum															
(index, 1982=1.00)	1.71	1.96	1.85	1.52	1.21	1.45	1.56	1.53	1.53	1.66	1.73	1.71	1.76	1.44	1.66
GDP Implicit Price Deflator															
(index, 2009=100)	109.3	109.9	110.3	110.5	110.6	111.3	111.8	112.4	113.1	113.6	114.1	114.7	110.0	111.5	113.9
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	7,957	8,940	8,862	8,538	8,195	9,169	9,068	8,688	8,318	9,279	9,158	8,815	8,577	8,781	8,895
Air Travel Capacity															
(Available ton-miles/day, thousands)	517	574	584	562	548	602	605	552	526	587	610	554	560	577	569
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	322	356	365	344	326	365	384	343	317	368	385	343	347	355	354
Airline Ticket Price Index															
(index, 1982-1984=100)	286.4	313.0	283.3	286.2	281.8	305.0	274.6	287.8	288.8	316.4	297.0	304.9	292.2	287.3	301.8
Raw Steel Production															
(million short tons per day)	0.247	0.242	0.248	0.226	0.238	0.247	0.238	0.214	0.217	0.228	0.206	0.175	0.241	0.234	0.206
Carbon Dioxide (CO₂) Emissions (million metric tons)															
Petroleum	561	567	584	572	571	572	583	581	564	577	585	587	2,284	2,307	2,312
Natural Gas	469	313	328	370	442	330	348	390	453	328	343	394	1,479	1,509	1,517
Coal	394	351	426	311	312	299	414	333	354	312	383	325	1,483	1,357	1,374
Total Energy (c)	1,427	1,234	1,340	1,256	1,327	1,203	1,347	1,307	1,374	1,219	1,314	1,309	5,258	5,185	5,216

- = no data available

SAAR = Seasonally-adjusted annual rate

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

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

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

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

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

Projections: EIA Regional Short-Term Energy Model. Macroeconomic projections are based on Global Insight Model of the U.S. Economy.

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Real Gross State Product (Billion \$2009)															
New England	863	871	866	868	871	873	879	883	889	892	896	900	867	877	894
Middle Atlantic	2,412	2,441	2,456	2,458	2,460	2,469	2,489	2,500	2,510	2,523	2,533	2,542	2,442	2,480	2,527
E. N. Central	2,248	2,255	2,275	2,279	2,281	2,286	2,301	2,312	2,326	2,336	2,346	2,354	2,264	2,295	2,340
W. N. Central	1,054	1,057	1,059	1,059	1,056	1,058	1,065	1,072	1,078	1,084	1,089	1,094	1,057	1,063	1,086
S. Atlantic	2,865	2,884	2,909	2,920	2,931	2,941	2,962	2,981	3,005	3,023	3,041	3,057	2,895	2,954	3,032
E. S. Central	737	743	748	751	753	754	758	763	767	772	776	779	745	757	773
W. S. Central	2,014	1,997	2,005	2,005	2,005	2,006	2,017	2,031	2,050	2,067	2,085	2,102	2,005	2,015	2,076
Mountain	1,039	1,045	1,048	1,050	1,053	1,056	1,065	1,073	1,083	1,091	1,100	1,108	1,046	1,062	1,095
Pacific	2,935	2,979	2,986	2,996	3,011	3,023	3,049	3,070	3,095	3,114	3,132	3,149	2,974	3,038	3,123
Industrial Output, Manufacturing (Index, Year 2012=100)															
New England	99.4	99.6	99.9	99.5	99.7	100.1	100.6	100.7	101.2	101.4	101.9	102.5	99.6	100.3	101.8
Middle Atlantic	99.8	99.9	100.2	99.8	100.0	99.7	100.6	100.6	101.3	101.6	102.2	103.0	99.9	100.2	102.0
E. N. Central	105.2	105.4	106.0	106.2	106.3	105.9	106.5	106.8	107.3	107.6	108.3	109.0	105.7	106.4	108.1
W. N. Central	103.3	103.2	103.4	103.1	102.9	102.5	103.3	103.6	104.4	104.6	105.3	106.1	103.2	103.1	105.1
S. Atlantic	104.3	104.9	105.8	106.2	106.5	106.6	107.3	107.5	108.3	108.6	109.1	109.8	105.3	107.0	109.0
E. S. Central	105.5	106.0	107.2	107.5	108.3	108.7	109.4	109.8	110.5	110.8	111.5	112.2	106.6	109.0	111.3
W. S. Central	102.9	101.6	100.9	99.7	98.9	97.7	98.0	98.2	99.0	99.3	100.0	101.0	101.3	98.2	99.8
Mountain	104.7	105.2	106.1	106.7	107.4	107.4	108.3	108.7	109.7	110.2	111.1	112.1	105.7	108.0	110.8
Pacific	103.6	104.1	104.7	104.2	104.0	103.8	104.4	104.5	105.2	105.6	106.3	107.3	104.1	104.2	106.1
Real Personal Income (Billion \$2009)															
New England	745	754	756	766	769	773	779	784	789	794	799	802	755	776	796
Middle Atlantic	1,905	1,927	1,942	1,952	1,956	1,966	1,980	1,990	1,999	2,010	2,020	2,027	1,932	1,973	2,014
E. N. Central	2,025	2,042	2,058	2,081	2,087	2,097	2,112	2,123	2,135	2,148	2,160	2,170	2,051	2,105	2,153
W. N. Central	977	982	985	991	991	996	1,004	1,010	1,016	1,022	1,028	1,034	984	1,000	1,025
S. Atlantic	2,630	2,658	2,681	2,706	2,716	2,733	2,757	2,777	2,799	2,820	2,840	2,858	2,669	2,746	2,829
E. S. Central	765	772	778	785	787	788	793	798	804	809	814	818	775	791	811
W. S. Central	1,720	1,719	1,731	1,735	1,736	1,738	1,750	1,762	1,777	1,793	1,808	1,823	1,726	1,747	1,800
Mountain	930	940	945	951	954	959	969	977	985	994	1,002	1,010	941	965	998
Pacific	2,224	2,263	2,281	2,297	2,305	2,323	2,343	2,355	2,370	2,388	2,405	2,421	2,266	2,331	2,396
Households (Thousands)															
New England	5,831	5,838	5,843	5,849	5,858	5,865	5,869	5,874	5,881	5,888	5,896	5,906	5,849	5,874	5,906
Middle Atlantic	15,986	16,005	16,015	16,028	16,049	16,066	16,075	16,082	16,094	16,108	16,126	16,143	16,028	16,082	16,143
E. N. Central	18,606	18,613	18,622	18,639	18,662	18,682	18,696	18,711	18,730	18,748	18,770	18,793	18,639	18,711	18,793
W. N. Central	8,448	8,464	8,478	8,494	8,514	8,533	8,549	8,566	8,587	8,606	8,626	8,647	8,494	8,566	8,647
S. Atlantic	24,611	24,700	24,787	24,879	24,986	25,086	25,175	25,264	25,357	25,450	25,545	25,642	24,879	25,264	25,642
E. S. Central	7,517	7,524	7,532	7,543	7,558	7,574	7,586	7,600	7,614	7,629	7,645	7,661	7,543	7,600	7,661
W. S. Central	14,319	14,373	14,421	14,471	14,530	14,587	14,640	14,691	14,744	14,798	14,853	14,910	14,471	14,691	14,910
Mountain	8,783	8,817	8,850	8,885	8,926	8,964	9,001	9,039	9,078	9,117	9,158	9,201	8,885	9,039	9,201
Pacific	18,402	18,459	18,508	18,559	18,623	18,682	18,730	18,783	18,837	18,893	18,950	19,007	18,559	18,783	19,007
Total Non-farm Employment (Millions)															
New England	7.2	7.2	7.2	7.2	7.3	7.3	7.3	7.3	7.4	7.4	7.4	7.4	7.2	7.3	7.4
Middle Atlantic	18.9	19.0	19.1	19.1	19.2	19.2	19.3	19.4	19.4	19.4	19.4	19.4	19.0	19.3	19.4
E. N. Central	21.4	21.4	21.5	21.6	21.7	21.7	21.8	21.8	21.9	21.9	22.0	22.0	21.5	21.8	21.9
W. N. Central	10.4	10.5	10.5	10.5	10.5	10.5	10.6	10.6	10.6	10.6	10.7	10.7	10.5	10.5	10.6
S. Atlantic	26.7	26.9	27.1	27.3	27.4	27.6	27.7	27.8	27.9	28.0	28.1	28.2	27.0	27.6	28.1
E. S. Central	7.8	7.8	7.8	7.9	7.9	7.9	8.0	8.0	8.0	8.0	8.0	8.1	7.8	7.9	8.0
W. S. Central	16.6	16.6	16.7	16.7	16.8	16.8	16.8	16.9	17.0	17.0	17.1	17.2	16.6	16.8	17.1
Mountain	9.9	10.0	10.0	10.1	10.2	10.2	10.3	10.3	10.4	10.4	10.5	10.5	10.0	10.3	10.5
Pacific	21.6	21.8	22.0	22.1	22.3	22.4	22.5	22.6	22.7	22.8	22.8	22.9	21.9	22.4	22.8

- = no data available

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

Regions refer to U.S. Census divisions.

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

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

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

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

Table 9c. U.S. Regional Weather Data

U.S. Energy Information Administration | Short-Term Energy Outlook - October 2016

	2015				2016				2017				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Heating Degree Days															
New England	3,850	819	58	1,791	2,841	901	57	2,181	3,194	876	135	2,166	6,518	5,980	6,371
Middle Atlantic	3,578	610	40	1,544	2,662	748	33	1,993	2,931	687	84	1,961	5,772	5,435	5,663
E. N. Central	3,692	659	75	1,742	2,866	753	44	2,246	3,150	720	116	2,206	6,169	5,909	6,192
W. N. Central	3,375	654	95	1,968	2,894	660	92	2,410	3,225	673	144	2,386	6,091	6,057	6,429
South Atlantic	1,667	154	8	659	1,382	210	1	995	1,439	199	14	960	2,487	2,589	2,611
E. S. Central	2,140	183	14	878	1,753	232	9	1,328	1,833	245	19	1,295	3,215	3,320	3,393
W. S. Central	1,402	70	2	614	1,049	77	1	772	1,133	79	4	803	2,087	1,900	2,020
Mountain	1,903	706	123	1,869	2,076	677	107	1,754	2,141	647	135	1,820	4,601	4,615	4,743
Pacific	1,087	526	77	1,198	1,300	464	70	1,076	1,370	516	80	1,086	2,887	2,910	3,053
U.S. Average	2,340	442	49	1,252	1,946	480	39	1,511	2,099	471	70	1,499	4,084	3,977	4,139
Heating Degree Days, Prior 10-year Average															
New England	3,166	838	134	2,147	3,212	824	132	2,105	3,201	830	120	2,131	6,285	6,273	6,282
Middle Atlantic	2,935	666	90	1,976	2,982	651	90	1,926	2,982	660	80	1,949	5,667	5,649	5,672
E. N. Central	3,192	694	123	2,262	3,246	689	125	2,205	3,254	701	114	2,218	6,272	6,266	6,287
W. N. Central	3,273	691	150	2,433	3,298	693	150	2,393	3,302	707	141	2,407	6,546	6,534	6,558
South Atlantic	1,478	195	14	1,010	1,498	184	14	972	1,502	188	11	979	2,696	2,668	2,680
E. S. Central	1,853	236	19	1,358	1,898	225	19	1,307	1,905	231	16	1,309	3,466	3,450	3,461
W. S. Central	1,188	86	5	834	1,221	83	5	814	1,227	88	4	814	2,113	2,123	2,133
Mountain	2,258	730	150	1,873	2,231	725	147	1,880	2,215	734	137	1,866	5,012	4,982	4,952
Pacific	1,534	621	92	1,205	1,495	610	88	1,211	1,461	597	86	1,196	3,453	3,404	3,339
U.S. Average	2,182	493	77	1,567	2,198	483	76	1,534	2,192	487	70	1,537	4,318	4,292	4,285
Cooling Degree Days															
New England	0	71	486	0	0	81	624	1	0	86	413	1	557	706	499
Middle Atlantic	0	186	616	2	0	145	789	5	0	165	564	6	804	940	735
E. N. Central	0	221	499	9	3	231	736	8	0	225	563	9	729	978	797
W. N. Central	3	266	657	13	10	319	735	12	3	282	699	12	939	1,076	996
South Atlantic	137	765	1,160	336	137	651	1,387	225	120	640	1,156	232	2,397	2,399	2,148
E. S. Central	24	582	1,023	98	42	535	1,297	65	29	519	1,060	70	1,727	1,939	1,677
W. S. Central	51	854	1,573	268	123	836	1,612	212	89	874	1,506	203	2,747	2,784	2,671
Mountain	45	430	919	87	34	466	908	88	23	453	964	83	1,481	1,496	1,523
Pacific	52	226	677	121	36	229	626	76	32	197	584	76	1,076	966	888
U.S. Average	46	434	875	133	54	411	1,001	96	44	406	861	97	1,489	1,561	1,407
Cooling Degree Days, Prior 10-year Average															
New England	0	85	420	1	0	81	419	1	0	81	442	1	506	501	523
Middle Atlantic	0	168	557	5	0	168	549	5	0	169	572	6	731	722	747
E. N. Central	3	234	545	6	3	229	528	6	3	234	546	7	787	766	790
W. N. Central	7	282	683	9	7	279	674	9	7	281	675	10	981	969	973
South Atlantic	110	636	1,158	210	114	661	1,147	222	117	666	1,171	224	2,114	2,144	2,178
E. S. Central	33	526	1,053	52	32	542	1,038	56	33	545	1,061	59	1,663	1,668	1,697
W. S. Central	94	883	1,519	184	90	890	1,518	191	90	877	1,530	193	2,679	2,689	2,689
Mountain	17	423	930	75	21	429	930	76	23	425	933	78	1,445	1,456	1,459
Pacific	26	170	601	65	29	180	612	72	31	180	612	74	863	893	897
U.S. Average	40	396	850	84	42	404	845	89	43	405	861	91	1,370	1,380	1,400

- = no data available

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

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

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

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

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

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

Appendix

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

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

Table a1. Summary of Estimated Petroleum and Other Liquids Quantities

	August 2016	September 2016	August – September 2016 Average	August – September 2015 Average	2013 – 2015 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	95.8	96.5	96.1	96.4	93.4
Global Petroleum and Other Liquids Consumption (b)	95.7	96.4	96.0	95.1	92.7
Biofuels Production (c)	2.4	2.4	2.5	2.4	2.0
Biofuels Consumption (c)	2.1	2.1	2.1	2.1	2.0
Iran Liquid Fuels Production	4.5	4.5	4.5	3.5	3.3
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)	88.8	89.6	89.2	90.5	88.0
Consumption (d)	91.9	92.5	92.2	91.3	88.9
Production minus Consumption	-3.1	-3.0	-3.0	-0.8	-0.9
World Inventory Net Withdrawals Including Iran	-0.1	-0.1	-0.1	-1.3	-0.7
Estimated OECD Inventory Level (e) (million barrels)	3,062	3,056	3,059	2,932	2,708
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	1.0	1.0	1.0	1.4	1.9

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. It also does not include additional capacity that may be available in Iran, but which is currently offline due to the impacts of U.S. and EU sanctions on Iran's ability to sell its oil.

Source: U.S. Energy Information Administration.

Table a2. Crude Oil and Petroleum Product Price Data

Item	August 2016	September 2016	August – September 2016 Average	August – September 2015 Average	2013 – 2015 Average
Brent Front Month Futures Price (\$ per barrel)	47.16	47.24	47.20	48.38	87.25
WTI Front Month Futures Price (\$ per barrel)	44.80	45.23	45.01	44.18	79.91
Dubai Front Month Futures Price (\$ per barrel)	44.44	44.06	44.26	46.83	84.58
Brent 1st - 13th Month Futures Spread (\$ per barrel)	-4.01	-4.34	-4.17	-7.21	0.15
WTI 1st - 13th Month Futures Spread (\$ per barrel)	-5.10	-4.93	-5.02	-6.30	1.52
RBOB Front Month Futures Price (\$ per gallon)	1.42	1.39	1.40	1.49	2.37
Heating Oil Front Month Futures Price (\$ per gallon)	1.41	1.43	1.42	1.53	2.47
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.29	0.27	0.28	0.34	0.29
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.29	0.31	0.30	0.38	0.40

(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).