## **Short-Term Energy Outlook (STEO)**

### **Highlights**

- North Sea Brent crude oil prices averaged \$32/barrel (b) in February, a \$1/b increase from January.
- Brent crude oil prices are forecast to average \$34/b in 2016 and \$40/b in 2017, \$3/b and \$10/b lower than forecast in last month's STEO, respectively. The lower forecast prices reflect oil production that has been more resilient than expected in a low-price environment and lower expectations for forecast oil demand growth.
- Forecast West Texas Intermediate (WTI) crude oil prices are expected to average the same as Brent in 2016 and 2017. However, the current values of futures and options contracts suggest high uncertainty in the price outlook. For example, EIA's forecast for the average WTI price in June 2016 of \$35/b should be considered in the context of recent Nymex contract values for June 2016 delivery (*Market Prices and Uncertainty Report*) suggesting that the market expects WTI prices to range from \$24/b to \$58/b (at the 95% confidence interval).
- U.S. crude oil production averaged an estimated 9.4 million barrels per day (b/d) in 2015, and it is forecast to average 8.7 million b/d in 2016 and 8.2 million b/d in 2017. EIA estimates that crude oil production in February averaged 9.1 million b/d, which was 80,000 b/d below the January level.
- Natural gas working inventories were 2,536 billion cubic feet (Bcf) on February 26, 46% higher than during the same week last year and 36% higher than the previous five-year average (2011–15) for that week. EIA forecasts that inventories will end the winter heating season (March 31) at 2,288 Bcf, which would be 54% above the level at the same time last year. Henry Hub spot prices are forecast to average \$2.25/million British thermal units (MMBtu) in 2016 and \$3.02/MMBtu in 2017, compared with an average of \$2.63/MMBtu in 2015.
- Natural gas is expected to fuel the largest share of electricity generation in 2016 at 33%, compared with 32% for coal. This would be the first time that natural gas provides more electricity generation than coal on an annual average basis. In 2017, natural gas and coal are both forecast to fuel 32% of electricity generation. For renewables, the forecast share of total electricity generation supplied by hydropower rises from 6% in 2016 to 7% in 2017, and the forecast share for other renewables increases from 8% in 2016 to 9% in 2017.

### **Global Petroleum and Other Liquid Fuels**

Global oil inventories are forecast to increase by an annual average of 1.6 million b/d in 2016 and by an additional 0.6 million b/d in 2017. These inventory builds are larger than previously expected, delaying the rebalancing of the oil market and contributing to lower forecast oil prices. Compared with last month's STEO, EIA has revised forecast supply growth higher for 2016 and revised forecast demand growth lower for both 2016 and 2017. Higher 2016 supply in this month's STEO is based on indications that production is more resilient to lower prices than previously expected. Notably, revisions to historical Russian data, which raised the baseline for Russian production, carry through much of the forecast. Additionally, lower expectations for global economic growth contributed to a reduction in the oil demand forecast.

Global Petroleum and Other Liquids Consumption. EIA estimates that global consumption of petroleum and other liquid fuels grew by 1.3 million b/d in 2015, averaging 93.7 million b/d. EIA expects global consumption of petroleum and other liquid fuels to grow by 1.1 million b/d in 2016 and by 1.2 million b/d in 2017. Forecast consumption growth is 0.1 million b/d and 0.2 million b/d lower in 2016 and 2017, respectively, than in last month's STEO because of lower expected growth in real gross domestic product (GDP) for the world, weighted by oil consumption. After rising by 2.4% in 2015, real GDP weighted by oil consumption is now forecast to rise by 2.3% in 2016 and by 3.0% in 2017.

Consumption of petroleum and other liquid fuels in countries outside of the Organization for Economic Cooperation and Development (OECD) increased by an estimated 0.7 million b/d in 2015. Non-OECD consumption growth is expected to be 1.0 million b/d in 2016 and 1.1 million b/d in 2017, reflecting higher growth in the Middle East and in Eurasia. Slowing economic growth in China poses a downside risk to the forecast for liquid fuels consumption.

OECD petroleum and other liquid fuels consumption rose by 0.6 million b/d in 2015. OECD consumption is expected to increase by 0.1 million b/d in both 2016 and 2017, led by increases in U.S. consumption. Forecast U.S. consumption increases by 0.1 million in 2016 and by 0.2 million b/d in 2017. OECD Europe demand is expected to decline slightly through the forecast period. Consumption in Japan is forecast to decline by 0.1 million b/d in both 2016 and 2017.

**Non-OPEC Petroleum and Other Liquids Supply.** EIA estimates that petroleum and other liquid fuels production in countries outside of the Organization of the Petroleum Exporting Countries (OPEC) grew by 1.5 million b/d in 2015, with most of the growth occurring in North America. EIA expects non-OPEC production to decline by 0.4 million b/d in 2016, which would be the first decline since 2008. Most of the forecast production decline in 2016 is expected to be in the United States. Non-OPEC production is forecast to decline by 0.5 million b/d in 2017.

Changes in non-OPEC production are driven by changes in U.S. tight oil production, which is characterized by high decline rates and relatively short investment horizons, making it among the most price-sensitive globally. However, increases in production of hydrocarbon gas liquids (HGL) from natural gas plants and in crude oil production from the Gulf of Mexico partially offset lower tight oil production. Forecast total U.S. liquid fuels production declines by 0.5 million b/d

in 2016 and by 0.2 million b/d in 2017, both less than the decline in crude oil considered separately.

Outside of the United States, forecast non-OPEC production increases by 0.2 million b/d in 2016 and then declines by 0.3 million b/d in 2017. Previously, EIA had expected non-OPEC production outside of the United States to begin declining in 2016. However, incoming data indicate production in these countries has also been more resilient than expected in a low oil price environment, which has prompted EIA to push forecast non-OPEC declines outside of the United States into 2017.

Production is relatively resilient through the forecast period because of investments committed to projects when oil prices were higher. Although oil companies have reduced investments, most of the cuts have been in capital budgets that largely affect production levels beyond 2017. Additionally, recent strength in the U.S. dollar and cost reductions have moderated the effects of declining oil revenues on production in some countries.

Russia is one example of production exceeding EIA's expectations. Fourth quarter 2015 oil production in Russia is 0.2 million b/d higher than in last month's STEO, with initial data indicating it has remained at high levels in early 2016. This higher historical production creates a higher baseline level that carries through the forecast period. Russia's production is expected to increase by 0.2 million b/d in 2016 and then decline by 0.1 million b/d in 2017. Russia's exposure to low oil prices has been mitigated by the depreciation of the ruble relative to the dollar, given ruble-denominated production costs, and by Russia's taxation regime for the oil sector.

Among non-OPEC producers outside of the United States, the largest declines are forecast to be in the North Sea. After increasing in 2015, production in the North Sea is expected to return to its long-term declining trend in 2016 and 2017, as the planned start of several projects is not enough to offset the region's steep decline rates.

Some non-OPEC producers, led by Canada, are expected to see continuing increases in oil production through the forecast period. Production in Canada is expected to increase by almost 0.2 million b/d in both 2016 and 2017, as several oil sands projects begin production, including the Imperial Oil project and Cenovus project scheduled to come online by the end of 2016. Producers commissioned these projects before the sharp decline in crude oil prices.

Non-OPEC unplanned supply disruptions in February 2016 were about 0.5 million b/d. A 75,000 b/d outage continues at the Guneshli field in Azerbaijan. The outage is the result of a fire at an oil platform in December. In Canada, the Nexen-operated Long Lake oil sands upgrader halted operations in mid-January because of an explosion at the upgrader's hydrocracker unit during maintenance. About 70,000 b/d of production at the site remained shut in during February.

**OPEC Petroleum and Other Liquids Supply**. OPEC crude oil production averaged 31.6 million b/d in 2015, an increase of 0.8 million b/d from 2014, led by rising production in Iraq and Saudi Arabia. Forecast OPEC crude oil production increases by 0.7 million b/d in 2016 and by 0.4 million b/d in 2017, with Iran accounting for most of the increase. The forecast does not assume

a collaborative production cut among OPEC members and other major producers in the forecast period, as major OPEC producers continue the strategy to maintain market share.

OPEC noncrude liquids production averaged 6.6 million b/d in 2015, and it is forecast to increase by 0.3 million b/d in both 2016 and 2017, led by increases in Iran and Qatar.

OPEC unplanned crude oil supply disruptions averaged 2.2 million b/d in February, about 0.4 million b/d higher than in January because of sabotage-related disruptions to pipeline flows in both Iraq and Nigeria. In Iraq, the pipeline carrying oil produced in northern Iraq to the Turkish port of Ceyhan went offline in mid-February, reducing oil production at fields in northern Iraq. In Nigeria, a pipeline leak led authorities to declare force majeure on exports of the Forcados crude oil blend and temporarily stop production at oil fields that contribute to the blend.

OPEC surplus crude oil production capacity, which averaged 1.6 million b/d in 2015, is expected to be 1.8 million b/d in 2016 and 1.6 million b/d in 2017. Surplus capacity is typically an indicator of market conditions, and surplus capacity below 2.5 million b/d indicates a relatively tight oil market. However, the continuing inventory builds and high current and forecast levels of global oil inventories make the projected low surplus capacity level less significant.

**OECD Petroleum Inventories**. EIA estimates that OECD commercial crude oil and other liquid fuels inventories totaled 3.04 billion barrels at the end of 2015, equivalent to roughly 66 days of consumption. Forecast OECD inventories rise to 3.24 billion barrels at the end of 2016, and are expected to be 3.30 billion barrels at the end of 2017.

**Crude Oil Prices.** Brent crude oil spot prices increased by \$1/b in February to a monthly average of \$32/b. Accelerating reductions in the U.S. rig count and market reactions to news of a potential OPEC/non-OPEC supply freeze gave support to oil prices in February that offset the downward price pressure from ongoing growth in global oil inventories and uncertainty over the strength of global oil demand growth.

With large global oil inventory builds expected to continue in 2016, oil prices are expected to remain near current levels. Forecast Brent prices average \$34/b in 2016, \$3/b lower than forecast in last month's STEO.

Global oil inventories are expected to grow by an average of 1.6 million b/d in 2016 and by 0.6 million b/d in 2017, both higher than in last month's STEO. Inventory builds are higher in this month's STEO as a result of recent updates to historical data showing continued resilience from non-OPEC oil producers in the current low-price environment and as a result of a reduction in forecast global oil demand growth. Higher forecast inventory builds and slower market rebalancing contribute to a more limited price recovery in 2017 than previously forecast, with Brent prices forecast to average \$40/b, \$10/b lower than in last month's STEO. Prices reach an average of \$45/b in the fourth quarter of 2017, as the oil market becomes relatively balanced at that point, with the potential for inventory draws beyond the forecast period.

Forecast West Texas Intermediate (WTI) crude oil prices average the same as Brent crude oil prices through the forecast period. The price parity of WTI with Brent in the forecast period is based on the assumption of competition between the two crudes in the U.S. Gulf Coast refinery market, as transportation differentials are similar to move the crudes from their respective pricing points to that market.

The expectation of continuing large inventory builds is a major source of uncertainty in the price forecast, as the capacity of global oil storage to absorb builds of the forecast magnitude is unknown. If global storage capacity becomes stressed, the cost of storage will rise to reflect more expensive marginal storage options such as floating inventories on crude oil tankers. The higher storage costs would lower near-month crude oil prices. Additional uncertainty stems from the pace of global economic growth and its contribution to oil demand growth, and also from the responsiveness of oil producers to sustained low oil prices.

The current values of futures and options contracts highlight the heightened volatility and high uncertainty in the price outlook (*Market Prices and Uncertainty Report*). WTI futures contracts for June 2016 delivery, traded during the five-day period ending March 3, averaged \$37/b, while implied volatility averaged 50%. These levels established the lower and upper limits of the 95% confidence interval for the market's expectations of monthly average WTI prices in June 2016 at \$24/b and \$58/b, respectively. The 95% confidence interval for market expectations widens over time, with lower and upper limits of \$20/b and \$81/b for prices in December 2016. At this time last year, WTI for June 2015 delivery averaged \$54/b, and implied volatility averaged 46%. The corresponding lower and upper limits of the 95% confidence interval were \$36/b and \$80/b.

### **U.S. Petroleum and Other Liquid Fuels**

Growing domestic and global consumption of gasoline contributed to refinery wholesale gasoline margins (the difference between the wholesale price of gasoline and the price of Brent crude oil) averaging 48 cents/gallon (gal) in 2015, compared with the previous five-year average of 25 cents/gal. However, high gasoline inventories contributed to falling gasoline margins in February, which caused retail regular gasoline prices to fall to an average of \$1.76/gal for the month. Monthly average regional gasoline retail prices for February ranged from a low of \$1.55/gal in the Gulf Coast (PADD 3) to a high of \$2.25/gal in the West Coast (PADD 5). EIA expects the U.S. regular gasoline retail price to average \$1.84/gal in March 2016, before increasing to \$2.02/gal in June.

**Liquid Fuels Consumption.** Total U.S. liquid fuels consumption increased by an estimated 290,000 b/d (1.5%) in 2015. Liquid fuels consumption is forecast to increase by 90,000 b/d (0.5%) in 2016 and by an additional 160,000 b/d (0.8%) in 2017.

Motor gasoline consumption increased by an estimated 240,000 b/d (2.7%) in 2015 to an average of 9.2 million b/d, the highest level since the record 9.3 million b/d in 2007. Although total nonfarm employment and total highway travel have increased by 2.9% and 3.7%, respectively, since 2007, improving vehicle fuel economy continues to hold gasoline consumption in check throughout the forecast period. Gasoline consumption is forecast to

increase by 90,000 b/d (1.0%) in 2016, as a forecast 2.1% increase in highway travel because of employment growth and low retail prices is partially offset by continuing increases in vehicle fleet fuel economy. In 2017, gasoline consumption is forecast to fall by 10,000 b/d (0.2%).

In 2015, jet fuel consumption increased by an estimated 70,000 b/d (4.7%). Forecast jet fuel consumption is mostly unchanged through the forecast period, with improvements in average airline fleet fuel economy offsetting growth in freight and passenger travel.

Consumption of distillate fuel, which includes diesel fuel and heating oil, fell by 60,000 b/d (1.5%) in 2015, and it is expected to fall by an additional 50,000 b/d (1.1%) in 2016. Stronger economic and manufacturing growth in 2017 contribute to distillate fuel consumption growth of 110,000 b/d (2.9%).

HGL consumption is forecast to increase by 20,000 b/d (0.8%) in 2016, as increased ethane consumption more than offsets decreased propane, butanes, and natural gasoline consumption. In 2017, forecast HGL consumption increases by 30,000 b/d (1.4%). Nearly all of the forecast growth in HGL consumption results from the expected startup of six ethane-consuming petrochemical plants in 2017. New export terminal capacity allows net exports of propane, which increased by 190,000 b/d in 2015, to grow by 140,000 b/d in 2016 and by 100,000 b/d in 2017.

**Liquid Fuels Supply.** U.S. crude oil production is projected to decrease from an average of 9.4 million b/d in 2015 to 8.7 million b/d in 2016 and to 8.2 million b/d in 2017. The forecast reflects an extended decline in Lower 48 onshore production driven by persistently low oil prices that is partially offset by growing production in the federal Gulf of Mexico.

EIA estimates total U.S. production has fallen 0.6 million b/d since April 2015, to an average of 9.1 million b/d in February, with the entire production decline coming from Lower 48 onshore.

With WTI prices currently below \$40/b and projected to remain below that level through the first half of 2017, EIA expects oil production to decline in most Lower 48 onshore oil production regions. The expectation of reduced cash flows in 2016 and 2017 has prompted many companies to scale back investment programs, deferring major new undertakings until a sustained price recovery occurs. The prospect of higher interest rates and tighter lending conditions will likely limit the availability of capital for many smaller producers, giving rise to distressed asset sales and consolidation of acreage holdings by more financially sound firms. Lower onshore investment is anticipated to reduce the count of oil-directed rigs and well completions in 2016 and 2017.

The focus of drilling and production activities will be on the core areas of major tight oil plays. In these areas, falling costs and ongoing technological and process improvements in rig, labor, and well productivity are anticipated to lead to faster rates of well completions and less-rapid production declines relative to other Lower 48 onshore areas. The ongoing gains in learning-by-doing, cost reductions, and rig and well productivity are expected to enhance the economic

viability of these areas and to be adopted in other regions, incrementally reducing the breakeven costs of oil production in more marginal areas.

EIA expects U.S. crude oil production to decline from 9.1 million b/d in the first quarter of 2016 to an average of 8.0 million b/d in the third quarter of 2017. Production of 8.0 million b/d would be 1.7 million b/d below the April 2015 level, which was the highest monthly production since April 1971. Production is expected to begin increasing modestly in the fourth quarter of 2017, as productivity improvements, lower breakeven costs, and anticipated oil price increases are expected to end more than two years of declines in the Lower 48. The forecast remains sensitive to actual wellhead prices and rapidly changing drilling economics that vary across regions and operators.

Projected crude oil production in the Gulf of Mexico rises during the forecast period, and oil production in Alaska falls. Production in these areas is less sensitive than onshore production in the Lower 48 states to short-term price movements and reflects anticipated growth from new projects in the Gulf of Mexico and declines from legacy fields in Alaska. Late in 2015, ConocoPhillips brought two projects online in the Alaskan North Slope that have tempered production declines in the region. Several projects in the Gulf that began operations or that will begin operations in 2014–16 will push up production from an average of 1.5 million b/d in 2015 to 1.9 million b/d in the fourth quarter of 2017. It is possible some projects will start production later than expected, potentially shifting some of the anticipated production gains from late 2017 into early 2018.

EIA projects HGL production at natural gas processing plants will increase by 0.2 million b/d (5.4%) in 2016 and by 0.3 million b/d (8.0%) in 2017. Expected additions of natural gas processing and distribution infrastructure contribute to forecast HGL production growing at a faster pace than the natural gas streams from which it is produced. EIA expects higher ethane recovery rates in 2016 and 2017, following planned increases to petrochemical plant feedstock demand in the United States and abroad. Planned terminal builds and expansions and a growing ship fleet allow more U.S. ethane, propane, and butanes to reach international markets, with forecast net HGL exports averaging 1.1 million b/d in 2016 and 1.4 million b/d in 2017.

**Petroleum Product Prices.** Declining wholesale gasoline margins contributed to U.S. regular gasoline retail prices averaging \$1.76/gal in February, down from an average of \$1.95/gal in January. EIA projects regular gasoline retail prices to average \$1.85/gal in the first quarter of 2016, before reaching an average of \$2.02/gal in June, at the start of the summer driving season.

The U.S. regular gasoline retail price, which averaged \$2.43/gal in 2015, is projected to average \$1.89/gal in 2016, 8 cents/gal lower than in last month's STEO. This would be the lowest annual average since 2004. U.S. regular gasoline retail prices are forecast to average \$1.97/gal in 2017.

Continued warmer-than-normal winter temperatures and the growing global supply of distillate fuel helped weekly U.S. average retail diesel fuel prices fall below \$2.00/gal for the first time in

more than 10 years. U.S. average diesel retail prices averaged \$2.00/gal in February, the lowest monthly average price since January 2005.

The diesel fuel retail price, which averaged \$2.71/gal in 2015, is forecast to average \$2.12/gal in 2016 and \$2.32/gal in 2017, 10 cents/gal and 26 cents/gal lower than in last month's STEO, respectively.

### **Natural Gas**

Temperatures were warmer than normal in February, which contributed to Henry Hub spot prices declining throughout the month and averaging \$1.99/MMBtu. As a result of warmer-than-expected weather, this month's STEO revises upward forecast end-of-March 2016 working inventories to 2,288 Bcf, compared with 2,096 Bcf in last month's forecast.

**Natural Gas Consumption.** EIA's forecast of U.S. total natural gas consumption averages 76.8 billion cubic feet per day (Bcf/d) in 2016 and 77.3 Bcf/d in 2017, compared with 75.3 Bcf/d in 2015. Total consumption for 2016 in this month's STEO was revised upward by 0.5%, driven by increasing expectations of natural gas use in the electric power sector. Forecast electric power sector use of natural gas increases by 3.0% in 2016, then declines by 1.7% in 2017, as natural gas prices rise. Forecast industrial sector consumption of natural gas increases by 2.9% in 2016 and by 2.2% in 2017, as new projects in the fertilizer and chemicals sectors come online.

**Natural Gas Production and Trade.** In December, total marketed production of natural gas averaged 78.7 Bcf/d, a 0.4% decline from its November level. Production in the Marcellus states (Pennsylvania, Ohio, and West Virginia) increased from the previous months, partially offsetting declines in Texas, Louisiana, and western states. EIA survey data, which now include all months of 2015, indicate marketed natural gas production averaged 78.9 Bcf/d in 2015, an increase of 4.0 Bcf/d (5.4%) from 2014. EIA projects growth will slow to 0.9% in 2016, as low natural gas prices and declining rig activity begin to affect production. In 2017, however, forecast production growth increases to 2.1%, as forecast prices rise, industrial demand grows, and liquefied natural gas (LNG) exports increase.

EIA expects U.S. natural gas production growth in the forecast period will reduce demand for natural gas imports from Canada and will support growth in exports to Mexico. EIA expects natural gas exports via pipeline to Mexico to increase because of growing demand from Mexico's electric power sector coupled with flat natural gas production in Mexico. EIA projects LNG gross exports will increase to an average of 0.5 Bcf/d in 2016, with the startup of Cheniere's Sabine Pass LNG liquefaction plant in Louisiana, which sent out its first cargo in February. EIA projects gross LNG exports will average 1.3 Bcf/d in 2017, as Sabine Pass ramps up its capacity.

**Natural Gas Inventories.** On February 26, natural gas working inventories were 2,536 Bcf. After withdrawals accelerated in January, they slowed again in February because of warmer-than-normal weather. February 26 inventories were 794 Bcf (46%) above year-ago levels and 666 Bcf (36%) above the five-year average for that week. Inventories are forecast to be 2,288 Bcf at the

end of March 2016, an increase of 192 Bcf from last month's STEO, and 666 Bcf above the fiveyear average for the end of March.

**Natural Gas Prices.** The Henry Hub natural gas spot price averaged \$1.99/MMBtu in February, a decline of 29 cents/MMBtu from the January price. The February price decrease reverses gains in the Henry Hub price in January. Warmer-than-normal temperatures through most of the winter, record inventory levels, and production growth have contributed to sustained low natural gas prices. Monthly average Henry Hub spot prices are forecast to rise slowly beginning in May 2016, but they remain lower than \$3/MMBtu through December. Forecast Henry Hub natural gas prices average \$2.25/MMBtu in 2016 and \$3.02/MMBtu in 2017.

Natural gas futures contracts for June 2016 delivery traded during the five-day period ending March 3 averaged \$1.91/MMBtu. Current options and futures prices imply that market participants place the lower and upper bounds for the 95% confidence interval for June 2016 contracts at \$1.27/MMBtu and \$2.88/MMBtu, respectively. In March 2015, the natural gas futures contract for June 2015 delivery averaged \$2.83/MMBtu, and the corresponding lower and upper limits of the 95% confidence interval were \$1.92/MMBtu and \$4.18/MMBtu.

### Coal

**Coal Supply.** EIA estimates that U.S. coal production for February 2016 was 54 million short tons (MMst), a 4 MMst (7%) decrease from the previous month and 18 MMst less than in February 2015. Forecast coal production is expected to decrease by 111 MMst (12%) in 2016, which would be the largest annual percentage decline since 1958. In 2016, forecast Appalachian and Western region production declines by 9% and 17%, respectively, and Interior region production falls by 4%. Total coal production is expected to stabilize in 2017, increasing by 16 MMst (2%).

Interior region production, which accounted for 13% of coal production 10 years ago, is projected to account for 21% of production in 2016 and 2017. This increase in share reflects the region's growing competitive advantages compared with other U.S. coal-producing regions despite its higher sulfur content. These advantages include Interior coal's higher heat content, closer proximity to major markets than Western region coal, the prevalence of sulfur dioxide scrubbers at coal-fired electric generating units to comply with the Environmental Protection Agency's (EPA) Mercury and Air Toxics Standards (MATS), and lower mining costs than Appalachia-produced coal.

Electric power sector coal stockpiles were 197 MMst in December, a 4% increase from November. This atypical increase in winter coal stockpiles can be attributed to the December decrease in daily coal consumption because of record warm temperatures and lower coal use for electricity generation. December coal inventories averaged 158 MMst during the previous 10 years (2005–14).

**Coal Consumption.** EIA estimates that coal consumption decreased by 13% in 2015, mainly as a result of a 13% drop in electric power sector consumption. Coal consumption in the electric power sector is forecast to decline by 29 MMst (4%) in 2016 as a result of mild winter weather

and continuing competition with natural gas generation. Electric power sector coal consumption is forecast to increase by 10 MMst (1%) in 2017 primarily because of rising natural gas prices. Retirements of coal-fired power plants, because of increased competition with natural gas generation and the industry response to the implementation of MATS, reduce coal-fired generation capacity in the forecast period.

**Coal Trade.** Slower growth in world coal demand and lower international coal prices have contributed to a decline in U.S. coal exports. Lower mining costs, cheaper transportation costs, and favorable exchange rates are expected to continue to provide an advantage to mines in other major coal-exporting countries compared with U.S. producers over the next few years.

EIA estimates U.S. coal exports decreased 23 MMst (24%) in 2015, falling to 74 MMst. The current global coal market trends are expected to continue, and coal exports are forecast to decline by an additional 10 MMst (13%) in 2016 and by 3 MMst (5%) in 2017.

U.S. coal imports were estimated at 11 MMst in 2015. Atlantic and Gulf Coast power generators are forecast to generally maintain their current levels of coal imports, primarily from Latin America. Imports are projected to total about 10 MMst in 2016 and 11 MMst in 2017.

**Coal Prices.** EIA estimates the delivered coal price averaged \$2.23/MMBtu in 2015. Forecast prices are \$2.18/MMBtu in 2016 and \$2.20/MMBtu in 2017.

### **Electricity**

Average wholesale power prices this winter have been lower than in recent years in response to sustained low natural gas prices and warmer-than-normal temperatures in many areas of the country, which have lowered electricity demand. The average on-peak prices in the ISO New England and PJM day-ahead power markets both averaged about \$30 per megawatthour (MWh) last month, which is 76% and 66% lower, respectively, than average wholesale power prices in February 2015.

**Electricity Consumption**. Winter temperatures can have a significant effect on seasonal retail sales of electricity to the residential sector. During this winter (October–March), U.S. heating degree days are expected to be 15% lower than last winter. As a result, EIA estimates that winter residential electricity sales will total 6% less than last winter. EIA forecasts annual residential electricity sales will fall by 0.2% in 2016 and then increase by 2.4% in 2017, when temperatures are expected to return to more normal levels. Forecast U.S. retail electricity sales to the commercial sector rise by 0.9% in 2016 and by 1.3% in 2017. Forecast U.S. industrial sector sales increase by 0.9% in 2016 and by 1.0% in 2017.

**Electricity Generation.** EIA has reevaluated the effect coal-fired power plant retirements could have on power generation patterns in the coming years. Coal generation is now expected to decline by 3% in 2016, in contrast to relatively little change forecast in last month's STEO. EIA expects that the share of total generation fueled by coal in 2016 will average 32.0%, which is lower than the 33.4% forecast share of generation fueled by natural gas. This would be the first

time that natural gas has generated more power than coal on an annual basis (monthly natural gas generation first surpassed coal in April 2015). The projected generation share for both natural gas and coal average 32.3% in 2017. Overall, total U.S. electricity generation in 2016 is expected to average 11.2 terawatthours per day, 0.4% higher than in 2015. Forecast total U.S. generation grows by an additional 1.6% in 2017.

**Electricity Retail Prices.** The U.S. retail price of electricity to the residential sector averaged 12.7 cents per kilowatthour (kWh) in 2015. EIA projects the residential price will fall slightly (0.7%) in 2016. This would be the first decline in annual average U.S. residential prices since 2002. In 2017, the U.S. residential electricity price is forecast to average 12.9 cents/kWh, 2.3% higher than in 2016.

### **Renewables and Carbon Dioxide Emissions**

**Electricity and Heat Generation from Renewables**. EIA expects total renewables used in the electric power sector to increase by 8.7% in 2016 and by 6.5% in 2017. Forecast hydropower generation in the electric power sector increases by 5.4% in 2016 and by 2.8% in 2017. Renewables other than hydropower are projected to grow by 11.5% in 2016 and by 9.5% in 2017.

EIA expects utility-scale solar photovoltaic (PV) power capacity to grow by more than 9 gigawatts (GW) in 2016, after growing by 3 GW in 2015. PV capacity is forecast to increase from 10 GW in 2014 to 27 GW in 2017. States leading in utility-scale solar capacity additions include California, Nevada, North Carolina, Texas, and Georgia.

Solar generation from both PV and solar thermal is projected to average 130 gigawatthours per day (GWh/d) in 2017, an increase of 40% from the 2016 level as much of the new capacity comes online at the end of 2016. Forecast utility-scale solar power generation averages 1.1% of total U.S. electricity generation in 2017.

Wind capacity, which starts from a significantly larger installed capacity base than solar, grew by 13% in 2015, and it is forecast to increase by 9% in 2016 and by 8% in 2017. In 2017, wind generation accounts for 5.6% of total generation.

**Liquid Biofuels.** On November 30, EPA finalized a rule setting Renewable Fuel Standard (RFS) volumes for 2014 through 2016. EIA used these finalized volumes to develop the current STEO forecast and assumes the 2016 targets for 2017, except the biomass-based diesel 2017 target of 2.0 billion gallons that was included in the November 30 rule. Ethanol production averaged an estimated 966,000 b/d in 2015, and is forecast to average slightly more than that level in both 2016 and 2017. Ethanol consumption averaged about 910,000 b/d in 2015, and is forecast to average more than 920,000 b/d in both 2016 and 2017. This level of consumption results in the ethanol share of the total gasoline pool averaging 10.0% in both 2016 and 2017. EIA does not expect significant increases in E15 or E85 consumption over the forecast period.

EIA expects the largest effect of the proposed RFS targets will be on biodiesel consumption, which helps to meet the RFS targets for use of biomass-based diesel, advanced biofuel, and total renewable fuel. Biodiesel production averaged 82,000 b/d in 2015 and is forecast to average 106,000 b/d in 2016 and 112,000 b/d in 2017. Net imports of biomass-based diesel are expected to rise from 29,000 b/d in 2015 to 47,000 b/d in 2016 and to remain at that level in 2017.

**Energy-Related Carbon Dioxide Emissions.** EIA estimates that emissions of carbon dioxide decreased by 2.4% in 2015. Emissions are forecast to decrease by 0.3% in 2016, then increase by 0.4% in 2017. These forecasts are sensitive to assumptions about weather and economic growth.

### **U.S. Economic Assumptions**

**Recent Economic Indicators**. The Bureau of Economic Analysis reported that real GDP increased at an annual rate of 1.0% in the fourth quarter of 2015, up from the initial estimate of 0.7%. The increase in real GDP in the fourth quarter reflected positive contributions from personal consumption expenditures, residential fixed investment, and federal government spending.

EIA used the February 2016 version of the IHS macroeconomic model with EIA's energy price forecasts as model inputs to develop the economic projections in the STEO.

**Production, Income, and Employment.** Forecast real GDP growth is 2.2% in 2016—below the 2.5% forecast in last month's STEO—and 2.8% in 2017. Real disposable income grows by 3.0% in both years. Total industrial production falls by 0.8% in 2016, but rises by 2.8% in 2017. Projected growth in nonfarm employment averages 1.6% in 2016 and 1.0% in 2017.

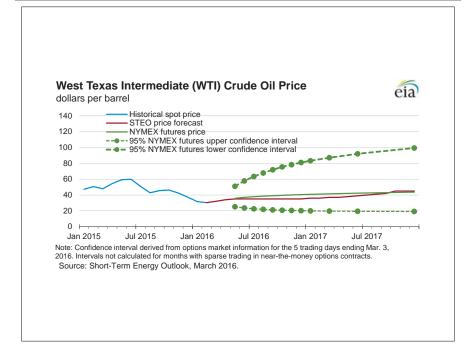
**Expenditures.** Forecast private real fixed investment growth averages 3.8% and 5.6% in 2016 and 2017, respectively. Real consumption expenditures grow faster than real GDP in 2016, at 2.7%, and at 3.0% in 2017. Durable goods expenditures drive consumption spending in both years. Export growth is 1.9% and 5.3% over the same two years, while import growth is 3.1% in 2016 and 6.4% in 2017. Total government expenditures rise 2.1% in 2016 and 0.4% in 2017.

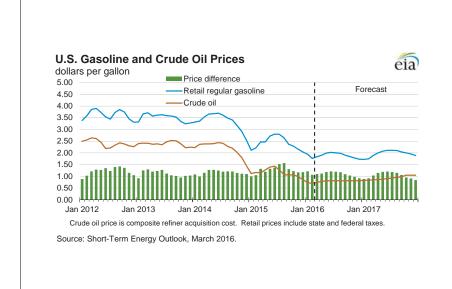
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views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

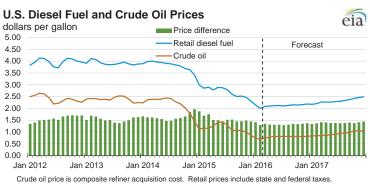


# **Short-Term Energy Outlook**

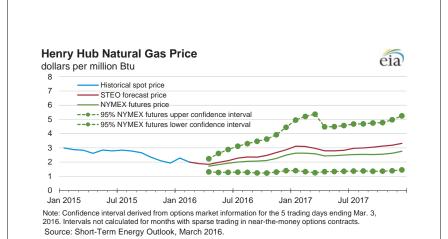
### Chart Gallery for March 2016

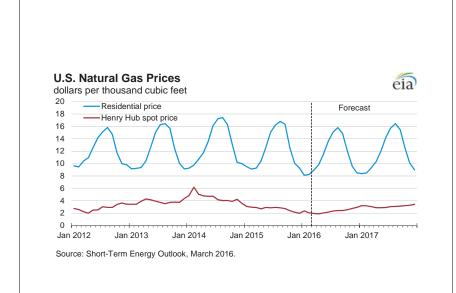


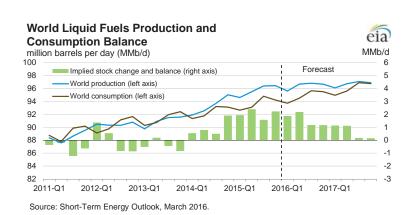


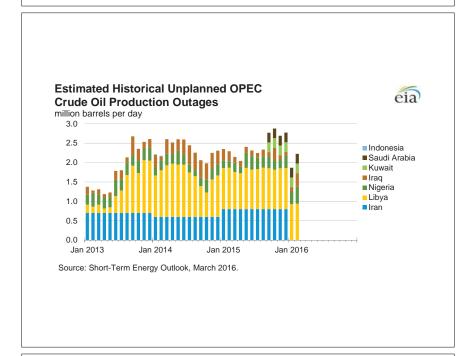


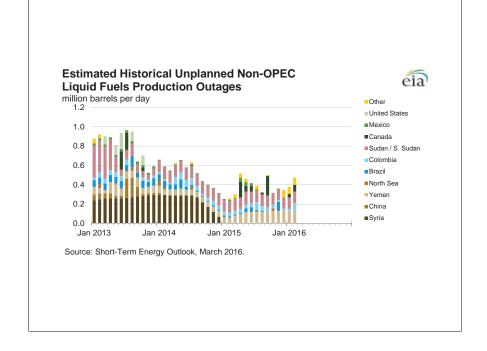
Source: Short-Term Energy Outlook, March 2016.

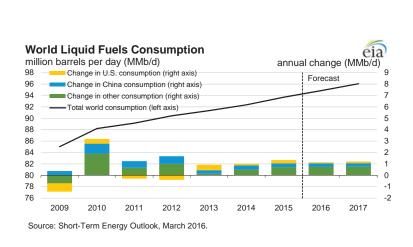


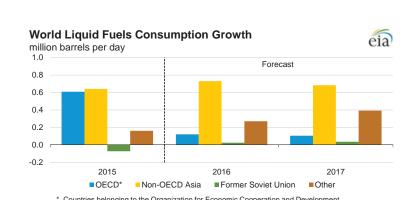




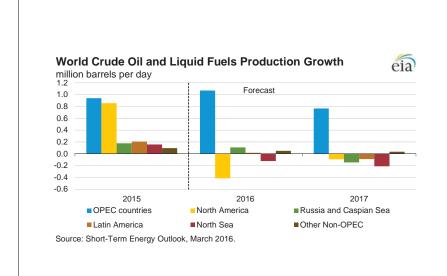


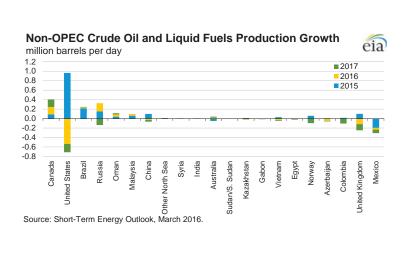


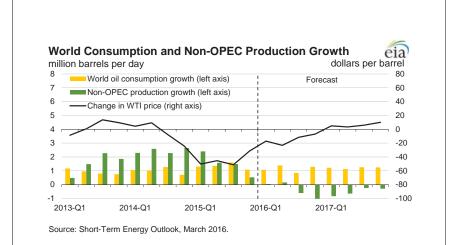


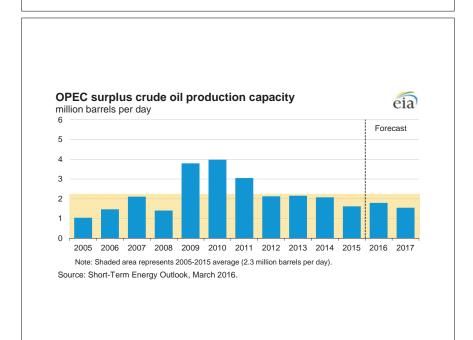


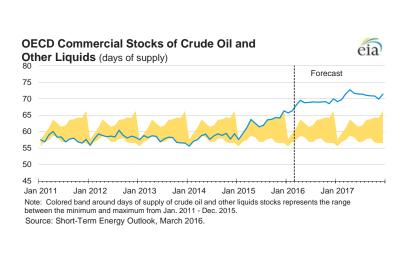
\* Countries belonging to the Organization for Economic Cooperation and Development Source: Short-Term Energy Outlook, March 2016.

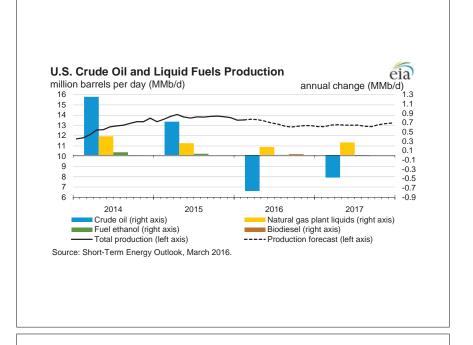


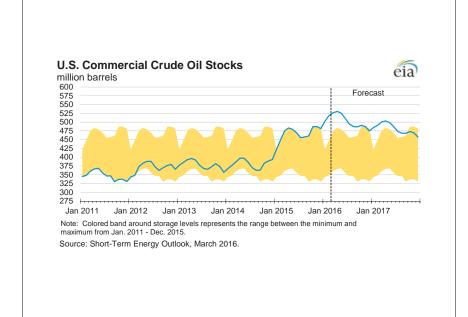


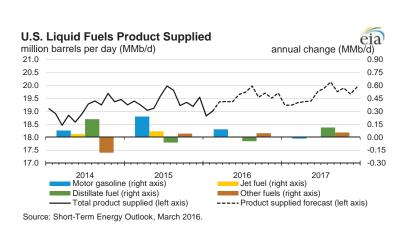


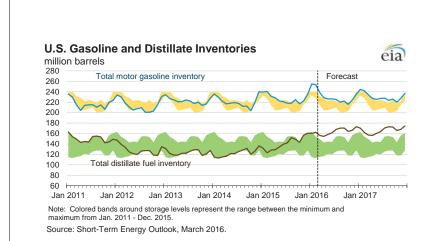


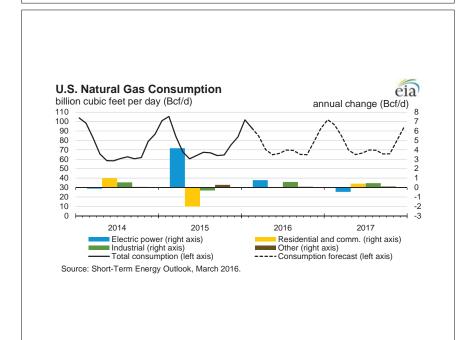


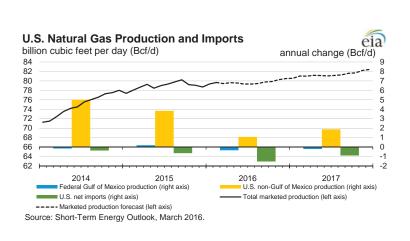


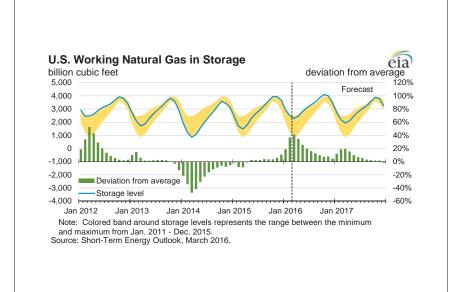


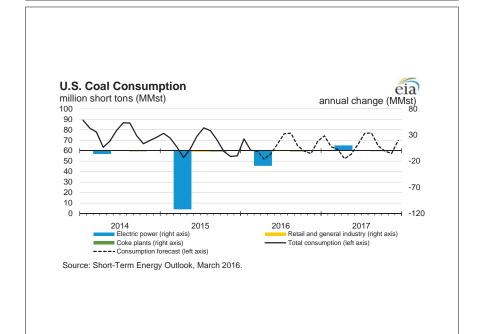


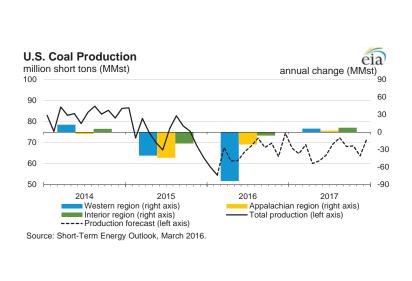


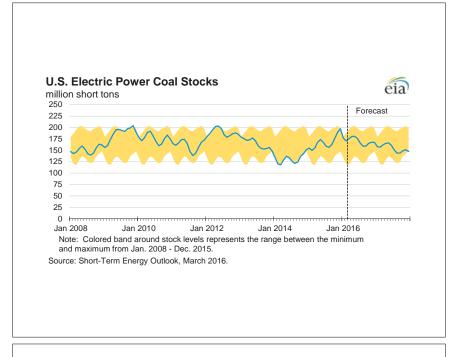


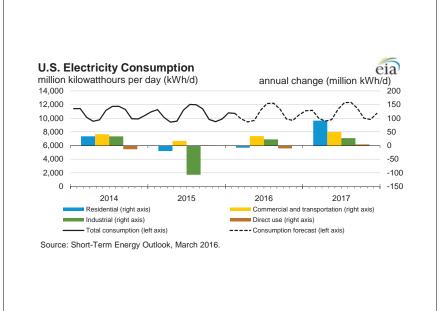


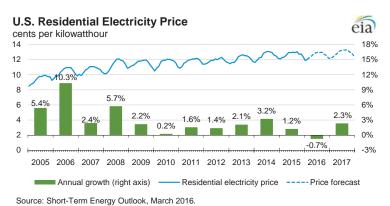






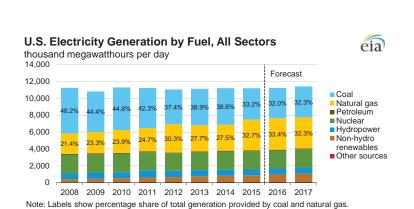


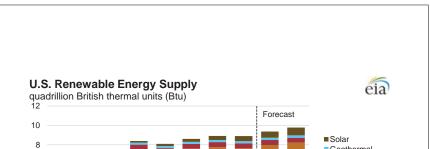


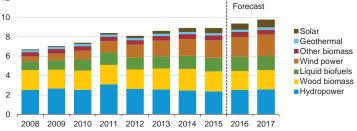




Source: Short-Term Energy Outlook, March 2016.

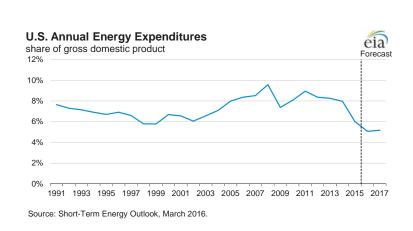


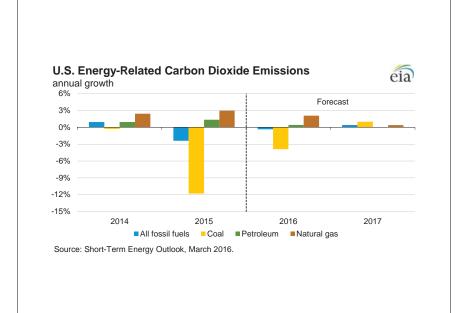


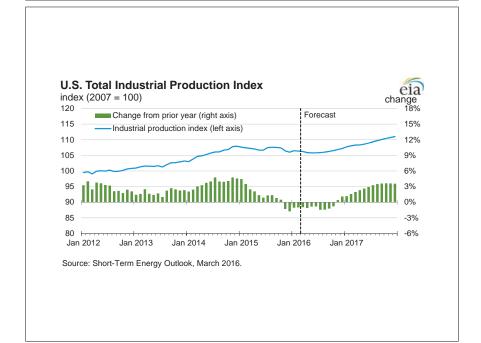


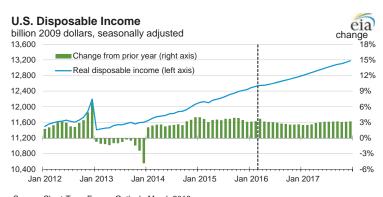
Note: Hydropower excludes pumped storage generation. Liquid biofuels include ethanol and biodiesel. Other biomass includes municipal waste from biogenic sources, landfill gas, and other non-wood waste.

Source: Short-Term Energy Outlook, March 2016.



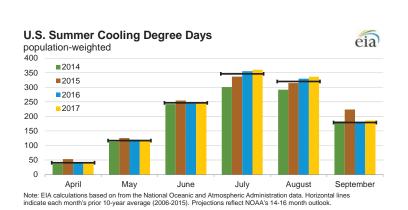


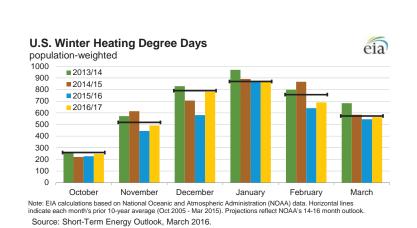




Source: Short-Term Energy Outlook, March 2016.

Source: Short-Term Energy Outlook, March 2016.





# U.S. Census Regions and Divisions West Midwest Northeast Northeas

STEO Current/Previous Forecast Comparisons: U.S. Energy Supply and Demand Summary

Current Forecast: March 8, 2016: Previous Forecast: February 9, 2016

Current Forecast: March 8,			015				16			20	17			Υe	ear			Growth Rate	)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014	2015	2016	2017	2014-2015	2015-2016	2016-2017
U.S. Energy Supply			1												ı				
U.S. Crude Oil Production (million be	arrels per da	ıy)																	
Current	9.48	9.50	9.43	9.31	9.12	8.85	8.38	8.32	8.28	8.21	8.04	8.22	8.71	9.43	8.67	8.19	8.3%	-8.1%	-5.5%
Previous	9.49	9.50	9.43	9.29	9.05	8.81	8.44	8.47	8.51	8.48	8.33	8.53	8.71	9.43	8.69	8.46	8.2%	-7.8%	-2.7%
Percent Change	-0.1%	0.0%	0.0%	0.2%	0.8%	0.5%	-0.8%	-1.8%	-2.6%	-3.1%	-3.5%	-3.7%	0.0%	0.0%	-0.3%	-3.2%			
U.S. Dry Natural Gas Production (bi	llion cubic fe	et per day	)																
Current	73.58	74.20	75.02	74.08	74.54	74.56	74.57	75.21	75.83	76.07	76.29	77.00	70.49	74.22	74.72	76.30	5.3%	0.7%	2.1%
Previous	73.67	74.50	75.25	74.28	74.42	74.57	74.68	75.32	75.75	75.99	76.21	76.92	70.49	74.43	74.75	76.22	5.6%	0.4%	2.0%
Percent Change	-0.1%	-0.4%	-0.3%	-0.3%	0.2%	0.0%	-0.1%	-0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	-0.3%	0.0%	0.1%			
U.S. Coal Production (million short t	ons)																		
Current	240.2	211.1	237.3	206.8	180.4	188.1	208.1	207.4	201.0	185.3	209.7	203.9	999.7	895.4	784.1	799.9	-10.4%	-12.4%	2.0%
Previous	240.2	211.1	232.4	206.8	200.6	199.2	218.5	215.5	217.2	195.9	217.8	210.2	999.7	890.5	833.8	841.0	-10.9%	-6.4%	0.9%
Percent Change	0.0%	0.0%	2.1%	0.0%	-10.1%	-5.6%	-4.8%	-3.7%	-7.4%	-5.4%	-3.7%	-3.0%	0.0%	0.6%	-6.0%	-4.9%			
U.S. Energy Consumption																			
U.S. Petroleum and Other Liquid Fu	els Consum	ption (milli	on barrels	per day)															
Current	19.29	19.25	19.68	19.36	19.07	19.47	19.76	19.64	19.27	19.51	19.93	19.84	19.11	19.40	19.48	19.64	1.5%	0.5%	0.8%
Previous	19.29	19.25	19.68	19.29	19.08	19.42	19.77	19.69	19.36	19.65	20.05	19.94	19.11	19.38	19.49	19.75	1.4%	0.6%	1.3%
Percent Change	0.0%	0.0%	0.0%	0.4%	-0.1%	0.2%	-0.1%	-0.3%	-0.4%	-0.7%	-0.6%	-0.5%	0.0%	0.1%	0.0%	-0.6%			
U.S. Natural Gas Consumption (billi	on cubic fee	t per day)																	
Current	96.66	64.09	66.12	74.55	93.21	67.10	68.20	78.73	94.34	67.16	68.39	79.62	73.14	75.27	76.79	77.31	2.9%	2.0%	0.7%
Previous	96.67	64.11	66.04	75.03	94.14	65.78	66.94	78.99	94.56	66.53	67.78	80.55	73.14	75.38	76.44	77.29	3.1%	1.4%	1.1%
Percent Change	0.0%	0.0%	0.1%	-0.6%	-1.0%	2.0%	1.9%	-0.3%	-0.2%	0.9%	0.9%	-1.2%	0.0%	-0.1%	0.5%	0.0%			
U.S. Electricity Retail Sales (million	kilowatthour	s per day)																	
Current	10,374	9,685	11,402	9,354	10,076	9,751	11,511	9,666	10,374	9,874	11,629	9,801	10,314	10,204	10,253	10,421	-1.1%	0.5%	1.6%
Previous	10,364	9,675	11,390	9,421	10,092	9,753	11,514	9,669	10,377	9,876	11,632	9,803	10,314	10,213	10,259	10,424	-1.0%	0.4%	1.6%
Percent Change	0.1%	0.1%	0.1%	-0.7%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%			
U.S. Total Energy Consumption (qu	adrillion Btu)																		
Current	26.38	23.01	24.48	23.72	25.52	22.93	24.27	24.37	25.66	23.15	24.50	24.65	98.48	97.59	97.09	97.95	-0.9%	-0.5%	0.9%
Previous	26.38	23.01	24.48	23.66	25.62	22.97	24.34	24.54	25.87	23.28	24.61	24.83	98.49	97.53	97.47	98.59	-1.0%	-0.1%	1.1%
Percent Change	0.0%	0.0%	0.0%	0.3%	-0.4%	-0.2%	-0.3%	-0.7%	-0.8%	-0.6%	-0.4%	-0.7%	0.0%	0.1%	-0.4%	-0.6%			
U.S. Macroeconomic and Weather																			
U.S. Real Gross Domestic Product	(billion chair	ned 2009 d	dollars)																
Current	16,177	16,334	16,414	16,442	16,525	16,628	16,748	16,880	16,985	17,106	17,223	17,315	15,962	16,342	16,695	17,157	2.4%	2.2%	2.8%
Previous	16,177	16,334	16,414	16,458	16,569	16,679	16,818	16,972	17,095	17,228	17,353	17,455	15,962	16,346	16,759	17,283	2.4%	2.5%	3.1%
Percent Change	0.0%	0.0%	0.0%	-0.1%	-0.3%	-0.3%	-0.4%	-0.5%	-0.6%	-0.7%	-0.7%	-0.8%	0.0%	0.0%	-0.4%	-0.7%			
U.S. Manufacturing Production Inde	ex (index 20°	12 = 100)																	
Current	105.5	105.8	106.7	106.8	106.6	105.8	105.9	106.8	108.0	108.4	109.5	110.6	103.9	106.2	106.3	109.1	2.2%	0.1%	2.7%
Previous	105.5	105.8	106.7	106.8	106.8	106.4	107.3	108.9	109.9	110.5	111.4	112.3	103.9	106.2	107.3	111.0	2.2%	1.1%	3.5%
Percent Change	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.5%	-1.3%	-1.9%	-1.8%	-1.9%	-1.7%	-1.5%	0.0%	0.0%	-1.0%	-1.7%			
U.S. Heating Degree Days																			
Current	2,342	443	50	1,251	2,055	448	69	1,517	2,120	476	76	1,549	4,552	4,085	4,089	4,221	-10.2%	0.1%	3.2%
Previous	2,342	443	50	1,252	2,066	448	69	1,518	2,120	476	76	1,549	4,552	4,087	4,101	4,221	-10.2%	0.3%	2.9%
Percent Change	0.0%	-0.1%	0.1%	-0.1%	-0.5%	0.1%	-0.8%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	0.0%			
U.S. Cooling Degree Days																			
Current	46	433	875	134	37	402	866	98	40	405	882	100	1,297	1,488	1,404	1,427	14.7%	-5.7%	1.7%
Previous	47	434	876	133	36	402	866	98	40	405	882	100	1,297	1,489	1,402	1,427	14.8%	-5.9%	1.8%
Percent Change	-0.3%	-0.2%	-0.1%	0.5%	3.6%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.1%	0.0%			

### STEO Current/Previous Forecast Comparisons: U.S. Energy Prices

Current Forecast: March 8, 2016; Previous Forecast: February 9, 2016

		20	015			20	16			20	17			Ye	ar			Growth Rate	)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014	2015	2016	2017	2014-2015	2015-2016	2016-2017
U.S. Petroleum																			
WTI spot (\$/barrel)																			
Current	48.48	57.85	46.55	41.94	31.35	34.67	35.00	35.00	36.37	38.03	41.00	45.00	93.17	48.67	34.04	40.09	-47.8%	-30.1%	17.8%
Previous	48.48	57.85	46.55	41.94	33.11	36.02	39.02	42.02	44.03	47.72	52.00	56.29	93.17	48.67	37.59	50.00	-47.8%	-22.8%	33.0%
Percent Change	0.0%	0.0%	0.0%	0.0%	-5.3%	-3.7%	-10.3%	-16.7%	-17.4%	-20.3%	-21.2%	-20.1%	0.0%	0.0%	-9.5%	-19.8%			
Refiner composite crude oil acquisit	ion cost (\$/	barrel)																	
Current	47.98	57.47	47.68	40.68	30.36	33.67	34.00	34.00	35.35	37.01	39.98	44.00	92.05	48.46	33.04	39.16	-47.4%	-31.8%	18.5%
Previous	47.98	57.47	47.68	40.81	32.04	35.01	37.98	41.02	43.01	46.69	50.98	55.36	92.05	48.50	36.58	49.12	-47.3%	-24.6%	34.3%
Percent Change	0.0%	0.0%	0.0%	-0.3%	-5.3%	-3.8%	-10.5%	-17.1%	-17.8%	-20.7%	-21.6%	-20.5%	0.0%	-0.1%	-9.7%	-20.3%			
Brent spot average (\$/barrel)																			
Current	53.91	61.65	50.43	43.55	32.38	34.67	35.00	35.00	36.37	38.03	41.00	45.00	98.89	52.32	34.28	40.09	-47.1%	-34.5%	16.9%
Previous	53.91	61.65	50.43	43.53	32.81	36.02	39.02	42.02	44.03	47.72	52.00	56.29	98.89	52.32	37.52	50.00	-47.1%	-28.3%	33.3%
Percent Change	0.0%	0.0%	0.0%	0.0%	-1.3%	-3.7%	-10.3%	-16.7%	-17.4%	-20.3%	-21.2%	-20.1%	0.0%	0.0%	-8.6%	-19.8%			
Gasoline, regular-grade retail include	ing taxes (\$	(gallon)																	
Current	2.27	2.67	2.60	2.16	1.85	1.97	1.96	1.79	1.79	2.06	2.08	1.95	3.36	2.43	1.89	1.97	-27.8%	-22.0%	4.2%
Previous	2.27	2.67	2.60	2.16	1.88	2.02	2.06	1.94	1.97	2.28	2.34	2.22	3.36	2.43	1.98	2.21	-27.8%	-18.6%	11.6%
Percent Change	0.0%	0.0%	0.0%	0.0%	-1.4%	-2.3%	-4.5%	-8.1%	-9.1%	-9.6%	-11.0%	-12.0%	0.0%	0.0%	-4.1%	-10.5%			
Diesel, retail including taxes (\$/gallo												,			,				
Current	2.92	2.85	2.63	2.43	2.08	2.11	2.12	2.16	2.21	2.27	2.33	2.45	3.83	2.71	2.12	2.32	-29.2%	-21.8%	9.5%
Previous	2.92	2.85	2.63	2.44	2.11	2.17	2.24	2.35	2.43	2.52	2.62	2.75	3.83	2.71	2.22	2.58	-29.2%	-18.0%	16.2%
Percent Change	0.0%	0.0%	0.0%	-0.1%	-1.7%	-2.9%	-5.3%	-8.2%	-8.8%	-10.1%	-11.0%	-10.8%	0.0%	0.0%	-4.7%	-10.2%	20.270	10.070	10.270
Heating Oil, residential retail including			0.070	-0.170	-1.7 70	-2.570	-3.570	-0.2 /0	-0.070	-10.170	-11.070	-10.070	0.070	0.070	4.7 70	-10.270			
Current	2.88	2.76	2.47	2.24	1.97	1.96	1.94	2.02	2.14	2.09	2.12	2.27	3.72	2.65	1.98	2.17	-28.7%	-25.3%	9.6%
Previous	2.88	2.76	2.47	2.24	2.05	2.02	2.05	2.19	2.14	2.33	2.12	2.57	3.72	2.65	2.09	2.17	-28.6%	-21.3%	15.7%
Percent Change	0.0%	0.0%	0.0%	-0.1%	-3.7%	-3.1%	-5.0%	-7.8%	-8.3%	-10.2%	-11.8%	-11.8%	0.0%	-0.1%	-5.1%	-10.1%	-20.0%	-21.370	13.776
U.S. Natural Gas	0.0%	0.0%	0.0%	-0.176	-3.1 70	-3.170	-3.0%	-7.0%	-0.3%	-10.2%	-11.0%	-11.0%	0.0%	-0.176	-5.1%	-10.176			
Henry Hub spot (\$ per million Btu)	2.00	0.75	2.76	2.12	2.05	4.07	2.32	2.67	3.06	2.80	2.00	2.24	4.20	2.62	2.25	2.02	40.40/	4.4.40/	22.00/
Current	2.90	2.75			2.05	1.97		2.67			3.00	3.21	4.39	2.63		3.02	-40.1%	-14.4%	33.8%
Previous	2.90	2.75	2.76	2.12	2.36	2.45	2.77	2.98	3.27	3.00	3.20	3.40	4.39	2.63	2.64	3.22	-40.1%	0.3%	22.0%
Percent Change	0.0%	0.0%	0.0%	0.0%	-12.9%	-19.6%	-16.0%	-10.6%	-6.6%	-6.7%	-6.2%	-5.8%	0.0%	0.0%	-14.6%	-6.3%			
Residential Retail (\$ per thousand o	,	44.00	10.15	40.44	0.00	44.07	45.00	0.00	0.00	44.00	45.00	0.00	40.04	40.00	0.50	0.00	5.00/	7.00/	4.00/
Current	9.30	11.96	16.45	10.11	8.38	11.07	15.23	9.38	8.68	11.62	15.86	9.89	10.94	10.36	9.58	9.99	-5.3%	-7.6%	4.3%
Previous	9.30	11.96	16.45	10.10	8.59	11.35	15.65	9.77	9.00	11.82	16.09	10.06	10.94	10.36	9.83	10.21	-5.3%	-5.1%	3.9%
Percent Change	0.0%	0.0%	0.0%	0.1%	-2.5%	-2.5%	-2.7%	-4.0%	-3.5%	-1.7%	-1.4%	-1.7%	0.0%	0.0%	-2.6%	-2.2%			
U.S. Electric Utilities Fuel Costs (\$	per million	Btu)																	
Coal																			
Current	2.27	2.25	2.22	2.15	2.14	2.21	2.21	2.17	2.16	2.21	2.24	2.20	2.36	2.23	2.18	2.20	-5.8%	-2.0%	1.0%
Previous	2.27	2.25	2.22	2.15	2.14	2.20	2.20	2.16	2.16	2.21	2.23	2.19	2.36	2.23	2.18	2.20	-5.8%	-2.2%	1.0%
Percent Change	0.0%	-0.1%	0.1%	0.2%	-0.2%	0.5%	0.4%	0.1%	-0.1%	0.2%	0.3%	0.3%	0.0%	0.1%	0.2%	0.2%			
Natural Gas																			
Current	4.09	3.12	3.09	2.72	3.17	2.77	2.93	3.78	4.23	3.55	3.54	4.25	4.98	3.22	3.14	3.86	-35.3%	-2.7%	23.0%
Previous	4.09	3.11	3.09	2.86	3.56	3.24	3.35	4.08	4.43	3.74	3.74	4.45	4.98	3.26	3.54	4.05	-34.7%	8.7%	14.6%
Percent Change	0.0%	0.1%	0.1%	-5.0%	-10.9%	-14.5%	-12.8%	-7.4%	-4.5%	-5.2%	-5.2%	-4.4%	0.0%	-1.0%	-11.4%	-4.9%			
Residual Fuel Oil																			
Current	10.82	11.64	10.48	7.88	7.39	7.71	7.39	7.23	7.15	8.00	7.98	8.40	19.19	10.38	7.43	7.87	-45.9%	-28.5%	6.0%
Previous	10.82	11.64	10.48	8.29	7.47	7.74	7.70	7.99	8.23	9.31	9.55	10.05	19.19	10.42	7.72	9.27	-45.7%	-26.0%	20.1%
Percent Change	0.0%	0.0%	0.0%	-5.0%	-1.1%	-0.4%	-4.0%	-9.5%	-13.1%	-14.0%	-16.4%	-16.4%	0.0%	-0.4%	-3.8%	-15.1%			
U.S. Residential Retail Electricity (	ents per k	ilowatthou	ır)																
Current	12.24	12.85	12.99	12.59	12.06	12.76	12.96	12.47	12.32	13.04	13.28	12.81	12.52	12.67	12.58	12.87	1.2%	-0.7%	2.3%
Previous	12.23	12.85	12.99	12.57	12.19	12.72	12.99	12.76	12.48	13.20	13.46	13.24	12.52	12.66	12.68	13.10	1.2%	0.1%	3.4%
				- '	•	_		-		-1.2%	-1.4%	-3.2%	0.0%	0.1%	-0.8%	-1.8%			

Prices are not adjusted for inflation.

STEO Current/Previous Forecast Comparisons: International Crude Oil and Liquid Fuels

Current Forecast: March 8, 2016: Previous Forecast: February 9, 2016

		20	015			20	)16			20	)17			Ye	ear			Growth Rate	•
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014	2015	2016	2017	2014-2015	2015-2016	2016-2017
World Crude Oil and Liquid Fuel	ls Supply (mill	ion barrels	s per day)				ı		l.		ı				ı			I	ı
OECD (Organization for Econom	nic Cooperation	and Devel	opment) S	upply															
Current	26.64	26.43	26.80	26.97	26.59	26.41	25.90	25.91	25.98	25.97	25.85	25.89	25.76	26.71	26.20	25.92	3.7%	-1.9%	-1.1%
Previous	26.64	26.42	26.80	26.89	26.54	26.23	25.91	26.05	26.03	26.12	26.03	26.21	25.76	26.69	26.18	26.10	3.6%	-1.9%	-0.3%
Percent Change	0.0%	0.0%	0.0%	0.3%	0.2%	0.7%	0.0%	-0.5%	-0.2%	-0.6%	-0.7%	-1.2%	0.0%	0.1%	0.1%	-0.7%			
OPEC (Organization of the Petro	oleum Exporting	Countries	) Supply																
Current	37.46	38.22	38.61	38.43	38.42	39.24	39.66	39.68	39.75	39.95	40.16	40.21	37.24	38.18	39.25	40.02	2.5%	2.8%	2.0%
Previous	37.46	38.22	38.61	38.45	38.52	39.08	39.63	39.55	39.58	40.01	40.34	40.33	37.24	38.19	39.20	40.07	2.5%	2.6%	2.2%
Percent Change	0.0%	0.0%	0.0%	-0.1%	-0.2%	0.4%	0.1%	0.3%	0.4%	-0.1%	-0.5%	-0.3%	0.0%	0.0%	0.1%	-0.1%			
Non-OPEC Supply																			
Current	57.13	57.28	57.77	58.01	57.17	57.44	57.16	56.98	56.33	56.79	56.91	56.68	56.06	57.55	57.19	56.68	2.7%	-0.6%	-0.9%
Previous	57.14	57.28	57.77	57.54	56.74	56.98	56.94	56.83	56.18	56.82	56.97	56.82	56.06	57.43	56.87	56.70	2.5%	-1.0%	-0.3%
Percent Change	0.0%	0.0%	0.0%	0.8%	0.8%	0.8%	0.4%	0.3%	0.3%	-0.1%	-0.1%	-0.2%	0.0%	0.2%	0.6%	0.0%			
Total World Supply																			
Current	94.60	95.50	96.38	96.44	95.60	96.68	96.82	96.66	96.09	96.74	97.07	96.89	93.30	95.74	96.44	96.70	2.6%	0.7%	0.3%
Previous	94.60	95.50	96.38	96.00	95.25	96.06	96.57	96.38	95.76	96.83	97.32	97.14	93.30	95.62	96.07	96.77	2.5%	0.5%	0.7%
Percent Change	0.0%	0.0%	0.0%	0.5%	0.4%	0.6%	0.3%	0.3%	0.3%	-0.1%	-0.2%	-0.3%	0.0%	0.1%	0.4%	-0.1%			
World Crude Oil and Liquid Fuel	ls Consumptio	n (million	barrels p	er day)															
OECD (Organization for Econom	nic Cooperation	and Devel	opment) C	onsumptio	n														
Current	46.50	45.38	46.75	46.71	46.57	45.72	46.55	46.97	46.71	45.73	46.68	47.11	45.73	46.33	46.45	46.56	1.3%	0.3%	0.2%
Previous	46.50	45.38	46.75	46.64	46.65	45.73	46.62	47.08	47.00	46.04	46.98	47.41	45.73	46.32	46.52	46.86	1.3%	0.4%	0.7%
Percent Change	0.0%	0.0%	0.0%	0.1%	-0.2%	0.0%	-0.2%	-0.2%	-0.6%	-0.7%	-0.6%	-0.6%	0.0%	0.0%	-0.1%	-0.6%			
Non-OECD Consumption																			
Current	46.16	47.73	48.06	47.50	47.16	48.78	49.10	48.53	48.24	49.90	50.22	49.63	46.64	47.37	48.39	49.50	1.6%	2.2%	2.3%
Previous	46.24	47.82	48.16	47.60	47.25	48.87	49.22	48.64	48.34	50.01	50.36	49.76	46.69	47.46	48.50	49.62	1.6%	2.2%	2.3%
Percent Change	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.1%	-0.2%	-0.2%	-0.2%			
China Consumption																			
Current	10.77	11.36	11.32	11.27	11.08	11.69	11.64	11.59	11.37	11.99	11.94	11.89	10.85	11.18	11.50	11.80	3.0%	2.8%	2.6%
Previous	10.77	11.36	11.32	11.27	11.08	11.69	11.64	11.59	11.37	11.99	11.94	11.89	10.85	11.18	11.50	11.80	3.0%	2.8%	2.6%
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Total World Consumption																			
Current	92.66	93.11	94.81	94.21	93.73	94.50	95.65	95.50	94.95	95.62	96.90	96.75	92.37	93.70	94.85	96.06	1.4%	1.2%	1.3%
Previous	92.74	93.19	94.90	94.24	93.90	94.61	95.83	95.72	95.34	96.05	97.34	97.17	92.42	93.78	95.02	96.48	1.5%	1.3%	1.5%
Percent Change	-0.1%	-0.1%	-0.1%	0.0%	-0.2%	-0.1%	-0.2%	-0.2%	-0.4%	-0.4%	-0.5%	-0.4%	-0.1%	-0.1%	-0.2%	-0.4%			
Closing Stocks (million barrels)																			
OECD Commercial Inventory																			
Current	2,797	2,888	2,961	3,045	3,118	3,197	3,231	3,239	3,271	3,324	3,331	3,302	2,721	3,045	3,239	3,302	11.9%	6.4%	2.0%
Previous	2,797	2,888	2,961	3,029	3,067	3,127	3,148	3,137	3,146	3,190	3,193	3,159	2,721	3,029	3,137	3,159	11.3%	3.6%	0.7%
Percent Change	0.0%	0.0%	0.0%	0.5%	1.6%	2.2%	2.6%	3.3%	4.0%	4.2%	4.3%	4.5%	0.0%	0.5%	3.3%	4.5%			
OPEC Surplus Production Capa	city and World	Macroeco	onomic																
OPEC Surplus Crude OII Produc	ction Capacity (r	million barr	els per day	/)															
Current	1.94	1.55	1.35	1.64	1.99	1.85	1.60	1.72	1.64	1.58	1.43	1.55	2.07	1.62	1.79	1.55	-21.9%	10.6%	-13.4%
Previous	1.94	1.55	1.34	1.61	2.11	2.05	1.68	1.95	1.97	1.72	1.50	1.70	2.07	1.61	1.95	1.72	-22.4%	21.0%	-11.6%
Percent Change	0.0%	0.0%	1.0%	1.7%	-5.6%	-9.8%	-4.6%	-11.6%	-16.4%	-8.5%	-4.9%	-8.7%	0.0%	0.6%	-8.0%	-10.0%			
World Oil-Consumption-Weighte	d GDP Growth	(annualize	d percent																
Current	2.67	2.54	2.37	2.08	1.96	2.22	2.42	2.77	3.09	2.99	2.95	2.90	2.76	2.41	2.34	2.98			
Previous	2.58	2.50	2.34	2.08	2.28	2.42	2.57	2.92	3.02	3.13	3.22	3.19	2.71	2.37	2.55	3.14			

STEO Current/Previous Forecast Comparisons: U.S. Petroleum and Other Liquid Fuels Current Forecast: March 8, 2016; Previous Forecast: February 9, 2016

Current Forecast: March 8, 2	1016; Pre		orecast 115	. reprua	iry 9, 20	20	16			20	17			Ye	ar			Growth Rate	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014	2015	2016	2017	2014-2015	2015-2016	2016-2017
U.S. Supply (million barrels per day	1)																		
U.S. Crude Oil Production	,																		
Current	9.48	9.50	9.43	9.31	9.12	8.85	8.38	8.32	8.28	8.21	8.04	8.22	8.71	9.43	8.67	8.19	8.3%	-8.1%	-5.5%
Previous	9.49	9.50	9.43	9.29	9.05	8.81	8.44	8.47	8.51	8.48	8.33	8.53	8.71	9.43	8.69	8.46	8.2%	-7.8%	-2.7%
Percent Change	-0.1%	0.0%	0.0%	0.2%	0.8%	0.5%	-0.8%	-1.8%	-2.6%	-3.1%	-3.5%	-3.7%	0.0%	0.0%	-0.3%	-3.2%			
U.S. Natural Gas Plant Liquids Prod	uction																		
Current	3.09	3.27	3.31	3.41	3.33	3.46	3.48	3.53	3.55	3.73	3.79	3.84	3.01	3.27	3.45	3.73	8.6%	5.4%	8.0%
Previous	3.09	3.27	3.31	3.39	3.34	3.43	3.48	3.56	3.58	3.76	3.82	3.87	3.01	3.27	3.45	3.76	8.4%	5.7%	8.9%
Percent Change	0.0%	0.0%	0.0%	0.7%	-0.2%	0.7%	0.0%	-0.8%	-0.8%	-0.8%	-0.9%	-0.9%	0.0%	0.2%	-0.1%	-0.9%			
U.S. Ethanol Production																			
Current	0.96	0.96	0.96	0.99	0.97	0.98	0.98	0.97	0.97	0.97	0.97	0.96	0.93	0.97	0.98	0.97	3.4%	1.0%	-0.7%
Previous	0.96	0.96	0.96	0.98	0.97	0.97	0.98	0.96	0.97	0.96	0.97	0.96	0.93	0.96	0.97	0.97	3.3%	0.5%	-0.3%
Percent Change	0.0%	0.0%	0.0%	0.4%	0.6%	0.9%	0.6%	0.4%	0.4%	0.3%	0.2%	0.1%	0.0%	0.1%	0.6%	0.3%			
U.S. Total Petroleum and Other Liqu	id Fuel Net	Imports																	
Current	4.95	4.61	4.74	4.31	4.48	4.75	5.20	4.68	4.79	5.28	5.48	4.59	5.07	4.65	4.78	5.04	-8.2%	2.8%	5.4%
Previous	4.95	4.61	4.74	4.25	4.10	4.84	5.15	4.52	4.63	5.15	5.29	4.36	5.07	4.64	4.65	4.86	-8.5%	0.4%	4.4%
Percent Change	0.0%	0.0%	0.0%	1.3%	9.3%	-1.9%	0.9%	3.7%	3.5%	2.6%	3.5%	5.4%	0.0%	0.3%	2.7%	3.7%			
U.S. Consumption (million barrels p	er day)																		
U.S. Gasoline																			
Current	8.81	9.26	9.39	9.17	8.88	9.38	9.50	9.25	8.92	9.34	9.46	9.23	8.92	9.16	9.25	9.24	2.7%	1.0%	-0.2%
Previous	8.81	9.26	9.39	9.15	8.82	9.36	9.49	9.25	8.90	9.33	9.45	9.24	8.92	9.16	9.23	9.23	2.6%	0.8%	0.0%
Percent Change	0.0%	0.0%	0.0%	0.1%	0.7%	0.2%	0.1%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.2%	0.1%			
U.S. Distillate																			
Current	4.27	3.88	3.93	3.83	3.85	3.95	3.91	4.02	4.13	4.00	3.98	4.06	4.04	3.98	3.93	4.04	-1.5%	-1.1%	2.9%
Previous	4.27	3.88	3.93	3.79	3.99	3.96	3.94	4.06	4.19	4.05	4.02	4.09	4.04	3.96	3.99	4.09	-1.8%	0.6%	2.5%
Percent Change	0.0%	0.0%	0.0%	1.2%	-3.4%	-0.4%	-0.8%	-1.1%	-1.3%	-1.2%	-1.0%	-0.8%	0.0%	0.3%	-1.4%	-1.1%			
U.S. Jet Fuel																			
Current	1.45	1.54	1.59	1.57	1.52	1.56	1.55	1.51	1.49	1.57	1.57	1.52	1.47	1.54	1.53	1.54	4.7%	-0.3%	0.2%
Previous	1.45	1.54	1.59	1.57	1.48	1.56	1.56	1.51	1.50	1.58	1.58	1.53	1.47	1.54	1.53	1.55	4.7%	-0.5%	1.0%
Percent Change	0.0%	0.0%	0.0%	0.0%	2.2%	-0.2%	-0.3%	-0.5%	-0.6%	-0.6%	-0.5%	-0.5%	0.0%	0.0%	0.3%	-0.5%			
U.S. Hydrocarbon Gas Liquids																			
Current	2.72	2.27	2.29	2.58	2.72	2.28	2.31	2.64	2.62	2.28	2.41	2.77	2.45	2.47	2.49	2.52	0.7%	0.8%	1.4%
Previous	2.72	2.27	2.29	2.55	2.68	2.23	2.29	2.64	2.66	2.38	2.49	2.83	2.45	2.46	2.46	2.59	0.4%	0.0%	5.4%
Percent Change	0.0%	0.0%	0.0%	1.1%	1.5%	2.2%	0.8%	0.0%	-1.4%	-4.0%	-3.4%	-2.2%	0.0%	0.3%	1.1%	-2.7%			
U.S. Total Petroleum and Other Liqu	id Fuels																		
Current	19.29	19.25	19.68	19.36	19.07	19.47	19.76	19.64	19.27	19.51	19.93	19.84	19.11	19.40	19.48	19.64	1.5%	0.5%	0.8%
Previous	19.29	19.25	19.68	19.29	19.08	19.42	19.77	19.69	19.36	19.65	20.05	19.94	19.11	19.38	19.49	19.75	1.4%	0.6%	1.3%
Percent Change	0.0%	0.0%	0.0%	0.4%	-0.1%	0.2%	-0.1%	-0.3%	-0.4%	-0.7%	-0.6%	-0.5%	0.0%	0.1%	0.0%	-0.6%			
U.S. Closing Stocks (million barrels	)																		
U.S. Crude Oil																			
Current	474.8	469.5	460.8	481.4	526.5	511.2	486.4	475.1	500.1	486.8	468.5	457.5	393.3	481.4	475.1	457.5	22.4%	-1.3%	-3.7%
Previous	474.8	469.5	460.8	482.3	513.5	496.6	471.6	458.1	484.8	475.1	459.1	449.7	393.3	482.3	458.1	449.7	22.6%	-5.0%	-1.8%
Percent Change	0.0%	0.0%	0.0%	-0.2%	2.5%	2.9%	3.1%	3.7%	3.2%	2.5%	2.0%	1.7%	0.0%	-0.2%	3.7%	1.7%			
U.S. Total Gasoline																			
Current	231.5	221.0	225.1	235.0	238.5	226.5	221.9	235.4	234.2	227.4	226.0	237.0	240.4	235.0	235.4	237.0	-2.2%	0.2%	0.7%
Previous	231.5	221.0	225.1	232.0	232.8	224.9	221.4	235.3	233.3	226.5	225.6	236.8	240.4	232.0	235.3	236.8	-3.5%	1.4%	0.7%
Percent Change	0.0%	0.0%	0.0%	1.3%	2.5%	0.7%	0.2%	0.1%	0.4%	0.4%	0.2%	0.1%	0.0%	1.3%	0.1%	0.1%			
U.S. Distillate Fuel Oil																			
Current	128.3	139.4	148.8	160.7	156.2	161.4	170.6	173.2	157.0	163.8	172.5	174.6	136.3	160.7	173.2	174.6	17.9%	7.8%	0.8%
Previous	128.3	139.4	148.8	162.4	145.9	151.9	160.9	163.2	146.3	152.7	161.1	162.8	136.3	162.4	163.2	162.8	19.2%	0.5%	-0.2%
Percent Change	0.0%	0.0%	0.0%	-1.0%	7.1%	6.2%	6.0%	6.1%	7.3%	7.3%	7.1%	7.2%	0.0%	-1.0%	6.1%	7.2%			

### STEO Current/Previous Forecast Comparisons: U.S. Natural Gas

Current Forecast: March 8, 2016; Previous Forecast: February 9, 2016

		20	)15		•	20	16			20	17			Ye	ar			Growth Rate	)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014	2015	2016	2017	2014-2015	2015-2016	2016-2017
U.S. Supply (billion cubic feet p	er day)																		
U.S. Total Marketed Production																			
Current	78.02	78.90	79.78	79.00	79.48	79.50	79.51	80.20	80.86	81.12	81.34	82.11	74.89	78.93	79.68	81.36	5.4%	0.9%	2.1%
Previous	78.11	79.20	80.01	79.20	79.34	79.50	79.61	80.30	80.76	81.02	81.24	82.00	74.89	79.13	79.69	81.26	5.7%	0.7%	2.0%
Percent Change	-0.1%	-0.4%	-0.3%	-0.3%	0.2%	0.0%	-0.1%	-0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	-0.3%	0.0%	0.1%			
U.S. Federal GOM Marketed Pro	oduction																		
Current	3.37	3.68	3.95	3.52	3.43	3.38	3.21	3.17	3.22	3.17	3.00	3.03	3.44	3.63	3.30	3.10	5.6%	-9.2%	-6.0%
Previous	3.37	3.68	3.95	3.55	3.43	3.38	3.21	3.17	3.22	3.17	3.00	3.03	3.44	3.64	3.30	3.10	5.8%	-9.3%	-6.0%
Percent Change	0.0%	0.0%	0.0%	-0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%			
U.S. Lower 48 ex GOM Markete	d Production																		
Current	73.66	74.28	74.97	74.50	75.04	75.27	75.54	76.09	76.66	77.12	77.59	78.14	70.51	74.36	75.49	77.38	5.5%	1.5%	2.5%
Previous	73.75	74.58	75.19	74.68	74.91	75.27	75.64	76.19	76.56	77.02	77.49	78.04	70.51	74.55	75.51	77.28	5.7%	1.3%	2.4%
Percent Change	-0.1%	-0.4%	-0.3%	-0.2%	0.2%	0.0%	-0.1%	-0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	-0.3%	0.0%	0.1%			
U.S. Pipeline Gross Imports																			
Current	8.4	6.7	6.7	7.1	7.3	6.2	6.5	6.7	7.3	6.2	6.5	6.8	7.2	7.2	6.7	6.7	-0.4%	-7.1%	0.2%
Previous	8.4	6.7	6.7	7.1	7.2	6.2	6.5	6.7	7.2	6.2	6.5	6.8	7.2	7.2	6.7	6.7	-0.3%	-7.4%	0.1%
Percent Change	0.0%	0.0%	0.0%	-0.4%	1.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.3%	0.4%			
U.S. LNG Gross Imports																			
Current	0.43	0.08	0.26	0.24	0.14	0.16	0.17	0.15	0.12	0.12	0.12	0.12	0.16	0.25	0.15	0.12	54.4%	-39.0%	-21.6%
Previous	0.43	0.08	0.26	0.22	0.14	0.16	0.17	0.15	0.12	0.12	0.12	0.12	0.16	0.25	0.15	0.12	51.2%	-37.7%	-21.6%
Percent Change	0.0%	0.0%	0.0%	9.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%			
U.S. Gross Exports																			
Current	4.92	4.43	4.91	5.13	5.24	5.24	6.01	6.50	6.30	6.24	6.65	7.30	4.15	4.85	5.75	6.63	16.8%	18.7%	15.2%
Previous	4.92	4.43	4.91	5.07	5.13	5.21	6.03	6.54	6.30	6.27	6.72	7.30	4.15	4.83	5.73	6.65	16.4%	18.7%	16.0%
Percent Change	0.0%	0.0%	0.0%	1.3%	2.1%	0.6%	-0.3%	-0.6%	0.1%	-0.5%	-1.0%	0.0%	0.0%	0.3%	0.4%	-0.3%			
U.S. Consumption (billion cubic	feet per day)																		
U.S. Residential																			
Current	27.52	6.91	3.46	12.92	24.22	7.33	3.68	14.73	25.00	7.43	3.62	14.87	13.94	12.64	12.47	12.68	-9.3%	-1.3%	1.6%
Previous	27.52	6.91	3.46	13.00	25.35	7.34	3.58	15.62	26.17	7.64	3.59	15.86	13.94	12.66	12.96	13.26	-9.2%	2.4%	2.3%
Percent Change	0.0%	0.0%	0.0%	-0.6%	-4.5%	-0.1%	2.8%	-5.7%	-4.5%	-2.7%	0.8%	-6.3%	0.0%	-0.1%	-3.7%	-4.4%			
U.S. Commercial	40.04	F 07	4.40	0.05	44.50	0.40	4.04	40.05	45.40	0.05	4.74	40.00	0.50	0.70	0.04	0.00	7.50/	0.00/	0.00/
Current	16.01	5.87	4.43	8.95	14.59	6.18	4.64	10.65	15.10	6.25	4.71	10.90	9.50	8.78	9.01	9.22	-7.5%	2.6%	2.3%
Previous  Percent Change	16.01 0.0%	5.87 0.0%	4.43 0.0%	9.07 -1.3%	14.56 0.2%	5.95 3.8%	4.53 2.4%	10.57 0.8%	14.96 0.9%	6.10 2.3%	4.58 2.9%	10.71 1.8%	9.50 0.0%	8.81 -0.3%	8.90 1.3%	9.06 1.7%	-7.2%	0.9%	1.9%
Percent Change U.S. Industrial	0.0%	0.0%	0.0%	-1.3%	0.276	3.0%	2.470	0.6%	0.9%	2.3%	2.976	1.0%	0.0%	-0.3%	1.3%	1.770			
Current	22.68	19.61	19.19	20.84	22.68	20.15	19.91	21.91	22.98	20.62	20.45	22.48	20.89	20.57	21.16	21.63	-1.5%	2.9%	2.2%
Previous	22.68	19.61	19.19	21.11	22.74	20.13	20.08	22.14	23.17	20.82	20.43	22.46	20.89	20.64	21.10	21.80	-1.2%	3.3%	2.2%
Percent Change	0.0%	0.0%	0.0%	-1.3%	-0.3%	-0.8%	-0.9%	-1.0%	-0.8%	-0.9%	-0.8%	-0.8%	0.0%	-0.3%	-0.7%	-0.8%	-1.2/0	3.376	2.570
U.S. Electric Power Sector	0.078	0.076	0.076	-1.576	-0.576	-0.076	-0.976	-1.076	-0.076	-0.976	-0.076	-0.076	0.076	-0.576	-0.7 76	-0.076			
Current	23.05	25.28	32.50	25.07	24.33	26.90	33.40	24.48	23.75	26.25	32.94	24.28	22.32	26.50	27.29	26.82	18.7%	3.0%	-1.7%
Previous	23.05	25.28	32.41	25.07	24.05	25.67	32.19	23.68	22.73	25.38	32.33	24.19	22.32	26.47	26.41	26.18	18.6%	-0.2%	-0.9%
Percent Change	0.0%	0.0%	0.3%	0.1%	1.2%	4.8%	3.8%	3.4%	4.5%	3.4%	1.9%	0.4%	0.0%	0.1%	3.3%	2.4%	10.070	-0.270	-0.570
U.S. Total Consumption	0.070	0.070	0.070	0.170	1.2/0	4.070	0.070	JT/0	7.070	J7/0	1.570	J. 7/0	0.070	0.170	0.070	∠. 7/0			
Current	96.66	64.09	66.12	74.55	93.21	67.10	68.20	78.73	94.34	67.16	68.39	79.62	73.14	75.27	76.79	77.31	2.9%	2.0%	0.7%
Previous	96.67	64.11	66.04	75.03	94.14	65.78	66.94	78.99	94.56	66.53	67.78	80.55	73.14	75.38	76.44	77.29	3.1%	1.4%	1.1%
Percent Change	0.0%	0.0%	0.1%	-0.6%	-1.0%	2.0%	1.9%	-0.3%	-0.2%	0.9%	0.9%	-1.2%	0.0%	-0.1%	0.5%	0.0%	3.170		/0
U.S. Working Gas in Storage (bi			3.170	3.370		2.576		3.570	5.270	3.570	3.370		3.370	570	0.070	0.070			
Current	1,483	2,658	3,625	3,677	2,288	3,106	3,840	3,473	1,940	2,777	3,580	3,258	3,141	3,677	3,473	3,258	17.1%	-5.6%	-6.2%
Previous	1,483	2,658	3,625	3,659	2,096	2,932	3,725	3,413	1,899	2,746	3,561	3,252	3,141	3,659	3,413	3,252	16.5%	-6.7%	-4.7%
Percent Change	0.0%	0.0%	0.0%	0.5%	9.2%	5.9%	3.1%	1.8%	2.1%	1.1%	0.5%	0.2%	0.0%	0.5%	1.8%	0.2%			*** ***
U.S. Balancing Item (billion cub					2.270	2.370	2			,	2.270	2.270	3.370	2.270					
Current	0.56	0.38	-0.62	-1.32	1.05	0.24	0.75	-1.00	0.15	0.04	0.68	-0.63	-0.06	-0.26	0.26	0.06			

### STEO Current/Previous Forecast Comparisons: U.S. Electricity

Current Forecast: March 8, 2016; Previous Forecast: February 9, 2016

		20	)15			20	16		<u> </u>	20	17		<u> </u>	Υe	ear			Growth Rate	•
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014	2015	2016	2017	2014-2015	2015-2016	2016-201
J.S. Electricity Generation, All Sect	ors (thous	and mega	watthours	per day)		<u>_</u>	U U								U U				
U.S. Total Generation																			
Current	11,355	10,770	12,460	10,207	10,944	10,873	12,511	10,632	11,211	11,014	12,649	10,785	11,215	11,198	11,242	11,417	-0.2%	0.4%	1.6%
Previous	11,355	10,766	12,444	10,276	10,953	10,878	12,519	10,640	11,221	11,023	12,656	10,791	11,215	11,211	11,250	11,425	0.0%	0.3%	1.6%
Percent Change	0.0%	0.0%	0.1%	-0.7%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%			
U.S. Coal																			
Current	4,091	3,512	4,276	2,988	3,604	3,288	4,071	3,404	3,847	3,312	4,125	3,459	4,333	3,715	3,593	3,686	-14.3%	-3.3%	2.6%
Previous	4,091	3,512	4,276	3,125	3,739	3,467	4,249	3,536	3,997	3,457	4,236	3,516	4,333	3,750	3,749	3,801	-13.5%	0.0%	1.4%
Percent Change	0.0%	0.0%	0.0%	-4.4%	-3.6%	-5.2%	-4.2%	-3.7%	-3.7%	-4.2%	-2.6%	-1.6%	0.0%	-0.9%	-4.2%	-3.0%			
U.S. Natural gas																			
Current	3,248	3,477	4,392	3,503	3,413	3,651	4,490	3,438	3,319	3,559	4,428	3,413	3,087	3,658	3,749	3,682	18.5%	2.5%	-1.8%
Previous	3,248	3,476	4,378	3,482	3,369	3,487	4,330	3,325	3,183	3,447	4,347	3,394	3,087	3,649	3,629	3,595	18.2%	-0.5%	-0.9%
Percent Change	0.0%	0.0%	0.3%	0.6%	1.3%	4.7%	3.7%	3.4%	4.3%	3.3%	1.9%	0.6%	0.0%	0.2%	3.3%	2.4%			
U.S. Petroleum																			
Current	124	61	72	57	77	70	78	70	86	72	80	70	83	78	74	77	-5.9%	-5.4%	4.7%
Previous	123	61	72	60	79	71	79	70	85	72	79	69	83	79	75	76	-5.1%	-4.9%	1.9%
Percent Change	0.1%	0.0%	0.0%	-4.5%	-2.3%	-1.6%	-0.9%	-0.5%	1.4%	1.1%	1.7%	1.1%	0.0%	-0.8%	-1.3%	1.3%			
U.S. Nuclear																			
Current	2,248	2,133	2,286	2,070	2,175	2,003	2,259	2,128	2.224	2,044	2,288	2,156	2,184	2,184	2,141	2,178	0.0%	-2.0%	1.7%
Previous	2,248	2,133	2,286	2,082	2,159	2,002	2,257	2,126	2,197	2,024	2,266	2,135	2,184	2,187	2,136	2,156	0.1%	-2.3%	0.9%
Percent Change	0.0%	0.0%	0.0%	-0.6%	0.7%	0.1%	0.1%	0.1%	1.3%	1.0%	1.0%	1.0%	0.0%	-0.1%	0.2%	1.1%			
U.S. Conventional Hydroelectric																			
Current	803	691	617	644	710	825	728	626	704	878	757	641	711	688	722	745	-3.2%	5.0%	3.1%
Previous	802	690	616	604	661	817	717	613	727	875	757	639	711	677	702	749	-4.7%	3.6%	6.8%
Percent Change	0.1%	0.1%	0.1%	6.7%	7.5%	1.0%	1.6%	2.3%	-3.2%	0.4%	0.0%	0.4%	0.0%	1.6%	3.0%	-0.6%			
U.S. Other Renewables																			
Current	787	837	756	889	904	978	822	912	973	1,089	906	990	765	817	904	989	6.9%	10.6%	9.5%
Previous	787	835	755	867	888	976	824	915	976	1,091	907	982	765	811	901	989	6.0%	11.1%	9.7%
Percent Change	0.0%	0.2%	0.2%	2.6%	1.8%	0.1%	-0.2%	-0.3%	-0.3%	-0.1%	-0.1%	0.9%	0.0%	0.8%	0.3%	0.1%			
J.S. Electricity Sales (million kilowa	atthours pe	r day)																	
U.S. Residential		,																	
Current	4,202	3,349	4,505	3,288	3,931	3,385	4,536	3,453	4,134	3,435	4,575	3,530	3,855	3,835	3,827	3,919	-0.5%	-0.2%	2.4%
Previous	4,202	3,348	4,505	3,308	3,933	3,386	4,537	3,455	4,136	3,436	4,577	3,531	3,855	3,840	3,829	3,920	-0.4%	-0.3%	2.4%
Percent Change	0.0%	0.0%	0.0%	-0.6%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%			
U.S. Commercial																			
Current	3,603	3,651	4,119	3,511	3.586	3,675	4,176	3,583	3.642	3,719	4.229	3,625	3,705	3,722	3,756	3,805	0.5%	0.9%	1.3%
Previous	3,598	3,646	4,114	3,537	3,596	3,676	4,176	3,583	3,642	3,719	4,229	3,625	3,705	3,725	3,758	3,805	0.5%	0.9%	1.2%
Percent Change	0.1%	0.1%	0.1%	-0.7%	-0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%			
U.S. Industrial													0.010						
Current	2,546	2,666	2,757	2,535	2,538	2,669	2,778	2,609	2,575	2,698	2,804	2,625	2,733	2,626	2648.64	2,676	-3.9%	0.9%	1.0%
Previous	2,541	2,660	2,751	2,556	2,539	2,670	2,779	2,610	2,576	2,699	2,804	2,626	2,733	2,627	2,650	2,677	-3.9%	0.9%	1.0%
Percent Change	0.2%	0.2%	0.2%	-0.8%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
U.S. Total	=/0	2.270	2.270	2.070	2.170	2.370	2.370	2.370	2.370	2.370	2.070	2.070	2.070	2.370	2.370	2.570			
Current	10,374	9,685	11,402	9,354	10,076	9,751	11,511	9,666	10,374	9,874	11,629	9,801	10,314	10,204	10,253	10,421	-1.1%	0.5%	1.6%
Previous	10,364	9,675	11,390	9,421	10,092	9,753	11,514	9,669	10,377	9,876	11,632	9,803	10,314	10,213	10,259	10,424	-1.0%	0.4%	1.6%

STEO Current/Previous Forecast Comparisons: U.S. Coal and Carbon Dioxide Emissions

Current Forecast: March 8, 2016; Previous Forecast: February 9, 2016

		20	015			20	16			20	17			Ye	ear			Growth Rate	)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014	2015	2016	2017	2014-2015	2015-2016	2016-2017
U.S. Coal (million short tons)	•																		
U.S. Production																			
Current	240.2	211.1	237.3	206.8	180.4	188.1	208.1	207.4	201.0	185.3	209.7	203.9	1,000	895	784	800	-10.4%	-12.4%	2.0%
Previous	240.2	211.1	232.4	206.8	200.6	199.2	218.5	215.5	217.2	195.9	217.8	210.2	1,000	890	834	841	-10.9%	-6.4%	0.9%
Percent Change	0.0%	0.0%	2.1%	0.0%	-10.1%	-5.6%	-4.8%	-3.7%	-7.4%	-5.4%	-3.7%	-3.0%	0.0%	0.6%	-6.0%	-4.9%			
U.S. Exports																			
Current	22.0	19.8	16.9	15.3	15.0	17.0	15.4	16.7	11.3	16.4	16.0	17.4	97.3	74.0	64.1	61.1	-24.0%	-13.4%	-4.6%
Previous	22.0	19.8	16.9	16.2	15.5	18.2	15.5	17.3	11.7	17.4	16.4	18.9	97.3	74.9	66.4	64.4	-23.0%	-11.3%	-3.0%
Percent Change	0.0%	0.0%	0.0%	-5.7%	-3.0%	-6.6%	-0.7%	-3.1%	-3.5%	-5.6%	-2.1%	-8.1%	0.0%	-1.2%	-3.5%	-5.1%			
U.S. Imports																			
Current	3.0	2.6	3.0	2.7	2.0	2.4	3.3	2.9	2.2	2.4	3.3	2.9	11.3	11.3	10.5	10.8	-0.3%	-7.3%	2.5%
Previous	3.0	2.6	3.0	2.9	2.3	2.4	3.3	2.9	2.2	2.4	3.3	2.9	11.3	11.6	10.9	10.8	1.8%	-5.8%	-1.2%
Percent Change	0.0%	0.0%	0.0%	-8.2%	-13.1%	-3.1%	-0.6%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-2.1%	-3.7%	0.0%			
U.S. Electric Power Demand																			
Current	196.3	174.6	215.5	153.3	175.9	161.2	202.9	170.7	184.2	161.0	203.7	171.9	852	740	711	721	-13.1%	-3.9%	1.4%
Previous	196.4	174.7	215.6	160.1	184.2	171.0	212.9	178.1	192.7	169.5	211.3	176.5	852	747	746	750	-12.3%	-0.1%	0.5%
Percent Change	-0.1%	0.0%	-0.1%	-4.3%	-4.5%	-5.7%	-4.7%	-4.1%	-4.4%	-5.0%	-3.6%	-2.6%	0.0%	-1.0%	-4.8%	-3.9%			
U.S. Secondary Stocks																			
Current	161.3	174.1	170.2	205.0	182.2	183.5	167.2	175.7	169.0	168.4	152.4	155.8	158.6	205.0	175.7	155.8	29.3%	-14.3%	-11.3%
Previous	161.0	173.7	169.8	196.0	190.2	191.5	175.2	183.7	184.0	184.3	168.3	171.8	158.6	196.0	183.7	171.8	23.6%	-6.3%	-6.4%
Percent Change	0.2%	0.2%	0.3%	4.6%	-4.2%	-4.2%	-4.6%	-4.3%	-8.1%	-8.7%	-9.5%	-9.3%	0.0%	4.6%	-4.3%	-9.3%			
U.S. Carbon Dioxide Emissions																			
Petroleum																			
Current	561.6	567.7	583.8	569.4	563.3	571.1	581.8	576.5	557.8	572.1	584.8	579.4	2,252	2,283	2,293	2,294	1.4%	0.4%	0.1%
Previous	561.6	567.7	583.8	567.5	558.5	571.1	583.1	579.2	560.3	575.0	587.5	582.4	2,252	2,281	2,292	2,305	1.3%	0.5%	0.6%
Percent Change	0.0%	0.0%	0.0%	0.3%	0.9%	0.0%	-0.2%	-0.5%	-0.5%	-0.5%	-0.4%	-0.5%	0.0%	0.1%	0.0%	-0.5%			
Coal																			
Current	396.5	353.8	431.9	328.9	356.9	331.2	411.6	352.7	370.7	330.5	412.1	353.5	1713.1	1511.1	1452.4	1466.8	-11.8%	-3.9%	1.0%
Previous	396.5	353.8	431.9	341.4	374.2	347.1	426.3	364.3	388.6	344.1	422.3	359.9	1713.1	1523.7	1512.0	1514.9	-11.1%	-0.8%	0.2%
Percent Change	0.0%	0.0%	0.0%	-3.7%	-4.6%	-4.6%	-3.4%	-3.2%	-4.6%	-3.9%	-2.4%	-1.8%	0.0%	-0.8%	-3.9%	-3.2%			
Natural Gas																			
Current	469.0	313.0	326.3	368.8	456.8	326.9	335.4	388.5	457.3	327.2	336.4	392.9	1434.2	1477.0	1507.6	1513.7	3.0%	2.1%	0.4%
Previous	469.0	312.9	326.4	367.4	461.9	321.0	330.8	390.4	458.8	324.7	334.9	398.2	1434.2	1475.7	1504.1	1516.6	2.9%	1.9%	0.8%
Percent Change	0.0%	0.0%	0.0%	0.4%	-1.1%	1.8%	1.4%	-0.5%	-0.3%	0.8%	0.4%	-1.3%	0.0%	0.1%	0.2%	-0.2%			
Total Fossil Fuel																			
Current	1427.1	1234.5	1342.1	1267.0	1377.0	1229.1	1328.9	1317.7	1385.8	1229.8	1333.3	1325.8	5,399	5,271	5,253	5,275	-2.4%	-0.3%	0.4%
Previous	1427.1	1234.4	1342.2	1276.2	1394.6	1239.2	1340.2	1333.9	1407.7	1243.8	1344.7	1340.5	5,399	5,280	5,308	5,337	-2.2%	0.5%	0.5%
Percent Change	0.0%	0.0%	0.0%	-0.7%	-1.3%	-0.8%	-0.8%	-1.2%	-1.6%	-1.1%	-0.8%	-1.1%	0.0%	-0.2%	-1.0%	-1.2%			

STEO Current/Previous Forecast Comparisons: U.S. Renewable Energy Consumption and Capacity

Current Forecast: March 8, 2016: Previous Forecast: February 9, 2016

		20	15			20	)16			201	17			Ye	ear			Growth Rate	,
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014	2015	2016	2017	2014-2015	2015-2016	2016-2017
U.S. Renewable Energy Consump	tion, All Sect	ors (quad	rillion btu	)															
U.S. Wind Power																			
Current	0.433	0.462	0.387	0.534	0.538	0.567	0.418	0.532	0.565	0.612	0.451	0.578	1.727	1.815	2.055	2.206	5.1%	13.2%	7.4%
Previous	0.433	0.460	0.385	0.518	0.529	0.566	0.419	0.533	0.565	0.611	0.450	0.577	1.727	1.796	2.047	2.204	4.0%	14.0%	7.7%
Percent Change	0.0%	0.3%	0.3%	3.1%	1.6%	0.1%	-0.1%	-0.2%	-0.1%	0.2%	0.3%	0.1%	0.0%	1.0%	0.4%	0.1%			
U.S. Wood Biomass																			
Current	0.517	0.508	0.523	0.511	0.490	0.479	0.504	0.498	0.492	0.484	0.508	0.504	2.230	2.059	1.972	1.988	-7.7%	-4.2%	0.8%
Previous	0.517	0.508	0.523	0.509	0.490	0.481	0.505	0.501	0.495	0.486	0.510	0.506	2.230	2.056	1.976	1.997	-7.8%	-3.9%	1.1%
Percent Change	0.0%	0.0%	0.0%	0.4%	0.2%	-0.3%	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.4%	0.0%	0.1%	-0.2%	-0.5%			
U.S. Solar Power																			
Current	0.118	0.145	0.146	0.122	0.129	0.172	0.180	0.152	0.165	0.232	0.229	0.182	0.420	0.530	0.633	0.808	26.2%	19.5%	27.5%
Previous	0.118	0.145	0.146	0.115	0.123	0.170	0.180	0.152	0.165	0.233	0.230	0.174	0.421	0.524	0.624	0.802	24.7%	19.1%	28.4%
Percent Change	-0.1%	-0.2%	-0.2%	5.6%	4.9%	1.3%	0.4%	0.1%	-0.2%	-0.4%	-0.4%	4.5%	-0.1%	1.1%	1.5%	0.7%			
U.S. Ethanol																			
Current	0.271	0.289	0.298	0.290	0.280	0.296	0.304	0.296	0.277	0.294	0.302	0.295	1.107	1.147	1.176	1.168	3.6%	2.5%	-0.7%
Previous	0.271	0.289	0.298	0.291	0.279	0.295	0.304	0.296	0.277	0.294	0.302	0.295	1.107	1.148	1.174	1.167	3.7%	2.3%	-0.6%
Percent Change	0.0%	0.0%	0.0%	-0.3%	0.4%	0.2%	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	-0.1%	0.2%	0.1%			
U.S. Biodiesel																			
Current	0.034	0.058	0.064	0.058	0.063	0.072	0.081	0.081	0.070	0.074	0.084	0.083	0.198	0.214	0.297	0.310	8.0%	38.7%	4.5%
Previous	0.034	0.058	0.064	0.059	0.068	0.072	0.081	0.081	0.070	0.074	0.084	0.083	0.198	0.215	0.302	0.310	8.8%	40.0%	2.9%
Percent Change	0.0%	0.0%	0.0%	-2.5%	-7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.7%	-1.6%	0.0%			
U.S. Renewable Electric Power Se	ector Generat	ion Capac	ity (MW)																
Wind Power																			
Current	64,959	66,530	68,743	72,496	73,487	74,375	74,436	78,978	79,853	79,992	80,280	85,531	64,426	72,496	78,978	85,531	12.5%	8.9%	8.3%
Previous	64,959	66,530	68,743	72,506	73,497	74,401	74,557	79,198	79,688	79,827	80,115	85,156	64,426	72,506	79,198	85,156	12.5%	9.2%	7.5%
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.3%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	-0.3%	0.4%			
Wood Biomass																			
Current	3,042	3,042	3,042	3,042	3,042	3,042	3,042	3,066	3,066	3,066	3,108	3,108	3,042	3,042	3,066	3,108	0.0%	0.8%	1.4%
Previous	3,041	3,041	3,041	3,041	3,041	3,041	3,041	3,065	3,065	3,065	3,107	3,107	3,041	3,041	3,065	3,107	0.0%	0.8%	1.4%
Percent Change	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Solar Power																			
Current	10,477	11,000	11,402	13,088	13,821	14,794	17,658	22,387	22,447	22,735	22,875	26,871	10,124	13,088	22,387	26,871	29.3%	71.1%	20.0%
Previous	10,477	11,000	11,402	13,057	13,885	14,907	17,743	22,548	22,608	22,896	23,036	23,311	10,124	13,057	22,548	23,311	29.0%	72.7%	3.4%
Percent Change	0.0%	0.0%	0.0%	0.2%	-0.5%	-0.8%	-0.5%	-0.7%	-0.7%	-0.7%	-0.7%	15.3%	0.0%	0.2%	-0.7%	15.3%			

Source: Energy Information Administration, Short-Term Energy Outlook (http://www.eia.gov/forecasts/steo/)

Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter U.S. Energy Information Administration | Short-Term Energy Outlook - March 2016

U.S. Energy information Admir		more renni		Winter of	1011 2010			Fo	recast
Fuel / Region	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	% Change
Natural Cas									
Natural Gas Northeast									
	90.2	75.7	80.7	66.4	76.1	84.0	84.7	69.9	-17.5
Consumption (Mcf**)	80.3								
Price (\$/mcf)	15.83	13.31	12.66	12.21	11.71	11.53	10.85	10.65	-1.8
Expenditures (\$) Midwest	1,272	1,007	1,022	812	891	969	919	745	-19.0
Consumption (Mcf)	80.7	78.6	90.2	65.4	77.6	88.1	83.1	70.0	150
Price (\$/mcf)	11.47	76.6 9.44	80.2 9.23	8.99	8.36	8.69	8.55	70.0	-15.8 -13.9
Expenditures (\$)	926	742	740	587	648	766	711	516	-13.9 -27.4
South	920	742	740	307	040	700	/ 11	310	-27.4
Consumption (Mcf)	47.3	53.3	49.3	40.9	46.5	52.1	50.5	42.4	-16.1
Price (\$/mcf)	14.07	11.52	11.02	11.45	10.71	10.77	10.84	10.96	1.1
		614	544	468	498	562	548	465	-15.2
Expenditures (\$)	665	014	344	400	490	302	540	403	-15.2
West	47.0	40.0	40.4	40.4	40.0	40.4	44.4	45.0	0.5
Consumption (Mcf)	47.8	49.9	49.4	49.1	48.6	46.4	41.4	45.3	9.5
Price (\$/mcf)	10.86	9.91	9.67	9.35	9.13	9.96	10.67	9.44	-11.5
Expenditures (\$)	519	494	478	459	444	462	441	428	-3.1
U.S. Average	64.0	64.4	65.0	EE 7	60.5	60.0	64.0	F7 1	44.0
Consumption (Mcf)	64.2	64.4	65.0	55.7	62.5	68.0	64.8	57.1	-11.8
Price (\$/mcf)	12.87	10.83	10.46	10.25	9.72	9.97	9.91	9.19	-7.3 10.0
Expenditures (\$)	826	698	680	571	607	678	642	525	-18.3
Heating Oil									
Heating Oil									
U.S. Average	576.7	E44 0	E00 7	471.0	EAE E	606.0	600.0	400.4	10.1
Consumption (gallons)	576.7 2.65	544.8 2.85	580.7 3.38	471.2 3.73	545.5 3.87	606.9 3.88	609.2 3.04	499.1 2.07	-18.1 -31.9
Price (\$/gallon)									
Expenditures (\$)	1,530	1,552	1,966	1,757	2,113	2,352	1,852	1,033	-44.2
Electricity									
Northeast									
Consumption (kWh***)	7,063	6,847	7,076	6,436	6,862	7,221	7,253	6,589	-9.1
Price (\$/kwh)	0.152	0.152	0.154	0.154	0.152	0.163	0.168	0,369	-9.1 -1.4
Expenditures (\$)	1,071	1,039	1,091	993	1,046	1,177	1,222	1,094	-10.4
Midwest	1,071	1,000	1,031	333	1,040	1,177	1,222	1,034	-10.4
Consumption (kWh)	8,751	8,660	8,733	7,897	8,588	9,168	8,858	8,159	-7.9
Price (\$/kwh)	0.097	0.099	0.105	0.111	0.112	0.112	0.118	0.121	2.3
Expenditures (\$)	851	856	914	875	958	1,031	1,043	983	-5.8
South	031	030	314	0/3	330	1,001	1,040	300	5.0
Consumption (kWh)	8,057	8,486	8,224	7,471	7,977	8,386	8,289	7,610	-8.2
Price (\$/kwh)	0.109	0.103	0.104	0.107	0.107	0.109	0.111	0.110	-1.1
Expenditures (\$)	878	873	856	798	851	913	920	836	-9.2
West		0,0	000	700	001	010	020	000	0.2
Consumption (kWh)	7,084	7,239	7,216	7,190	7,150	6,980	6,589	6,897	4.7
Price (\$/kwh)	0.107	0.110	0.112	0.115	0.119	0.123	0.126	0.128	1.1
Expenditures (\$)	755	799	809	825	848	860	833	882	5.9
U.S. Average			555	020	0-10	000	000	002	0.0
Consumption (kWh)	7,725	7,937	7,844	7,253	7,672	7,983	7,804	7,337	-6.0
Price (\$/kwh)	0.112	0.110	0.113	0.116	0.117	0.120	0.123	0.123	-0.1
Expenditures (\$)	866	873	884	843	895	956	961	903	-6.0
_προπαπατου (ψ)	000	5.0	- <del> </del>	0-10			551	000	0.0

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

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

			,	Winter of				Fo	recast
Fuel / Region	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	% Change
Propane									
Northeast									
Consumption (gallons)	714.7	672.0	717.5	595.6	675.8	745.1	751.8	625.7	-16.8
Price* (\$/gallon)	2.84	2.98	3.24	3.34	3.00	3.56	3.00	2.71	-9.7
Expenditures (\$)	2,031	2,004	2,321	1,990	2,031	2,653	2,255	1,696	-24.8
Midwest			=-4.0				0400	200.4	
Consumption (gallons)	795.0	779.6	791.9	644.3	766.4	868.6	813.2	690.4	-15.1
Price* (\$/gallon)	2.11	1.99	2.11	2.23	1.74	2.61	1.91	1.47	-23.0
Expenditures (\$)	1,678	1,548	1,674	1,437	1,333	2,267	1,553	1,015	-34.7
Number of households by pri	imary spac	e heating	fuel (thou	sands)					
	10 000	10.000	11 110	11 006	11 2/5	11 /0/	11 610	11 601	0.6
Natural gas	10,889 6,280	10,992 6,016	11,118 5,858	11,236 5,701	11,345 5,458	11,484 5,218	11,612 5,084	11,681 4,931	0.6 -3.0
Heating oil	713	733	744	761	5,456 813	844	839	845	0.8
Propane Electricity	2,563	2,645	2,776	2,894	3,011	3,028	3,064	3,149	2.8
Wood	474	2,043 501	512	2,094 548	582	579	581	596	2.6
Other/None	307	311	315	324	377	434	432	433	0.3
Midwest	307	311	313	324	3//	434	432	400	0.5
Natural gas	18,288	18,050	17,977	18,019	18,054	18,098	18,176	18,095	-0.4
Heating oil	491	451	419	393	360	337	316	291	-8.0
Propane	2,131	2,098	2,073	2,037	2,063	2,096	2,056	2,012	-2.2
Electricity	4,570	4,715	4,922	5,119	5,333	5,430	5,516	5,710	3.5
Wood	584	616	618	631	640	630	630	635	0.8
Other/None	264	283	289	282	319	354	348	348	0.0
South	204	200	203	202	313	334	340	040	0.0
Natural gas	13,958	13,731	13,657	13,636	13,681	13,775	13,897	13,881	-0.1
Heating oil	956	906	853	790	738	700	662	614	-7.3
Propane	2,220	2,165	2,098	2,024	1,982	1,946	1,887	1,802	-4.5
Electricity	25,258	25,791	26,555	27,283	27,857	28,203	28,655	29,225	2.0
Wood	593	586	599	609	612	611	612	627	
Other/None	314	314	309	304	367	420	395	387	-2.0
West	014	014	003	004	007	720	033	007	2.0
Natural gas	15,027	14,939	15,020	15,021	15,008	15,043	15,198	15,251	0.3
Heating oil	294	289	279	261	247	234	226	219	-3.3
Propane	936	940	914	885	909	931	900	879	-2.3
Electricity	7,768	7,877	8,126	8,439	8,671	8,745	8,905	9,180	3.1
Wood	703	721	725	736	728	741	759	757	
Other/None	837	850	850	829	903	1,023	1,018	985	-3.2
U.S. Totals	007	000	000	023	300	.,020	.,010	505	0.2
Natural gas	58,162	57,713	57,771	57,912	58,088	58,400	58,882	58,908	0.0
Heating oil	8,021	7,662	7,408	7,145	6,803	6,489	6,288	6,054	-3.7
Propane	5,999	5,936	5,829	5,707	5,766	5,816	5,682	5,538	-2.5
Electricity	40,159	41,029	42,380	43,734	44,872	45,405	46,139	47,264	2.4
Wood	2,353	2,424	2,454	2,524	2,563	2,561	2,583	2,616	1.3
Other/None	1,723	1,758	1,763	1,739	1,965	2,231	2,192	2,153	-1.8
Heating degree days		*		<u> </u>				·	
Northeast	5,313	4,933	5,337	4,217	4,964	5,594	5,650	4,489	-20.5
Midwest	5,810	5,639	5,773	4,484	5,544	6,451	6,003	4,885	-18.6
South	2,493	2,870	2,632	2,023	2,430	2,787	2,696	2,134	-20.8
West	3,116	3,285	3,258	3,229	3,181	2,989	2,561	2,902	13.3
U.S. Average	3,869	3,937	3,939	3,224	3,721	4,109	3,882	3,306	-14.8
Note: Winter covers the period Oct				•				ousehold is	

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.

<sup>\*</sup> Prices exclude taxes

<sup>\*\*</sup> thousand cubic feet

<sup>\*\*\*</sup> kilowatthour

Table 1. U.S. Energy Markets Summary

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

U.S. Energy Information Administr	ation   S	Short-Te		gy Outlo	ok - Ma			ı							
	1st	201 2nd	15 3rd	4th	1st	20 <sup>2</sup>	16 3rd	4th	1st	20 <sup>-</sup> 2nd	17 3rd	4th	2015	Year 2016	2017
Energy Supply	130	ZIIU	Jiu	701	131	ZIIU	Jiu	401	131	ZIIU	Jiu	401	2013	2010	2017
Crude Oil Production (a) (million barrels per day)	9.48	9.50	9.43	9.31	9.12	8.85	8.38	8.32	8.28	8.21	8.04	8.22	9.43	8.67	8.19
Dry Natural Gas Production (billion cubic feet per day)	73.58	74.20	75.02	74.08	74.54	74.56	74.57	75.21	75.83	76.07	76.29	77.00	74.22	74.72	76.30
Coal Production (million short tons)	240	211	237	207	180	188	208	207	201	185	210	204	895	784	800
Energy Consumption															
Liquid Fuels (million barrels per day)	19.29	19.25	19.68	19.36	19.07	19.47	19.76	19.64	19.27	19.51	19.93	19.84	19.40	19.48	19.64
Natural Gas (billion cubic feet per day)	96.66	64.09	66.12	74.55	93.21	67.10	68.20	78.73	94.34	67.16	68.39	79.62	75.27	76.79	77.31
Coal (b) (million short tons)	212	189	231	169	191	175	218	186	199	175	218	187	801	770	779
Electricity (billion kilowatt hours per day)	10.75	10.05	11.80	9.73	10.45	10.10	11.90	10.04	10.74	10.23	12.02	10.18	10.58	10.62	10.80
Renewables (c) (quadrillion Btu)	2.43	2.43	2.34	2.45	2.50	2.68	2.51	2.49	2.55	2.83	2.62	2.58	9.64	10.18	10.59
Total Energy Consumption (d) (quadrillion Btu)	26.38	23.01	24.48	23.72	25.52	22.93	24.27	24.37	25.66	23.15	24.50	24.65	97.59	97.09	97.95
Energy Prices															
Crude Oil West Texas Intermediate Spot (dollars per barrel)	48.48	57.85	46.55	41.94	31.35	34.67	35.00	35.00	36.37	38.03	41.00	45.00	48.67	34.04	40.09
Natural Gas Henry Hub Spot (dollars per million Btu)	2.90	2.75	2.76	2.12	2.05	1.97	2.32	2.67	3.06	2.80	3.00	3.21	2.63	2.25	3.02
Coal (dollars per million Btu)	2.27	2.25	2.22	2.15	2.14	2.21	2.21	2.17	2.16	2.21	2.24	2.20	2.23	2.18	2.20
Macroeconomic															
Real Gross Domestic Product (billion chained 2009 dollars - SAAR) Percent change from prior year	16,177 2.9	16,334 2.7	16,414 2.1	16,442 1.8	16,525 2.1	16,628 1.8	16,748 2.0	16,880 2.7	16,985 2.8	17,106 2.9	17,223 2.8	17,315 2.6	16,342 2.4	16,695 2.2	17,157 2.8
GDP Implicit Price Deflator (Index, 2009=100) Percent change from prior year	109.1 1.0	109.7 1.0	110.0 0.9	110.3 1.1	110.7 1.5	111.2 1.4	111.6 1.4	112.1 1.6	112.7 1.8	113.2 1.9	113.7 1.9	114.3 2.0	109.8 1.0	111.4 1.5	113.5 1.9
Real Disposable Personal Income (billion chained 2009 dollars - SAAR) Percent change from prior year	12,115 3.6	12,194 3.5	12,308 3.8	12,416 3.5	12,520 3.3	12,571 3.1	12,654 2.8	12,739 2.6	12,839 2.6	12,949 3.0	13,053 3.2	13,139 3.1	12,258 3.6	12,621 3.0	12,995 3.0
Manufacturing Production Index (Index, 2012=100) Percent change from prior year	105.5 3.5	105.8 2.3	106.7 2.0	106.8 1.1	106.6 1.1	105.8 0.0	105.9 -0.7	106.8 0.0	108.0 1.3	108.4 2.4	109.5 3.4	110.6 3.6	106.2 2.2	106.3 0.1	109.1 2.7
Weather															
U.S. Heating Degree-Days U.S. Cooling Degree-Days	2,342 46	443 433	50 875	1,251 134	2,055 37	448 402	69 866	1,517 98	2,120 40	476 405	76 882	1,549 100	4,085 1,488	4,089 1,404	4,221 1,427

<sup>- =</sup> 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.

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.

<sup>(</sup>a) Includes lease condensate.

<sup>(</sup>b) Total consumption includes Independent Power Producer (IPP) consumption.

<sup>(</sup>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.

<sup>(</sup>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).

Table 2. Energy Prices

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

		201	5			201	6			20	17			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	31.35	34.67	35.00	35.00	36.37	38.03	41.00	45.00	48.67	34.04	40.09
Brent Spot Average	53.91	61.65	50.43	43.55	32.38	34.67	35.00	35.00	36.37	38.03	41.00	45.00	52.32	34.28	40.09
U.S. Imported Average	46.40	56.12	45.60	37.83	27.84	31.17	31.50	31.50	32.86	34.50	37.49	41.50	46.35	30.55	36.68
U.S. Refiner Average Acquisition Cost	47.98	57.47	47.68	40.68	30.36	33.67	34.00	34.00	35.35	37.01	39.98	44.00	48.46	33.04	39.16
U.S. Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	159	201	184	145	110	126	122	104	109	134	136	121	173	116	125
Diesel Fuel	176	189	161	141	107	114	118	120	125	128	137	148	167	115	134
Heating Oil	178	180	151	129	104	107	111	117	123	119	129	143	157	110	130
Refiner Prices to End Users															
Jet Fuel	172	186	156	138	106	109	112	115	120	122	131	143	162	111	129
No. 6 Residual Fuel Oil (a)	137	154	123	101	81	82	86	86	89	91	99	108	125	84	97
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	227	267	260	216	185	197	196	179	179	206	208	195	243	189	197
Gasoline All Grades (b)	236	275	269	226	195	206	205	188	188	215	218	204	252	199	20
On-highway Diesel Fuel	292	285	263	243	208	211	212	216	221	227	233	245	271	212	232
Heating Oil	288	276	247	224	197	196	194	202	214	209	212	227	265	198	21
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	2.99	2.83	2.84	2.18	2.12	2.03	2.39	2.75	3.15	2.88	3.09	3.30	2.71	2.32	3.1
Henry Hub Spot (dollars per million Btu)	2.90	2.75	2.76	2.12	2.05	1.97	2.32	2.67	3.06	2.80	3.00	3.21	2.63	2.25	3.02
U.S. Retail Prices (dollars per thousand cubic feet)															
Industrial Sector	4.57	3.68	3.66	3.34	3.44	2.83	3.25	3.78	4.32	3.76	3.99	4.42	3.84	3.34	4.14
Commercial Sector	7.94	8.13	8.42	7.38	7.20	7.41	8.05	7.42	7.66	8.10	8.70	8.04	7.88	7.39	7.96
Residential Sector	9.30	11.96	16.45	10.11	8.38	11.07	15.23	9.38	8.68	11.62	15.86	9.89	10.36	9.58	9.9
U.S. Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.27	2.25	2.22	2.15	2.14	2.21	2.21	2.17	2.16	2.21	2.24	2.20	2.23	2.18	2.20
Natural Gas	4.09	3.12	3.09	2.72	3.17	2.77	2.93	3.78	4.23	3.55	3.54	4.25	3.22	3.14	3.86
Residual Fuel Oil (c)	10.82	11.64	10.48	7.88	7.39	7.71	7.39	7.23	7.15	8.00	7.98	8.40	10.38	7.43	7.87
Distillate Fuel Oil	15.61	15.16	13.18	11.84	10.28	10.79	11.02	11.65	12.09	12.17	12.74	13.89	14.45	10.90	12.68
Retail Prices (cents per kilowatthour)															
Industrial Sector	6.79	6.81	7.32	6.63	6.71	6.85	7.35	6.71	6.82	6.98	7.50	6.84	6.90	6.91	7.04
Commercial Sector	10.46	10.54	10.95	10.36	10.35	10.60	10.97	10.38	10.52	10.78	11.19	10.62	10.59	10.59	10.79
Residential Sector	12.24	12.85	12.99	12.59	12.06	12.76	12.96	12.47	12.32	13.04	13.28	12.81	12.67	12.58	12.87

<sup>- =</sup> 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.

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

O.S. Energy Information Admini		201				201				201	7			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Supply (million barrels per day) (a)			•				•								
OECD	26.64	26.43	26.80	26.97	26.59	26.41	25.90	25.91	25.98	25.97	25.85	25.89	26.71	26.20	25.92
U.S. (50 States)	14.81	15.10	15.13	15.11	14.77	14.69	14.29	14.28	14.20	14.34	14.28	14.50	15.04	14.51	14.33
Canada	4.69	4.16	4.55	4.54	4.57	4.60	4.66	4.72	4.77	4.77	4.83	4.82	4.48	4.64	4.80
Mexico	2.68	2.58	2.62	2.62	2.60	2.59	2.58	2.57	2.55	2.53	2.50	2.47	2.62	2.59	2.51
North Sea (b)	3.00	3.10	2.96	3.17	3.13	3.00	2.83	2.78	2.91	2.77	2.67	2.53	3.06	2.93	2.72
Other OECD	1.47	1.48	1.54	1.53	1.52	1.52	1.54	1.55	1.55	1.56	1.57	1.57	1.50	1.53	1.56
Non-OECD	67.96	69.07	69.58	69.47	69.01	70.27	70.92	70.75	70.10	70.77	71.22	71.00	69.03	70.24	70.78
OPEC	37.46	38.22	38.61	38.43	38.42	39.24	39.66	39.68	39.75	39.95	40.16	40.21	38.18	39.25	40.02
Crude Oil Portion	30.92	31.65	32.03	31.80	31.63	32.37	32.71	32.68	32.62	32.77	32.90	32.90	31.60	32.35	32.80
Other Liquids (c)	6.55	6.57	6.58	6.63	6.80	6.87	6.95	7.00	7.13	7.18	7.26	7.31	6.58	6.90	7.22
Eurasia	14.09	14.01	13.98	14.13	14.24	14.17	14.14	14.11	14.11	14.04	14.00	13.90	14.06	14.17	14.01
China	4.66	4.73	4.71	4.72	4.65	4.68	4.69	4.69	4.61	4.64	4.65	4.65	4.70	4.68	4.64
Other Non-OECD	11.75	12.11	12.28	12.19	11.69	12.18	12.43	12.27	11.63	12.14	12.42	12.24	12.08	12.15	12.11
Total World Supply	94.60	95.50	96.38	96.44	95.60	96.68	96.82	96.66	96.09	96.74	97.07	96.89	95.74	96.44	96.70
Non-OPEC Supply	57.13	57.28	57.77	58.01	57.17	57.44	57.16	56.98	56.33	56.79	56.91	56.68	57.55	57.19	56.68
Consumption (million barrels per day	) (d)														
OECD		45.38	46.75	46.71	46.57	45.72	46.55	46.97	46.71	45.73	46.68	47.11	46.33	46.45	46.56
U.S. (50 States)		19.25	19.68	19.36	19.07	19.47	19.76	19.64	19.27	19.51	19.93	19.84	19.40	19.48	19.64
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	2.36	2.26	2.38	2.41	2.35	2.29	2.40	2.38	2.35	2.29	2.40	2.38	2.35	2.35	2.35
Europe	13.42	13.50	14.12	13.83	13.67	13.41	13.85	13.80	13.61	13.36	13.80	13.74	13.72	13.68	13.63
Japan	4.79	3.89	3.94	4.28	4.55	3.82	3.85	4.22	4.45	3.75	3.78	4.14	4.22	4.11	4.03
Other OECD		6.10	6.26	6.45	6.54	6.34	6.29	6.53	6.60	6.40	6.34	6.59	6.27	6.42	6.48
Non-OECD	46.16	47.73	48.06	47.50	47.16	48.78	49.10	48.53	48.24	49.90	50.22	49.63	47.37	48.39	49.50
Eurasia	4.71	4.65	4.92	4.90	4.73	4.66	4.93	4.92	4.75	4.68	4.96	4.94	4.80	4.81	4.83
Europe	0.71	0.72	0.74	0.74	0.72	0.73	0.75	0.75	0.73	0.74	0.76	0.76	0.73	0.73	0.74
China		11.36	11.32	11.27	11.08	11.69	11.64	11.59	11.37	11.99	11.94	11.89	11.18	11.50	11.80
Other Asia	12.11	12.33	11.87	12.19	12.53	12.75	12.27	12.60	12.91	13.14	12.64	12.99	12.13	12.54	12.92
Other Non-OECD	17.85	18.67	19.22	18.41	18.10	18.95	19.51	18.67	18.48	19.34	19.92	19.05	18.54	18.81	19.20
Total World Consumption	92.66	93.11	94.81	94.21	93.73	94.50	95.65	95.50	94.95	95.62	96.90	96.75	93.70	94.85	96.06
Total Crude Oil and Other Liquids Inv	entory Net	Withdraw	als (millio	n barrels	per day)										
U.S. (50 States)	-	-0.69	-0.32	-0.15	-0.18	-0.16	0.06	0.53	0.09	-0.30	-0.04	0.60	-0.43	0.06	0.09
Other OECD		-0.34	-0.40	-0.76	-0.62	-0.71	-0.43	-0.61	-0.44	-0.28	-0.05	-0.26	-0.46	-0.59	-0.26
Other Stock Draws and Balance	-1.07	-1.36	-0.86	-1.32	-1.07	-1.31	-0.80	-1.08	-0.78	-0.54	-0.09	-0.48	-1.15	-1.06	-0.47
Total Stock Draw		-2.39	-1.58	-2.23	-1.87	-2.18	-1.17	-1.17	-1.14	-1.12	-0.18	-0.15	-2.03	-1.60	-0.64
End-of-period Commercial Crude Oil	and Other	Liquids In	ventories												
U.S. Commercial Inventory	1,217	1,277	1,306	1,320	1,336	1,351	1,346	1,297	1,289	1,317	1,320	1,266	1,320	1,297	1,266
OECD Commercial Inventory	2,797	2,888	2,961	3,045	3,118	3,197	3,231	3,239	3,271	3,324	3,331	3,302	3,045	3,239	3,302

<sup>- =</sup> 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, 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 prodessing 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 EIAPetroleum 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.

 $\textbf{Historical data:} \ Latest \ data \ available \ from \ Energy \ Information \ Administration \ international \ energy \ statistics.$ 

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

 $\textbf{Projections:} \ \mathsf{EIA} \ \mathsf{Regional} \ \mathsf{Short}\text{-}\mathsf{Term} \ \mathsf{Energy} \ \mathsf{Model}.$ 

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

U.S. Energy Information Administration	Short-1	201		IOOK - IV	arch 201	20	16			201	7			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
	-				•										
North America	22.17	21.84	22.31	22.27	21.94	21.89	21.54	21.58	21.52	21.64	21.61	21.79	22.15	21.73	21.64
Canada	4.69	4.16	4.55	4.54	4.57	4.60	4.66	4.72	4.77	4.77	4.83	4.82	4.48	4.64	4.80
Mexico	2.68	2.58	2.62	2.62	2.60	2.59	2.58	2.57	2.55	2.53	2.50	2.47	2.62	2.59	2.51
United States	14.81	15.10	15.13	15.11	14.77	14.69	14.29	14.28	14.20	14.34	14.28	14.50	15.04	14.51	14.33
Central and South America	4.95	5.42	5.65	5.47	4.96	5.44	5.67	5.49	4.87	5.35	5.59	5.40	5.38	5.39	5.30
Argentina	0.70	0.71	0.72	0.74	0.70	0.72	0.73	0.74	0.71	0.72	0.73	0.74	0.72	0.72	0.73
Brazil	2.75	3.23	3.50	3.24	2.75	3.26	3.52	3.27	2.76	3.26	3.54	3.28	3.18	3.20	3.21
Colombia	1.06	1.05	0.99	1.03	1.05	1.04	0.99	1.02	0.95	0.94	0.89	0.92	1.03	1.03	0.93
Other Central and S. America	0.45	0.43	0.44	0.46	0.45	0.43	0.43	0.46	0.45	0.42	0.43	0.46	0.45	0.44	0.44
Europe	3.95	4.05	3.90	4.12	4.07	3.94	3.77	3.73	3.86	3.71	3.62	3.48	4.01	3.88	3.67
Norway	1.94	1.94	1.92	2.03	2.03	1.99	1.93	1.86	2.00	1.92	1.85	1.68	1.96	1.95	1.86
United Kingdom (offshore)	0.88	0.97	0.85	0.97	0.92	0.84	0.72	0.74	0.72	0.66	0.63	0.66	0.92	0.80	0.67
Other North Sea	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.19	0.19	0.19	0.19	0.19	0.18	0.18	0.19
Eurasia	14.11	14.03	14.00	14.15	14.26	14.18	14.16	14.13	14.13	14.05	14.01	13.92	14.07	14.18	14.03
Azerbaijan	0.86	0.87	0.88	0.84	0.80	0.80	0.81	0.84	0.83	0.81	0.79	0.78	0.86	0.81	0.80
Kazakhstan	1.76	1.72	1.70	1.75	1.73	1.71	1.70	1.69	1.71	1.70	1.70	1.72	1.73	1.71	1.71
Russia	10.99	10.98	10.95	11.08	11.23	11.18	11.16	11.12	11.10	11.06	11.04	10.94	11.00	11.17	11.04
Turkmenistan	0.29	0.27	0.28	0.27	0.28	0.29	0.29	0.28	0.29	0.29	0.29	0.29	0.28	0.29	0.29
Other Eurasia	0.20	0.19	0.19	0.20	0.21	0.20	0.20	0.20	0.19	0.19	0.19	0.19	0.20	0.20	0.19
Middle East	1.18	1.13	1.13	1.13	1.15	1.15	1.16	1.16	1.17	1.18	1.18	1.19	1.14	1.16	1.18
Oman	0.97	0.98	1.00	1.01	1.03	1.04	1.04	1.05	1.06	1.06	1.07	1.07	0.99	1.04	1.06
Syria	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Yemen	0.11	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.01
Asia and Oceania	8.43	8.48	8.46	8.53	8.46	8.49	8.53	8.54	8.46	8.49	8.51	8.51	8.48	8.50	8.50
Australia	0.39	0.39	0.45	0.43	0.43	0.43	0.44	0.45	0.45	0.46	0.46	0.46	0.42	0.44	0.46
China	4.66	4.73	4.71	4.72	4.65	4.68	4.69	4.69	4.61	4.64	4.65	4.65	4.70	4.68	4.64
India	1.01	1.00	1.01	1.01	1.01	1.01	1.01	1.00	1.01	1.01	1.02	1.01	1.01	1.01	1.01
Malaysia	0.78	0.75	0.70	0.74	0.76	0.77	0.78	0.79	0.78	0.78	0.78	0.78	0.74	0.78	0.78
Vietnam	0.36	0.34	0.35	0.37	0.33	0.33	0.32	0.32	0.31	0.31	0.31	0.31	0.36	0.32	0.31
Africa	2.33	2.32	2.32	2.34	2.34	2.34	2.34	2.36	2.33	2.36	2.39	2.40	2.33	2.34	2.37
Egypt	0.71	0.70	0.71	0.70	0.70	0.70	0.69	0.69	0.69	0.68	0.68	0.68	0.71	0.69	0.68
Equatorial Guinea	0.27	0.27	0.27	0.27	0.25	0.25	0.25	0.26	0.24	0.24	0.24	0.24	0.27	0.25	0.24
Gabon	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.20	0.20	0.20	0.20	0.21	0.21	0.20
Sudan and South Sudan	0.26	0.25	0.26	0.26	0.26	0.26	0.26	0.26	0.25	0.25	0.25	0.25	0.26	0.26	0.25
Total non-OPEC liquids	57.13	57.28	57.77	58.01	57.17	57.44	57.16	56.98	56.33	56.79	56.91	56.68	57.55	57.19	56.68
OPEC non-crude liquids	6.55	6.57	6.58	6.63	6.80	6.87	6.95	7.00	7.13	7.18	7.26	7.31	6.58	6.90	7.22
Non-OPEC + OPEC non-crude	63.68	63.85	64.36	64.64	63.97	64.31	64.11	63.98	63.47	63.97	64.17	64.00	64.13	64.09	63.90
Unplanned non-OPEC Production Outages	0.27	0.46	0.40	0.34	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.37	n/a	n/a

<sup>- =</sup> no data available

OPEC = Organization of Petroleum Exporting Countries: Algeria, Angola, Ecuador, 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.

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

0.5. Energy information Administration	1   0110	20		Janoon	- March		)16			20	17			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Crude Oil					· ·	<u> </u>		1.	- U	- U					
Algeria	1.10	1.10	1.10	1.10	-	-	-	-	-	-	-	-	1.10	-	-
Angola	1.77	1.78	1.81	1.79	-	-	-	-	-	-	-	-	1.79	-	-
Ecudaor	0.55	0.54	0.54	0.54	-	-	-	-	-	-	-	-	0.54	-	-
Indonesia	0.67	0.69	0.69	0.71	-	-	-	-	-	-	-	-	0.69	-	-
Iran	2.80	2.80	2.80	2.80	-	-	-	-	-	-	-	-	2.80	-	-
Iraq	3.51	4.02	4.33	4.35	-	-	-	-	-	-	-	-	4.05	-	-
Kuwait	2.57	2.53	2.50	2.45	-	-	-	-	-	-	-	-	2.51	-	-
Libya	0.40	0.45	0.38	0.39	-	-	-	-	-	-	-	-	0.40	-	-
Nigeria	2.03	1.88	1.88	1.91	-	-	-	-	-	-	-	-	1.93	-	-
Qatar	0.68	0.68	0.68	0.68	-	-	-	-	-	-	-	-	0.68	-	-
Saudi Arabia	9.73	10.07	10.22	10.00	-	-	-	-	-	-	-	-	10.01	-	-
United Arab Emirates	2.70	2.70	2.70	2.70	-	-	-	-	-	-	-	-	2.70	-	-
Venezuela	2.40	2.40	2.40	2.40	-	-	-	-	-	-	-	-	2.40	-	-
OPEC Total	30.92	31.65	32.03	31.80	31.63	32.37	32.71	32.68	32.62	32.77	32.90	32.90	31.60	32.35	32.80
Other Liquids (a)	6.55	6.57	6.58	6.63	6.80	6.87	6.95	7.00	7.13	7.18	7.26	7.31	6.58	6.90	7.22
Total OPEC Supply	37.46	38.22	38.61	38.43	38.42	39.24	39.66	39.68	39.75	39.95	40.16	40.21	38.18	39.25	40.02
Crude Oil Production Capacity															
Africa	5.31	5.21	5.18	5.18	4.99	5.14	5.23	5.31	5.31	5.39	5.46	5.54	5.22	5.17	5.42
South America	2.95	2.94	2.95	2.97	2.87	2.86	2.86	2.89	2.77	2.76	2.65	2.65	2.95	2.87	2.71
Middle East	23.90	24.33	24.56	24.58	25.05	25.48	25.46	25.45	25.46	25.49	25.51	25.56	24.35	25.36	25.51
Asia	0.69	0.71	0.69	0.71	0.71	0.74	0.76	0.76	0.72	0.71	0.71	0.70	0.70	0.75	0.71
OPEC Total	32.86	33.20	33.38	33.44	33.62	34.21	34.32	34.41	34.26	34.35	34.33	34.45	33.22	34.14	34.35
Surplus Crude Oil Production Capacity															
Africa	0.00	0.00	0.01	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	0.01	0.04	0.01	0.01	0.02	0.04	0.01	0.01	0.00	0.00	0.01	0.02	0.01
Middle East	1.92	1.53	1.33	1.60	1.98	1.84	1.59	1.68	1.64	1.57	1.42	1.55	1.59	1.77	1.54
Asia	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
OPEC Total	1.94	1.55	1.35	1.64	1.99	1.85	1.60	1.72	1.64	1.58	1.43	1.55	1.62	1.79	1.55
Unplanned OPEC Production Outages	2.56	2.66	2.79	2.78	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.70	n/a	n/a

<sup>- =</sup> no data available

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

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

 $\textbf{Historical data:} \ Latest \ data \ available \ from \ Energy \ Information \ Administration \ international \ energy \ statistics.$ 

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

<sup>(</sup>a) Includes lease condensate, natural gas plant liquids, other liquids, and refinery prodessing gain. Includes other unaccounted-for liquids.

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

U.S. Energy Information Administration   S	Short-Ter		,	ok - Mar	cn 2016		.10								
	Q1	Q2	15 Q3	Q4	Q1	Q2	16 Q3	Q4	Q1	20 Q2	17 Q3	Q4	2015	2016	2017
_	ŲΙ	Ų2	ųз	Q4	ŲΙ	Q2	ųз	Q4	ŲΙ	Q2	ųз	Q4	2015	2016	2017
North America	. 23.57	23.46	24.11	23.71	23.36	23.71	24.09	23.96	23.57	23.76	24.26	24.16	23.72	23.78	23.94
Canada		2.26	2.38	2.41	2.35	2.29	2.40	2.38	2.35	2.29	2.40	2.38	2.35	2.35	2.35
Mexico		1.95	2.04	1.93	1.93	1.95	1.92	1.93	1.93	1.95	1.92	1.93	1.96	1.93	1.93
United States		19.25	19.68	19.36	19.07	19.47	19.76	19.64	19.27	19.51	19.93	19.84	19.40	19.48	19.64
Central and South America	. 7.05	7.30	7.32	7.35	7.06	7.33	7.36	7.34	7.08	7.34	7.37	7.35	7.26	7.27	7.28
Brazil	3.00	3.11	3.18	3.17	2.95	3.06	3.13	3.12	2.92	3.03	3.10	3.09	3.12	3.06	3.04
Europe	14.13	14.22	14.86	14.56	14.39	14.13	14.60	14.55	14.34	14.09	14.56	14.50	14.44	14.42	14.37
Eurasia		4.68	4.95	4.93	4.76	4.69	4.97	4.95	4.79	4.71	4.99	4.98	4.83	4.84	4.87
Russia	3.39	3.34	3.54	3.53	3.35	3.30	3.50	3.48	3.31	3.26	<i>3.4</i> 5	3.44	3.45	3.41	3.37
Middle East	7.84	8.43	8.98	8.20	8.04	8.64	9.22	8.35	8.27	8.90	9.50	8.59	8.37	8.57	8.82
Asia and Oceania	31.42	31.14	30.75	31.60	32.07	31.96	31.42	32.34	32.71	32.64	32.07	33.00	31.23	31.95	32.60
China	10.77	11.36	11.32	11.27	11.08	11.69	11.64	11.59	11.37	11.99	11.94	11.89	11.18	11.50	11.80
Japan		3.89	3.94	4.28	4.55	3.82	3.85	4.22	4.45	3.75	3.78	4.14	4.22	4.11	4.03
India	4.08	4.06	3.72	4.02	4.29	4.27	3.92	4.24	4.50	4.48	4.11	4.44	3.97	4.18	4.38
Africa	3.89	3.88	3.84	3.86	4.04	4.03	3.99	4.01	4.20	4.19	4.14	4.17	3.86	4.02	4.17
Total OECD Liquid Fuels Consumption	46.50	45.38	46.75	46.71	46.57	45.72	46.55	46.97	46.71	45.73	46.68	47.11	46.33	46.45	46.56
Total non-OECD Liquid Fuels Consumption	46.16	47.73	48.06	47.50	47.16	48.78	49.10	48.53	48.24	49.90	50.22	49.63	47.37	48.39	49.50
Total World Liquid Fuels Consumption	92.66	93.11	94.81	94.21	93.73	94.50	95.65	95.50	94.95	95.62	96.90	96.75	93.70	94.85	96.06
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2010 Q1 = 100		116.9	117.6	118.1	118.6	119.5	120.4	121.4	122.2	123.1	124.0	124.9	117.2	120.0	123.6
Percent change from prior year		2.5	2.4	2.1	2.0	2.2	2.4	2.8	3.1	3.0	2.9	2.9	2.4	2.3	3.0
OECD Index, 2010 Q1 = 100		109.8	110.4	110.6	111.2	111.8	112.4	113.2	113.9	114.4	115.0	115.6	110.0	112.1	114.7
Percent change from prior year		2.1	2.0	1.8	1.8	1.8	1.8	2.3	2.4	2.3	2.3	2.1	2.0	1.9	2.3
Non-OECD Index, 2010 Q1 = 100		126.0	126.8	127.7	128.0	129.5	130.7	132.0	133.0	134.4	135.6	137.1	126.5	130.1	135.0
Percent change from prior year	. 3.5	3.0	2.8	2.5	2.2	2.8	3.1	3.4	3.9	3.8	3.7	3.8	2.9	2.9	3.8
Real U.S. Dollar Exchange Rate (a)															
Index, January 2010 = 100		119.53	122.98	124.76	128.89	130.23	130.51	130.07	129.91	129.49	129.28	129.07	121.64	129.93	129.44
Percent change from prior year	. 10.4	10.8	12.8	9.8	8.0	9.0	6.1	4.3	0.8	-0.6	-0.9	-0.8	10.9	6.8	-0.4

<sup>- =</sup> 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,

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

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

 $\textbf{Historical data:} \ Latest \ data \ available \ from \ Energy \ Information \ Administration \ international \ energy \ statistics.$ 

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

 $\textbf{Projections:} \ \mathsf{EIA} \ \mathsf{Regional} \ \mathsf{Short}\text{-}\mathsf{Term} \ \mathsf{Energy} \ \mathsf{Model}.$ 

<sup>(</sup>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.

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

U.S. Energy Information Administration   Si	hort-Term	201		: - Marci	1 2016	201	16	I		20	17			Year	
	1st	201 2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Supply (million barrels per day)	101		0.4				0.0				0.4		20.0	20.0	
Crude Oil Supply															
Domestic Production (a)	9.48	9.50	9.43	9.31	9.12	8.85	8.38	8.32	8.28	8.21	8.04	8.22	9.43	8.67	8.19
Alaska		0.48	0.44	0.51	0.50	0.48	0.43	0.50	0.49	0.47	0.43	0.49	0.48	0.48	0.47
Federal Gulf of Mexico (b)		1.47	1.64	1.59	1.65	1.68	1.60	1.74	1.83	1.85	1.75	1.87	1.54	1.67	1.83
Lower 48 States (excl GOM)		7.55	7.35	7.22	6.96	6.68	6.34	6.08	5.96	5.89	5.86	5.85	7.41	6.51	5.89
Crude Oil Net Imports (c)		6.74	6.93	7.06	7.15	7.26	7.82	7.68	7.38	8.04	8.37	7.90	6.89	7.48	7.93
SPR Net Withdrawals		-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		0.06	0.10	-0.22	-0.50	0.17	0.27	0.12	-0.28	0.15	0.20	0.12	-0.24	0.02	0.05
Crude Oil Adjustment (d)		0.22	0.13	0.09	0.00	0.19	0.21	0.15	0.19	0.19	0.21	0.15	0.14	0.14	0.19
Total Crude Oil Input to Refineries		16.48	16.58	16.24	15.78	16.47	16.68	16.27	15.58	16.58	16.82	16.41	16.21	16.30	16.35
Other Supply															
Refinery Processing Gain	0.99	1.02	1.08	1.06	1.00	1.05	1.08	1.09	1.03	1.06	1.09	1.09	1.04	1.05	1.07
Natural Gas Plant Liquids Production	3.09	3.27	3.31	3.41	3.33	3.46	3.48	3.53	3.55	3.73	3.79	3.84	3.27	3.45	3.73
Renewables and Oxygenate Production (e)	1.05	1.10	1.10	1.11	1.10	1.11	1.12	1.11	1.11	1.11	1.12	1.11	1.09	1.11	1.11
Fuel Ethanol Production		0.96	0.96	0.99	0.97	0.98	0.98	0.97	0.97	0.97	0.97	0.96	0.97	0.98	0.97
Petroleum Products Adjustment (f)		0.21	0.21	0.22	0.21	0.23	0.23	0.23	0.22	0.24	0.24	0.24	0.21	0.23	0.24
Product Net Imports (c)	-1.89	-2.12	-2.20	-2.75	-2.67	-2.52	-2.62	-3.00	-2.59	-2.76	-2.89	-3.31	-2.24	-2.70	-2.89
Hydrocarbon Gas Liquids		-0.80	-0.93	-0.87	-1.09	-1.09	-1.17	-1.18	-1.27	-1.35	-1.41	-1.38	-0.82	-1.13	-1.35
Unfinished Oils	0.26	0.28	0.38	0.19	0.31	0.24	0.35	0.33	0.37	0.27	0.38	0.36	0.28	0.31	0.35
Other HC/Oxygenates	0.08	-0.09	-0.06	-0.07	-0.07	-0.06	-0.03	-0.03	-0.07	-0.05	-0.03	-0.03	-0.07	-0.05	-0.04
Motor Gasoline Blend Comp	0.41	0.52	0.60	0.28	0.41	0.55	0.49	0.41	0.44	0.63	0.52	0.42	0.45	0.46	0.50
Finished Motor Gasoline	-0.44	-0.32	-0.40	-0.46	-0.56	-0.32	-0.31	-0.52	-0.49	-0.50	-0.41	-0.62	-0.40	-0.43	-0.50
Jet Fuel	-0.06	0.01	-0.05	-0.06	-0.02	0.00	-0.03	-0.12	0.00	-0.02	-0.05	-0.12	-0.04	-0.04	-0.05
Distillate Fuel Oil	-0.67	-1.05	-1.12	-1.10	-0.95	-1.15	-1.23	-1.11	-0.90	-1.09	-1.21	-1.16	-0.99	-1.11	-1.09
Residual Fuel Oil	-0.13	-0.21	-0.11	-0.09	-0.16	-0.25	-0.22	-0.19	-0.21	-0.24	-0.21	-0.21	-0.14	-0.20	-0.22
Other Oils (g)	-0.50	-0.46	-0.50	-0.57	-0.55	-0.43	-0.46	-0.58	-0.46	-0.42	-0.46	-0.57	-0.51	-0.51	-0.48
Product Inventory Net Withdrawals	0.36	-0.72	-0.41	0.08	0.31	-0.33	-0.21	0.40	0.37	-0.44	-0.24	0.46	-0.17	0.04	0.04
Total Supply	19.32	19.25	19.68	19.36	19.07	19.47	19.76	19.64	19.27	19.51	19.93	19.84	19.40	19.48	19.64
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids		2.27	2.29	2.58	2.72	2.28	2.31	2.64	2.62	2.28	2.41	2.77	2.47	2.49	2.52
Unfinished Oils		0.05	-0.03	-0.01	0.01	0.00	0.01	0.02	-0.01	0.00	0.01	0.02	-0.01	0.01	0.01
Motor Gasoline		9.26	9.39	9.17	8.88	9.38	9.50	9.25	8.92	9.34	9.46	9.23	9.16	9.25	9.24
Fuel Ethanol blended into Motor Gasoline		0.92	0.93	0.91	0.89	0.94	0.95	0.93	0.89	0.93	0.95	0.93	0.91	0.93	0.92
Jet Fuel		1.54	1.59	1.57	1.52	1.56	1.55	1.51	1.49	1.57	1.57	1.52	1.54	1.53	1.54
Distillate Fuel Oil	4.27	3.88	3.93	3.83	3.85	3.95	3.91	4.02	4.13	4.00	3.98	4.06	3.98	3.93	4.04
Residual Fuel Oil		0.19 2.06	0.31	0.30	0.21	0.20 2.09	0.23 2.25	0.21 2.00	0.21	0.19	0.22	0.20 2.03	0.26 2.01	0.22 2.05	0.21
Other Oils (g)			2.20	1.92	1.88				1.92	2.12	2.28			19.48	2.09
Total Consumption	19.29	19.25	19.68	19.36	19.07	19.47	19.76	19.64	19.27	19.51	19.93	19.84	19.40	19.40	19.64
Total Petroleum and Other Liquids Net Imports	4.95	4.61	4.74	4.31	4.48	4.75	5.20	4.68	4.79	5.28	5.48	4.59	4.65	4.78	5.04
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)		469.5	460.8	481.4	526.5	511.2	486.4	475.1	500.1	486.8	468.5	457.5	481.4	475.1	457.5
Hydrocarbon Gas Liquids		196.3	228.7	197.3	148.0	191.0	216.8	171.6	137.3	181.7	204.6	156.3	197.3	171.6	156.3
Unfinished Oils		86.0	88.8	82.6	91.0	89.3	87.1	81.6	91.9	89.3	87.4	81.8	82.6	81.6	81.8
Other HC/Oxygenates		25.0	23.8	26.8	28.6	27.4	26.6	26.9	29.0	27.8	27.1	27.3	26.8	26.9	27.3
Total Motor Gasoline		221.0	225.1	235.0	238.5	226.5	221.9	235.4	234.2	227.4	226.0	237.0	235.0	235.4	237.0
Finished Motor Gasoline		25.7	29.0	28.5	22.8	25.3	25.8	27.4	27.1	25.4	26.4	27.7	28.5	27.4	27.7
Motor Gasoline Blend Comp		195.4	196.1	206.5	215.7	201.1	196.1	208.0	207.1	202.0	199.6	209.3	206.5	208.0	209.3
Jet Fuel		43.7	40.4	40.3	41.5	42.3	44.4	40.6	40.2	41.5	43.8	40.1	40.3	40.6	40.1
Distillate Fuel Oil		139.4	148.8	160.7	156.2	161.4	170.6	173.2	157.0	163.8	172.5	174.6	160.7	173.2	174.6
Residual Fuel Oil		41.8	41.3	42.2	46.4	44.8	40.8	39.9	40.8	41.5	39.4	39.0	42.2	39.9	39.0
Other Oils (g)		54.6	48.3	53.5	59.7	57.4	51.2	53.0	58.7	56.6	50.6	52.6	53.5	53.0	52.6
Total Commercial Inventory	1,217 691	1,277 694	1,306 695	1,320 695	1,336 695	1,351 695	1,346 695	1,297 695	1,289 695	1,317 695	1,320 695	1,266 694	1,320 695	1,297 695	1,266 694
Crude Oil in SPR	091	094	093	093	090	090	090	090	090	090	093	094	บรอ	090	094

<sup>- =</sup> 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.

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.

<sup>(</sup>a) Includes lease condensate.

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

<sup>(</sup>c) Net imports equals gross imports minus gross exports.

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

 $<sup>(</sup>e) \ Renewables \ and \ oxygenate \ production \ includes \ pentanes \ plus, \ oxygenates \ (excluding \ fuel \ ethanol), \ and \ renewable \ fuels.$ 

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

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

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-I	erm End 201		look - Ma	arch 201	6 <b>201</b>	6			201	7			Year	
	1st	2nd	3rd	4th	1st	201 2nd	3rd	4th	1st	201 2nd	3rd	4th	2015	2016	2017
HGL Production	101	Liiu	o.u	7	100	Liiu	ora	74.11	100	Ziid	o.u	7611	20.0	2010	
Natural Gas Processing Plants															
Ethane	1.05	1.10	1.09	1.20	1.21	1.23	1.24	1.29	1.31	1.40	1.44	1.48	1.11	1.24	1.41
Propane	1.07	1.12	1.13	1.15	1.11	1.15	1.14	1.16	1.17	1.20	1.20	1.22	1.12	1.14	1.20
Butanes	0.58	0.62	0.64	0.64	0.60	0.64	0.63	0.64	0.65	0.67	0.67	0.68	0.62	0.63	0.67
Natural Gasoline (Pentanes Plus)	0.39	0.44	0.46	0.43	0.41	0.44	0.46	0.44	0.42	0.46	0.48	0.46	0.43	0.44	0.46
Refinery and Blender Net Production															
Ethane/Ethylene	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00
Propane/Propylene	0.54	0.58	0.56	0.55	0.54	0.57	0.57	0.56	0.55	0.58	0.57	0.57	0.56	0.56	0.57
Butanes/Butylenes	-0.08	0.27	0.19	-0.19	-0.06	0.25	0.19	-0.17	-0.06	0.25	0.19	-0.17	0.05	0.05	0.05
Renewable Fuels and Oxygenate Plant Net Pr															
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	-0.11	-0.12	-0.16	-0.19	-0.21	-0.22	-0.24	-0.26	-0.06	-0.14	-0.23
Propane/Propylene	-0.40	-0.49	-0.56	-0.57	-0.66	-0.62	-0.64	-0.64	-0.72	-0.74	-0.76	-0.74	-0.50	-0.64	-0.74
Butanes/Butylenes	-0.06	-0.09	-0.11	-0.08	-0.12	-0.17	-0.16	-0.14	-0.13	-0.19	-0.18	-0.16	-0.08	-0.15	-0.16
Natural Gasoline (Pentanes Plus)	-0.17	-0.15	-0.21	-0.16	-0.20	-0.19	-0.22	-0.21	-0.22	-0.20	-0.24	-0.22	-0.17	-0.20	-0.22
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.40	0.27	0.32	0.50	0.37	0.27	0.30	0.43	0.36	0.27	0.30	0.44	0.37	0.34	0.34
Natural Gasoline (Pentanes Plus)	0.15	0.14	0.16	0.15	0.15	0.16	0.16	0.15	0.15	0.16	0.16	0.16	0.15	0.15	0.15
HGL Consumption															
Ethane/Ethylene	1.03	1.02	1.02	1.13	1.10	1.08	1.10	1.14	1.10	1.14	1.22	1.27	1.05	1.11	1.18
Propane/Propylene	1.43	0.92	0.96	1.17	1.39	0.93	0.94	1.22	1.30	0.86	0.92	1.21	1.12	1.12	1.07
Butanes/Butylenes	0.16	0.24	0.22	0.20	0.16	0.22	0.20	0.21	0.16	0.23	0.21	0.22	0.20	0.20	0.21
Natural Gasoline (Pentanes Plus)	0.10	0.09	0.09	80.0	0.06	0.06	0.06	0.07	0.05	0.06	0.06	0.07	0.09	0.06	0.06
HGL Inventories (million barrels)															
Ethane/Ethylene	31.38	31.65	31.86	33.79	33.30	37.54	38.09	35.89	34.25	37.98	38.47	36.02	32.18	36.21	36.69
Propane/Propylene	58.10	84.20	100.20	96.67	60.03	75.64	87.49	75.06	47.49	64.14	72.76	57.35	96.67	75.06	57.35
Butanes/Butylenes	32.46	59.42	76.52	46.14	35.16	56.49	70.80	42.41	36.27	57.92	72.24	43.83	46.14	42.41	43.83
Natural Gasoline (Pentanes Plus)	17.16	20.51	19.00	20.54	18.41	20.35	20.77	19.62	18.41	20.80	21.48	20.67	20.54	19.62	20.67
Refinery and Blender Net Inputs															
Crude OII	. 15.53	16.48	16.58	16.24	15.78	16.47	16.68	16.27	15.58	16.58	16.82	16.41	16.21	16.30	16.35
Hydrocarbon Gas Liquids		0.40	0.47	0.64	0.53	0.42	0.46	0.59	0.51	0.43	0.46	0.59	0.52	0.50	0.50
Other Hydrocarbons/Oxygenates		1.18	1.19	1.17	1.18	1.24	1.28	1.25	1.20	1.25	1.29	1.26	1.16	1.24	1.25
Unfinished Oils		0.22	0.38	0.27	0.21	0.25	0.36	0.37	0.27	0.30	0.39	0.40	0.28	0.30	0.34
Motor Gasoline Blend Components		0.22	0.75	0.39	0.50	0.23	0.74	0.48	0.66	0.91	0.74	0.40	0.69	0.66	0.71
·		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
Aviation Gasoline Blend Components															
Total Refinery and Blender Net Inputs	. 18.14	19.18	19.38	18.71	18.20	19.32	19.51	18.96	18.22	19.47	19.70	19.18	18.86	19.00	19.15
Refinery Processing Gain	0.99	1.02	1.08	1.06	1.00	1.05	1.08	1.09	1.03	1.06	1.09	1.09	1.04	1.05	1.07
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.47	0.86	0.76	0.37	0.48	0.83	0.76	0.39	0.49	0.84	0.76	0.40	0.61	0.62	0.62
Finished Motor Gasoline		9.83	9.97	9.83	9.56	9.94	10.00	9.97	9.61	10.03	10.06	10.05	9.78	9.87	9.94
Jet Fuel		1.61	1.60	1.63	1.55	1.57	1.61	1.59	1.49	1.60	1.65	1.61	1.59	1.58	1.59
Distillate Fuel		4.99	5.08	5.00	4.69	5.09	5.17	5.10	4.79	5.11	5.22	5.18	4.97	5.01	5.08
Residual Fuel		0.44	0.41	0.39	0.42	0.43	0.40	0.40	0.43	0.44	0.41	0.41	0.42	0.41	0.42
Other Oils (a)															
. ,		2.48	2.63	2.55	2.49	2.50	2.65	2.60	2.44	2.52	2.68	2.62	2.52	2.56	2.56
Total Refinery and Blender Net Production	19.13	20.20	20.45	19.77	19.20	20.36	20.59	20.04	19.25	20.53	20.79	20.27	19.89	20.05	20.22
Refinery Distillation Inputs	15.78	16.69	16.85	16.40	15.97	16.67	16.94	16.54	15.90	16.78	17.07	16.66	16.43	16.53	16.61
Refinery Operable Distillation Capacity	17.88	17.98	18.08	18.16	18.16	18.17	18.33	18.41	18.44	18.44	18.44	18.44	18.03	18.27	18.44
Refinery Distillation Utilization Factor	0.88	0.93	0.93	0.90	0.88	0.92	0.92	0.90	0.86	0.91	0.93	0.90	0.91	0.91	0.90
•															

<sup>- =</sup> no data available

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.

<sup>(</sup>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.

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

_		201	15			201	16			20 <sup>-</sup>	17			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	110	126	122	104	109	134	136	121	173	116	125
Gasoline Regular Grade Retail Prices Ir	cluding Ta	axes													
PADD 1	228	259	247	211	183	192	191	179	182	204	206	198	236	187	198
PADD 2	216	256	253	209	171	192	190	171	173	204	205	189	234	181	193
PADD 3	204	240	228	190	163	175	172	154	158	183	185	171	216	166	175
PADD 4	207	261	277	218	179	187	194	174	164	195	207	192	241	183	190
PADD 5	271	328	327	264	236	239	243	217	207	238	241	223	298	234	228
U.S. Average	227	267	260	216	185	197	196	179	179	206	208	195	243	189	197
Gasoline All Grades Including Taxes	236	275	269	226	195	206	205	188	188	215	218	204	252	199	207
End-of-period Inventories (million barrels	s)														
Total Gasoline Inventories															
PADD 1	64.5	61.3	62.6	60.3	65.5	63.1	59.0	61.4	62.3	63.7	61.1	63.6	60.3	61.4	63.6
PADD 2	52.9	50.4	47.0	53.7	54.5	49.7	48.9	51.1	52.1	48.9	49.3	51.0	53.7	51.1	51.0
PADD 3	78.4	74.6	78.1	84.6	80.9	78.2	78.4	82.9	81.8	79.4	80.2	82.8	84.6	82.9	82.8
PADD 4	6.5	6.8	7.1	7.7	7.7	7.0	7.0	7.8	7.1	7.1	7.2	7.8	7.7	7.8	7.8
PADD 5	29.2	28.0	30.3	28.7	29.9	28.5	28.6	32.3	30.8	28.3	28.2	31.7	28.7	32.3	31.7
U.S. Total	231.5	221.0	225.1	235.0	238.5	226.5	221.9	235.4	234.2	227.4	226.0	237.0	235.0	235.4	237.0
Finished Gasoline Inventories															
U.S. Total	26.9	25.7	29.0	28.5	22.8	25.3	25.8	27.4	27.1	25.4	26.4	27.7	28.5	27.4	27.7
Gasoline Blending Components Invento	ories														
U.S. Total	204.6	195.4	196.1	206.5	215.7	201.1	196.1	208.0	207.1	202.0	199.6	209.3	206.5	208.0	209.3

<sup>- =</sup> 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 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.

Prices are not adjusted for inflation.

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

U.S. Energy Information Admi	nistratio			<u>Energy</u>	Outlook	c - March	2016								
		20				201				201	17			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	78.02	78.90	79.78	79.00	79.48	79.50	79.51	80.20	80.86	81.12	81.34	82.11	78.93	79.68	81.36
Alaska	0.99	0.93	0.86	0.98	1.00	0.85	0.77	0.94	0.98	0.83	0.76	0.94	0.94	0.89	0.88
Federal GOM (a)	3.37	3.68	3.95	3.52	3.43	3.38	3.21	3.17	3.22	3.17	3.00	3.03	3.63	3.30	3.10
Lower 48 States (excl GOM)	73.66	74.28	74.97	74.50	75.04	75.27	75.54	76.09	76.66	77.12	77.59	78.14	74.36	75.49	77.38
Total Dry Gas Production	73.58	74.20	75.02	74.08	74.54	74.56	74.57	75.21	75.83	76.07	76.29	77.00	74.22	74.72	76.30
LNG Gross Imports	0.43	0.08	0.26	0.24	0.14	0.16	0.17	0.15	0.12	0.12	0.12	0.12	0.25	0.15	0.12
LNG Gross Exports	0.06	0.06	0.09	0.10	0.05	0.26	0.66	1.00	1.04	1.10	1.35	1.73	0.08	0.49	1.31
Pipeline Gross Imports	8.36	6.69	6.69	7.06	7.30	6.20	6.53	6.71	7.34	6.20	6.51	6.76	7.20	6.68	6.70
Pipeline Gross Exports	4.86	4.36	4.81	5.04	5.19	4.98	5.35	5.50	5.26	5.14	5.30	5.57	4.77	5.26	5.32
Supplemental Gaseous Fuels	0.17	0.16	0.14	0.18	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17
Net Inventory Withdrawals	18.48	-12.99	-10.48	-0.55	15.26	-8.98	-7.98	3.99	17.03	-9.20	-8.72	3.50	-1.46	0.56	0.59
Total Supply	96.10	63.71	66.74	75.87	92.15	66.86	67.45	79.73	94.18	67.12	67.71	80.25	75.53	76.53	77.25
Balancing Item (b)	0.56	0.38	-0.62	-1.32	1.05	0.24	0.75	-1.00	0.15	0.04	0.68	-0.63	-0.26	0.26	0.06
Total Primary Supply	96.66	64.09	66.12	74.55	93.21	67.10	68.20	78.73	94.34	67.16	68.39	79.62	75.27	76.79	77.31
Consumption (billion cubic feet per	r day)														
Residential	27.52	6.91	3.46	12.92	24.22	7.33	3.68	14.73	25.00	7.43	3.62	14.87	12.64	12.47	12.68
Commercial	16.01	5.87	4.43	8.95	14.59	6.18	4.64	10.65	15.10	6.25	4.71	10.90	8.78	9.01	9.22
Industrial	22.68	19.61	19.19	20.84	22.68	20.15	19.91	21.91	22.98	20.62	20.45	22.48	20.57	21.16	21.63
Electric Power (c)	23.05	25.28	32.50	25.07	24.33	26.90	33.40	24.48	23.75	26.25	32.94	24.28	26.50	27.29	26.82
Lease and Plant Fuel	4.28	4.33	4.38	4.34	4.36	4.36	4.36	4.40	4.44	4.45	4.46	4.51	4.33	4.37	4.46
Pipeline and Distribution Use	3.03	2.01	2.07	2.33	2.93	2.07	2.11	2.45	2.97	2.07	2.11	2.48	2.36	2.39	2.40
Vehicle Use	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.10	0.10
Total Consumption	96.66	64.09	66.12	74.55	93.21	67.10	68.20	78.73	94.34	67.16	68.39	79.62	75.27	76.79	77.31
End-of-period Inventories (billion c	ubic feet	)													
Working Gas Inventory	1,483	2,658	3,625	3,677	2,288	3,106	3,840	3,473	1,940	2,777	3,580	3,258	3,677	3,473	3,258
East Region (d)	242	576	859	856	399	668	894	726	297	565	818	673	856	726	673
Midwest Region (d)	252	565	972	987	518	730	1,056	898	403	638	988	831	987	898	831
South Central Region (d)	575	1,002	1,206	1,304	962	1,164	1,248	1,259	835	1,035	1,135	1,194	1,304	1,259	1,194
Mountain Region (d)	113	155	203	186	138	181	234	209	134	169	222	197	186	209	197
Pacific Region (d)	276	336	359	320	247	338	383	357	246	346	392	338	320	357	338
Alaska	24	24	25	24	24	24	25	24	24	24	25	24	24	24	24

<sup>- =</sup> 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.

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.

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

<sup>(</sup>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.

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

<sup>(</sup>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) .

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

O.O. Energy information		201		101111 <u>L</u> 1	- 37	20	16			20	17			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	2.12	2.03	2.39	2.75	3.15	2.88	3.09	3.30	2.71	2.32	3.11
Residential Retail															
New England	13.09	13.33	16.17	12.55	11.62	13.02	15.99	12.52	12.19	13.65	16.42	12.95	13.19	12.44	12.94
Middle Atlantic	9.53	11.20	16.32	10.99	9.89	12.39	16.86	11.31	10.21	12.62	16.90	11.37	10.52	11.12	11.32
E. N. Central	7.78	10.58	16.71	7.96	6.57	10.21	15.95	7.85	7.38	10.85	16.38	8.24	8.67	7.95	8.59
W. N. Central	8.66	11.84	17.65	9.34	6.70	8.76	15.55	8.15	7.50	10.30	17.13	9.39	9.74	7.92	8.94
S. Atlantic	10.74	16.68	22.48	14.02	10.98	15.59	21.78	12.16	10.80	15.65	21.70	12.15	12.93	12.55	12.44
E. S. Central	9.34	14.36	19.42	11.83	8.50	12.11	17.32	10.24	8.76	13.04	18.26	11.10	10.92	9.88	10.39
W. S. Central	8.45	13.94	19.90	12.07	8.28	11.90	16.94	9.55	7.83	12.58	18.37	11.25	10.72	9.86	10.14
Mountain	9.57	10.87	14.57	8.56	7.86	8.68	12.31	7.64	7.33	8.74	12.95	8.35	9.77	8.25	8.28
Pacific	11.46	11.40	12.05	10.88	9.79	9.57	10.01	9.31	9.32	10.03	10.69	9.77	11.32	9.62	9.76
U.S. Average	9.30	11.96	16.45	10.11	8.38	11.07	15.23	9.38	8.68	11.62	15.86	9.89	10.36	9.58	9.99
Commercial Retail															
New England	10.77	10.13	9.69	9.13	10.33	9.50	9.28	9.66	10.36	10.46	10.51	10.81	10.21	9.91	10.51
Middle Atlantic	7.91	7.48	6.62	7.01	7.31	6.96	6.94	7.69	8.20	7.81	7.72	8.37	7.49	7.31	8.13
E. N. Central	6.95	7.51	8.80	6.30	6.25	7.19	8.17	6.48	6.77	8.07	8.95	7.17	7.01	6.59	7.22
W. N. Central	7.65	7.98	9.01	6.70	6.41	6.70	7.98	6.75	7.18	7.64	8.76	7.38	7.54	6.68	7.42
S. Atlantic	8.48	9.21	9.62	8.92	8.49	8.96	9.63	8.76	8.83	8.95	9.65	8.99	8.83	8.78	9.00
E. S. Central	8.54	9.62	9.94	8.90	7.76	8.21	8.90	8.26	7.98	8.97	9.75	9.04	8.92	8.10	8.62
W. S. Central	7.15	7.21	8.00	7.27	6.34	6.44	7.14	6.67	6.83	7.46	8.02	7.45	7.31	6.56	7.27
Mountain	8.28	8.35	9.03	7.23	6.81	6.82	7.82	6.72	6.39	6.68	8.04	7.10	8.02	6.89	6.83
Pacific	9.20	8.43	8.69	8.14	8.25	7.89	8.32	8.09	8.40	8.55	9.07	8.66	8.61	8.14	8.62
U.S. Average	7.94	8.13	8.42	7.38	7.20	7.41	8.05	7.42	7.66	8.10	8.70	8.04	7.88	7.39	7.96
Industrial Retail															
New England	9.10	7.61	6.10	6.77	7.71	7.12	7.21	8.27	8.53	7.76	7.65	8.57	7.77	7.66	8.24
Middle Atlantic	8.31	7.56	7.10	7.08	7.32	6.32	6.72	7.48	7.86	7.10	7.46	8.12	7.80	7.11	7.73
E. N. Central	6.41	5.65	5.54	5.15	5.36	4.91	5.25	5.54	6.25	5.98	6.17	6.30	5.89	5.33	6.21
W. N. Central	5.81	4.56	4.41	4.37	4.35	3.38	3.68	4.37	5.04	4.41	4.58	5.10	4.88	4.00	4.82
S. Atlantic	5.46	4.51	4.54	4.26	4.28	3.99	4.42	4.82	5.17	4.84	5.04	5.37	4.73	4.39	5.12
E. S. Central	5.15	4.28	4.14	3.84	4.11	3.70	4.10	4.50	5.03	4.51	4.69	5.03	4.39	4.11	4.83
W. S. Central	3.21	2.92	3.07	2.49	2.30	2.08	2.62	2.90	3.24	3.04	3.36	3.54	2.92	2.48	3.30
Mountain	6.61	6.22	6.12	5.71	5.02	4.35	4.86	4.98	4.89	4.80	5.51	5.68	6.18	4.84	5.20
Pacific	7.32	6.57	6.62	6.48	5.75	5.09	5.56	5.78	5.77	5.75	6.29	6.43	6.77	5.57	6.06
U.S. Average	4.57	3.68	3.66	3.34	3.44	2.83	3.25	3.78	4.32	3.76	3.99	4.42	3.84	3.34	4.14

<sup>- =</sup> 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.

Table 6. U.S. Coal Supply, Consumption, and Inventories

U.S. Energy Information Administ	ıalıOM			igy Out	IUUK - IVI	arch 201		1				1		V-	
	1st	201 2nd	3rd	4th	4-4	201 2nd	6 3rd	4th	4-4	20 <sup>2</sup>	7 3rd	4th	2015	Year 2016	2017
Supply (million short tons)	ist	zna	3ra	4tn	1st	zna	3ra	4tn	1st	zna	3ra	4th	2015	2016	2017
	240.2	211.1	237.3	206.8	180.4	188.1	208.1	207.4	201.0	185.3	209.7	203.9	895.4	784.1	799.9
Production				50.6	45.2		52.6	51.8	52.4					202.7	799.9 205.2
Appalachia	62.3	54.6	56.5			53.2				50.8	51.6	50.4	224.0		
Interior	45.2	38.9	45.2	39.7	34.8	39.8	44.4	44.1	41.3	39.8	45.3	44.0	169.1	163.0	170.5
Western	132.7	117.6	135.5	116.5	100.5	95.2	111.1	111.6	107.3	94.7	112.8	109.5	502.3	418.3	424.2
Primary Inventory Withdrawals		0.3	3.1	-1.6	-1.0	0.7	2.9	-1.6	-1.9	0.7	2.9	-1.6	1.1	1.0	0.0
Imports	3.0	2.6	3.0	2.7	2.0	2.4	3.3	2.9	2.2	2.4	3.3	2.9	11.3	10.5	10.8
Exports	22.0	19.8	16.9	15.3	15.0	17.0	15.4	16.7	11.3	16.4	16.0	17.4	74.0	64.1	61.1
Metallurgical Coal	13.5	12.7	10.3	9.4	10.7	10.7	8.8	9.8	8.8	10.3	9.4	10.6	46.0	39.9	39.1
Steam Coal	8.5	7.0	6.6	5.9	4.3	6.3	6.5	7.0	2.5	6.2	6.6	6.8	28.0	24.1	22.1
Total Primary Supply	220.5	194.3	226.4	192.6	166.4	174.2	198.9	191.9	189.9	172.0	199.8	187.7	833.8	731.4	749.5
Secondary Inventory Withdrawals	-2.6	-12.8	3.8	-34.8	22.8	-1.3	16.4	-8.5	6.6	0.7	16.0	-3.5	-46.4	29.4	19.8
Waste Coal (a)	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	9.5	10.0	10.0
Total Supply	220.2	183.9	232.6	160.2	191.8	175.4	217.7	185.9	199.1	175.2	218.3	186.8	796.9	770.8	779.3
Consumption (million short tons)															
Coke Plants	4.4	4.4	5.1	5.0	4.2	3.9	4.7	4.5	4.0	3.8	4.5	4.2	18.8	17.3	16.5
Electric Power Sector (b)	196.3	174.6	215.5	153.3	175.9	161.2	202.9	170.7	184.2	161.0	203.7	171.9	739.7	710.7	720.8
Retail and Other Industry	11.4	10.4	10.5	10.6	11.1	10.3	10.1	10.7	10.9	10.3	10.2	10.7	42.9	42.2	42.1
Residential and Commercial	0.8	0.6	0.6	0.7	0.8	0.5	0.5	0.6	0.7	0.5	0.4	0.6	2.7	2.4	2.1
Other Industrial	10.6	9.8	9.9	9.9	10.2	9.8	9.7	10.1	10.2	9.8	9.8	10.2	40.2	39.7	40.0
Total Consumption	212.1	189.4	231.0	168.9	191.1	175.4	217.7	185.9	199.1	175.2	218.3	186.8	801.4	770.2	779.3
Discrepancy (c)	8.1	-5.5	1.6	-8.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.5	0.6	0.0
End-of-period Inventories (million shor	t tons)														
Primary Inventories (d)	45.5	45.2	42.1	43.7	44.7	44.0	41.1	42.7	44.7	44.0	41.1	42.7	43.7	42.7	42.7
Secondary Inventories	161.3	174.1	170.2	205.0	182.2	183.5	167.2	175.7	169.0	168.4	152.4	155.8	205.0	175.7	155.8
Electric Power Sector	155.1	167.2	162.8	197.2	175.4	176.1	159.2	167.4	161.9	160.6	144.1	147.4	197.2	167.4	147.4
Retail and General Industry	4.1	4.5	5.1	5.5	4.8	5.0	5.6	6.0	5.2	5.4	6.0	6.2	5.5	6.0	6.2
Coke Plants	1.6	1.9	1.9	1.8	1.5	1.9	1.8	1.8	1.5	1.9	1.8	1.7	1.8	1.8	1.7
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	5,61	5.61	5,61	5.61	5.46	5.46	5.46	5.46	5.32	5.32	5.32	5.32	5.61	5.46	5.32
Total Raw Steel Production	0.01	3.01	3.01	3.01	5. 10	5. 10	5. 10	5. 10	3.02	J.02	J.02	3.02	3.01	3.70	3.0 <u>L</u>
(Million short tons per day)	0.247	0.242	0.248	0.226	0.234	0.228	0.225	0.197	0.197	0.206	0.184	0.156	0.241	0.221	0.186
Cost of Coal to Electric Utilities	0.271	0.272	0.240	0.220	0.234	0.220	0.220	0.101	0.101	0.200	0.104	0.700	0.271	0.221	0.700
(Dollars per million Btu)	2.27	2.25	2.22	2.15	2.14	2.21	2.21	2.17	2.16	2.21	2.24	2.20	2.23	2.18	2.20
(Dollars her Hillingt pra)	2.21	2.23	۷.۷۷	2.13	2.14	2.21	2.21	2.17	2.10	2.21	2.24	2.20	2.23	2.10	2.20

<sup>- =</sup> 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.

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.

<sup>(</sup>a) Waste coal includes waste coal and cloal slurry reprocessed into briquettes.

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

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

<sup>(</sup>d) Primary stocks are held at the mines and distribution points.

Table 7a. U.S. Electricity Industry Overview

U.S. Energy information Admini	stration			iergy Ot	Itiook - I	narch 20		1							
		201				201				201				Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Electricity Supply (billion kilowatthou		,													
Electricity Generation		10.77	12.46	10.21	10.94	10.87	12.51	10.63	11.21	11.01	12.65	10.78	11.20	11.24	11.42
Electric Power Sector (a)		10.36	12.01	9.78	10.52	10.48	12.08	10.21	10.80	10.61	12.20	10.35	10.77	10.82	10.99
Comm. and Indus. Sectors (b)	0.43	0.41	0.45	0.43	0.42	0.40	0.43	0.42	0.41	0.40	0.44	0.43	0.43	0.42	0.42
Net Imports	0.17	0.20	0.20	0.16	0.16	0.16	0.19	0.13	0.15	0.15	0.18	0.13	0.18	0.16	0.15
Total Supply	11.52	10.97	12.66	10.37	11.10	11.03	12.70	10.76	11.36	11.16	12.83	10.92	11.38	11.40	11.57
Losses and Unaccounted for (c)	0.77	0.92	0.86	0.63	0.66	0.93	0.80	0.73	0.62	0.94	0.81	0.74	0.80	0.78	0.78
Electricity Consumption (billion kilow	atthours <sub>l</sub>	per day un	less note	d)											
Retail Sales	10.37	9.69	11.40	9.35	10.08	9.75	11.51	9.67	10.37	9.87	11.63	9.80	10.20	10.25	10.42
Residential Sector	4.20	3.35	4.51	3.29	3.93	3.39	4.54	3.45	4.13	3.44	4.57	3.53	3.84	3.83	3.92
Commercial Sector	3.60	3.65	4.12	3.51	3.59	3.68	4.18	3.58	3.64	3.72	4.23	3.63	3.72	3.76	3.80
Industrial Sector	2.55	2.67	2.76	2.53	2.54	2.67	2.78	2.61	2.58	2.70	2.80	2.62	2.63	2.65	2.68
Transportation Sector	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
Direct Use (d)	0.38	0.36	0.40	0.38	0.37	0.35	0.38	0.37	0.37	0.35	0.39	0.38	0.38	0.37	0.37
Total Consumption	10.75	10.05	11.80	9.73	10.45	10.10	11.90	10.04	10.74	10.23	12.02	10.18	10.58	10.62	10.80
Average residential electricity															
usage per customer (kWh)	2,924	2,350	3,190	2,323	2,741	2,355	3,183	2,418	2,826	2,368	3,182	2,449	10,787	10,696	10,824
Prices															
Power Generation Fuel Costs (dolla	rs per mil	lion Btu)													
Coal	2.27	2.25	2.22	2.15	2.14	2.21	2.21	2.17	2.16	2.21	2.24	2.20	2.23	2.18	2.20
Natural Gas	4.09	3.12	3.09	2.72	3.17	2.77	2.93	3.78	4.23	3.55	3.54	4.25	3.22	3.14	3.86
Residual Fuel Oil	10.82	11.64	10.48	7.88	7.39	7.71	7.39	7.23	7.15	8.00	7.98	8.40	10.38	7.43	7.87
Distillate Fuel Oil	15.61	15.16	13.18	11.84	10.28	10.79	11.02	11.65	12.09	12.17	12.74	13.89	14.45	10.90	12.68
Retail Prices (cents per kilowatthou	ır)														
Residential Sector	12.24	12.85	12.99	12.59	12.06	12.76	12.96	12.47	12.32	13.04	13.28	12.81	12.67	12.58	12.87
Commercial Sector	10.46	10.54	10.95	10.36	10.35	10.60	10.97	10.38	10.52	10.78	11.19	10.62	10.59	10.59	10.79
Industrial Sector	6.79	6.81	7.32	6.63	6.71	6.85	7.35	6.71	6.82	6.98	7.50	6.84	6.90	6.91	7.04

<sup>- =</sup> no data available. kWh = kilowatthours. Btu = British thermal units.

Prices are not adjusted for inflation.

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.

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

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

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

<sup>(</sup>d) Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electrical sales or transfers to adjacent or colocated facilities

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

U.S. Energy Informat	ion Aumi			t-Tellii	Energy C			2010		204	-			V	
	1st	201 2nd	3rd	4th	1st	201 2nd	3rd	4th	1st	201 2nd	3rd	4th	2015	Year 2016	2017
Residential Sector	130	Ziid	olu	701	130	Ziid	Jiu	7611	130	ZIIG	J. G	7611	2010	2010	
New England	152	112	144	112	139	114	143	120	146	114	143	121	130	129	131
Middle Atlantic	423	321	423	306	376	320	425	321	396	321	424	325	368	361	366
E. N. Central	587	428	556	434	542	441	584	467	568	443	575	474	501	508	515
W. N. Central	325	232	309	243	311	240	318	258	324	242	313	264	277	282	286
S. Atlantic	1,078	889	1,137	809	998	868	1,148	876	1,067	879	1,157	901	978	973	1,001
E. S. Central	390	275	384	254	350	281	390	282	373	284	391	289	326	326	334
W. S. Central	602	503	782	479	548	531	761	489	570	549	799	504	592	582	606
Mountain	235	240	333	237	246	244	345	237	250	248	348	242	261	268	272
Pacific contiguous	396	337	425	400	409	336	409	389	427	344	413	397	389	386	395
AK and HI	13	12	13	14	14	12	12	13	13	12	12	13	13	13	13
Total	4,202	3,349	4,505	3,288	3.931	3,385	4.536	3,453	4,134	3,435	4.575	3.530	3,835	3,827	3,919
Commercial Sector	•	•	•	,	*	,	*	,	*	,	•	*	,	,	*
New England	147	139	159	137	139	140	158	138	143	140	158	137	146	144	145
Middle Atlantic	444	417	478	404	430	416	479	408	440	417	481	409	436	433	437
E. N. Central	509	490	544	471	504	498	561	486	513	504	567	492	503	512	519
W. N. Central	281	269	305	265	280	275	314	268	284	279	318	272	280	284	288
S. Atlantic	805	859	939	795	815	853	958	815	818	865	972	826	850	860	871
E. S. Central	235	239	279	222	238	240	285	229	239	243	289	232	244	248	251
W. S. Central	499	534	630	506	494	538	630	521	509	548	643	530	542	546	558
Mountain	240	256	289	246	246	261	297	251	248	266	303	255	258	264	268
Pacific contiguous	424	433	479	449	424	439	476	450	430	442	482	454	447	447	452
AK and HI	16	16	17	17	16	16	17	17	17	16	17	17	16	17	17
Total	3,603	3,651	4,119	3,511	3,586	3,675	4,176	3,583	3,642	3,719	4,229	3,625	3,722	3,756	3,805
Industrial Sector															
New England	49	50	52	49	46	49	52	49	47	49	52	49	50	49	49
Middle Atlantic	198	196	204	188	198	197	204	195	202	199	209	197	197	198	202
E. N. Central	520	525	531	493	512	518	531	505	514	523	534	507	517	516	519
W. N. Central	237	240	252	231	239	244	257	244	241	247	260	246	240	246	249
S. Atlantic	375	406	406	379	371	397	400	379	374	405	408	383	391	387	393
E. S. Central	279	287	290	265	280	290	296	282	285	295	299	283	280	287	291
W. S. Central	433	462	492	458	435	470	493	465	444	463	484	457	461	466	462
Mountain	217	235	251	223	219	240	259	232	224	248	266	239	232	238	244
Pacific contiguous	227	251	266	234	225	251	272	245	231	256	276	248	245	248	253
AK and HI	13	13	15	14	13	13	15	14	13	13	15	14	14	14	14
Total	2,546	2,666	2,757	2,535	2,538	2,669	2,778	2,609	2,575	2,698	2,804	2,625	2,626	2,649	2,676
Total All Sectors (a)															
New England	350	302	357	299	326	305	355	309	337	304	354	309	327	323	326
Middle Atlantic	1,077	944	1,115	909	1,015	943	1,120	934	1,050	948	1,124	943	1,011	1,003	1,016
E. N. Central	1,618	1,444	1,632	1,399	1,559	1,459	1,678	1,459	1,597	1,471	1,677	1,475	1,523	1,539	1,555
W. N. Central	844	742	866	739	830	758	889	770	850	768	891	783	797	812	823
S. Atlantic	2,262	2,158	2,486	1,986	2,188	2,121	2,509	2,074	2,263	2,153	2,541	2,114	2,223	2,224	2,268
E. S. Central	904	801	953	741	867	811	970	793	897	822	979	804	850	860	876
W. S. Central	1,535	1,499	1,904	1,444	1,477	1,539	1,885	1,476	1,523	1,561	1,927	1,492	1,596	1,595	1,626
Mountain	692	731	874	707	711	746	901	720	723	762	917	737	752	770	785
Pacific contiguous	1,050	1,023	1,172	1,085	1,060	1,028	1,159	1,086	1,090	1,044	1,174	1,102	1,083	1,084	1,103
AK and HI	43	41	44	44	43	41	44	44	43	41	44	44	43	43	43
Total	10,374	9,685	11,402	9,354	10,076	9,751	11,511	9,666	10,374	9,874	11,629	9,801	10,204	10,253	10,421

<sup>- =</sup> 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.

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.

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

Table 7c. U.S. Regional Retail Electricity Prices (Cents per Kilowatthour

U.S. Lifetgy illioitha	tion / tain	201		1	Lileigy	20	- Maicii. 16			201	7			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Residential Sector		I				ı			ı	ı					
New England	20.43	20.30	18.35	18.61	18.24	18.43	17.81	18.19	18.29	18.53	18.01	18.54	19.42	18.15	18.32
Middle Atlantic	15.77	16.07	16.47	16.04	15.87	16.39	16.80	16.08	16.42	17.01	17.50	16.76	16.09	16.31	16.94
E. N. Central	12.22	13.21	13.16	13.09	12.41	13.49	13.44	13.17	12.89	14.02	13.98	13.71	12.88	13.12	13.63
W. N. Central	10.24	12.16	12.46	11.22	10.57	12.31	12.87	11.30	10.81	12.58	13.16	11.55	11.48	11.76	12.01
S. Atlantic	11.37	11.91	12.14	11.70	11.08	11.65	11.84	11.36	11.25	11.84	12.06	11.60	11.79	11.50	11.69
E. S. Central	10.33	11.15	10.89	10.95	10.46	11.15	11.04	10.92	10.67	11.36	11.26	11.17	10.79	10.88	11.10
W. S. Central	10.67	11.36	11.03	10.81	10.32	10.95	10.82	10.56	10.43	11.16	11.13	10.93	10.96	10.68	10.94
Mountain	11.30	12.21	12.33	11.34	11.13	12.21	12.56	11.55	11.37	12.49	12.85	11.82	11.85	11.93	12.20
Pacific	13.69	13.47	15.76	13.89	13.52	13.87	15.64	13.92	13.80	14.13	15.95	14.22	14.26	14.26	14.54
U.S. Average	12.24	12.85	12.99	12.59	12.06	12.76	12.96	12.47	12.32	13.04	13.28	12.81	12.67	12.58	12.87
Commercial Sector															
New England	16.92	15.21	14.91	14.87	15.69	14.83	14.77	14.68	15.61	14.85	14.91	14.92	15.47	14.99	15.07
Middle Atlantic	13.07	13.04	13.72	12.58	12.99	12.99	13.70	12.46	13.21	13.26	14.04	12.80	13.13	13.06	13.35
E. N. Central	9.72	9.96	10.04	9.81	9.73	9.99	10.02	9.83	9.89	10.14	10.17	9.99	9.89	9.90	10.05
W. N. Central	8.57	9.53	9.95	8.89	8.65	9.54	10.03	8.85	8.85	9.77	10.28	9.07	9.25	9.29	9.52
S. Atlantic	9.66	9.45	9.59	9.35	9.55	9.49	9.62	9.45	9.75	9.69	9.85	9.72	9.51	9.53	9.76
E. S. Central	10.22	10.38	10.27	10.17	10.29	10.45	10.42	10.39	10.51	10.65	10.62	10.62	10.26	10.39	10.60
W. S. Central	8.05	7.89	7.94	7.72	8.04	8.02	8.01	7.74	8.02	8.08	8.16	7.93	7.90	7.95	8.06
Mountain	9.37	9.96	10.21	9.37	9.28	10.01	10.30	9.58	9.39	10.14	10.44	9.73	9.75	9.82	9.95
Pacific	12.23	13.31	15.60	13.44	12.20	13.69	15.67	13.43	12.52	14.01	16.03	13.77	13.71	13.81	14.14
U.S. Average	10.46	10.54	10.95	10.36	10.35	10.60	10.97	10.38	10.52	10.78	11.19	10.62	10.59	10.59	10.79
Industrial Sector															
New England	13.18	11.85	11.87	11.84	12.16	11.53	11.77	11.37	12.14	11.52	11.76	11.36	12.17	11.70	11.69
Middle Atlantic	7.90	7.21	7.36	7.06	7.82	7.28	7.34	7.01	7.90	7.40	7.48	7.12	7.38	7.36	7.48
E. N. Central	6.86	6.77	7.06	6.75	6.83	6.86	7.09	6.84	6.91	6.95	7.19	6.93	6.86	6.91	7.00
W. N. Central	6.49	6.88	7.51	6.47	6.56	6.88	7.54	6.52	6.65	6.98	7.65	6.62	6.85	6.89	6.99
S. Atlantic	6.55	6.38	6.90	6.26	6.48	6.51	6.88	6.40	6.56	6.61	7.00	6.51	6.53	6.57	6.67
E. S. Central	5.78	5.95	6.58	5.74	5.84	6.07	6.69	5.76	5.96	6.20	6.86	5.91	6.02	6.10	6.24
W. S. Central	5.69	5.53	5.73	5.26	5.58	5.63	5.96	5.50	5.78	5.87	6.24	5.75	5.56	5.67	5.92
Mountain	6.16	6.65	7.17	6.00	6.07	6.59	7.30	6.23	6.25	6.79	7.52	6.42	6.52	6.58	6.78
Pacific	8.00	8.94	10.46	9.21	8.08	8.84	10.13	9.04	8.07	8.82	10.11	9.03	9.21	9.07	9.06
U.S. Average	6.79	6.81	7.32	6.63	6.71	6.85	7.35	6.71	6.82	6.98	7.50	6.84	6.90	6.91	7.04
All Sectors (a)															
New England	17.90	16.51	15.83	15.75	16.25	15.62	15.54	15.49	16.25	15.65	15.68	15.74	16.51	15.72	15.83
Middle Atlantic	13.17	12.85	13.59	12.58	13.04	12.93	13.70	12.55	13.38	13.28	14.10	12.96	13.08	13.08	13.46
E. N. Central	9.71	9.76	10.13	9.75	9.71	9.93	10.28	9.86	9.99	10.17	10.52	10.13	9.84	9.95	10.21
W. N. Central	8.63	9.49	10.14	8.90	8.76	9.56	10.33	8.94	8.97	9.76	10.52	9.13	9.30	9.42	9.62
S. Atlantic	9.96	9.88	10.31	9.71	9.72	9.81	10.20	9.70	9.93	9.99	10.40	9.94	9.98	9.87	10.08
E. S. Central	8.90	9.06	9.40	8.85	8.92	9.13	9.53	8.93	9.13	9.30	9.73	9.16	9.07	9.15	9.34
W. S. Central	8.41	8.32	8.64	7.97	8.16	8.30	8.61	7.97	8.27	8.51	8.91	8.28	8.36	8.28	8.52
Mountain	9.02	9.63	10.14	8.97	8.93	9.63	10.30	9.15	9.10	9.82	10.51	9.34	9.48	9.55	9.75
Pacific	11.85	12.27	14.48	12.68	11.83	12.55	14.35	12.61	12.07	12.76	14.59	12.85	12.88	12.87	13.11
U.S. Average	10.27	10.31	10.88	10.13	10.10	10.32	10.88	10.14	10.32	10.53	11.12	10.39	10.42	10.38	10.61

<sup>- =</sup> 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 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.

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

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

3,		201	15	- 37	Janoon	20	16			20	17			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
United States				<u>.</u>		<u>.</u>		<u>.</u>							
Coal	4,091	3,512	4,276	2,988	3,604	3.288	4,071	3,404	3,847	3,312	4,125	3,459	3,715	3,593	3,686
Natural Gas	3,248	3,477	4,392	3,503	3,413	3.651	4,490	3,438	3,319	3,559	4,428	3,413	3,658	3,749	3,682
Petroleum (a)	124	61	72	57	77	70	78	70	86	72	80	70	78	74	77
Other Gases	38	34	40	30	36	33	39	31	37	33	40	32	36	35	35
Nuclear	2,248	2,133	2,286	2,070	2,175	2,003	2,259	2,128	2,224	2.044	2,288	2,156	2,184	2,141	2,178
Renewable Energy Sources:	1,590	1,528	1,373	1,533	1,615	1.803	1,551	1,539	1,676	1.967	1.663	1,632	1,506	1,626	1,734
Conventional Hydropower	803	691	617	644	710	825	728	626	704	878	757	641	688	722	745
Wind	506	534	442	610	621	655	478	608	660	707	516	661	523	591	636
Wood Biomass	118	112	122	112	115	107	119	113	116	110	123	117	116	113	116
Waste Biomass	58	59	61	62	60	59	61	60	59	59	60	60	60	60	59
Geothermal	48	46	45	45	47	47	48	48	48	47	48	48	46	47	48
	57	87	86	60	61	110	117	46 84	90	166	159	105	73	93	130
Solar		-11		-11	-11	-11		-14		-11			-14		-13
Pumped Storage Hydropower	-16		-18				-15		-12		-16	-14		-13	
Other Nonrenewable Fuels (b)	33	37	39	37	34	37	39	36	34	37	39	37	36	37	37
Total Generation	11,355	10,770	12,460	10,207	10,944	10,873	12,511	10,632	11,211	11,014	12,649	10,785	11,198	11,242	11,417
Northeast Census Region															
Coal	292	175	203	139	187	138	177	172	241	154	203	194	202	168	198
Natural Gas	483	534	714	543	529	589	735	563	516	567	707	549	569	604	585
Petroleum (a)	46	2	5	2	8	4	6	6	11	5	7	6	14	6	7
Other Gases	2	2	2	1	2	2	2	1	2	2	2	1	2	2	2
Nuclear	545	499	542	499	521	470	526	496	508	462	518	488	521	503	494
Hydropower (c)	93	99	98	102	93	107	100	95	100	116	105	96	98	99	104
Other Renewables (d)	76	65	58	73	74	64	60	70	76	67	62	74	68	67	70
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	1,426	1,387	1,619	1,416	1,466	1,384	1,615	1,420	1,485	1,462	1,471
South Census Region															
Coal	1,716	1,539	1,908	1,167	1,452	1,386	1,747	1,290	1,529	1,413	1,794	1,344	1,582	1,469	1,520
Natural Gas	1,971	2,075	2,465	1,975	2,009	2,237	2,578	1,933	1,930	2,181	2,548	1,897	2,122	2,189	2,140
Petroleum (a)	42	24	29	22	33	29	32	26	35	30	33	26	29	30	31
Other Gases	15	13	15	14	15	13	15	15	15	13	16	15	14	15	15
Nuclear	974	956	1,001	872	939	883	1,005	947	995	917	1,026	967	951	944	976
Hydropower (c)	122	108	94	145	126	123	104	134	135	132	109	134	117	122	128
Other Renewables (d)	231	267	255	287	302	325	270	319	341	373	305	354	260	304	343
Other Nonrenewable Fuels (b)	14	15	16	15	14	16	16	14	14	15	16	14	15	15	15
Total Generation	5,084	4,999	5,783	4,497	4,891	5,012	5,766	4,677	4,995	5,075	5,847	4,751	5,091	5,087	5,168
Midwest Census Region															
Coal	1,578	1,302	1,578	1,166	1,485	1,301	1,597	1,357	1,497	1,281	1,571	1,327	1,405	1,435	1,419
Natural Gas	300	257	340	285	291	293	380	289	326	316	391	322	296	313	339
Petroleum (a)	12	11	13	9	12	11	13	11	13	12	13	11	11	12	12
Other Gases	14	13	16	8	12	12	15	8	12	12	16	8	13	12	12
Nuclear	553	529	570	547	547	502	562	529	558	514	576	542	550	535	547
Hydropower (c)	44	47	42	37	43	49	43	34	45	53	44	34	43	42	44
Other Renewables (d)	251	218	168	277	267	251	179	263	279	266	191	280	228	240	254
Other Nonrenewable Fuels (b)	4	5	5	5	4	5	5	5	4	5	5	5	5	5	5
Total Generation	2,757	2,382	2,731	2,335	2,661	2,424	2,794	2,495	2,734	2,458	2,807	2,530	2,550	2,594	2,632
West Census Region	_,	_,00_	_,	_,555	2,00	_,	2,.0.	2, .00	2,	2,700	2,007	2,000	_,,	2,007	2,002
Coal	505	496	587	517	480	463	551	585	579	464	557	595	526	520	549
Natural Gas	494	611	874	699	584	532	797	653	547	495	783	645	671	642	618
Petroleum (a)	23	22	25	23	24	25	26	28	27	493 26	28	28	23	26	27
Other Gases	23 7	6	7	7	7	6	7	20 7	7	6	20 7	26 7	7	20 7	7
	176	149	172	152	7 168	148	7 165	7 156	163	151	169	159	162	159	7 161
Nuclear			365	348	437									159 447	
Hydropower (c)	527	426				534	467	350	411	565	484	364	416		456
Other Renewables (d)	230	287	276	252	261	338	313	260	277	385	348	282	261	293	323
Other Nonrenewable Fuels (b)	4 007	5	5	5	4	5	5	5	5	5	6	5	5	5	5
Total Generation	1,967	2,002	2,311	2,002	1,965	2,049	2,332	2,044	2,016	2,096	2,380	2,084	2,071	2,098	2,145

<sup>(</sup>a) Residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids.

**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.

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

<sup>(</sup>c) Conventional hydroelectric and pumped storage generation.

<sup>(</sup>d) Wind, biomass, geothermal, and solar generation.

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

		20 <sup>-</sup>	15			20	16			20°	17			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Fuel Consumption for Electricity Ge	neration,	All Secto	rs												
United States															
Coal (thousand st/d)	2,185	1,922	2,347	1,667	1,936	1,775	2,211	1,860	2,051	1,774	2,220	1,873	2,030	1,946	1,980
Natural Gas (million cf/d)	24,017	26,265	33,602	26,144	25,323	27,798	34,375	25,469	24,652	27,133	33,943	25,318	27,530	28,250	27,780
Petroleum (thousand b/d)	215	108	126	100	138	124	138	124	156	129	143	125	137	131	138
Residual Fuel Oil	76	26	33	26	34	31	34	31	40	32	35	31	40	32	34
Distillate Fuel Oil	66	25	24	25	36	29	31	30	40	30	32	30	35	31	33
Petroleum Coke (a)	61	52	65	46	62	61	68	58	68	63	70	59	56	62	65
Other Petroleum Liquids (b)	13	4	4	3	6	4	5	5	8	5	5	5	6	5	6
Northeast Census Region															
Coal (thousand st/d)	133	82	99	68	87	64	85	81	111	71	96	91	95	79	92
Natural Gas (million cf/d)	3,638	4,102	5,595	4,107	4,012	4,511	5,726	4,252	3,908	4,336	5,502	4,141	4,365	4,627	4,475
Petroleum (thousand b/d)	75	5	9	4	15	8	12	10	19	9	12	10	23	11	13
South Census Region															
Coal (thousand st/d)	888	819	1,023	638	752	729	926	690	789	737	941	710	842	774	795
Natural Gas (million cf/d)	14,399	15,637	18,741	14,727	14,799	16,983	19,629	14,237	14,234	16,575	19,417	13,987	15,885	16,415	16,062
Petroleum (thousand b/d)	79	45	53	41	63	56	61	48	71	58	63	48	54	57	60
Midwest Census Region															
Coal (thousand st/d)	880	742	895	668	827	725	893	760	827	710	874	740	796	802	788
Natural Gas (million cf/d)	2,329	2,014	2,725	2,211	2,220	2,304	3,078	2,212	2,492	2,500	3,183	2,483	2,320	2,455	2,666
Petroleum (thousand b/d)	24	23	26	18	21	21	23	21	23	21	23	21	23	22	22
West Census Region															
Coal (thousand st/d)	285	280	331	293	270	257	307	329	323	256	309	333	297	291	305
Natural Gas (million cf/d)	3,651	4,513	6,541	5,100	4,293	3,999	5,942	4,768	4,018	3,722	5,841	4,707	4,960	4,754	4,577
Petroleum (thousand b/d)	37	36	39	37	38	40	42	44	43	42	<b>4</b> 5	<b>4</b> 5	37	41	44
End-of-period U.S. Fuel Inventories	Held by E	lectric Po	ower Sect	or											
Coal (million short tons)	155.1	167.2	162.8	197.2	175.4	176.1	159.2	167.4	161.9	160.6	144.1	147.4	197.2	167.4	147.4
Residual Fuel Oil (mmb)	10.2	10.5	10.6	12.4	12.8	12.7	12.3	12.6	12.7	12.5	12.2	12.3	12.4	12.6	12.3
Distillate Fuel Oil (mmb)	16.7	16.7	17.2	17.4	17.5	17.4	17.3	17.6	17.6	17.5	17.4	17.6	17.4	17.6	17.6
Petroleum Coke (mmb)	4.1	5.2	5.5	6.7	6.6	6.4	6.3	6.1	6.0	5.8	5.7	5.6	6.7	6.1	5.6

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

**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.

 $\textbf{Projections:} \ \mathsf{EIA} \ \mathsf{Regional} \ \mathsf{Short}\text{-}\mathsf{Term} \ \mathsf{Energy} \ \mathsf{Model}.$ 

<sup>(</sup>b) Other petroleum liquids include jet fuel, kerosene, and waste oil.

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

U.S. Energy Information Administration		OOK - IVIA	201				201	17			Year				
	1st	201 2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017
Electric Power Sector	l	ı				I.				ı				- L	
Hydroelectric Power (a)	0.683	0.594	0.537	0.560	0.611	0.711	0.635	0.545	0.599	0.757	0.660	0.558	2.374	2.503	2.574
Wood Biomass (b)	0.063	0.057	0.067	0.060	0.061	0.055	0.068	0.061	0.063	0.058	0.071	0.065	0.246	0.245	0.257
Waste Biomass (c)	0.067	0.066	0.070	0.071	0.068	0.068	0.070	0.068	0.066	0.067	0.070	0.068	0.274	0.275	0.271
Wind	0.433	0.462	0.387	0.534	0.538	0.567	0.418	0.532	0.565	0.612	0.451	0.578	1.815	2.055	2.206
Geothermal	0.041	0.040	0.039	0.040	0.041	0.040	0.042	0.042	0.041	0.041	0.042	0.042	0.159	0.165	0.166
Solar	0.047	0.073	0.074	0.052	0.052	0.093	0.101	0.072	0.076	0.142	0.138	0.091	0.246	0.318	0.446
Subtotal	1.334	1.292	1.173	1.315	1.370	1.534	1.334	1.321	1.409	1.677	1.432	1.401	5.115	5.560	5.920
Industrial Sector															
Hydroelectric Power (a)	0.004	0.003	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.012	0.012	0.012
Wood Biomass (b)	0.324	0.320	0.324	0.320	0.308	0.301	0.311	0.312	0.304	0.300	0.311	0.313	1.288	1.233	1.227
Waste Biomass (c)	0.046	0.049	0.050	0.049	0.048	0.047	0.049	0.049	0.049	0.048	0.050	0.050	0.195	0.194	0.197
Geothermal	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004
Biofuel Losses and Co-products (f)	0.189	0.192	0.195	0.196	0.198	0.196	0.200	0.197	0.194	0.194	0.198	0.195	0.772	0.790	0.780
Subtotal	0.568	0.570	0.576	0.573	0.562	0.552	0.568	0.566	0.553	0.550	0.566	0.566	2.287	2.248	2.235
Commercial Sector															
Wood Biomass (b)	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.020	0.019	0.076	0.076	0.078
Waste Biomass (c)	0.013	0.010	0.010	0.012	0.011	0.010	0.011	0.011	0.011	0.010	0.012	0.011	0.045	0.043	0.044
Geothermal	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.020	0.020	0.020
Subtotal	0.038	0.036	0.037	0.038	0.036	0.035	0.037	0.036	0.036	0.036	0.037	0.037	0.150	0.144	0.146
Residential Sector															
Wood Biomass (b)	0.110	0.111	0.113	0.113	0.103	0.104	0.105	0.105	0.106	0.106	0.106	0.106	0.447	0.418	0.426
Geothermal	0.010	0.010	0.010	0.010	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.040	0.044	0.045
Solar (d)	0.069	0.070	0.071	0.071	0.077	0.077	0.078	0.078	0.088	0.089	0.090	0.090	0.281	0.311	0.356
Subtotal	0.189	0.191	0.194	0.194	0.191	0.193	0.195	0.195	0.206	0.207	0.208	0.208	0.768	0.773	0.827
Transportation Sector															
Ethanol (e)		0.284	0.293	0.285	0.279	0.291	0.299	0.291	0.272	0.289	0.297	0.290	1.128	1.160	1.149
Biomass-based Diesel (e)		0.058	0.064	0.058	0.063	0.072	0.081	0.081	0.070	0.074	0.084	0.083	0.214	0.297	0.310
Subtotal	0.300	0.342	0.357	0.345	0.342	0.363	0.380	0.372	0.342	0.363	0.381	0.373	1.344	1. <b>4</b> 57	1.459
All Sectors Total															
Hydroelectric Power (a)		0.597	0.539	0.563	0.615	0.714	0.638	0.548	0.602	0.760	0.664	0.561	2.387	2.515	2.586
Wood Biomass (b)		0.508	0.523	0.511	0.490	0.479	0.504	0.498	0.492	0.484	0.508	0.504	2.059	1.972	1.988
Waste Biomass (c)		0.125	0.129	0.131	0.127	0.125	0.131	0.128	0.125	0.126	0.132	0.129	0.512	0.512	0.511
Wind		0.462	0.387	0.534	0.538	0.567	0.418	0.532	0.565	0.612	0.451	0.578	1.815	2.055	2.206
Geothermal		0.056	0.056	0.056	0.058	0.057	0.059	0.059	0.059	0.058	0.059	0.059	0.225	0.233	0.235
Solar		0.145	0.146	0.122	0.129	0.172	0.180	0.152	0.165	0.232	0.229	0.182	0.530	0.633	0.808
Ethanol (e)		0.289	0.298	0.290	0.280	0.296	0.304	0.296	0.277	0.294	0.302	0.295	1.147	1.176	1.168
Biomass-based Diesel (e)	0.034	0.058	0.064	0.058	0.063	0.072	0.081	0.081	0.070	0.074	0.084	0.083	0.214	0.297	0.310
Biofuel Losses and Co-products (f)	0.189	0.192	0.195	0.196	0.198	0.196	0.200	0.197	0.194	0.194	0.198	0.195	0.772	0.790	0.780
Total Consumption	2.431	2.432	2.336	2.446	2.500	2.677	2.514	2.490	2.546	2.833	2.624	2.585	9.645	10.181	10.588

<sup>- =</sup> 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.

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.

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

<sup>(</sup>b) Wood and wood-derived fuels.

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

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

<sup>(</sup>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.

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

Table 9a. U.S. Macroeconomic Indicators and CO<sub>2</sub> Emissions

U.S. Energy information Administration	SHOIL-1			IOOK - IVI	arch 201		•	1		204	7			V	
-	1st	2019 2nd	3rd	4th	1st	201 2nd	3rd	4th	1st	201 2nd	3rd	4th	2015	Year 2016	2017
Macroeconomic	131	Ziiu	Jiu	701	131	ZIIG	Jiu	7111	131	Ziiu	Jiu	701	2013	2010	2017
Real Gross Domestic Product															
(billion chained 2009 dollars - SAAR)	16,177	16,334	16,414	16,442	16,525	16,628	16,748	16,880	16,985	17,106	17,223	17,315	16,342	16,695	17,157
Real Personal Consumption Expend.															
(billion chained 2009 dollars - SAAR) Real Fixed Investment	11,081	11,179	11,262	11,319	11,396	11,466	11,553	11,642	11,735	11,814	11,897	11,973	11,211	11,514	11,855
(billion chained 2009 dollars - SAAR)	2,701	2,736	2,761	2,762	2,783	2,828	2,865	2,904	2,945	2,989	3,026	3,061	2,740	2,845	3,005
Business Inventory Change															
(billion chained 2009 dollars - SAAR)	127	128	95	76	52	27	17	21	21	34	46	51	106	29	38
Real Government Expenditures (billion chained 2009 dollars - SAAR)	2,839	2,857	2,870	2,875	2,910	2,916	2,921	2,930	2,925	2,931	2,940	2,930	2,860	2,919	2,932
Real Exports of Goods & Services	ŕ	·	,	ŕ	ŕ	ŕ	,	,	,	,	,	,	·	,	ŕ
(billion chained 2009 dollars - SAAR)	2,091	2,118	2,121	2,108	2,112	2,131	2,159	2,193	2,221	2,248	2,275	2,304	2,109	2,149	2,262
Real Imports of Goods & Services (billion chained 2009 dollars - SAAR)	2,633	2,652	2,667	2,674	2,707	2,718	2,746	2,789	2,842	2,892	2,943	2,984	2,657	2,740	2,915
Real Disposable Personal Income	_,000	_,00_	_,00.	_,	2,707	2,7.10	2,7 70	2,700	2,0 .2	2,002	2,0 70	2,007	_,	2,	2,0.0
(billion chained 2009 dollars - SAAR)	12,115	12,194	12,308	12,416	12,520	12,571	12,654	12,739	12,839	12,949	13,053	13,139	12,258	12,621	12,995
Non-Farm Employment	444.0	444.0	440.0	440.0	440.0	4440	4445	4440	445.0	445.0	4.45.0	4.40.0	440.0	4440	445.0
(millions)  Civilian Unemployment Rate	141.0	141.6	142.2	143.0	143.6	144.2	144.5	144.9	145.3	145.6	145.9	146.3	142.0	144.3	145.8
(percent)	5.6	5.4	5.2	5.0	4.8	4.9	4.9	4.9	4.9	5.0	5.0	5.0	5.3	4.9	5.0
Housing Starts															
(millions - SAAR)	0.98	1.16	1.16	1.12	1.16	1.19	1.22	1.29	1.35	1.40	1.42	1.46	1.10	1.21	1.41
Industrial Production Indices (Index, 2012=100	n۱														
Total Industrial Production	107.4	106.8	107.5	106.6	106.4	105.8	106.1	106.9	108.0	108.6	109.7	110.7	107.1	106.3	109.3
Manufacturing	105.5	105.8	106.7	106.8	106.6	105.8	105.9	106.8	108.0	108.4	109.5	110.6	106.2	106.3	109.1
Food	104.7	104.7	105.9	105.9	106.4	106.7	107.1	107.7	108.3	108.8	109.4	110.0	105.3	107.0	109.1
Paper		97.1	95.9	95.6	95.0	94.2	93.8	93.5	93.6	93.4	93.6	93.8	96.5	94.1	93.6
Petroleum and Coal Products	107.9	108.9	109.3	110.4	110.5	110.5	110.9	111.4	111.9	112.1	112.4	112.7	109.1	110.8	112.3
Chemicals	102.8	103.1	103.3	104.1	104.1	103.8	104.2	104.8	105.8	106.6	107.8	109.2	103.3	104.2	107.4
Nonmetallic Mineral Products	111.3	111.1	112.2	116.3	116.6	116.9	117.6	118.5	119.8	120.9	122.2	123.6	112.7	117.4	121.6
Primary Metals	100.7	100.1	99.9	97.5	94.5	92.3	91.8	91.9	92.6	92.0	92.8	93.5	99.6	92.6	92.7
Coal-weighted Manufacturing (a)	103.6	103.8	104.0	104.3	103.5	102.8	102.8	103.2	104.0	104.2	105.2	106.1	103.9	103.1	104.9
Distillate-weighted Manufacturing (a)	106.6	106.5	107.5	108.6	108.5	108.3	108.7	109.5	110.5	111.1	112.1	113.0	107.3	108.7	111.7
Electricity-weighted Manufacturing (a)	104.7	105.0	105.6	105.4	105.0	104.3	104.5	105.2	106.3	106.6	107.7	108.9	105.2	104.7	107.4
Natural Gas-weighted Manufacturing (a)	104.5	105.4	105.6	105.8	105.5	104.9	105.2	106.0	107.1	107.8	109.2	110.6	105.3	105.4	108.7
Price Indexes															
Consumer Price Index (all urban consumers)															
(index, 1982-1984=1.00)	2.35	2.37	2.38	2.38	2.38	2.38	2.39	2.41	2.43	2.44	2.46	2.47	2.37	2.39	2.45
Producer Price Index: All Commodities															
(index, 1982=1.00)	1.92	1.92	1.90	1.87	1.85	1.85	1.87	1.89	1.92	1.92	1.94	1.96	1.90	1.86	1.94
Producer Price Index: Petroleum															
(index, 1982=1.00)	1.71	1.96	1.85	1.53	1.21	1.29	1.30	1.23	1.26	1.39	1.44	1.43	1.76	1.26	1.38
GDP Implicit Price Deflator															
(index, 2009=100)	109.1	109.7	110.0	110.3	110.7	111.2	111.6	112.1	112.7	113.2	113.7	114.3	109.8	111.4	113.5
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	7,990	8,982	8,920	8,594	8,269	9,177	9,083	8,696	8,363	9,250	9,166	8,782	8,624	8,807	8,892
Air Travel Capacity															
(Available ton-miles/day, thousands)	517	574	585	553	535	569	559	538	535	569	560	542	557	550	552
Aircraft Utilization															
(Revenue ton-miles/day, thousands)	322	356	365	341	335	354	351	338	337	354	354	341	346	344	346
Airline Ticket Price Index															
(index, 1982-1984=100)	286.4	313.0	283.3	286.2	284.7	302.7	283.4	288.4	292.0	313.1	294.1	301.3	292.2	289.8	300.1
Raw Steel Production	0.247	0.242	0.249	0.226	0.224	0.220	0.225	0 107	0.197	0.206	0.194	0.156	0.241	0.221	0.196
(million short tons per day)	0.247	U.242	0.248	0.226	0.234	0.228	0.225	0.197	0.197	0.206	0.184	0.156	0.241	0.221	0.186
Carbon Dioxide (CO <sub>2</sub> ) Emissions (million metro	ric tons)														
Petroleum	562	568	584	569	563	571	582	576	558	572	585	579	2,283	2,293	2,294
Natural Gas	469	313	326	369	457	327	335	388	457	327	336	393	1,477	1,508	1,514
Coal	397	354	432	329	357	331	412	353	371	331	412	353	1,511	1,452	1,467
Total Energy (c)	1,429	1,236	1,344	1,269	1,379	1,231	1,331	1,319	1,387	1,231	1,335	1,327	5,277	5,259	5,281

<sup>- =</sup> no data available

SAAR = Seasonally-adjusted annual rate

<sup>(</sup>a) Fuel share weights of individual sector indices based on EIAManufacturing Energy Consumption Survey.

<sup>(</sup>b) Total highway travel includes gasoline and diesel fuel vehicles.

<sup>(</sup>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

Peal Gross State Product (##IRM 2	U.S. Energy Informati	on Admir			t-Term	nergy C			016				1				
Real Gross State Product (Billion \$2009)   Real Real Real Real Real Real Real Real															Year		
Mode Name   194				3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2015	2016	2017	
Midele Alamin   2,409 2,437 2,448 2,459 2,463 2,478			,	007	000	070	074	000	000	004	005	000	004	000	070	007	
N. N. Central   10.98   10.98   10.94   10.94   10.94   10.94   10.94   10.95   10.05   10.05   10.09   10.09   10.09   10.09   10.05   10.0																	
No.   No.		-		•										,			
S. Alamic         2,868         2,899         2,915         2,925         2,945         2,967         2,905         2,006         3,016         3,078         3,094         2,909         2,979         7,78         789         778         789         778         789         778         789         778         789         778         789         778         789         778         789         778         789         789         789         789         789         789         789         789         789         789         789         780         2,089         2,016         1,087         1,087         1,106         1,108         1,035         1,039         1,025         3,094         3,005         3,008         3,101         3,105         1,020         3,004         3,005         3,008         3,101         3,105         1,020         3,004         3,006         1,007         1,007         1,005         1,007         1,005         1,007         1,005         1,005         1,007         1,005         1,007         1,005         1,005         1,007         1,005         1,007         1,005         1,007         1,005         1,007         1,005         1,007         1,005         1,007         1,005		-	•	•										-			
No.   Central   736   742   746   748   752   756   761   766   771   776   781   784   748   759   778   784   NS. Central   2021   2.025   2.036   2.035   2.043   2.045   2.072   2.026   2.035		-			•												
Mountain   Mountain		-		•										-			
Pacification   1,043   1,053   1,059   1,061   1,069   1,077   1,087   1,097   1,106   1,116   1,126   1,134   1,054   1,083   1,120   1,000																	
Pearlic		-		•							2,127		2,166	-			
New England   101.7   102.4   103.8   103.6   103.3   102.4   102.5   103.2   104.3   104.6   105.6   106.6   102.9   102.9   102.6   104.6		-															
Middle Allantic   101-7   102-4   103-8   103-5   103-3   102-4   102-5   103-7   103-7   103-7   103-6   105-6   105-9   102-8   10		-		•		2,994	3,016	3,040	3,065	3,088	3,112	3,134	3,153	2,955	3,029	3,122	
Midela Allamic   102.1   102.7   103.3   103.2   102.9   102.1   102.7   103.7   104.0   105.0   105.9   102.8   102.4   101.9   101																	
No.   No.   Central   107.7   108.5   109.4   109.8   109.6   108.7   108.5   106.6   106.8   108.7   108.5   108.6	<del>-</del>	101.7															
N. Central   105.6   105.7   106.5   106.7   106.5   106.8   106.0   107.7   107.8   108.6   109.6   109.6   110.0   110.0   110.0   110.7     S. Aliantic   106.3   106.2   108.2   109.5   110.1   110.0   107.7   107.8   108.6   109.7   111.2   111.5   112.6   113.6   109.0   107.7     S. Central   104.7   103.6   103.2   102.3   101.8   101.0		102.1	102.7	103.3	103.2	102.9	102.1	102.0	102.7	103.7	104.0	105.0	105.9	102.8	102.4	104.6	
S. Allanic   106.3   106.8   108.0   108.5   108.5   107.   107.8   108.6   109.6   109.7   111.0   111.0   117.0   107.4   108.1   110.7		107.7	108.5	109.4	109.8	109.6	108.7	108.7	109.6	110.9	111.2	112.2	113.3	108.9	109.2	111.9	
No.   No.	W. N. Central	105.6	105.7	106.5	106.7	106.5	105.8	106.0	106.9	108.1	108.5	109.6	110.6	106.1	106.3	109.2	
M. S. Central   104.7   103.6   103.2   102.3   101.8   101.0   101.0   101.8   103.0   103.5   104.7   105.9   103.4   101.4   104.3     Mountain   107.2   107.9   109.2   110.1   110.1   109.5   110.5   110.5   112.6   113.3   114.7   115.9   108.6   110.2   114.1     Pacific   105.3   106.0   106.6   106.4   106.1   105.5   106.5   106.5   106.5   107.8   108.5   109.5   109.5   101.7     Real Personal Income (Billion \$2009)	S. Atlantic	106.3	106.8	108.0	108.5	108.5	107.7	107.8	108.6	109.7	110.0	111.0	112.0	107.4	108.1	110.7	
Mountain   107.2   107.9   109.2   110.1   110.1   109.5   110.5   110.6   111.0   1	E. S. Central	108.0	108.2	109.5	110.1	110.0	109.3	109.2	110.0	111.2	111.5	112.6	113.6	109.0	109.6	112.2	
Pacific   105.3   106.0   106.6   106.4   106.1   106.7   106.5   106.5   106.5   107.8   108.5   107.7   107.5   10	W. S. Central	104.7	103.6	103.2	102.3	101.8	101.0	101.0	101.8	103.0	103.5	104.7	105.9	103.4	101.4	104.3	
New England   1,896   1,914   1,932   1,949   1,961   1,968   1,976   2,776   2,776   2,737   2,736   2,737   2,376   2,737   2,376   2,377   2,376   2,377   2,377   2,377   2,377   2,377   2,377   2,378	Mountain	107.2	107.9	109.2	110.1	110.1	109.5	110.0	111.0	112.6	113.3	114.7	115.9	108.6	110.2	114.1	
New England   741   748   755   761   768   770   774   778   784   789   784   789   794   798   751   772   791     Middle Atlantic   1,896   1,914   1,932   1,949   1,961   1,968   1,976   1,988   1,998   2,105   2,105   2,105   2,103   2,032   2,032   1,922   1,974   2,016     E. N. Central   2,011   2,023   2,043   2,043   2,043   2,045   2,079   2,066   2,095   2,105   2,119   2,134   2,147   2,165   2,055   2,091   2,139     W. N. Central   969   972   984   994   1,002   2,005   1,009   1,014   1,021   1,028   1,034   1,041   980   1,008   1,031     S. Atlantic   2,621   2,645   2,668   2,696   2,722   2,777   2,756   2,775   2,799   2,822   2,844   2,863   2,658   2,748   2,832     E. S. Central   759   764   770   777   774   778   777   777   778   778   791   795   801   807   812   816   768   798   809     W. S. Central   1,710   1,705   1,718   1,732   1,745   1,751   1,762   1,775   1,790   1,808   1,824   1,838   1,716   1,758   1,815     Mountain   922   929   938   948   957   962   969   969   976   986   995   1,004   1,011   934   966   999     Pacific   2,219   2,253   2,255   2,292   2,316   2,325   2,341   2,357   2,397   2,396   2,414   2,430   2,260   2,335   2,404     Households (Thousands)	Pacific	105.3	106.0	106.6	106.4	106.1	105.3	105.5	106.5	107.8	108.3	109.5	110.7	106.1	105.9	109.1	
Middle Atlantic   1,896   1,914   1,932   1,949   1,961   1,968   1,978   1,988   1,998   2,011   2,023   2,032   1,922   1,974   2,016   E.N. Central   2,011   2,023   2,0	•	llion \$2009	9)														
E. N. Central         2,011         2,023         2,043         2,063         2,079         2,086         2,095         2,105         2,119         2,134         2,147         2,156         2,035         2,091         2,139           W. N. Central         969         972         984         994         1,002         1,005         1,004         1,021         1,028         1,044         1,901         1,008         1,014         1,028         1,044         1,041         980         1,008         1,031           S. Allantic         2,621         2,645         2,668         2,666         2,722         2,737         2,756         2,775         2,799         2,844         2,663         2,658         2,688         2,689         2,688         2,688         2,688         2,688         2,849         2,839         98         957         962         969         976         986         995         1,004         1,011         934         966         999         2,216         2,237         2,329         2,316         2,325         2,341         2,357         2,396         2,414         2,430         2,409         2,335         2,404           Households (Thousands)         1,586         16,005         16	New England	741	748	755	761	768	770	774	778	784	789	794	798	751	772	791	
N. N. Central   969   972   984   994   1,002   1,005   1,009   1,014   1,021   1,028   1,034   1,041   980   1,008   1,034   1,041	Middle Atlantic	1,896	1,914	1,932	1,949	1,961	1,968	1,978	1,988	1,998	2,011	2,023	2,032	1,922	1,974	2,016	
S. Atlantic         2,621         2,645         2,668         2,696         2,722         2,737         2,756         2,779         2,799         2,822         2,844         2,863         2,658         2,748         2,832           E. S. Central         759         764         770         777         784         787         791         795         801         807         812         816         768         789         809           W. S. Central         1,710         1,705         1,718         1,732         1,745         1,751         1,762         1,759         1,709         1,808         1,804         1,804         1,616         1,758         1,815           Mountain         922         929         938         948         957         962         969         976         966         995         1,004         1,011         934         966         999           Pacific         2,219         2,253         2,275         2,292         2,316         5,855         5,869         5,874         5,800         5,886         5,893         5,903         5,849         5,874         5,903           Middle Atlantic         18,660         18,613         18,623         18,640	E. N. Central	2,011	2,023	2,043	2,063	2,079	2,086	2,095	2,105	2,119	2,134	2,147	2,156	2,035	2,091	2,139	
E. S. Central         759         764         770         777         784         787         791         795         801         807         812         816         768         768         789         809           W. S. Central         1,710         1,705         1,718         1,732         1,745         1,751         1,762         1,775         1,790         1,808         1,824         1,836         1,716         1,758         1,815           Mountain         922         929         938         948         957         962         969         976         968         995         1,004         1,011         934         966         999           Pacific         2,219         2,253         2,275         2,292         2,316         2,325         2,341         2,357         2,396         2,414         2,430         2,600         2,335         2,404           Households (Thousands)         5,831         5,843         5,849         5,858         5,865         5,869         5,874         5,880         5,860         5,893         5,903         5,849         5,874         5,903           Middle Atlantic         15,986         16,010         16,027         16,027         16	W. N. Central	969	972	984	994	1,002	1,005	1,009	1,014	1,021	1,028	1,034	1,041	980	1,008	1,031	
W. S. Central         1,710         1,705         1,718         1,732         1,745         1,755         1,762         1,765         1,776         1,716         1,755         1,815           Mountain         922         929         938         948         957         962         969         976         986         995         1,004         1,011         934         966         999           Pacific         2,219         2,253         2,275         2,292         2,316         2,325         2,341         2,357         2,397         2,396         2,144         2,430         2,260         2,335         2,404           Households (Thousands)         New England         5,831         5,838         5,843         5,849         5,858         5,865         5,869         5,874         5,880         5,886         5,893         5,903         5,849         5,874         5,903           Middle Atlantic         15,986         16,005         16,014         16,027         16,046         16,066         16,075         16,080         16,080         16,080         16,080         16,080         16,080         16,080         16,080         16,080         16,080         16,080         16,080         16,080 <t< td=""><td>S. Atlantic</td><td>2,621</td><td>2,645</td><td>2,668</td><td>2,696</td><td>2,722</td><td>2,737</td><td>2,756</td><td>2,775</td><td>2,799</td><td>2,822</td><td>2,844</td><td>2,863</td><td>2,658</td><td>2,748</td><td>2,832</td></t<>	S. Atlantic	2,621	2,645	2,668	2,696	2,722	2,737	2,756	2,775	2,799	2,822	2,844	2,863	2,658	2,748	2,832	
Mountain         922         929         938         948         957         962         969         976         986         995         1,004         1,011         934         966         999           Pacific         2,219         2,253         2,275         2,292         2,316         2,325         2,341         2,357         2,377         2,396         2,414         2,430         2,260         2,335         2,404           Households (Thousands)         New England         5,831         5,838         5,843         5,849         5,858         5,865         5,869         5,874         5,880         5,886         5,893         5,903         5,849         5,874         5,903           Middle Atlantic         15,986         16,005         16,014         16,027         16,046         16,075         16,080         16,089         16,100         16,116         16,132         16,027         16,080         18,699         18,712         18,728         18,744         18,763         18,784         18,640         18,784         18,784         18,640         18,794         18,794         18,763         18,784         18,784         18,784         18,784         18,784         18,784         18,784         18,784	E. S. Central	759	764	770	777	784	787	791	795	801	807	812	816	768	789	809	
Pacific   Paci	W. S. Central	1,710	1,705	1,718	1,732	1,745	1,751	1,762	1,775	1,790	1,808	1,824	1,838	1,716	1,758	1,815	
New England   S,831   S,838   S,843   S,843   S,849   S,858   S,865   S,866   S,869   S,874   S,880   S,886   S,893   S,903   S,849   S,874   S,903   Middle Atlantic   15,986   16,005   16,014   16,027   16,046   16,066   16,075   16,080   16,089   16,100   16,116   16,132   16,027   16,080   16,132   E. N. Central   18,666   18,613   18,623   18,640   18,662   18,685   18,699   18,712   18,728   18,744   18,763   18,784   18,640   18,712   18,784   W. N. Central   8,464   8,478   8,493   8,513   8,533   8,549   8,565   8,583   8,601   8,620   8,640   8,493   8,565   8,581   8,481   8,464   8,478   24,879   24,985   25,088   25,177   25,262   25,349   25,438   25,528   25,622   24,879   25,662   25,622   25,624   25,622   25,624   25,622   25,624   25,622   25,624	Mountain	922	929	938	948	957	962	969	976	986	995	1,004	1,011	934	966	999	
New England         5,831         5,838         5,843         5,849         5,858         5,865         5,869         5,874         5,880         5,886         5,893         5,903         5,849         5,874         5,903           Middle Atlantic         15,986         16,005         16,014         16,027         16,046         16,066         16,075         16,080         16,100         16,116         16,132         16,027         16,080         16,075         16,080         16,089         16,100         16,116         16,132         16,027         16,080         16,075         16,080         16,089         16,100         16,116         16,132         16,080         16,132         18,640         18,642         18,685         18,689         18,712         18,728         18,744         18,763         18,784         18,742         18,784         18,744         18,763         18,784         18,744         18,763         18,760         18,712         18,742         18,742         18,744         18,763         18,764         18,712         18,784         18,760         18,762         5,848         5,843         5,844         18,762         18,762         18,762         7,625         7,517         7,524         7,524         7,538         <	Pacific	2,219	2,253	2,275	2,292	2,316	2,325	2,341	2,357	2,377	2,396	2,414	2,430	2,260	2,335	2,404	
Middle Atlantic         15,986         16,005         16,014         16,027         16,046         16,066         16,075         16,080         16,080         16,100         16,116         16,132         16,027         16,080         16,132           E. N. Central         18,606         18,613         18,623         18,640         18,662         18,685         18,699         18,712         18,728         18,744         18,763         18,784         18,640         18,712         18,784           W. N. Central         8,448         8,464         8,478         8,493         8,513         8,533         8,549         8,565         8,583         8,601         8,620         8,640         8,493         8,565         8,640           S. Atlantic         24,611         24,700         24,787         24,879         24,985         25,088         25,177         25,262         25,349         25,438         25,528         25,622         24,879         25,662 <td>Households (Thousands)</td> <td></td>	Households (Thousands)																
E. N. Central         18,606         18,613         18,623         18,640         18,662         18,685         18,699         18,712         18,728         18,744         18,763         18,784         18,640         18,712         18,784           W. N. Central         8,448         8,448         8,448         8,478         8,493         8,513         8,533         8,549         8,565         8,583         8,601         8,620         8,640         8,493         8,565         8,640           S. Atlantic         24,611         24,700         24,877         24,879         24,985         25,088         25,177         25,262         25,349         25,528         25,528         25,622         24,879         25,622         25,622         25,349         25,438         25,528         25,528         25,622         24,879         25,622         25,622         25,349         25,438         25,528         25,528         25,622         24,879         25,622         25,622         25,438         25,528         25,528         25,622         24,879         25,622         25,622         25,622         24,879         25,622         24,879         24,879         24,879         4,639         14,639         14,639         14,639         14,639	New England	5,831	5,838	5,843	5,849	5,858	5,865	5,869	5,874	5,880	5,886	5,893	5,903	5,849	5,874	5,903	
W. N. Central         8,448         8,464         8,478         8,493         8,513         8,533         8,549         8,565         8,583         8,601         8,620         8,640         8,493         8,565         8,640           S. Atlantic         24,611         24,700         24,787         24,879         24,985         25,088         25,177         25,262         25,349         25,438         25,528         25,622         24,879         25,262         25,622           E. S. Central         7,517         7,524         7,532         7,543         7,558         7,574         7,586         7,598         7,611         7,625         7,639         7,654         7,543         7,598         7,654           W. S. Central         14,319         14,373         14,420         14,470         14,528         14,587         14,639         14,688         14,738         14,789         14,897         14,470         14,688         14,897           Mountain         8,783         8,817         8,886         8,928         8,967         9,005         9,041         9,078         9,116         9,156         9,197         8,886         9,041         9,197           Pacific         18,402         18,593 <td< td=""><td>Middle Atlantic</td><td>15,986</td><td>16,005</td><td>16,014</td><td>16,027</td><td>16,046</td><td>16,066</td><td>16,075</td><td>16,080</td><td>16,089</td><td>16,100</td><td>16,116</td><td>16,132</td><td>16,027</td><td>16,080</td><td>16,132</td></td<>	Middle Atlantic	15,986	16,005	16,014	16,027	16,046	16,066	16,075	16,080	16,089	16,100	16,116	16,132	16,027	16,080	16,132	
S. Atlantic         24,611         24,700         24,879         24,879         24,985         25,088         25,177         25,262         25,349         25,438         25,528         25,622         24,879         25,262         25,622         24,879         25,262         25,622         24,879         25,262         25,622         25,622         24,879         25,262         25,622         25,622         24,879         25,262         25,622         25,622         24,879         25,262         25,622         25,622         24,879         25,262         25,622         25,622         25,622         24,879         25,622         25	E. N. Central	18,606	18,613	18,623	18,640	18,662	18,685	18,699	18,712	18,728	18,744	18,763	18,784	18,640	18,712	18,784	
E. S. Central         7,517         7,524         7,532         7,533         7,558         7,574         7,586         7,598         7,611         7,625         7,639         7,634         7,533         7,588         7,654           W. S. Central         14,319         14,373         14,420         14,470         14,528         14,587         14,639         14,688         14,738         14,789         14,842         14,897         14,688         14,897           Mountain         8,783         8,817         8,851         8,886         8,928         8,967         9,005         9,041         9,078         9,116         9,156         9,197         8,886         9,041         9,197           Pacific         18,402         18,459         18,560         18,622         18,684         18,734         18,784         18,885         18,898         18,998         18,560         18,784         18,998           Total Non-farm Employment (Millions)         V. S. Central         7.2         7.2         7.3         7.3         7.3         7.3         7.4         7.4         7.4         7.2         7.2         7.3         7.4         7.3         7.4         7.4         7.4         7.4         7.2         7.3	W. N. Central	8,448	8,464	8,478	8,493	8,513	8,533	8,549	8,565	8,583	8,601	8,620	8,640	8,493	8,565	8,640	
W. S. Central         14,319         14,373         14,420         14,470         14,528         14,587         14,639         14,688         14,788         14,789         14,842         14,897         14,470         14,688         14,987           Mountain         8,783         8,817         8,851         8,886         8,928         8,967         9,005         9,041         9,078         9,116         9,156         9,197         8,886         9,041         9,197           Pacific         18,402         18,459         18,560         18,622         18,684         18,734         18,784         18,885         18,942         18,998         18,560         18,784         18,998           Total Non-farm Employment (Millions)         7.2         7.2         7.3         7.3         7.3         7.3         7.3         7.3         7.4         7.4         7.4         7.2         7.2         7.3         7.4         7.3         7.4         7.4         7.4         7.2         7.3         7.4         7.4         7.4         7.4         7.2         7.3         7.4         7.4         7.4         7.4         7.4         7.2         7.3         7.4         7.4         7.4         7.4         7.4	S. Atlantic	24,611	24,700	24,787	24,879	24,985	25,088	25,177	25,262	25,349	25,438	25,528	25,622	24,879	25,262	25,622	
Mountain         8,783         8,817         8,851         8,868         8,928         8,967         9,005         9,041         9,078         9,116         9,156         9,197         8,886         9,041         9,197           Pacific         18,402         18,459         18,508         18,560         18,622         18,684         18,734         18,784         18,835         18,888         18,942         18,998         18,560         18,784         18,998           Total Non-farm Employment (Millions)         New England         7,2         7,2         7,2         7,3         7,3         7,3         7,3         7,3         7,4         7,4         7,4         7,4         7,2         7,2         7,3         7,4         7,4         7,4         7,4         7,2         7,3         7,4	E. S. Central	7,517	7,524	7,532	7,543	7,558	7,574	7,586	7,598	7,611	7,625	7,639	7,654	7,543	7,598	7,654	
Pacific         18,402         18,459         18,508         18,560         18,662         18,662         18,734         18,734         18,835         18,885         18,942         18,998         18,560         18,784         18,998           Total Non-farm Employment (Millions)           New England         7.2         7.2         7.2         7.3         7.3         7.3         7.3         7.4         7.4         7.4         7.2         7.2         7.3         7.4           Middle Atlantic         18.99         19.0         19.1         19.2         19.2         19.3         19.3         19.4         19.4         19.4         19.4         19.1         19.3         19.4           E. N. Central         21.4         21.5         21.5         21.6         21.6         21.7         21.7         21.8         21.8         21.8         21.9         21.9         21.5         21.7         21.8           W. N. Central         10.4         10.5         10.5         10.5         10.5         10.6         10.6         10.6         10.6         10.7         10.7         10.7         10.5         10.6         10.7           S. Atlantic         26.7         26.9         <	W. S. Central	14,319	14,373	14,420	14,470	14,528	14,587	14,639	14,688	14,738	14,789	14,842	14,897	14,470	14,688	14,897	
Total Non-farm Employment (Millions)           New England         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         19.2         19.2         19.3         19.3         19.3         19.4         19.4         19.4         19.4         19.1         19.3         19.4           E. N. Central         21.4         21.5         21.5         21.6         21.6         21.7         21.7         21.8         21.8         21.9         21.9         21.5         21.7         21.8           W. N. Central         10.4         10.5         10.5         10.5         10.5         10.6         10.6         10.6         10.6         10.7         10.7         10.7         10.5         10.6         10.7           S. Atlantic         26.7         26.9         27.0         27.3         27.4         27.6         27.7         27.8         27.9         27.9         28.0         28.1         27.0         27.6         28.0           E. S. Central         7.8         7.8         7.8         7.9	Mountain	8,783	8,817	8,851	8,886	8,928	8,967	9,005	9,041	9,078	9,116	9,156	9,197	8,886	9,041	9,197	
New England       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       19.2       19.2       19.3       19.3       19.3       19.4       19.4       19.4       19.4       19.1       19.3       19.4         E. N. Central       21.4       21.5       21.5       21.6       21.6       21.7       21.7       21.8       21.8       21.9       21.9       21.5       21.7       21.8         W. N. Central       10.4       10.5       10.5       10.5       10.6       10.6       10.6       10.6       10.7       10.7       10.7       10.5       10.6       10.7         S. Atlantic       26.7       26.9       27.0       27.3       27.4       27.6       27.7       27.8       27.9       27.9       28.0       28.1       27.0       27.6       28.0         E. S. Central       7.8       7.8       7.9       7.9       8.0       8.0       8.0       8.0       8.0       8.0       8.1       7.8       8.0       8.0	Pacific	18,402	18,459	18,508	18,560	18,622	18,684	18,734	18,784	18,835	18,888	18,942	18,998	18,560	18,784	18,998	
Middle Atlantic       18.9       19.0       19.1       19.2       19.2       19.3       19.3       19.3       19.4       19.2       21.6       21.7	Total Non-farm Employme	ent (Millior	ıs)														
E. N. Central       21.4       21.5       21.5       21.6       21.6       21.7       21.7       21.8       21.8       21.8       21.9       21.9       21.5       21.7       21.8         W. N. Central       10.4       10.5       10.5       10.5       10.6       10.6       10.6       10.6       10.7       10.7       10.7       10.5       10.6       10.7         S. Atlantic       26.7       26.9       27.0       27.3       27.4       27.6       27.7       27.8       27.9       27.9       28.0       28.1       27.0       27.6       28.0         E. S. Central       7.8       7.8       7.9       7.9       8.0	New England	7.2	7.2	7.2	7.3	7.3	7.3	7.3	7.3	7.4	7.4	7.4	7.4	7.2	7.3	7.4	
W. N. Central       10.4       10.5       10.5       10.5       10.6       10.6       10.6       10.6       10.7       10.7       10.7       10.5       10.6       10.7         S. Atlantic       26.7       26.9       27.0       27.3       27.4       27.6       27.7       27.8       27.9       27.9       28.0       28.1       27.0       27.6       28.0         E. S. Central       7.8       7.8       7.9       7.9       8.0       8	Middle Atlantic	18.9	19.0	19.1	19.2	19.2	19.3	19.3	19.3	19.4	19.4	19.4	19.4	19.1	19.3	19.4	
S. Atlantic       26.7       26.9       27.0       27.3       27.4       27.6       27.7       27.8       27.9       27.9       28.0       28.1       27.0       27.6       28.0         E. S. Central       7.8       7.8       7.9       7.9       8.0 <td>E. N. Central</td> <td>21.4</td> <td>21.5</td> <td>21.5</td> <td>21.6</td> <td>21.6</td> <td>21.7</td> <td>21.7</td> <td>21.8</td> <td>21.8</td> <td>21.8</td> <td>21.9</td> <td>21.9</td> <td>21.5</td> <td>21.7</td> <td>21.8</td>	E. N. Central	21.4	21.5	21.5	21.6	21.6	21.7	21.7	21.8	21.8	21.8	21.9	21.9	21.5	21.7	21.8	
E. S. Central	W. N. Central	10.4	10.5	10.5	10.5	10.5	10.6	10.6	10.6	10.6	10.7	10.7	10.7	10.5	10.6	10.7	
E. S. Central	S. Atlantic	26.7	26.9	27.0	27.3	27.4	27.6	27.7	27.8	27.9	27.9	28.0	28.1	27.0	27.6	28.0	
W. S. Central		7.8	7.8	7.8	7.9	7.9	8.0	8.0	8.0	8.0	8.0	8.0	8.1	7.8	8.0	8.0	
100 100 100 100 100 100	W. S. Central	16.6	16.6	16.7	16.7	16.8	16.8	16.9	16.9	17.0	17.0	17.1	17.2	16.6	16.9	17.1	
Mountain	Mountain	9.9	10.0	10.0	10.1	10.2	10.2	10.3	10.3	10.3	10.4	10.4	10.5	10.0	10.2	10.4	
Pacific	Pacific	21.8	21.9	22.1	22.2	22.3	22.4	22.5	22.6	22.6	22.7	22.8	22.8	22.0	22.5	22.7	

<sup>- =</sup> 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 Informati	on Aami			π- ı erm	2016							1	Veer			
	1st	201 2nd	5 3rd	4th	1st	201 2nd	16 3rd	4th	1st	201 2nd	17 3rd	4th	2015	Year 2016	2017	
Heating Degree Days	ıst	ZIIQ	SIG	4tn	ıst	ZIIQ	3ra	4tN	181	ZIIQ	sra	4tN	2015	2016	2017	
	3,856	820	59	1,792	3,002	807	127	2,205	3,065	810	131	2,150	6 526	6,140	6,156	
New England	,				,			,	· ·				6,526 5,794	,	,	
Middle Atlantic	3,584	613	41	1,544	2,837	625	80	1,997	2,850	648	90	1,989	5,781	5,539	5,578	
E. N. Central	3,691	659 653	75 05	1,742	3,064	677	113	2,239	3,104	721	129 155	2,268	6,168	6,094	6,222	
W. N. Central	3,375	653	95	1,967	3,090	654	140	2,415	3,223	688	155	2,462	6,090	6,299	6,528	
South Atlantic	1,673 2,147	156 184	8	662	1,513 1,903	201	14 19	976	1,443	208 263	16 22	981	2,500	2,704	2,648	
E. S. Central	1,402	70	14 2	882 615	,	258	19	1,297 777	1,847	263 101	5	1,313 748	3,227	3,476	3,445	
W. S. Central	,	70 704	123		1,139	96	130		1,199		5 134		2,088	2,016	2,053	
Mountain	1,900			1,868	2,121	656		1,804	2,248	677		1,850	4,595	4,711	4,909	
Pacific	1,082	525	78	1,184	1,230	459	81	1,112	1,498	534	87	1,265	2,869	2,882	3,385	
U.S. Average	2,342	443	50	1,251	2,055	448	69	1,517	2,120	476	76	1,549	4,085	4,089	4,221	
Heating Degree Days, Pri	•	Average 838	424	2 4 4 7	3,213	824	133	2 105	3,217	821	127	2,133	6,285	6,273	6.299	
New England Middle Atlantic	3,166 2,935	666	134 90	2,147 1,976	,	624 651	90	2,105	3,217	648	127 85	2,133 1,950	6,265 5,667	5,650	5,683	
	,	694	123	•	,	689		1,926	,			,	•	,		
E. N. Central	3,192			2,262	3,246		125	2,205	3,274	693	121	2,218	6,272	6,266	6,305	
W. N. Central		691	150	2,433	3,298	693	150	2,393	3,322	706	145	2,408	6,546	6,534	6,582	
South Atlantic	1,481	196	14	1,013		185	14	975	1,518	188	13	980	2,704	2,676	2,699	
E. S. Central	1,853	236	19 5	1,358	1,899	225	19	1,308	1,920	233	17	1,307	3,466	3,451	3,477	
W. S. Central	1,188	86		834	1,221	83	5	814	1,236	90	4	815	2,113	2,123	2,145	
Mountain	•	730	150	1,873	2,231	724	147	1,880	2,220	731	139	1,871	5,012	4,981	4,961	
Pacific	1,534	621	92	1,205	1,495	609	88	1,210	1,453	596	87	1,199	3,453	3,402	3,335	
U.S. Average	2,183	493	77	1,567	2,199	483	76	1,534	2,203	484	73	1,538	4,319	4,293	4,298	
Cooling Degree Days	•	-4	400			00	407		•	00		•		500	540	
New England	0	71	486	0		99	437	0	0	99	444	0	557	536	543	
Middle Atlantic	0	184	612	3		181	580	6	0	177	577	5	799	767	759	
E. N. Central	0	221	499	9		234	573	9	0	221	553	8	728	816	782	
W. N. Central	3	267	660	13	3	285	711	12	3	275	688	11	942	1,011	977	
South Atlantic	136	760	1,154	335	99	632	1,158	233	114	632	1,167	234	2,385	2,122	2,147	
E. S. Central	23	579	1,018	96	20	509	1,067	72	27	507	1,069	69	1,717	1,667	1,672	
W. S. Central	50	853	1,569	269	81	826	1,500	212	72	863	1,609	227	2,741	2,620	2,770	
Mountain		432	919	86	25	443	972	87	19	439	973	88	1,483	1,527	1,520	
Pacific	53	229	688	124	28	204	586	76	32	211	613	77	1,094	894	933	
U.S. Average	46	433	875	134	37	402	866	98	40	405	882	100	1,488	1,404	1,427	
Cooling Degree Days, Pri	-	_					440				40.0		=	=0.4		
New England	0	85	420	1	0	81	419	1	0	83	423	1	506	501	507	
Middle Atlantic	0	168	557	5	0	168	548	5	0	172	551	6	731	722	729	
E. N. Central	3	234	545	6		229	528	6	3	235	529	7	787	766	774	
W. N. Central	7	282	683	9		279	674	9	7	278	672	10	981	969	967	
South Atlantic	110	635	1,154	210	113	659	1,143	221	113	662	1,145	225	2,108	2,137	2,144	
E. S. Central	33	526	1,053	52	32	541	1,038	56	31	542	1,037	59	1,663	1,667	1,669	
W. S. Central	94	883	1,519	184	90	890	1,517	191	86	875	1,518	193	2,679	2,689	2,672	
Mountain	17	423	930	75	21	429	930	76	22	422	939	78	1,445	1,456	1,463	
Pacific	26	170	601	65	29	180	613	72	30	178	609	75	863	894	892	
U.S. Average	40	396	849	83	42	404	845	89	41	404	847	91	1,369	1,379	1,383	

<sup>- =</sup> 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).