

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

## **Highlights**

- North Sea Brent crude oil prices averaged \$61/barrel (b) in June, a \$3/b decrease from May. Crude oil prices fell by about \$4/b on July 6 in the aftermath of the "no" vote in Greece on the economic program, as well as lingering concerns about lower economic growth in China, higher oil exports from Iran, and continuing growth in global petroleum and other liquids inventories. A percent price change of this extent on a single day is unusual, but despite daily price volatility, monthly Brent crude oil prices have averaged between \$55/b and \$65/b per month since falling to \$48/b in January.
- EIA forecasts that Brent crude oil prices will average \$60/b in 2015 and \$67/b in 2016.
   Forecast West Texas Intermediate (WTI) crude oil prices in both 2015 and 2016 average \$5/b less than the Brent price. The current values of futures and options contracts for December 2015 delivery (Market Prices and Uncertainty Report) suggest the market expects WTI prices in December 2015 to range from \$41/b to \$89/b (at the 95% confidence interval).
- U.S. regular gasoline monthly average retail prices reached \$2.80/gallon (gal) in June, an increase of 8 cents/gal from May but 89 cents/gal lower than in June 2014. The price rise between May and June reflects signals of strong gasoline demand in the United States and abroad. EIA expects monthly average gasoline prices to decline gradually from their June level to an average of \$2.49/gal during the second half of 2015. EIA forecasts U.S. regular gasoline retail prices to average \$2.48/gal for all of 2015.
- EIA estimates total U.S. crude oil production declined by 50,000 barrels per day (b/d) in May compared with April. Production is expected to generally continue falling through early 2016 before growth resumes. Projected U.S. crude oil production averages 9.5 million b/d in 2015 and 9.3 million b/d in 2016.
- Natural gas working inventories were 2,577 billion cubic feet (Bcf) on June 26, which was 35% higher than a year earlier and 1% higher than the previous five-year average (2010-14). Although injections have been strong most weeks, hot temperatures and high demand from the electric power sector contributed to lower-than-average injections during late June. Nevertheless, working inventories are on pace to end the injection season above the previous five-year average. EIA projects end-of-October stocks will be 3,919 Bcf, 121 Bcf (3.2%) more than the five-year average.

## **Global Petroleum and Other Liquids**

Global liquids production continues to exceed consumption, resulting in inventory builds. Global oil inventory builds are estimated to have averaged 2.2 million b/d through the first half of 2015 and are projected to average 1.5 million b/d during the second half of the year. The slowing increases in inventory reflect rising demand and slowing production growth outside of the Organization of the Petroleum Exporting Countries (OPEC), particularly in the United States. The expected inventory builds in 2015 are on top of an estimated 0.9 million b/d increase in 2014. By 2016, inventory builds are expected to moderate to 0.6 million b/d.

**Global Petroleum and Other Liquids Consumption**. EIA estimates global consumption of petroleum and other liquids grew by 1.1 million b/d in 2014, averaging 92.4 million b/d for the year. EIA expects global consumption of petroleum and other liquids to grow by 1.3 million b/d in 2015 and by 1.4 million b/d in 2016. Projected real gross domestic product (GDP) weighted for oil consumption, which increased by an estimated 2.8% in 2014, is projected to grow by 2.5% in 2015 and by 3.1% in 2016.

Consumption of petroleum and other liquids outside Organization for Economic Cooperation and Development (OECD) countries grew by 1.4 million b/d in 2014 and is projected to grow by 0.8 million b/d in 2015 and by 1.1 million b/d in 2016. Lower forecast growth for non-OECD consumption in 2015 mostly reflects a 0.2 million b/d decline in Russia's consumption as a result of the country's economic downturn. Russia's oil consumption is expected to decline by a similar amount in 2016, although it is offset by growth elsewhere. China's economic growth slowed in the second half of 2014 and in the beginning of 2015. However, China remains the main source of non-OECD oil consumption growth, with a projected annual average increase of 0.3 million b/d in both 2015 and 2016, down from growth of 0.4 million b/d in 2014. India's economic and manufacturing growth continued to rise in the first half of 2015, and EIA projects India's petroleum and other liquids consumption will increase by 0.2 million b/d in 2015 and 2016, compared with 0.1 million b/d in 2014.

OECD petroleum and other liquids consumption, which fell by 0.4 million b/d in 2014, is expected to grow by 0.4 million b/d in 2015 and by 0.3 million b/d in 2016. Japan and Europe accounted for nearly all of the 2014 decline in OECD oil consumption. Japan's consumption is expected to continue declining over the next two years, albeit at a slower rate than in 2014, while Europe's consumption is expected to grow slowly. The United States is the leading contributor to projected OECD consumption growth in 2015, with U.S. consumption increasing by 0.4 million b/d, while consumption in both the United States and Europe increases by about 0.1 million b/d in 2016. The degree to which global oil demand responds to lower oil prices is only beginning to become apparent in the data, and, if that response deviates from forecast values, it could affect market balances and prices.

**Non-OPEC Petroleum and Other Liquids Supply.** EIA estimates that non-OPEC petroleum and other liquids production grew by 2.3 million b/d in 2014, which mainly reflects production growth in the United States. EIA expects non-OPEC production to grow by 1.4 million b/d in

2015 and by 0.2 million b/d in 2016. After remaining relatively flat in 2015, production in Eurasia is projected to decline by 0.1 million b/d in 2016. The projected decline reflects reduced investment in Russia's oil sector stemming from low oil prices and international sanctions.

Unplanned supply disruptions among non-OPEC producers averaged about 0.8 million b/d in June 2015, unchanged compared with the previous month as May outages in Canada extended into June. Wildfires in western Canada that started in the second half of May led to oil sands production outages averaging about 0.1 million b/d for May and June. Oil sands projects that had been shut down because of the fires resumed production in the second week of June. Recent violence in Yemen continues to interrupt operations at an oil port and refinery. South Sudan, Syria, and Yemen accounted for more than 75% of total non-OPEC supply disruptions in June.

**OPEC Petroleum and Other Liquids Supply**. EIA estimates that OPEC crude oil production averaged 30.1 million b/d in 2014, unchanged from the previous year. Crude oil production declines in Libya, Angola, Algeria, and Kuwait offset production growth in Iraq and Iran. EIA forecasts OPEC crude oil production to increase by 0.6 million b/d in 2015 and decrease by 0.2 million b/d in 2016. Iraq is expected to be the largest contributor to OPEC production growth in 2015. At the OPEC meeting on June 5, the group did not change its 30 million b/d crude oil production target. EIA forecasts OPEC crude oil production will continue to exceed that target over the forecast period, contributing to expected global inventory builds.

On April 2, Iran and the five permanent members of the United Nations Security Council plus Germany (P5+1) reached a framework agreement to guide negotiations targeting a comprehensive agreement by June 30. Negotiations continued beyond the June 30 target, and July 7 was agreed as the new target date for a comprehensive agreement. However, no agreement had been reached by the time of this writing. A comprehensive agreement could result in the lifting of oil-related sanctions against Iran and a subsequent increase in Iran's crude oil production and exports, although the timing and details of any suspension of sanctions are uncertain. EIA has not changed its short-term projection for Iranian crude oil production, which assumes that production will stay close to the current level.

Iran produced 3.6 million b/d of crude oil in late 2011, before the recent round of sanctions was enacted. The sanctions forced Iran to shut in a substantial portion of its production, lowering output to an estimated 2.9 million b/d in June 2015. Iran's ability to bring online previously shutin volumes and increase exports depends on several factors, including the current condition of oil fields and infrastructure that were shut in, the pace of sanctions relief, and the ability of Iran to find buyers in the present market. If a comprehensive agreement is reached, EIA estimates that the re-entry of more Iranian oil could result in a \$5/b-\$15/b lower baseline STEO price forecast for 2016 (see the analysis box on page 5 of the April 2015 STEO for further discussion).

OPEC noncrude liquids production, which averaged 6.3 million b/d in 2014, is expected to increase by 0.1 million b/d in 2015 and by 0.2 million b/d in 2016, led by production increases in Qatar, Iran, and Kuwait.

In June, unplanned crude oil supply disruptions among OPEC producers averaged 2.5 million b/d, unchanged from May. Higher disruptions in May in Kuwait and Saudi Arabia extended into June. Production at the Wafra field, located in the Neutral Zone that straddles Kuwait and Saudi Arabia, ceased in mid-May as the operators attempted to resolve a contract dispute. The continued suspension of Wafra's production increased disruptions in June by a total of 0.1 million b/d, split between Kuwait and Saudi Arabia. This suspension came after the previous production shut-in at the Khafji field in the Neutral Zone.

EIA expects OPEC surplus crude oil production capacity, which is concentrated in Saudi Arabia, to decrease to an average of 1.8 million b/d in 2015 and increase to 2.1 million b/d in 2016, after averaging 2.0 million b/d in 2014. Surplus capacity is typically an indication of market conditions, and surplus capacity below 2.5 million b/d is an indicator of a relatively tight oil market, but the current and forecast levels of global inventory builds make the projected low surplus capacity level in 2015 less significant.

**OECD Petroleum Inventories**. EIA estimates that OECD commercial oil inventories totaled 2.69 billion barrels at the end of 2014, equivalent to roughly 59 days of consumption. Projected OECD oil inventories rise to 2.95 billion barrels at the end of 2015 and then to 3.00 billion barrels at the end of 2016.

**Crude Oil Prices.** North Sea Brent crude oil spot prices decreased by \$3/b in June to a monthly average of \$61/b. Oil prices have been relatively stable in recent months despite consistent growth in global petroleum and other liquids inventories, which grew by an estimated 1.9 million b/d in June and an average of almost 3.0 million b/d April and May, compared with an average build of 0.8 million b/d in the second quarter of 2014. Inventory builds are projected to moderate somewhat in the coming months, but are expected to remain high compared with previous years.

The monthly average WTI crude oil spot price increased to an average of \$60/b in June, up \$1/b from May. After increasing for 20 consecutive weeks to a record 62.2 million barrels on April 17, crude oil inventories at Cushing, Oklahoma, have since decreased by 5.8 million barrels as of June 26. Along with falling Cushing inventories, strong U.S. refinery runs and production outages in Canada have put upward pressure on the price of WTI crude oil.

EIA projects the Brent crude oil price will average \$60/b in 2015 and \$67/b in 2016, both unchanged from last month's STEO. WTI prices in both 2015 and 2016 are expected to average \$5/b less than the Brent crude oil price. However, this price projection remains subject to the uncertainties surrounding the possible lifting of sanctions against Iran and other market events. In addition, there is potential downward price pressure in the second half 2015 once refinery runs moderate following the seasonal peaks in demand from the summer driving season.

The current values of futures and options contracts continue to suggest high uncertainty in the price outlook (*Market Prices and Uncertainty Report*). WTI futures contracts for October 2015 delivery traded during the five-day period ending July 1 averaged \$59/b, while implied volatility averaged 31%. These levels established the lower and upper limits of the 95% confidence

interval for the market's expectations of monthly average WTI prices in October 2015 at \$45/b and \$79/b, respectively. The 95% confidence interval for market expectations widens over time, with lower and upper limits of \$41/b and \$89/b for prices in December 2015. Last year at this time, WTI for October 2014 delivery averaged \$104/b, and implied volatility averaged 14%. The corresponding lower and upper limits of the 95% confidence interval were \$92/b and \$118/b.

## **U.S. Petroleum and Other Liquids**

U.S. weekly regular gasoline retail prices reached a 2015 year-to-date high of \$2.84/gal on June 15, an increase of 43 cents/gal from early in the second quarter but 85 cents/gal below the same time last year. Strong demand for gasoline in both the United States and abroad has driven gasoline prices higher over the past two months despite relatively stable crude oil prices. Data from the U.S. Federal Highway Administration show Americans drove a record 988 billion miles during the first four months of 2015, compared with the previous record of 966 billion miles driven in the first four months of 2007. As a result, refinery wholesale gasoline margins (the difference between the wholesale price of gasoline and the price of Brent crude oil) have been strong in recent months leading to record high levels of refinery runs. U.S. average wholesale gasoline margins averaged 62 cents/gal in June, 28 cents/gal higher than June of last year and 25 cents/gal higher than the five-year average (2010-14) for June.

Refinery outages on the West Coast have contributed to gasoline prices in that region rising by more than the U.S. average during May. As those outages have abated and imports have helped resupply the market, regular gasoline prices in Petroleum Administration for Defense District (PADD) 5 declined to an average of \$3.31/gal on June 29, 20 cents/gal lower than their recent peak on May 18. In June, monthly average regional gasoline retail prices ranged from a low of \$2.55/gal in PADD 3, the Gulf Coast region, to a high of \$3.36/gal in PADD 5, the West Coast. EIA expects gasoline prices to fall from their current peaks, with the U.S. regular gasoline price averaging \$2.49/gal over the second half of 2015, 6 cents/gal higher than forecast in last month's STEO.

**Liquid Fuels Consumption.** Total U.S. liquid fuels consumption rose by an estimated 70,000 b/d (0.4%) in 2014. Total liquid fuels consumption is forecast to grow by 400,000 b/d (2.1%) in 2015 and by 120,000 b/d (0.6%) in 2016. The 2015 and 2016 consumption forecasts are about 20,000 b/d higher and 70,000 b/d higher, respectively, than forecast in last month's STEO.

Motor gasoline consumption, which rose by 80,000 b/d in 2014, will increase by a projected 170,000 b/d (1.9%) in 2015 as the effects of employment growth and lower gasoline prices outweigh increases in vehicle fleet efficiency. Gasoline consumption is forecast to fall by 20,000 b/d (0.2%) in 2016, driven by higher prices and a long-term trend toward more fuel-efficient vehicles.

Consumption of distillate fuel, which includes diesel fuel and heating oil, is forecast to rise by 90,000 b/d (2.3%) in 2015 and by 70,000 b/d (1.7%) in 2016. This growth is driven by increasing manufacturing output, foreign trade, and marine fuel use.

Hydrocarbon gas liquids (HGL) consumption, which decreased by 100,000 b/d (4.0%) in 2014, is projected to increase by 120,000 b/d in 2015 and by 60,000 b/d in 2016, as new petrochemical plant capacity increases the use of HGL as a feedstock. In addition, new HGL export terminal capacity contributes to an increase in HGL net exports from an average of 560,000 b/d in 2014 to 1.1 million b/d in 2016.

**Liquid Fuels Supply.** U.S. crude oil production is projected to increase from an average of 8.7 million b/d in 2014 to 9.5 million b/d in 2015 and then decline to 9.3 million b/d in 2016. The forecast is about 40,000 b/d higher for both 2015 and 2016 than in last month's STEO. The increase in the crude oil production forecast reflects upward revisions to estimated Gulf of Mexico production in the second quarter of 2015.

EIA estimates that U.S. crude oil production averaged almost 9.6 million b/d in the first half of 2015. This level is 0.3 million b/d higher than the average production during the fourth quarter of 2014, despite a 60% decline in the total U.S. oil-directed rig count since October 2014.

The most recent production estimates, which include historical data through April 2015, indicate U.S. output was 9.7 million b/d in April. EIA estimates that total U.S. production began declining in May, falling 50,000 b/d from the April level. Although total U.S. production increased in April, the data indicate that onshore production began declining in April. While the production estimates are subject to revision as new data become available from the states, the preliminary evidence is supported by reported April production declines in major producing states such as North Dakota.

EIA expects U.S. crude oil production declines to continue into early 2016, when total production is forecast to average 9.2 million b/d in the first quarter. Production is forecast to begin rising in the second quarter of 2016, returning to an average of 9.6 million b/d in the fourth quarter. A total of 13 projects are scheduled to come online in the Gulf of Mexico in 2015 and 2016, pushing Gulf of Mexico production up from an average of 1.4 million b/d in the fourth quarter of 2014 to almost 1.7 million b/d in the same period of 2016, an increase of 17%.

Expected crude oil production declines from April 2015 through February 2016 are largely attributable to unattractive economic returns in some areas of both emerging and mature onshore oil production regions, as well as seasonal factors such as anticipated hurricane-related production disruptions in the Gulf of Mexico. Reductions in 2015 cash flows and capital expenditures have prompted companies to defer or redirect investment away from marginal exploration and research drilling to focus on core areas of major tight oil plays. Reduced investment has resulted in the lowest count of oil-directed rigs in nearly five years.

Projected 2015 oil prices remain high enough to support continued development drilling in the core areas of the Bakken, Eagle Ford, Niobrara, and Permian basins. Forecast WTI crude oil prices create conditions in which continued increases in rig and well productivity and falling drilling and completion costs make rig count increases and resumption of onshore production growth possible in 2016. The forecast remains sensitive to actual wellhead prices and rapidly changing drilling economics that vary across regions and operators. While projected oil

production in the Gulf of Mexico rises during the forecast period, Alaska oil production falls. Production in these areas is less sensitive to short-term price movements than onshore production in the Lower 48 states and reflects anticipated growth from new projects and declines from legacy fields.

HGL production at natural gas processing plants is estimated to have reached a record level of 3.3 million b/d in April 2015, and it is projected to average 3.3 million b/d in 2015 and 3.5 million b/d in 2016. EIA expects higher ethane recovery rates following planned increases in petrochemical plant feedstock demand. Export terminal expansions will allow higher quantities of domestically produced ethane, propane, and butanes to reach the international market.

The growth in domestic crude oil and other liquids production has contributed to a significant decline in imports. The share of total U.S. liquid fuels consumption met by net imports fell from 60% in 2005 to an estimated 26% in 2014. EIA expects the net import share to decline to 21% in 2016, which would be the lowest level since 1968.

**Petroleum Product Prices.** Rising crude oil prices, strong demand for U.S. gasoline, and several refinery outages in the Midwest and West Coast contributed to an increase in U.S. regular gasoline retail prices from a monthly average of \$2.47/gal in April to \$2.80/gal in June. EIA expects monthly average prices to decline through the summer as refineries continue to produce high levels of gasoline and as demand begins to decrease following the peak in the summer driving season. EIA projects regular gasoline retail prices to average \$2.63/gal during the third quarter of 2015, 11 cents/gal higher than in last month's STEO, and \$2.34/gal in the fourth quarter.

The U.S. regular gasoline retail price, which averaged \$3.36/gal in 2014, is projected to average \$2.48/gal in 2015, 4 cents/gal higher than in last month's STEO, and \$2.55/gal in 2016, which is unchanged from last month's STEO.

The diesel fuel retail price, which averaged \$3.83/gal in 2014, is projected to fall to an average of \$2.86/gal in 2015, 2 cents/gal lower than in last month's STEO, and then rise to \$3.03/gal in 2016.

As with crude oil, the market's expectation of uncertainty in monthly average gasoline prices is reflected in the pricing and implied volatility of futures and options contracts. New York Harbor reformulated blendstock for oxygenate blending (RBOB) futures contracts for October 2015 delivery, traded over the five-day period ending July 1, averaged \$1.80/gal. The probability that the RBOB futures price will exceed \$2.35/gal (consistent with a U.S. average regular gasoline retail price above \$3.00/gal) in October 2015 is about 5%.

#### **Natural Gas**

Preliminary data indicate that natural gas production in the Northeast declined during May and June, contributing to total U.S. natural gas production in June averaging 78.2 Bcf per day (Bcf/d), down 1.2 Bcf/d from the April level. The decline largely reflects maintenance and construction in

the Marcellus producing area. Transcontinental Pipeline restricted capacity on segments of its Leidy Line, which flows natural gas produced in the Marcellus Shale to market areas, beginning May 1 and lasting through late June. The capacity restrictions were related to construction on an expansion that will ultimately increase Marcellus takeaway capacity. EIA expects production growth will resume in July.

Natural Gas Consumption. EIA's forecast of U.S. total natural gas consumption averages 76.5 Bcf/d in 2015 and 76.4 Bcf/d in 2016, compared with 73.5 Bcf/d in 2014. Consumption growth in 2015 is largely driven by demand in the industrial and electric power sectors. EIA projects natural gas consumption in the power sector to grow by 12.9% in 2015 and then fall by 2.7% in 2016. Low natural gas prices support increased use of natural gas for electricity generation in 2015. Industrial sector consumption increases by 3.3% in 2015 and by 3.9% in 2016, as new industrial projects come online, particularly in the fertilizer and chemicals sectors, and as industrial consumers continue to take advantage of low natural gas prices. Natural gas consumption in the residential and commercial sectors is projected to decline in 2015 and 2016.

**Natural Gas Production and Trade.** EIA expects that marketed natural gas production will increase by 4.3 Bcf/d (5.7%) and by 1.6 Bcf/d (2.0%) in 2015 and 2016, respectively. Despite recent declines, natural gas production remains high, and EIA expects continued growth through 2016, with increases in the Lower 48 states expected to more than offset long-term production declines in the Gulf of Mexico. Increases in drilling efficiency will continue to support growing natural gas production in the forecast despite relatively low natural gas prices. Most of the growth is expected to come from the Marcellus Shale, as the backlog of uncompleted wells is reduced and new pipelines come online to deliver Marcellus natural gas to markets in the Northeast.

Increases in domestic natural gas production are expected to reduce demand for natural gas imports from Canada and to support growth in exports to Mexico. EIA expects natural gas exports to Mexico, particularly from the Eagle Ford Shale in South Texas, to increase because of growing demand from Mexico's electric power sector, coupled with flat Mexican natural gas production.

EIA projects LNG gross exports will increase to an average of 0.79 Bcf/d in 2016, with the startup of a major LNG liquefaction plant in the Lower 48 states.

**Natural Gas Inventories.** On June 26, natural gas working inventories totaled 2,577 Bcf, which was 662 Bcf (35%) above the level at the same time in 2014 and 29 Bcf (1%) above the previous five-year average (2010-14) for that week. To this point in the inventory refill season, injections have surpassed the five-year average injections by a wide margin. EIA projects end-of-October 2015 inventories will total 3,919 Bcf, 121 Bcf (3.2%) above the five-year average for that time.

**Natural Gas Prices.** The Henry Hub natural gas spot price averaged \$2.78/million British thermal units (MMBtu) in June, a decrease of 7 cents/MMBtu from the May price. EIA expects monthly average spot prices to remain lower than \$3/MMBtu in July, and lower than \$4/MMBtu through

the remainder of the forecast. The projected Henry Hub natural gas price averages \$2.97/MMBtu in 2015 and \$3.31/MMBtu in 2016.

Natural gas futures contracts for October 2015 delivery traded during the five-day period ending July 1 averaged \$2.85/MMBtu. Current options and futures prices imply that market participants place the lower and upper bounds for the 95% confidence interval for October 2015 contracts at \$1.92/MMBtu and \$4.24/MMBtu, respectively. At this time last year, the natural gas futures contract for October 2014 delivery averaged \$4.40/MMBtu, and the corresponding lower and upper limits of the 95% confidence interval were \$3.37/MMBtu and \$5.76/MMBtu, respectively.

#### Coal

**Coal Supply.** Lower coal demand for domestic consumption and exports is projected to contribute to a 75 million short ton (MMst) decline in production for 2015. Coal production is expected to decline in all coal-producing regions, and coal production is projected to remain near 2015 levels in 2016.

Electric power sector stockpiles increased to 168 MMst in April (the most recent month for which data are available), nearly 40 MMst higher than in April 2014.

**Coal Consumption.** EIA expects a 7% decrease in coal consumption in the electric power sector in 2015. Lower natural gas prices are the primary factor driving the decline. Projected low natural gas prices make it more economical to run natural gas-fired generating units at higher utilization rates even in regions of the country that typically rely more heavily on coal-fired generation (Midwest, South). Retirements of coal power plants in response to the implementation of the Mercury and Air Toxics Standards (MATS) have a lesser impact on coal demand in the power sector in 2015.

The full effect of the coal plant retirements on capacity resulting from MATS, which the Supreme Court recently sent back to the Court of Appeals for the D.C. Circuit for further review, will occur in 2016. However, projected rising electricity demand and higher natural gas prices are expected to contribute to higher utilization rates among the remaining coal-fired fleet. Even with continued MATS implementation, coal consumption in the electric power sector is forecast to increase 1.3% in 2016.

**Coal Trade.** Slower growth in world coal demand, lower international coal prices, and higher coal output in other coal-exporting countries have led to a two-year decline in U.S. coal exports. EIA projects coal exports will fall by 10 MMst, to 87 MMst, in 2015, but coal exports are expected to increase slightly in 2016. U.S. coal imports, which increased by more than 2 MMst in 2014 to 11 MMst, are expected to remain near that level over the next two years.

**Coal Prices.** The annual average coal price to the electric power sector fell from \$2.39/MMBtu in 2011 to \$2.36/MMBtu in 2014. EIA expects the delivered coal price to average \$2.29/MMBtu in 2015 and \$2.30/MMBtu in 2016.

## **Electricity**

The North American Electric Reliability Corporation (NERC) indicates that there are adequate resources available this summer to meet projected peak electricity demand levels. Even in areas of the United States that have experienced constraints in certain power generation supplies, reliability of the bulk power system should not be a concern this summer. California's drought has significantly lowered available hydroelectric resources within the state, but the California Independent System Operator has determined that recent additions of renewable generation capacity and increased imports of electricity from the Pacific Northwest should be enough to cover peak power demand this year, even under an extreme scenario of high electricity consumption and possible generator outages.

**Electricity Consumption**. EIA forecasts that the typical U.S. residential electricity customer will use an average of 1,044 kilowatthours per month this summer (June, July, and August). This level of consumption would be 3.7% higher than the same period last year. The increase is driven primarily by an expected 13% increase in summer cooling degree days. For the year, EIA expects U.S. retail sales of electricity to the residential sector during 2015 to grow by 0.3% from 2014 levels. Residential sales of electricity are expected to fall by 1.0% in 2016 in response to projected milder summer and winter temperatures next year that reduce cooling and heating-related consumption.

**Electricity Generation.** U.S. generation of electricity fueled by natural gas exceeded coal-fired generation for the first time on record in April 2015, primarily because of sustained low natural gas prices. Normal seasonal fluctuations in the fuel mix and projected increases in the cost of natural gas for power generation should result in coal-fired generation exceeding natural gas generation for the rest of 2015. EIA forecasts coal's share of U.S. total generation will average 35.6% in 2015, down from 38.7% in 2014. In contrast, the natural gas fuel share averages 30.9% this year, up from 27.4% in 2014.

**Electricity Retail Prices.** The U.S. retail price of electricity to the residential sector is projected to average 12.8 cents per kilowatthour in 2015, which is 2.5% higher than the average price last year. This year-over-year increase in average electricity prices, combined with higher expected summer residential use, leads to a forecast 5.9% (\$23) increase in the typical residential customer's summer electricity expenditures compared with last summer.

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

**Electricity and Heat Generation from Renewables.** EIA expects renewables used in the electric power sector will grow by 1.8% in 2015; conventional hydropower generation decreases by 2.0% and nonhydropower renewable power generation increases by 5.5%. The 2015 decrease in hydropower generation reflects the effects of the California drought, which are only partially offset by growth in use of hydropower elsewhere. Generation from hydropower is expected to increase by 5.4% in 2016. Total renewables consumption for electric power and heat generation decreases by 1.2% in 2015 and increases by 5.5% in 2016.

EIA expects continued growth in utility-scale solar power generation, which is projected to average 86 gigawatthours per day (GWh/d) in 2016. Because the growth is from a small base, utility-scale solar power averages only 0.8% of total U.S. electricity generation in 2016. Although solar growth has historically been concentrated in customer-sited distributed generation installations (rooftop panels), EIA expects utility-scale solar capacity will increase by 90% between the end of 2014 and the end of 2016, with more than half of this new capacity being built in California. Other leading states include North Carolina, Nevada, Texas, and Utah, which, combined with California, account for more than 90% of the projected utility-scale capacity additions for 2015 and 2016. According to current law, projects coming online after the end of 2016 will see a federal investment tax credit of 10%, below the 30% investment tax credit available for projects that come online before the end of 2016. This impending decline in the tax credit provides a strong incentive for projects to enter service before the end of 2016.

Wind capacity, which grew by 8.3% in 2014, is forecast to increase by 12.8% in 2015 and by 13.0% in 2016. Because wind is starting from a much larger base than solar, even though the growth rate is lower, the absolute increase in wind capacity is twice that of solar: 18 GW of wind compared with 9 GW of utility-scale solar between 2014 and 2016.

**Liquid Biofuels.** On May 29, the U.S. Environmental Protection Agency (EPA) proposed a rule setting Renewable Fuel Standard (RFS) volumes for 2014 through 2016. Although these volumes could be modified before the final rule is issued, they are used in developing the current STEO. Ethanol production, which averaged 935,000 b/d in 2014, is forecast to remain near current levels in 2015 and 2016. Ethanol consumption, which averaged 878,000 b/d in 2014, is forecast to average 894,000 b/d in 2015 and 902,000 b/d in 2016, resulting in an average 9.9% ethanol share of the total gasoline pool in 2015 and 2016. EIA does not expect measurable increases in E15 or E85 consumption over the forecast period. The proposed RFS targets are expected to encourage imports of Brazilian sugarcane ethanol, which were 3,000 b/d in 2014. Because of the expected increase in ethanol gross imports, net exports of ethanol are forecast to fall from 51,000 b/d in 2014, to 44,000 b/d in 2015, and to 36,000 b/d in 2016.

EIA expects the biggest effect of the proposed RFS targets to be on biodiesel consumption, which contributes to meeting the biomass-based diesel, advanced biofuel, and total renewable fuel RFS targets. Biodiesel production averaged an estimated 81,000 b/d in 2014 and is forecast to average 91,000 b/d in 2015 and 98,000 b/d in 2016. Net imports of biomass-based diesel are also expected to increase from 16,000 b/d in 2014, to 24,000 b/d in 2015, and to 35,000 b/d in 2016. EIA expects that a combination of higher biomass-based diesel consumption, higher consumption of domestic and imported ethanol, and banked Renewable Identification Numbers (RINs) will help meet the newly proposed RFS volumes through 2016.

**Energy-Related Carbon Dioxide Emissions.** EIA estimates that emissions grew by 1.0% in 2014. Emissions are projected to decrease by 0.2% in 2015 and then rise by 0.4% in 2016. These forecasts are sensitive to both weather and economic assumptions.

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

**Recent Economic Indicators**. The Bureau of Economic Analysis (BEA) reported that real GDP decreased at an annual rate of 0.2% in the first quarter of 2015, above the previous estimate of a 0.7% decrease. With this estimate for the first quarter, exports decreased less than previously estimated and personal consumption expenditures and imports increased more.

EIA used the June 2015 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 2.0% in 2015 and rises to 2.8% in 2016. The 2015 growth is below the 2.2% forecast last month, while the 2016 growth is above the 2.6% forecast of last month. Real disposable income grows by 3.5% in 2015, above the 3.3% forecast last month, and by 2.5% in 2016. Total industrial production grows at 1.7% in 2015 and 3.4% in 2016. Projected growth in nonfarm employment averages 2.0% in 2015 and 1.4% in 2016.

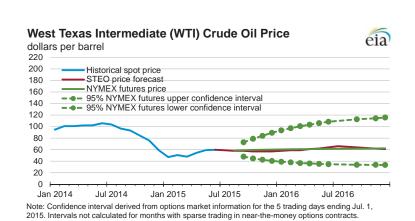
**Expenditures.** Forecast private real fixed investment growth averages 4.4% and 7.6% in 2015 and 2016, respectively, led by equipment in 2015 and 2016 and by equipment and structures in 2016. Real consumption expenditures grow faster than real GDP in 2015, at 2.8%, and below real GDP in 2016 at 2.7%. Durable goods expenditures drive consumption spending in both years. Export growth is 1.6% and 4.9% over the same two years, while import growth is 5.4% in 2015 and 5.8% in 2016. Total government expenditures rise 0.8% in 2015 and 0.7% in 2016.

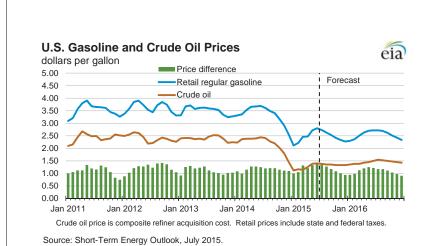
This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views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

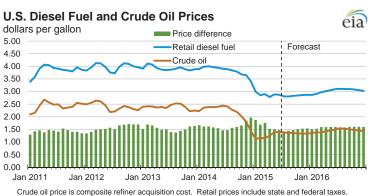


# **Short-Term Energy Outlook**

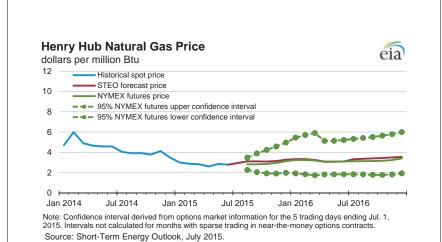
# Chart Gallery for July 2015

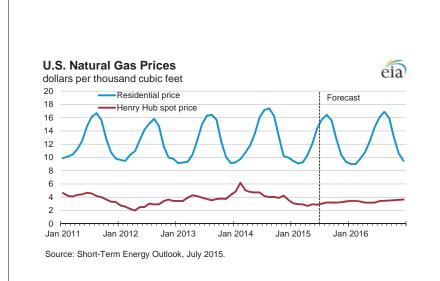


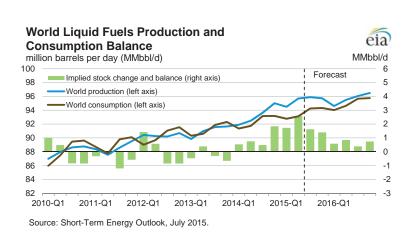


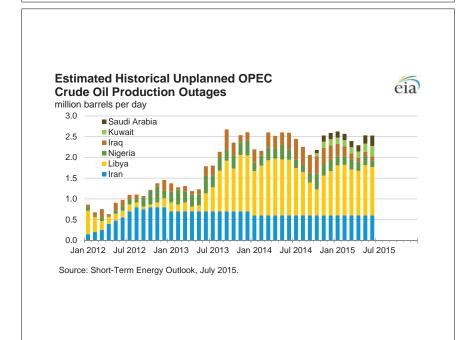


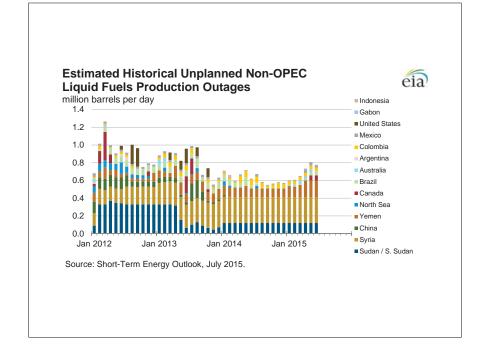
Crude oil price is composite refiner acquisition cost. Retail prices include state and re

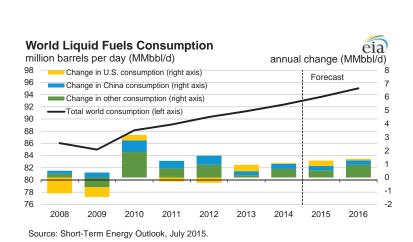


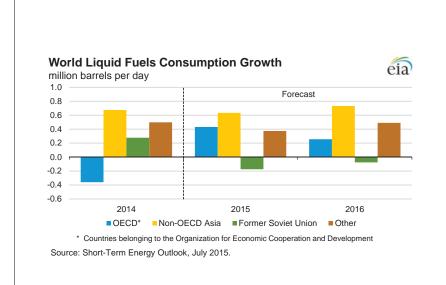


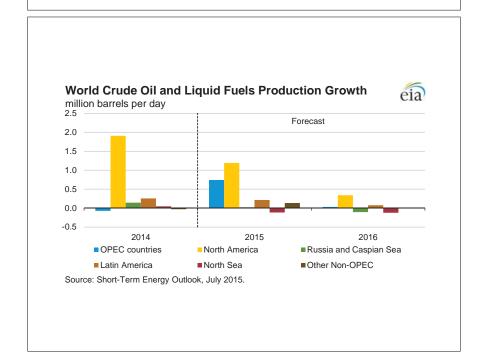


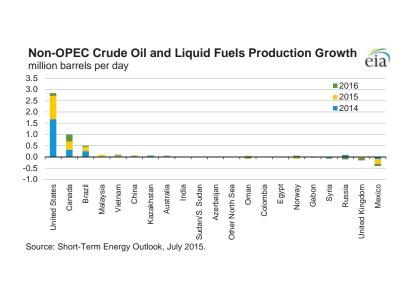


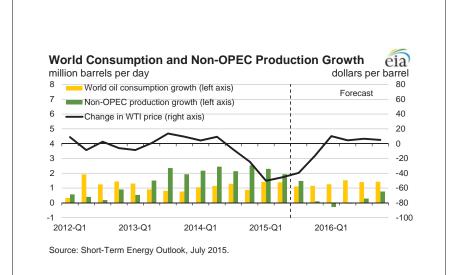


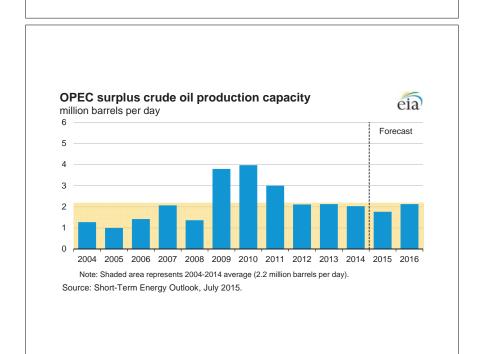


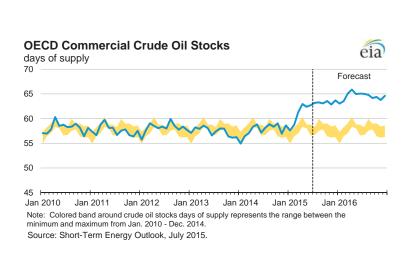


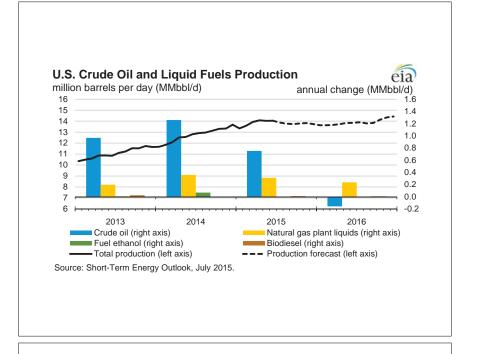


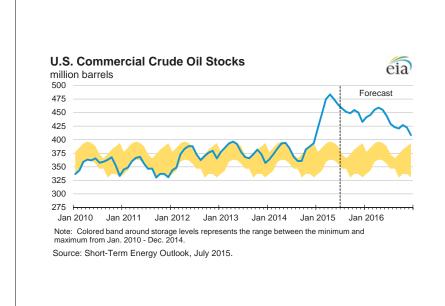


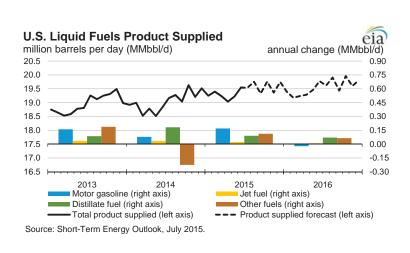


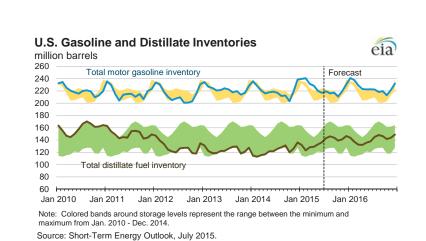


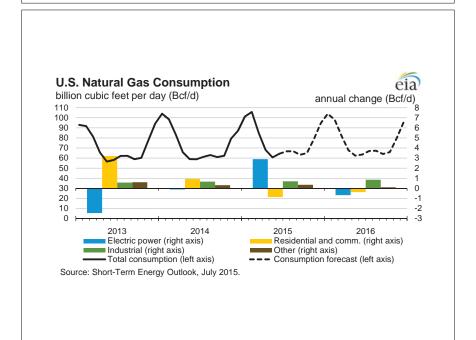


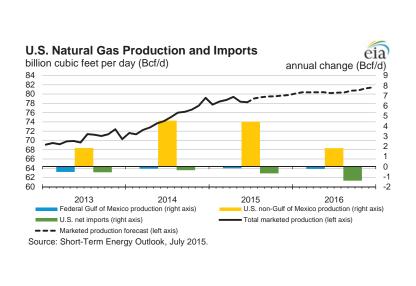


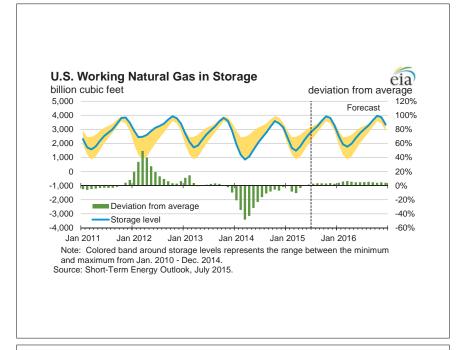


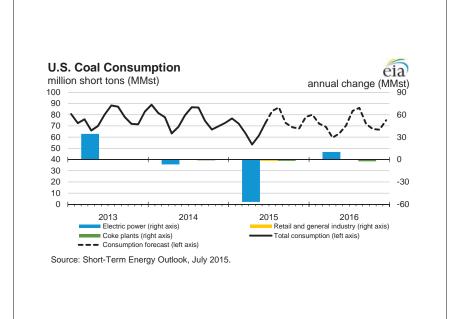


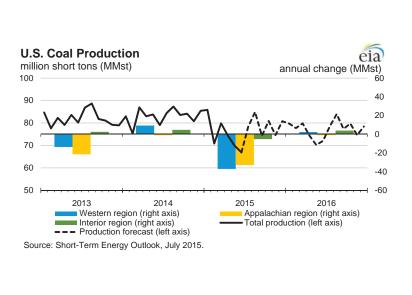


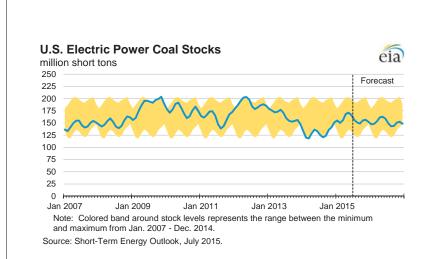


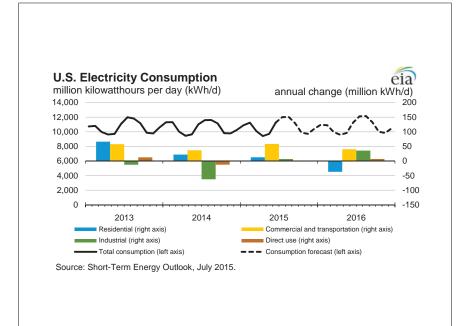


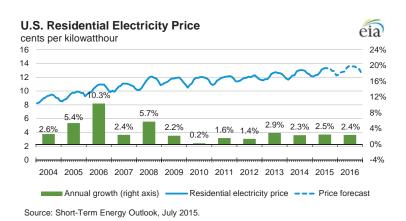


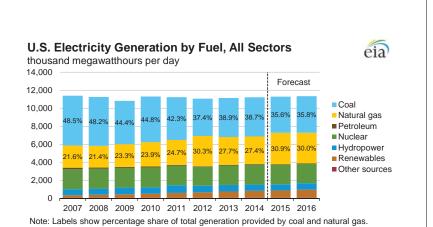


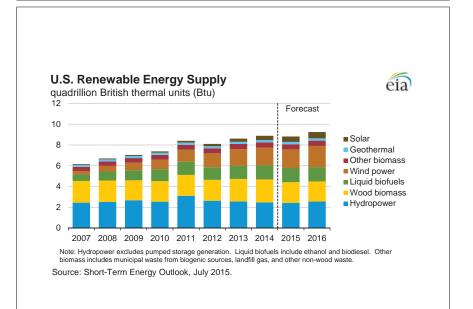


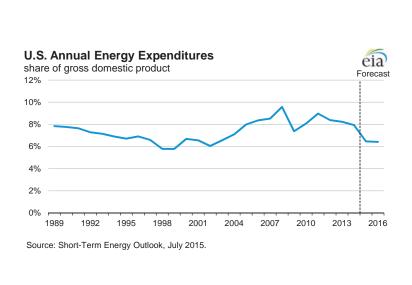


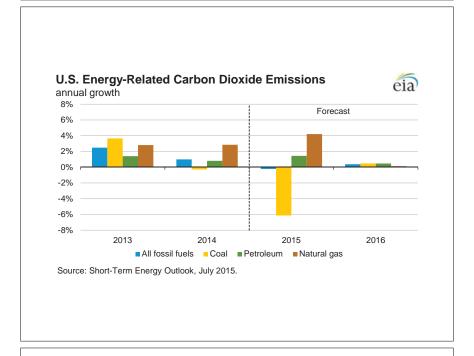


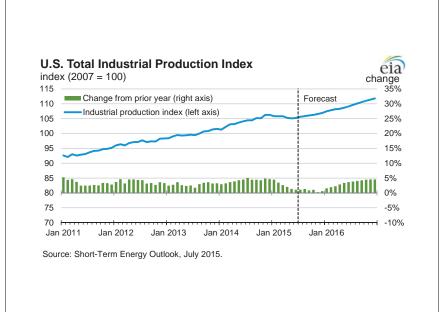






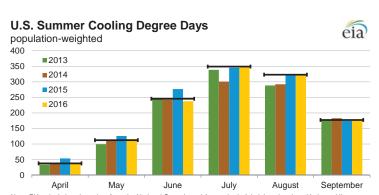






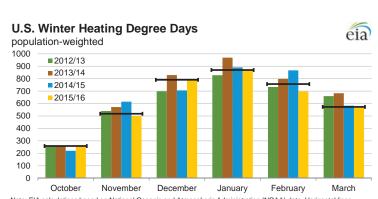


Source: Short-Term Energy Outlook, July 2015.



Note: EIA calculations based on from the National Oceanic and Atmospheric Administration data. Horizontal lines indicate each month's prior 10-year average (2005-2014). Projections reflect NOAA's 14-16 month outlook.

Source: Short-Term Energy Outlook, July 2015.



Note: EIA calculations based on National Oceanic and Atmospheric Administration (NOAA) data. Horizontal lines indicate each month's prior 10-year average (Oct 2005 - Mar 2015). Projections reflect NOAA's 14-16 month outlook. Source: Short-Term Energy Outlook, July 2015.



Table SF01, U.S. Motor Gasoline Summer Outlook

0.3. Energy information Administration	CHOIC FOI	2014	Outlook - Ju	uly 2010	2015		Year-o	ver-year ( (percent)	•
	Q2	Q3	Season	Q2	Q3	Season	Q2	Q3	Season
Nominal Prices (dollars per gallon)									
WTI Crude Oil (Spot) <sup>a</sup>	2.46	2.33	2.39	1.38	1.39	1.38	-44.0	-40.4	-42.2
Brent Crude oil Price (Spot)	2.61	2.43	2.52	1.47	1.50	1.48	-43.8	-38.2	-41.1
U.S. Refiner Average Crude Oil Cost	2.41	2.30	2.35	1.35	1.37	1.36	-44.0	-40.5	-42.3
Wholesale Gasoline Price <sup>b</sup>	2.98	2.76	2.87	1.99	1.90	1.95	-33.0	-31.1	-32.1
Wholesale Diesel Fuel Price <sup>b</sup>	3.00	2.88	2.94	1.89	1.90	1.89	-37.0	-34.1	-35.6
Regular Gasoline Retail Price <sup>c</sup>	3.68	3.50	3.59	2.67	2.63	2.65	-27.5	-24.8	-26.2
Diesel Fuel Retail Price <sup>c</sup>	3.94	3.84	3.89	2.85	2.81	2.83	-27.7	-26.7	-27.2
Gasoline Consumption/Supply (million	oarrels per	day)							
Total Consumption	9.010	9.098	9.054	9.276	9.219	9.247	3.0	1.3	2.1
Total Refinery and Blender Output <sup>d</sup>	7.872	8.026	7.950	8.083	8.232	8.158	2.7	2.6	2.6
Fuel Ethanol Blending	0.892	0.886	0.889	0.910	0.898	0.904	2.1	1.4	1.7
Total Stock Withdrawal <sup>e</sup>	0.023	0.069	0.046	0.160	-0.003	0.078			
Net Imports <sup>e</sup>	0.223	0.116	0.169	0.122	0.092	0.107	-45.1	-20.5	-36.6
Refinery Utilization (percent)	90.4	93.4	91.9	92.9	93.3	93.1			
Gasoline Stocks, Including Blending Co	omponents	<b>s</b> (million b	arrels)						
Beginning	220.9	218.8	220.9	231.5	216.9	231.5			
Ending	218.8	212.5	212.5	216.9	217.2	217.2			
Economic Indicators (annualized billion	2000 dollaı	rs)							
Real GDP	16,010	16,206	16,108	16,344	16,455	16,400	2.1	1.5	1.8
Real Income	11,900	11,970	11,935	12,320	12,399	12,359	3.5	3.6	3.6

<sup>&</sup>lt;sup>a</sup> Spot Price of West Texas Intermediate (WTI) crude oil.

GDP = gross domestic product.

Notes: Minor discrepancies with other Energy Information Administration (EIA) published historical data are due to rounding. Historical data are printed in bold. Forecasts are in italic. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: latest data available from: EIAPetroleum Supply Monthly, DOE/EIA-0109; Monthly Energy Review, DOE/EIA-0035; U.S. Department of Commerce, Bureau of Economic Analysis (GDP and income); Reuters News Service (WTI and Brent crude oil spot prices). Macroeconomic projections are based on IHS Global Insight Macroeconomic Forecast Model.

<sup>&</sup>lt;sup>b</sup> Price product sold by refiners to resellers.

<sup>&</sup>lt;sup>c</sup> Average pump price including taxes.

<sup>&</sup>lt;sup>d</sup> Refinery and blender net production plus finished motor gasoline adjustment.

<sup>&</sup>lt;sup>e</sup> Total stock withdrawal and net imports includes both finished gasoline and gasoline blend components.

**Table SF02 Average Summer Residential Electricity Usage, Prices and Expenditures** 

	2010	2011	2012	2013	2014	Forecast 2015	Change from 2014
United States							
Usage (kWh)	3,471	3,444	3,354	3,126	3,021	3,132	3.7%
Price (cents/kWh)	12.00	12.06	12.09	12.67	13.02	13.30	2.2%
Expenditures	\$416	\$415	\$405	\$396	\$393	\$417	5.9%
New England							
Usage (kWh)	2,227	2,122	2,188	2,173	1,931	1,968	1.9%
Price (cents/kWh)	16.14	15.85	15.50	16.03	17.61	20.42	15.9%
Expenditures	\$359	\$336	\$339	\$348	\$340	\$402	18.1%
Mid-Atlantic							
Usage (kWh)	2,644	2,531	2,548	2,447	2,212	2,346	6.1%
Price (cents/kWh)	16.66	16.39	15.63	17.10	16.85	16.66	-1.1%
Expenditures	\$440	\$415	\$398	\$418	\$373	\$391	4.8%
East North Central							
Usage (kWh)	3,073	2,975	3,048	2,618	2,493	2,683	7.6%
Price (cents/kWh)	11.94	12.17	12.08	12.59	13.07	13.32	1.9%
Expenditures	\$367	\$362	\$368	\$329	\$326	\$357	9.7%
West North Central							
Usage (kWh)	3,558	3,517	3,547	3,098	2,996	3,150	5.2%
Price (cents/kWh)	10.74	11.16	11.50	12.64	12.45	12.67	1.7%
Expenditures	\$382	\$393	\$408	\$392	\$373	\$399	7.0%
South Atlantic							
Usage (kWh)	4,411	4,277	4,001	3,771	3,746	3,878	3.5%
Price (cents/kWh)	11.39	11.48	11.65	11.75	12.11	12.20	0.8%
Expenditures	\$502	\$491	\$466	\$443	\$454	\$473	4.3%
East South Central							
Usage (kWh)	4,902	4,750	4,467	4,078	4,001	4,207	5.1%
Price (cents/kWh)	9.90	10.28	10.36	10.71	11.09	11.14	0.5%
Expenditures	\$485	\$488	\$463	\$437	\$444	\$469	5.6%
West South Central							
Usage (kWh)	4,830	5,231	4,781	4,507	4,271	4,311	0.9%
Price (cents/kWh)	10.86	10.64	10.27	10.94	11.41	11.61	1.7%
Expenditures	\$525	\$557	\$491	\$493	\$487	\$500	2.7%
Mountain							
Usage (kWh)	3,340	3,322	3,440	3,380	3,231	3,356	3.9%
Price (cents/kWh)	11.25	11.29	11.55	11.97	12.37	12.66	2.4%
Expenditures	\$376	\$375	\$397	\$405	\$400	\$425	6.3%
Pacific							
Usage (kWh)	2,006	2,022	2,079	2,026	2,076	2,046	-1.4%
Price (cents/kWh)	12.95	13.22	13.78	14.47	15.20	16.28	7.1%
Expenditures	\$260	\$267	\$286	\$293	\$316	\$333	5.6%

Notes: kWh = kilowatthours. All data cover the 3-month period of June-August of each year. Usage amounts represent total residential retail electricity sales per customer. Prices and expenditures are not adjusted for inflation.

Source: EIA Form-861 and Form-826 databases, Short-Term Energy Outlook.

Table 1. U.S. Energy Markets Summary

U.S. Energy Information Administra	ation   S	Short-Te		gy Outlo	ok - Jul		15	1		20.	16	1		Voca	
	1st	201 2nd	3rd	4th	1st	20 <sup>2</sup>	3rd	4th	1st	20 <sup>-</sup> 2nd	16 3rd	4th	2014	Year 2015	2016
Energy Supply				I.	Į.	Į.					Į.		<u> </u>		
Crude Oil Production (a) (million barrels per day)	8.14	8.62	8.85	9.26	9.48	9.65	9.41	9.35	9.22	9.26	9.23	9.55	8.72	9.47	9.32
Dry Natural Gas Production (billion cubic feet per day)	67.84	69.33	71.30	73.31	73.83	74.02	74.62	74.97	75.58	75.61	75.73	76.37	70.46	74.37	75.82
Coal Production (million short tons)	245	246	255	250	237	211	238	236	237	217	240	233	997	921	927
Energy Consumption															
Liquid Fuels (million barrels per day)	18.81	18.71	19.16	19.45	19.29	19.27	19.54	19.62	19.27	19.50	19.65	19.79	19.03	19.43	19.56
Natural Gas (billion cubic feet per day)	95.10	61.20	61.75	76.19	97.07	64.31	65.61	79.51	94.64	64.56	66.15	80.49	73.48	76.55	76.44
Coal (b) (million short tons)	248	212	247	209	212	187	243	214	221	193	241	209	917	857	865
Electricity (billion kilowatt hours per day)	10.87	10.04	11.46	9.95	10.73	10.12	11.75	10.01	10.60	10.22	11.86	10.11	10.58	10.65	10.70
Renewables (c) (quadrillion Btu)	2.37	2.57	2.28	2.40	2.42	2.54	2.27	2.33	2.41	2.73	2.44	2.44	9.61	9.56	10.03
Total Energy Consumption (d) (quadrillion Btu)	26.59	23.01	24.07	24.79	26.40	22.98	24.14	24.78	26.12	23.22	24.41	24.97	98.46	98.30	98.72
Energy Prices															
Crude Oil (e) (dollars per barrel)	97.60	101.08	96.45	73.48	47.98	56.65	57.34	56.00	57.66	61.34	64.02	60.99	92.05	54.60	61.07
Natural Gas Henry Hub Spot (dollars per million Btu)	5.21	4.61	3.96	3.80	2.90	2.75	3.06	3.17	3.31	3.09	3.36	3.50	4.39	2.97	3.31
Coal (dollars per million Btu)	2.33	2.39	2.37	2.37	2.26	2.30	2.31	2.29	2.29	2.32	2.32	2.28	2.36	2.29	2.30
Macroeconomic															
Real Gross Domestic Product (billion chained 2009 dollars - SAAR) Percent change from prior year	15,832 1.9	16,010 2.6	16,206 2.7	16,295 2.4	16,264 2.7	16,344 2.1	16,455 1.5	16,570 1.7	16,693 2.6	16,809 2.8	16,934 2.9	17,061 3.0	16,086 2.4	16,408 2.0	16,874 2.8
GDP Implicit Price Deflator (Index, 2009=100)	107.7 1.4	108.3 1.7	108.6 1.6	108.7 1.2	108.7 0.9	109.3 1.0	109.8 1.0	110.3 1.5	111.0 2.2	111.6 2.1	112.1 2.1	112.7 2.1	108.3 1.5	109.5 1.1	111.9 2.1
Real Disposable Personal Income (billion chained 2009 dollars - SAAR) Percent change from prior year	11,810 2.4	11,900 2.2	11,970 2.3	12,093 3.3	12,251 3.7	12,320 3.5	12,399 3.6	12,464 3.1	12,548 2.4	12,615 2.4	12,712 2.5	12,813 2.8	11,943 2.5	12,358 3.5	12,672 2.5
Manufacturing Production Index (Index, 2007=100)	99.4 2.4	101.2 3.8	102.4 4.6	103.5 4.5	103.2 3.8	103.4 2.2	104.0 1.6	104.9 1.4	106.2 3.0	107.2 3.7	108.7 4.5	110.1 4.9	101.6 3.8	103.9 2.2	108.0 4.0
Weather		5.5		3	5.5			•••	3.3	<b></b>	5		5.5		
U.S. Heating Degree-Days	2,450 34	479 394	81 776	1,541 96	2,341 47	441 456	76 840	1,544 91	2,128 38	478 391	75 847	1,542 91	4,551 1,300	4,402 1,434	4,223 1,367
o.o. occining Degree-Days	34	334	110	30	4/	400	040	91	30	381	047	91	1,300	1,434	1,307

<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).

<sup>(</sup>e) Refers to the refiner average acquisition cost (RAC) of crude oil.

Table 2. U.S. Energy Prices

	2014 1st 2nd 3rd 4th 1			201	15			20	16			Year			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Crude Oil (dollars per barrel)				•						-				-	
West Texas Intermediate Spot Average	98.68	103.35	97.87	73.21	48.48	57.85	58.35	57.00	58.69	62.36	64.98	61.98	93.17	55.51	62.04
Brent Spot Average	108.14	109.70	101.90	76.43	53.91	61.66	63.00	62.00	63.69	67.36	69.98	66.98	98.89	60.22	67.04
Imported Average	94.18	98.64	93.85	71.45	46.40	54.85	54.84	53.50	55.15	58.80	61.51	58.52	89.65	52.35	58.58
Refiner Average Acquisition Cost	97.60	101.08	96.45	73.48	47.98	56.65	57.34	56.00	57.66	61.34	64.02	60.99	92.05	54.60	61.07
Liquid Fuels (cents per gallon)															
Refiner Prices for Resale															
Gasoline	272	298	276	203	159	199	190	161	171	198	197	170	262	178	184
Diesel Fuel	303	300	288	240	176	189	190	193	198	210	215	209	282	187	208
Heating Oil	303	289	276	228	178	180	180	189	193	195	201	203	274	183	198
Refiner Prices to End Users															
Jet Fuel	297	295	289	234	172	182	182	187	193	205	209	202	278	181	202
No. 6 Residual Fuel Oil (a)	249	244	243	194	137	150	147	144	144	148	157	152	230	144	150
Retail Prices Including Taxes															
Gasoline Regular Grade (b)	340	368	350	288	227	267	263	234	239	268	268	243	336	248	255
Gasoline All Grades (b)	348	375	358	296	236	275	272	243	248	277	276	251	344	257	263
On-highway Diesel Fuel	396	394	384	358	292	285	281	286	292	306	310	306	383	286	303
Heating Oil	397	382	369	330	288	276	271	283	288	287	286	293	372	284	289
Natural Gas															
Henry Hub Spot (dollars per thousand cubic feet)	5.36	4.75	4.08	3.91	2.99	2.83	3.15	3.27	3.41	3.18	3.46	3.60	4.52	3.06	3.41
Henry Hub Spot (dollars per Million Btu)	5.21	4.61	3.96	3.80	2.90	2.75	3.06	3.17	3.31	3.09	3.36	3.50	4.39	2.97	3.31
End-Use Prices (dollars per thousand cubic feet)															
Industrial Sector	6.17	5.62	5.06	5.16	4.56	3.78	3.95	4.33	4.61	4.06	4.32	4.69	5.53	4.17	4.44
Commercial Sector	8.66	9.64	9.69	8.51	7.95	8.08	8.67	8.06	8.15	8.41	9.07	8.47	8.87	8.07	8.38
Residential Sector	9.82	13.11	16.92	10.52	9.29	11.60	15.90	10.20	9.21	12.02	16.28	10.37	10.94	10.27	10.39
Electricity															
Power Generation Fuel Costs (dollars per million Btu)															
Coal	2.33	2.39	2.37	2.37	2.26	2.30	2.31	2.29	2.29	2.32	2.32	2.28	2.36	2.29	2.30
Natural Gas	6.82	4.93	4.25	4.30	4.09	3.40	3.79	4.14	4.24	3.81	4.06	4.42	4.98	3.84	4.12
Residual Fuel Oil (c)	19.97	20.44	19.75	14.72	10.82	11.61	11.99	11.98	11.90	12.83	13.06	12.88	19.18	11.38	12.66
Distillate Fuel Oil	23.40	22.77	21.88	18.72	15.39	16.46	16.31	17.11	17.41	17.83	18.21	18.60	22.34	16.09	17.97
End-Use Prices (cents per kilowatthour)															
Industrial Sector	6.99	6.92	7.36	6.76	6.76	6.89	7.59	6.85	6.91	7.00	7.68	6.91	7.01	7.04	7.14
Commercial Sector	10.55	10.68	11.11	10.59	10.50	10.79	11.50	10.80	10.78	11.04	11.73	11.01	10.75	10.92	11.17
Residential Sector	11.91	12.73	13.01	12.38	12.24	13.04	13.30	12.65	12.59	13.31	13.58	12.94	12.50	12.81	13.12

<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

U.S. Energy Information Admini	ou auon	201		Jigy Out	look - Ju	1y 2015 <b>201</b>	15			201	16	I		Year	
	1st	201 2nd	4 3rd	4th	1st	201 2nd	3rd	4th	1st	201 2nd	3rd	4th	2014	2015	2016
Supply (million barrels per day) (a)	130	ZIIG	Jiu	701	130	Ziiu	Jiu	701	131	Ziiu	Jiu	701	2014	2013	2010
OECD	25.10	25.48	25.75	26.70	26.64	26.87	26.79	26.93	26.68	26.89	27.04	27.61	25.76	26.81	27.05
U.S. (50 States)		13.93	14.31	14.78	14.81	15.30	15.10	15.09	14.90	15.11	15.18	15.63	14.04	15.08	15.20
Canada		4.27	4.33	4.55	4.68	4.66	4.78	4.92	4.94	5.01	5.11	5.23	4.39	4.76	5.07
Mexico	2.89	2.86	2.79	2.74	2.68	2.57	2.61	2.59	2.54	2.52	2.50	2.48	2.82	2.61	2.51
North Sea (b)		2.82	2.72	3.03	2.98	2.77	2.68	2.75	2.71	2.66	2.64	2.68	2.91	2.79	2.67
Other OECD		1.60	1.61	1.59	1.50	1.57	1.62	1.58	1.59	1.59	1.61	1.59	1.60	1.57	1.59
Non-OECD	66.79	67.01	67.88	68.31	67.85	68.82	69.10	68.80	67.93	68.61	69.01	68.89	67.50	68.65	68.61
OPEC	36.26	35.94	36.52	36.66	36.57	37.21	37.29	37.28	36.96	37.07	37.17	37.28	36.35	37.09	37.12
Crude Oil Portion		29.70	30.28	30.34	30.29	30.84	30.87	30.82	30.45	30.52	30.58	30.65	30.08	30.71	30.55
Other Liquids		6.24	6.24	6.32	6.27	6.38	6.42	6.46	6.51	6.55	6.59	6.63	6.26	6.38	6.57
Eurasia	13.90	13.84	13.85	14.01	14.05	13.96	13.89	13.87	13.83	13.80	13.84	13.83	13.90	13.94	13.82
China		4.58	4.51	4.66	4.62	4.62	4.61	4.61	4.59	4.62	4.63	4.63	4.58	4.61	4.62
Other Non-OECD	12.07	12.65	13.00	12.98	12.62	13.03	13.31	13.04	12.56	13.11	13.38	13.15	12.68	13.00	13.05
Total World Supply	91.89	92.49	93.64	95.01	94.50	95.70	95.89	95.73	94.61	95.50	96.05	96.49	93.27	95.46	95.67
Total World Supply	31.03	32.43	33.04	33.01	34.30	33.70	30.03	30.73	34.01	30.00	30.00	30.43	33.27	33.40	33.07
Non-OPEC Supply	55.64	56.55	57.12	58.35	57.93	58.48	58.60	58.45	57.65	58.42	58.88	59.22	56.92	58.37	58.55
Consumption (million barrels per day	) (c)														
OECD	45.73	44.77	45.81	46.37	46.47	45.23	46.04	46.67	46.60	45.59	46.27	46.95	45.67	46.10	46.36
U.S. (50 States)	18.81	18.71	19.16	19.45	19.29	19.27	19.54	19.62	19.27	19.50	19.65	19.79	19.03	19.43	19.56
U.S. Territories	0.35	0.35	0.35	0.35	0.37	0.37	0.37	0.37	0.40	0.40	0.40	0.40	0.35	0.37	0.40
Canada	2.43	2.34	2.46	2.43	2.41	2.32	2.43	2.41	2.38	2.32	2.43	2.41	2.41	2.39	2.38
Europe	12.97	13.38	13.84	13.50	13.48	13.22	13.66	13.62	13.60	13.32	13.77	13.72	13.43	13.50	13.60
Japan	5.02	3.88	3.88	4.43	4.59	3.85	3.88	4.25	4.51	3.80	3.83	4.19	4.30	4.14	4.08
Other OECD	6.14	6.11	6.11	6.21	6.32	6.20	6.15	6.39	6.44	6.25	6.20	6.44	6.14	6.27	6.33
Non-OECD	45.63	46.96	47.35	46.81	46.31	47.89	48.22	47.66	47.42	49.06	49.39	48.81	46.69	47.53	48.67
Eurasia	4.82	4.76	4.98	4.96	4.61	4.55	4.82	4.80	4.53	4.47	4.73	4.71	4.88	4.70	4.61
Europe	0.70	0.71	0.73	0.73	0.71	0.72	0.74	0.74	0.72	0.73	0.75	0.75	0.72	0.73	0.73
China	10.45	11.03	10.98	10.94	10.77	11.36	11.32	11.27	11.10	11.71	11.66	11.61	10.85	11.18	11.52
Other Asia	11.80	12.01	11.56	11.88	12.10	12.32	11.86	12.18	12.50	12.72	12.24	12.57	11.81	12.12	12.51
Other Non-OECD	17.86	18.46	19.10	18.31	18.11	18.94	19.50	18.68	18.57	19.43	20.02	19.16	18.43	18.81	19.30
Total World Consumption	91.36	91.73	93.15	93.18	92.77	93.12	94.26	94.33	94.02	94.65	95.67	95.75	92.36	93.63	95.03
Inventory Net Withdrawals (million ba	rrels per d	ay)													
U.S. (50 States)	0.09	-0.67	-0.23	-0.23	-0.58	-0.50	-0.12	0.62	0.14	-0.21	0.03	0.59	-0.26	-0.14	0.14
Other OECD	-0.31	-0.05	-0.49	0.34	-0.25	-0.73	-0.53	-0.73	-0.26	-0.22	-0.14	-0.48	-0.12	-0.56	-0.28
Other Stock Draws and Balance	-0.31	-0.04	0.24	-1.94	-0.90	-1.35	-0.97	-1.29	-0.46	-0.42	-0.27	-0.85	-0.52	-1.13	-0.50
Total Stock Draw	-0.53	-0.75	-0.48	-1.84	-1.73	-2.58	-1.62	-1.40	-0.58	-0.85	-0.39	-0.74	-0.90	-1.83	-0.64
End-of-period Inventories (million bar	rels)														
U.S. Commercial Inventory	1,057	1,123	1,144	1,165	1,217	1,260	1,271	1,214	1,201	1,221	1,218	1,164	1,165	1,214	1,164
OECD Commercial Inventory	2,568	2,636	2,705	2,693	2,770	2,879	2,939	2,950	2,961	3,000	3,011	3,001	2,693	2,950	3,001

<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.

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.

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

 $\label{thm:minor} \mbox{Minor discrepancies with published historical data are due to independent rounding.}$ 

<sup>(</sup>b) Includes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.

<sup>(</sup>c) 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.

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

U.S. Energy Information Administration	Short-	Term Ene		look - Ju	uly 2015			1							
	1-4	201		441-	1-4	20		441-	1-4	20		441-	2044	Year	2046
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
North America	20.44	21.06	21.43	22.08	22.17	22.53	22.49	22.60	22.38	22.64	22.79	23.34	21.26	22.45	22.79
Canada	4.42	4.27	4.33	4.55	4.68	4.66	4.78	4.92	4.94	5.01	5.11	5.23	4.39	4.76	5.07
Mexico	2.89	2.86	2.79	2.74	2.68	2.57	2.61	2.59	2.54	2.52	2.50	2.48	2.82	2.61	2.51
United States	13.13	13.93	14.31	14.78	14.81	15.30	15.10	15.09	14.90	15.11	15.18	15.63	14.04	15.08	15.20
Central and South America	4.55	5.17	5.56	5.39	4.96	5.44	5.69	5.43	4.99	5.54	5.78	5.52	5.17	5.38	5.46
Argentina	0.70	0.71	0.73	0.73	0.69	0.72	0.74	0.74	0.69	0.73	0.75	0.75	0.72	0.72	0.73
Brazil	2.34	2.98	3.32	3.15	2.73	3.21	3.44	3.17	2.75	3.28	3.51	3.24	2.95	3.14	3.20
Colombia	1.03	0.99	1.02	1.03	1.06	1.02	1.01	1.03	1.05	1.02	1.01	1.02	1.02	1.03	1.02
Other Central and S. America	0.49	0.49	0.49	0.49	0.48	0.49	0.50	0.50	0.50	0.51	0.51	0.50	0.49	0.49	0.50
Europe	4.06	3.81	3.70	4.03	3.96	3.74	3.66	3.72	3.67	3.61	3.60	3.64	3.90	3.77	3.63
Norway	1.97	1.80	1.87	1.98	1.91	1.79	1.77	1.85	1.82	1.80	1.82	1.83	1.90	1.83	1.82
United Kingdom (offshore)	0.93	0.85	0.66	0.84	0.86	0.81	0.74	0.73	0.72	0.68	0.64	0.66	0.82	0.78	0.67
Other North Sea	0.18	0.16	0.19	0.21	0.20	0.18	0.17	0.17	0.18	0.18	0.17	0.18	0.19	0.18	0.18
Eurasia	13.91	13.85	13.87	14.02	14.07	13.97	13.91	13.88	13.84	13.82	13.85	13.84	13.91	13.96	13.84
Azerbaijan	0.85	0.86	0.88	0.84	0.86	0.87	0.88	0.88	0.88	0.88	0.87	0.87	0.86	0.87	0.87
Kazakhstan	1.73	1.66	1.71	1.78	1.76	1.73	1.69	1.69	1.70	1.71	1.71	1.74	1.72	1.72	1.72
Russia	10.86	10.83	10.79	10.93	10.95	10.86	10.83	10.80	10.77	10.74	10.77	10.74	10.85	10.86	10.75
Turkmenistan	0.27	0.28	0.28	0.26	0.27	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Other Eurasia	0.20	0.21	0.21	0.20	0.22	0.24	0.23	0.22	0.22	0.21	0.21	0.21	0.21	0.23	0.21
Middle East	1.19	1.17	1.20	1.16	1.19	1.16	1.17	1.15	1.12	1.10	1.10	1.10	1.18	1.17	1.10
Oman	0.96	0.95	0.96	0.94	0.97	1.00	1.03	1.02	0.94	0.94	0.93	0.93	0.95	1.01	0.94
Syria	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.01	0.01	0.01	0.00	0.03	0.04	0.01
Yemen	0.13	0.13	0.13	0.12	0.11	0.05	0.03	0.02	0.10	0.09	0.09	0.08	0.13	0.05	0.09
Asia and Oceania	9.17	9.18	9.06	9.33	9.31	9.36	9.42	9.42	9.43	9.49	9.54	9.53	9.19	9.37	9.50
Australia	0.47	0.48	0.49	0.47	0.40	0.47	0.51	0.48	0.49	0.49	0.51	0.49	0.48	0.46	0.49
China	4.57	4.58	4.51	4.66	4.62	4.62	4.61	4.61	4.59	4.62	4.63	4.63	4.58	4.61	4.62
India	0.98	0.98	0.96	0.99	0.98	0.97	0.98	0.99	0.99	0.99	0.99	0.99	0.98	0.98	0.99
Indonesia	0.92	0.92	0.91	0.90	0.92	0.93	0.94	0.94	0.95	0.96	0.96	0.97	0.91	0.93	0.96
Malaysia	0.69	0.69	0.66	0.75	0.80	0.76	0.75	0.76	0.75	0.76	0.77	0.77	0.70	0.77	0.76
Vietnam	0.33	0.32	0.31	0.34	0.36	0.37	0.39	0.40	0.41	0.42	0.43	0.44	0.33	0.38	0.43
Africa	2.32	2.31	2.31	2.33	2.29	2.28	2.27	2.25	2.22	2.23	2.23	2.25	2.32	2.27	2.23
Egypt	0.70	0.70	0.70	0.72	0.71	0.71	0.70	0.70	0.69	0.68	0.68	0.67	0.71	0.71	0.68
Equatorial Guinea	0.29	0.29	0.29	0.29	0.27	0.27	0.27	0.27	0.25	0.25	0.25	0.25	0.29	0.27	0.25
Gabon	0.22	0.22	0.22	0.22	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.22	0.21	0.21
Sudan	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Total non-OPEC liquids	55.64	56.55	57.12	58.35	57.93	58.48	58.60	58.45	57.65	58.42	58.88	59.22	56.92	58.37	58.55
OPEO many amounts Hamilton	0.05		0.07	0.00	o o=	0.00	0.40	0.40	0.51	0.55	0.50	0.00	0.00	0.00	0.57
OPEC non-crude liquids	6.25	6.24	6.24	6.32	6.27	6.38	6.42	6.46	6.51	6.55	6.59	6.63	6.26	6.38	6.57
Non-OPEC + OPEC non-crude	61.89	62.78	63.36	64.67	64.21	64.86	65.01	64.91	64.16	64.97	65.47	65.85	63.18	64.75	65.12
Unplanned non-OPEC Production Outages	0.66	0.67	0.60	0.57	0.62	0.77	n/a	n/a	n/a	n/a	n/a	n/a	0.62	n/a	n/a

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

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

Sudan production represents total production from both north and south.

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

	2014 1st 2nd 3rd 4th						015			20	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Crude Oil															
Algeria	1.15	1.15	1.15	1.15	1.10	1.10	-	-	-	-	-	-	1.15	-	-
Angola	1.63	1.63	1.72	1.73	1.75	1.76	-	-	-	-	-	-	1.68	-	-
Ecudaor	0.55	0.56	0.56	0.56	0.55	0.57	-	-	-	-	-	-	0.56	-	-
Iran	2.80	2.80	2.80	2.80	2.80	2.85	-	-	-	-	-	-	2.80	-	-
Iraq	3.26	3.29	3.28	3.53	3.57	3.92	-	-	-	-	-	-	3.34	-	-
Kuwait	2.60	2.60	2.60	2.48	2.57	2.53	-	-	-	-	-	-	2.57	-	-
Libya	0.38	0.23	0.58	0.69	0.40	0.41	-	-	-	-	-	-	0.47	-	-
Nigeria	2.00	1.97	2.07	1.98	2.03	2.02	-	-	-	-	-	-	2.00	-	-
Qatar	0.74	0.73	0.72	0.68	0.68	0.68	-	-	-	-	-	-	0.72	-	-
Saudi Arabia	9.80	9.65	9.70	9.63	9.73	9.90	-	-	-	-	-	-	9.70	-	-
United Arab Emirates	2.70	2.70	2.70	2.70	2.70	2.70	-	-	-	-	-	-	2.70	-	-
Venezuela	2.40	2.40	2.40	2.40	2.40	2.40	-	-	-	-	-	-	2.40	-	-
OPEC Total	30.01	29.70	30.28	30.34	30.29	30.84	30.87	30.82	30.45	30.52	30.58	30.65	30.08	30.71	30.55
Other Liquids	6.25	6.24	6.24	6.32	6.27	6.38	6.42	6.46	6.51	6.55	6.59	6.63	6.26	6.38	6.57
Total OPEC Supply	36.26	35.94	36.52	36.66	36.57	37.21	37.29	37.28	36.96	37.07	37.17	37.28	36.35	37.09	37.12
Crude Oil Production Capacity															
Africa	5.15	4.97	5.51	5.55	5.31	5.27	5.26	5.35	5.40	5.41	5.43	5.44	5.29	5.30	5.42
South America	2.95	2.95	2.95	2.95	2.95	2.96	2.96	2.96	2.86	2.88	2.87	2.88	2.95	2.96	2.87
Middle East	23.93	23.88	23.86	23.82	23.93	24.26	24.33	24.35	24.32	24.36	24.41	24.45	23.87	24.22	24.38
OPEC Total	32.02	31.80	32.32	32.32	32.19	32.48	32.55	32.66	32.58	32.65	32.71	32.77	32.12	32.47	32.68
Surplus Crude Oil Production Capacity															
Africa	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
South America	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Middle East	2.01	2.09	2.04	1.98	1.86	1.65	1.68	1.84	2.13	2.12	2.13	2.13	2.03	1.76	2.13
OPEC Total	2.01	2.09	2.04	1.98	1.90	1.65	1.68	1.84	2.13	2.12	2.13	2.13	2.03	1.77	2.13
Unplanned OPEC Production Outages	2.32	2.57	2.26	2.43	2.53	2.45	n/a	n/a	n/a	n/a	n/a	n/a	2.40	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).

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

U.S. Energy Information Administration   S	non-rei	•	gy Outloc	JK - July	2013	20	16			20	16				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2014	2015	2016
	٦.	٣-	40	۷.	٠.	٣-	40	۹,	٠,	42	40		2017	20.0	2010
North America	. 23.20	23.03	23.59	23.87	23.62	23.54	23.90	23.98	23.57	23.76	24.00	24.12	23.42	23.76	23.87
Canada	. 2.43	2.34	2.46	2.43	2.41	2.32	2.43	2.41	2.38	2.32	2.43	2.41	2.41	2.39	2.38
Mexico	. 1.95	1.97	1.96	1.98	1.91	1.95	1.92	1.93	1.91	1.93	1.90	1.91	1.97	1.93	1.91
United States	18 <b>.</b> 81	18.71	19.16	19.45	19.29	19.27	19.54	19.62	19.27	19.50	19.65	19.79	19.03	19.43	19.56
Central and South America	7.05	7.30	7.33	7.31	7.09	7.37	7.41	7.38	7.17	7.44	7.47	7.45	7.25	7.31	7.38
Brazil	3.03	3.14	3.21	3.20	3.03	3.14	3.21	3.20	3.06	3.18	3.24	3.23	3.15	3.15	3.18
Europe	. 13.67	14.09	14.57	14.23	14.19	13.93	14.40	14.36	14.32	14.05	14.52	14.47	14.14	14.22	14.34
Eurasia	. 4.85	4.79	5.01	4.99	4.65	4.58	4.85	4.83	4.56	4.50	4.76	4.75	4.91	4.73	4.64
Russia	. 3.49	3.45	3.65	3.63	3.29	3.25	3.44	3.42	3.14	3.10	3.28	3.26	3.56	3.35	3.20
Middle East	. 7.97	8.33	8.98	8.17	8.10	8.71	9.29	8.44	8.40	9.01	9.62	8.73	8.36	8.64	8.94
Asia and Oceania	. 30.88	30.48	29.99	30.91	31.23	31.11	30.58	31.49	31.96	31.86	31.31	32.23	30.56	31.10	31.84
China	. 10.45	11.03	10.98	10.94	10.77	11.36	11.32	11.27	11.10	11.71	11.66	11.61	10.85	11.18	11.52
Japan	5.02	3.88	3.88	4.43	4.59	3.85	3.88	4.25	4.51	3.80	3.83	4.19	4.30	4.14	4.08
India	3.88	3.86	3.54	3.83	4.08	4.06	3.72	4.02	4.27	4.25	3.90	4.22	3.78	3.97	4.16
Africa	. 3.73	3.73	3.68	3.70	3.89	3.88	3.84	3.86	4.04	4.03	3.99	4.01	3.71	3.86	4.02
Total OECD Liquid Fuels Consumption	45.73	44.77	45.81	46.37	46.47	45.23	46.04	46.67	46.60	45.59	46.27	46.95	45.67	46.10	46.36
Total non-OECD Liquid Fuels Consumption	45.63	46.96	47.35	46.81	46.31	47.89	48.22	47.66	47.42	49.06	49.39	48.81	46.69	47.53	48.67
Total World Liquid Fuels Consumption	91.36	91.73	93.15	93.18	92.77	93.12	94.26	94.33	94.02	94.65	95.67	95.75	92.36	93.63	95.03
Oil-weighted Real Gross Domestic Product (a)															
World Index, 2010 Q1 = 100	113.4	114.2	115.0	115.9	116.3	116.9	117.8	118.7	119.6	120.6	121.6	122.6	114.6	117.4	121.1
Percent change from prior year		2.8	2.7	2.6	2.6	2.4	2.4	2.5	2.9	3.1	3.3	3.3	2.8	2.5	3.1
OECD Index, 2010 Q1 = 100	110.0	110.6	111.3	111.9	112.2	112.7	113.4	114.1	114.8	115.5	116.3	117.1	111.0	113.1	115.9
Percent change from prior year		1.9	1.8	1.8	1.9	1.9	1.8	2.0	2.4	2.5	2.6	2.6	1.9	1.9	2.5
Non-OECD Index, 2010 Q1 = 100	117.5	118.7	119.7	120.8	121.4	122.2	123.3	124.5	125.6	126.9	128.3	129.6	119.2	122.9	127.6
Percent change from prior year	4.0	3.9	3.8	3.7	3.3	3.0	3.1	3.1	3.5	3.9	4.1	4.1	3.8	3.1	3.9
Real U.S. Dollar Exchange Rate (a)															
Index, January 2010 = 100		108.01	109.13	113.76	119.36	119.70	120.94	121.92	122.15	121.97	121.81	121.78	109.79	120.48	121.93
Percent change from prior year	. 3.8	2.1	1.9	6.7	10.2	10.8	10.8	7.2	2.3	1.9	0.7	-0.1	3.6	9.7	1.2

<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.

 $\begin{picture}(100,0)\put(0,0){\line(1,0){100}} \put(0,0){\line(1,0){100}} \put(0,0){\line(1,0){100$ 

<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	nort-Term	201		- July 2	.013	201	5			201	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	8.14	8.62	8.85	9.26	9.48	9.65	9.41	9.35	9.22	9.26	9.23	9.55	8.72	9.47	9.32
Alaska		0.52	0.43	0.51	0.50	0.49	0.42	0.49	0.47	0.46	0.42	0.47	0.50	0.48	0.45
Federal Gulf of Mexico (b)		1.42	1.43	1.42	1.43	1.54	1.56	1.64	1.67	1.65	1.54	1.66	1.40	1.54	1.63
Lower 48 States (excl GOM)		6.69	6.99	7.32	7.55	7.63	7.43	7.22	7.08	7.14	7.27	7.42	6.83	7.45	7.23
Crude Oil Net Imports (c)		6.94	7.15	6.76	6.84	6.55	6.65	6.19	6.28	6.63	6.90	6.19	6.99	6.55	6.50
SPR Net Withdrawals	0.00	0.05	0.00	0.00	0.00	-0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.01	0.00
Commercial Inventory Net Withdrawals	-0.30	0.00	0.25	-0.36	-0.90	0.11	0.17	0.17	-0.25	0.12	0.25	0.13	-0.10	-0.11	0.07
Crude Oil Adjustment (d)	0.23	0.27	0.09	0.28	0.11	0.06	0.20	0.13	0.19	0.19	0.20	0.13	0.22	0.12	0.18
Total Crude Oil Input to Refineries		15.88	16.35	15.95	15.53	16.33	16.43	15.84	15.44	16.19	16.58	16.00	15.84	16.04	16.06
Other Supply															
Refinery Processing Gain	1.07	1.08	1.09	1.10	0.99	1.05	1.09	1.08	1.05	1.08	1.10	1.09	1.09	1.06	1.08
Natural Gas Plant Liquids Production	2.71	2.95	3.09	3.11	3.09	3.32	3.33	3.36	3.37	3.48	3.53	3.67	2.96	3.28	3.51
Renewables and Oxygenate Production (e)	1.01	1.06	1.06	1.07	1.05	1.07	1.05	1.07	1.05	1.07	1.08	1.07	1.05	1.06	1.07
Fuel Ethanol Production	0.91	0.94	0.93	0.96	0.96	0.95	0.92	0.93	0.93	0.94	0.95	0.94	0.94	0.94	0.94
Petroleum Products Adjustment (f)	0.20	0.22	0.22	0.24	0.20	0.21	0.22	0.22	0.21	0.23	0.23	0.23	0.22	0.21	0.23
Product Net Imports (c)		-1.76	-2.17	-2.14	-1.89	-2.14	-2.29	-2.40	-2.24	-2.20	-2.65	-2.74	-1.95	-2.18	-2.46
Hydrocarbon Gas Liquids		-0.58	-0.66	-0.64	-0.68	-0.85	-0.93	-0.99	-1.02	-1.08	-1.13	-1.27	-0.56	-0.86	-1.12
Unfinished Oils	0.46	0.49	0.32	0.35	0.26	0.42	0.44	0.39	0.38	0.50	0.46	0.39	0.40	0.38	0.43
Other HC/Oxygenates		-0.09	-0.08	-0.09	-0.08	-0.09	-0.05	-0.04	-0.08	-0.06	-0.03	-0.03	-0.09	-0.06	-0.05
Motor Gasoline Blend Comp	0.29	0.58	0.45	0.42	0.41	0.51	0.47	0.42	0.42	0.61	0.44	0.38	0.44	0.45	0.46
Finished Motor Gasoline		-0.36	-0.34	-0.47	-0.44	-0.39	-0.38	-0.45	-0.40	-0.40	-0.45	-0.41	-0.39	-0.42	-0.42
Jet Fuel		-0.02	-0.09	-0.09	-0.06	-0.04	-0.05	-0.05	-0.03	-0.02	-0.05	-0.07	-0.07	-0.05	-0.04
Distillate Fuel Oil	-0.67	-1.01	-1.08	-0.92	-0.67	-0.93	-0.96	-0.91	-0.70	-0.88	-1.04	-0.94	-0.92	-0.87	-0.89
Residual Fuel Oil		-0.18	-0.18	-0.16	-0.13	-0.23	-0.25	-0.21	-0.24	-0.26	-0.26	-0.21	-0.19	-0.20	-0.24
Other Oils (g)		-0.58	-0.51	-0.53	-0.50	-0.54	-0.58	-0.56	-0.56	-0.59	-0.59	-0.58	-0.57	-0.55	-0.58
Product Inventory Net Withdrawals		-0.72	-0.48	0.12	0.32	-0.58	-0.29	0.45	0.39	-0.34	-0.23	0.46	-0.17	-0.03	0.07
Total Supply		18.71	19.16	19.45	19.29	19.27	19.54	19.62	19.27	19.50	19.65	19.79	19.04	19.43	19.56
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	2.66	2.06	2.26	2.60	2.72	2.26	2.37	2.72	2.76	2.36	2.41	2.77	2.40	2.52	2.57
Unfinished Oils	0.08	0.02	-0.06	-0.04	-0.05	-0.02	0.02	0.04	0.00	0.00	0.01	0.02	0.00	0.00	0.01
Motor Gasoline	8.52	9.01	9.10	9.05	8.81	9.28	9.22	9.06	8.78	9.21	9.20	9.10	8.92	9.09	9.07
Fuel Ethanol blended into Motor Gasoline	0.84	0.89	0.89	0.90	0.87	0.91	0.90	0.90	0.85	0.91	0.94	0.91	0.88	0.89	0.90
Jet Fuel	1.40	1.47	1.51	1.50	1.45	1.54	1.52	1.46	1.44	1.55	1.54	1.48	1.47	1.49	1.50
Distillate Fuel Oil	4.17	3.93	3.86	4.09	4.27	3.98	4.00	4.16	4.23	4.13	4.08	4.24	4.01	4.10	4.17
Residual Fuel Oil	0.23	0.26	0.24	0.30	0.24	0.18	0.20	0.21	0.22	0.19	0.19	0.20	0.26	0.21	0.20
Other Oils (g)	1.75	1.96	2.25	1.96	1.85	2.06	2.21	1.97	1.85	2.05	2.22	1.98	1.98	2.02	2.03
Total Consumption	18.81	18.71	19.16	19.45	19.29	19.27	19.54	19.62	19.27	19.50	19.65	19.79	19.03	19.43	19.56
•															
Total Petroleum and Other Liquids Net Imports	. 5.38	5.18	4.98	4.62	4.95	4.41	4.36	3.78	4.04	4.43	4.25	3.44	5.04	4.37	4.04
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	383.7	383.9	360.9	393.7	474.8	464.8	448.9	432.9	455.3	444.1	420.7	408.6	393.7	432.9	408.6
Hydrocarbon Gas Liquids		164.1	209.8	175.4	138.8	194.1	223.1	173.2	134.7	171.5	196.0	145.6	175.4	173.2	145.6
Unfinished Oils	91.3	87.3	84.5	78.5	84.7	86.6	84.9	79.9	89.9	87.0	84.7	79.5	78.5	79.9	79.5
Other HC/Oxygenates		23.0	22.4	23.2	26.7	24.9	24.2	79.9 24.4	26.5	25.3	24.6	79.5 24.9	23.2	79.9 24.4	79.5 24.9
Total Motor Gasoline	220.9 34.3	218.8 28.9	212.5 28.8	238.5	231.5 26.9	216.9	217.2 27.0	230.4	228.8	222.7	219.7 25.1	231.9 27.3	238.5 30.6	230.4 28.7	231.9 27.3
Finished Motor Gasoline  Motor Gasoline Blend Comp		28.9 190.0	28.8 183.7	30.6 207.9		26.1 190.8	27.0 190.2	28.7 201.6	26.8 202.0	25.9 106.7	25.1 194.6		207.9	28.7 201.6	27.3 204.6
·	186.6				204.6		42.8		39.6	196.7	42.2	204.6	37.5		
Jet Fuel		36.3	39.6	37.5	37.2	41.3		40.0		40.3		39.2		40.0	39.2
Distillate Fuel Oil  Residual Fuel Oil	115.3 36.4	121.7 36.7	131.3 36.6	136.1 33.7	128.3 38.1	136.2 39.9	144.0 37.5	146.5 36.9	132.5 37.1	137.9 36.7	146.4 35.6	148.8 36.0	136.1 33.7	146.5 36.9	148.8 36.0
Other Oils (g)		50.7	36.6 46.4	33.7 49.0	57.3		37.5 48.6	36.9 49.7	57.1		35.6 48.3	49.6	33.7 49.0	36.9 49.7	36.0 49.6
Total Commercial Inventory		1,123	46.4 1,144	1,165	1,217	55.4 1,260	46.6 1,271	49.7 1,214	57.0 1,201	55.3 1,221	46.3 1,218	49.6 1,164	1,165	49.7 1,214	49.6 1,164
Crude Oil in SPR	696	691	691	691	691	1,260 694	694	694	694	694	694	694	691	694	1,164 694
Orado Oli III Oli IX	030	031	031	031	031	034	034	034	034	034	034	034	091	034	034

<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

<sup>(</sup>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	Ferm Ene		look - Ju	lly 2015	201	<u> </u>			201	6			Year	
	1st	201 2nd	4 3rd	4th	1st	201 2nd	3rd	4th	1st	201 2nd	3rd	4th	2014	2015	2016
HGL Production	101	Ziid	o.u	7	100	Liiu	oru	74.11	100	2110	o.u	7411	2014	2010	
Natural Gas Processing Plants															
Ethane	1.03	1.09	1.09	1.08	1.05	1.14	1.18	1.25	1.30	1.35	1.37	1.50	1.07	1.16	1.38
Propane	0.87	0.95	1.02	1.04	1.07	1.14	1.12	1.10	1.09	1.10	1.11	1.13	0.97	1.11	1.11
Butanes	0.48	0.52	0.56	0.58	0.58	0.61	0.60	0.61	0.59	0.61	0.62	0.63	0.54	0.60	0.61
Natural Gasoline (Pentanes Plus)	0.33	0.39	0.42	0.41	0.39	0.43	0.43	0.40	0.39	0.42	0.43	0.41	0.39	0.41	0.41
Refinery and Blender Net Production															
Ethane/Ethylene	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Propane/Propylene	0.57	0.60	0.59	0.59	0.54	0.58	0.60	0.60	0.58	0.60	0.59	0.59	0.59	0.58	0.59
Butanes/Butylenes	-0.04	0.27	0.21	-0.18	-0.08	0.25	0.18	-0.15	-0.03	0.25	0.18	-0.15	0.07	0.05	0.06
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	-0.01	-0.02	-0.05	-0.06	-0.06	-0.08	-0.09	-0.11	-0.12	-0.15	-0.18	-0.28	-0.04	-0.09	-0.19
Propane/Propylene	-0.17	-0.34	-0.36	-0.39	-0.40	-0.51	-0.56	-0.62	-0.61	-0.60	-0.61	-0.67	-0.32	-0.52	-0.62
Butanes/Butylenes	-0.03	-0.06	-0.09	-0.03	-0.06	-0.10	-0.11	-0.11	-0.11	-0.16	-0.16	-0.12	-0.05	-0.09	-0.14
Natural Gasoline (Pentanes Plus)	-0.15	-0.16	-0.16	-0.15	-0.17	-0.16	-0.17	-0.16	-0.18	-0.16	-0.18	-0.18	-0.16	-0.16	-0.18
HGL Refinery and Blender Net Inputs															
Butanes/Butylenes	0.37	0.28	0.30	0.48	0.40	0.27	0.31	0.44	0.37	0.29	0.31	0.44	0.36	0.35	0.35
Natural Gasoline (Pentanes Plus)	0.14	0.15	0.16	0.16	0.15	0.15	0.18	0.19	0.17	0.18	0.18	0.18	0.15	0.17	0.18
HGL Consumption															
Ethane/Ethylene	1.01	0.97	1.08	1.05	1.03	1.05	1.11	1.15	1.18	1.17	1.21	1.26	1.03	1.09	1.21
Propane/Propylene	1.46	0.89	0.97	1.29	1.43	0.93	1.03	1.31	1.38	0.95	0.96	1.25	1.15	1.17	1.14
Butanes/Butylenes	0.16	0.17	0.16	0.22	0.16	0.20	0.18	0.21	0.17	0.20	0.19	0.21	0.18	0.19	0.19
Natural Gasoline (Pentanes Plus)	0.03	0.03	0.05	0.05	0.10	0.07	0.05	0.05	0.03	0.04	0.05	0.04	0.04	0.07	0.04
HGL Inventories (million barrels)															
Ethane/Ethylene	29.90	37.06	38.70	36.37	31.38	32.27	31.67	31.58	30.91	33.75	32.86	30.78	35.53	31.73	32.07
Propane/Propylene	28.32	57.12	82.37	77.95	58.10	83.90	96.11	75.15	45.52	58.38	69.70	51.31	77.95	75.15	51.31
Butanes/Butylenes	25.95	52.24	72.22	41.96	32.46	58.59	75.33	48.61	39.94	59.53	73.53	46.93	41.96	48.61	46.93
Natural Gasoline (Pentanes Plus)	13.04	14.82	17.92	20.59	17.16	19.02	20.06	18.47	17.88	19.37	20.21	18.59	20.59	18.47	18.59
Refinery and Blender Net Inputs															
Crude Oll	. 15.18	15.88	16.35	15.95	15.53	16.33	16.43	15.84	15.44	16.19	16.58	16.00	15.84	16.04	16.06
Hydrocarbon Gas Liquids		0.43	0.46	0.64	0.54	0.43	0.49	0.63	0.55	0.47	0.49	0.62	0.51	0.52	0.53
Other Hydrocarbons/Oxygenates		1.16	1.16	1.14	1.12	1.16	1.20	1.21	1.15	1.21	1.26	1.23	1.14	1.17	1.21
Unfinished Oils		0.51	0.41	0.45	0.24	0.42	0.44	0.41	0.27	0.53	0.48	0.43	0.40	0.38	0.43
Motor Gasoline Blend Components		1.06	0.83	0.32	0.72	0.88	0.65	0.46	0.60	0.85	0.63	0.43	0.73	0.68	0.63
Aviation Gasoline Blend Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Refinery and Blender Net Inputs	. 17.73	19.04	19.21	18.51	18.14	19.22	19.20	18.55	18.01	19.25	19.44	18.72	18.62	18.78	18.86
Refinery Processing Gain	1.07	1.08	1.09	1.10	0.99	1.05	1.09	1.08	1.05	1.08	1.10	1.09	1.09	1.06	1.08
Refinery and Blender Net Production															
Hydrocarbon Gas Liquids	0.54	0.87	0.81	0.41	0.47	0.84	0.79	0.45	0.55	0.86	0.78	0.45	0.66	0.64	0.66
Finished Motor Gasoline		9.82	9.74	9.68	9.48	9.85	9.77	9.68	9.35	9.77	9.80	9.69	9.63	9.70	9.65
Jet Fuel		1.49	1.64	1.57	1.50	1.63	1.59	1.48	1.47	1.59	1.62	1.51	1.54	1.55	1.55
					4.82						5.17	5.17	4.90	4.96	
Distillate Fuel		4.96	4.99	5.00		4.95	5.00	5.06	4.74	5.03					5.03
Residual Fuel		0.44	0.42	0.43	0.43	0.43	0.42	0.41	0.46	0.45	0.43	0.42	0.44	0.42	0.44
Other Oils (a)		2.52	2.71	2.52	2.44	2.58	2.71	2.55	2.50	2.63	2.74	2.58	2.55	2.57	2.61
Total Refinery and Blender Net Production	18.80	20.11	20.30	19.61	19.13	20.27	20.29	19.64	19.06	20.33	20.54	19.82	19.71	19.84	19.94
Refinery Distillation Inputs	15.51	16.17	16.64	16.25	15.78	16.63	16.73	16.17	15.78	16.46	16.87	16.31	16.15	16.33	16.35
Refinery Operable Distillation Capacity	17.93	17.89	17.81	17.80	17.88	17.90	17.95	17.99	18.02	18.02	18.18	18.26	17.86	17.93	18.12
Refinery Distillation Utilization Factor	0.87	0.90	0.93	0.91	0.88	0.93	0.93	0.90	0.88	0.91	0.93	0.89	0.90	0.91	0.90
,	0.01			V.V.		0.00	0.00	0.00	0.00	0.07	0.00	0.00	5.50	0.01	

<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

C.C. Energy Information / turning at at		20		, Gallool		201	5			20	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Prices (cents per gallon)				•											
Refiner Wholesale Price	272	298	276	203	159	199	190	161	171	198	197	170	262	178	184
Gasoline Regular Grade Retail Prices In	cluding Ta	axes													
PADD 1	344	365	348	292	228	258	260	237	242	266	266	246	337	246	255
PADD 2	337	365	343	278	216	256	258	227	234	267	265	235	331	239	250
PADD 3	318	345	329	265	204	240	241	212	219	247	246	219	314	225	233
PADD 4	326	350	363	297	207	261	265	234	224	258	267	241	335	242	248
PADD 5	362	401	386	315	271	328	300	264	265	297	298	271	366	291	283
U.S. Average	340	368	350	288	227	267	263	234	239	268	268	243	336	248	255
Gasoline All Grades Including Taxes	348	375	358	296	236	275	272	243	248	277	276	251	344	257	263
End-of-period Inventories (million barrels	)														
Total Gasoline Inventories	,														
PADD 1	57.7	63.1	55.6	61.1	64.5	59.8	55.7	59.2	60.5	61.9	57.5	60.0	61.1	59.2	60.0
PADD 2	49.0	49.7	47.2	52.4	52.9	48.9	49.2	50.5	51.1	48.7	49.2	50.4	52.4	50.5	50.4
PADD 3	77.7	72.8	74.9	83.5	78.4	72.4	76.7	81.0	79.7	77.2	77.8	82.0	83.5	81.0	82.0
PADD 4	6.5	6.1	7.4	7.9	6.5	6.7	6.9	7.7	7.2	6.9	6.9	7.8	7.9	7.7	7.8
PADD 5	30.0	27.1	27.3	33.6	29.2	29.0	28.7	32.0	30.4	28.0	28.2	31.8	33.6	32.0	31.8
U.S. Total	220.9	218.8	212.5	238.5	231.5	216.9	217.2	230.4	228.8	222.7	219.7	231.9	238.5	230.4	231.9
Finished Gasoline Inventories															
U.S. Total	34.3	28.9	28.8	30.6	26.9	26.1	27.0	28.7	26.8	25.9	25.1	27.3	30.6	28.7	27.3
Gasoline Blending Components Invento	ories														
U.S. Total	186.6	190.0	183.7	207.9	204.6	190.8	190.2	201.6	202.0	196.7	194.6	204.6	207.9	201.6	204.6

<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 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.

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

		201	14			20	15			201	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Supply (billion cubic feet per day)															
Total Marketed Production	71.74	73.55	75.72	77.77	78.28	78.65	79.28	79.66	80.30	80.33	80.46	81.14	74.72	78.97	80.56
Alaska	0.99	0.93	0.85	0.98	0.99	0.89	0.77	0.93	0.96	0.82	0.75	0.91	0.94	0.89	0.86
Federal GOM (a)	3.29	3.42	3.41	3.38	3.38	3.20	3.18	3.05	3.10	3.05	2.87	2.84	3.37	3.20	2.97
Lower 48 States (excl GOM)	67.47	69.21	71.46	73.41	73.91	74.57	75.33	75.68	76.23	76.45	76.84	77.39	70.41	74.88	76.73
Total Dry Gas Production	67.84	69.33	71.30	73.31	73.83	74.02	74.62	74.97	75.58	75.61	75.73	76.37	70.46	74.37	75.82
LNG Gross Imports	0.17	0.17	0.15	0.16	0.43	0.14	0.18	0.17	0.14	0.16	0.17	0.15	0.16	0.23	0.15
LNG Gross Exports	0.03	0.02	0.09	0.03	0.06	0.00	0.16	0.59	0.68	0.69	0.72	1.07	0.04	0.21	0.79
Pipeline Gross Imports	8.44	6.52	6.47	7.47	8.36	6.37	6.56	6.86	7.28	6.23	6.54	6.72	7.22	7.03	6.69
Pipeline Gross Exports	4.67	3.89	3.85	4.02	4.83	4.14	4.30	4.70	4.83	4.70	4.90	5.08	4.10	4.50	4.88
Supplemental Gaseous Fuels	0.17	0.16	0.13	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.16	0.16
Net Inventory Withdrawals	22.75	-12.71	-12.96	0.55	18.44	-12.81	-10.24	3.25	16.76	-10.63	-9.86	3.29	-0.69	-0.41	-0.13
Total Supply	94.67	59.56	61.15	77.59	96.33	63.74	66.81	80.12	94.40	66.13	67.10	80.55	73.16	76.68	77.03
Balancing Item (b)	0.43	1.64	0.59	-1.40	0.74	0.57	-1.20	-0.60	0.24	-1.57	-0.95	-0.06	0.31	-0.13	-0.58
Total Primary Supply	95.10	61.20	61.75	76.19	97.07	64.31	65.61	79.51	94.64	64.56	66.15	80.49	73.48	76.55	76.44
Consumption (billion cubic feet per	day)											1			
Residential	28.70	7.48	3.68	15.97	27.49	6.53	3.32	16.46	26.23	6.86	3.34	16.57	13.89	13.39	13.23
Commercial	16.46	6.24	4.59	10.74	15.98	5.65	4.29	10.68	14.78	5.70	4.33	10.83	9.48	9.12	8.90
Industrial	22.92	20.03	19.66	21.32	22.71	20.40	20.61	22.95	24.08	21.33	21.25	23.40	20.97	21.67	22.52
Electric Power (c)	19.68	21.12	27.34	21.09	23.10	25.02	30.59	22.11	21.66	23.84	30.34	22.26	22.33	25.22	24.54
Lease and Plant Fuel	4.12	4.22	4.35	4.47	4.49	4.52	4.55	4.57	4.61	4.61	4.62	4.66	4.29	4.53	4.63
Pipeline and Distribution Use	3.14	2.02	2.04	2.51	3.20	2.11	2.16	2.65	3.18	2.12	2.17	2.68	2.42	2.53	2.54
Vehicle Use	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.09	0.09	0.10
Total Consumption	95.10	61.20	61.75	76.19	97.07	64.31	65.61	79.51	94.64	64.56	66.15	80.49	73.48	76.55	76.44
End-of-period Inventories (billion c	ubic feet)	)													
Working Gas Inventory	857	2,005	3,187	3,141	1,482	2,648	3,590	3,291	1,766	2,733	3,641	3,338	3,141	3,291	3,338
Producing Region (d)	358	691	953	1,070	604	1,050	1,229	1,193	769	1,046	1,217	1,192	1,070	1,193	1,192
East Consuming Region (d)	315	952	1,752	1,607	501	1,142	1,826	1,606	663	1,217	1,865	1,626	1,607	1,606	1,626
West Consuming Region (d)	184	362	483	464	377	456	535	492	334	470	559	521	464	492	521

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

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.

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

<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 Methodology for EIA Weekly Underground Natural Gas Storage Estimates (http://tonto.eia.doe.gov/oog/info/ngs/methodology.html).

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

LNG: liquefied natural gas.

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

O.S. Energy information		201		Tellii Li	ioigy oc	201	15			201	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Wholesale/Spot		l.	L.			L			L.	· ·	-			· ·	
Henry Hub Spot Price	5.36	4.75	4.08	3.91	2.99	2.83	3.15	3.27	3.41	3.18	3.46	3.60	4.52	3.06	3.41
Residential															
New England	13.65	15.98	18.01	14.41	13.08	13.51	16.57	13.32	12.70	14.27	16.97	13.52	14.52	13.44	13.47
Middle Atlantic	10.71	13.04	17.25	11.15	9.50	11.09	17.11	12.04	10.79	13.20	17.73	12.23	11.58	10.82	11.99
E. N. Central	8.67	12.96	16.85	8.96	7.79	10.51	16.47	8.78	7.92	11.27	16.83	8.79	9.70	8.91	9.11
W. N. Central	9.10	11.76	18.16	9.83	8.65	11.24	16.56	8.77	7.83	10.74	17.29	9.42	10.10	9.42	9.19
S. Atlantic	11.34	16.37	22.98	12.85	10.68	15.86	22.11	12.88	11.33	16.28	22.45	12.97	13.03	12.52	13.08
E. S. Central	9.63	14.08	19.70	11.14	9.34	13.88	18.10	10.71	9.12	13.32	18.55	11.23	11.02	10.67	10.72
W. S. Central	8.53	14.22	20.25	11.62	8.42	13.37	18.13	10.00	7.59	12.70	18.47	10.48	10.83	10.14	9.78
Mountain	9.07	11.22	15.15	9.86	9.58	10.67	14.09	9.29	8.62	9.70	13.54	8.91	10.13	10.00	9.24
Pacific	10.97	11.66	12.41	11.25	11.47	10.98	10.76	9.73	9.77	10.42	11.03	10.09	11.37	10.71	10.14
U.S. Average	9.82	13.11	16.92	10.52	9.29	11.60	15.90	10.20	9.21	12.02	16.28	10.37	10.94	10.27	10.39
Commercial															
New England	11.35	12.82	11.77	11.36	10.70	10.14	10.01	10.20	10.56	10.24	10.38	10.75	11.64	10.43	10.55
Middle Atlantic	9.30	9.06	8.04	8.05	7.90	7.60	7.74	8.44	8.77	8.30	8.27	8.99	8.78	7.96	8.70
E. N. Central	8.02	9.96	10.18	7.71	6.96	7.63	8.69	7.26	7.45	8.46	9.25	7.66	8.33	7.25	7.78
W. N. Central	8.35	9.10	10.19	8.22	7.65	7.58	8.54	7.20	7.48	7.67	8.91	7.65	8.54	7.57	7.67
S. Atlantic	9.23	10.56	10.90	9.47	8.44	9.26	10.10	9.24	9.25	9.81	10.47	9.62	9.69	8.99	9.60
E. S. Central	8.90	10.71	11.17	9.58	8.58	9.45	9.72	8.89	8.42	9.24	10.00	9.27	9.57	8.90	8.96
W. S. Central	7.49	9.24	9.26	8.25	7.14	7.30	7.85	7.28	7.14	7.68	8.26	7.65	8.23	7.30	7.52
Mountain	7.81	8.74	9.90	8.47	8.29	8.23	8.83	7.67	7.37	7.51	8.77	7.81	8.40	8.13	7.67
Pacific	9.29	9.26	9.56	9.28	9.21	8.37	8.61	8.58	8.50	8.22	8.95	8.94	9.32	8.74	8.65
U.S. Average	8.66	9.64	9.69	8.51	7.95	8.08	8.67	8.06	8.15	8.41	9.07	8.47	8.87	8.07	8.38
Industrial															
New England	10.03	9.97	8.04	9.09	9.04	8.16	7.83	8.82	9.10	8.40	8.21	9.27	9.45	8.64	8.87
Middle Atlantic	9.28	8.87	8.15	7.98	7.87	7.53	7.65	8.21	8.29	7.49	7.83	8.49	8.79	7.86	8.14
E. N. Central	8.03	8.87	7.89	6.94	6.49	5.73	5.94	6.10	6.61	6.22	6.43	6.54	7.84	6.20	6.51
W. N. Central	7.34	6.28	5.91	6.38	5.90	4.66	4.88	5.37	5.57	4.81	4.93	5.44	6.57	5.25	5.23
S. Atlantic	6.91	6.42	5.92	5.99	5.50	4.66	4.96	5.38	5.50	5.19	5.43	5.77	6.34	5.15	5.48
E. S. Central	6.37	6.14	5.31	5.50	5.13	4.46	4.65	5.01	5.29	4.82	5.06	5.40	5.86	4.83	5.16
W. S. Central	5.15	4.91	4.52	4.26	3.21	3.04	3.33	3.43	3.50	3.34	3.73	3.80	4.71	3.26	3.59
Mountain	6.55	6.68	6.95	6.65	6.55	6.21	6.23	6.17	5.72	5.39	6.01	6.10	6.69	6.31	5.81
Pacific	7.84	7.63	7.70	7.54	7.36	6.41	6.37	6.44	6.31	6.11	6.63	6.82	7.68	6.68	6.47
U.S. Average	6.17	5.62	5.06	5.16	4.56	3.78	3.95	4.33	4.61	4.06	4.32	4.69	5.53	4.17	4.44

<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 Adminis	Tallon			igy Out	iook - Ju	•	-	T		00.	10			V	
	1st	201 2nd	14 3rd	4th	1st	201 2nd	3rd	4th	1st	201 2nd	3rd	4th	2014	Year 2015	2016
Supply (million short tons)	151	ZIIU	Siu	4111	151	ZIIU	Siu	4111	151	Zilu	Siu	4111	2014	2013	2010
Production	245.2	245.8	255.3	250.3	236.5	211.1	237.6	236.3	237.3	216.6	239.8	232.8	996.7	921.5	926.5
	67.5	69.7	67.5	65.6	64.7	57.8	57.2	57.7	63.1	59.1	57.5	56.6	270.3	237.5	236.3
AppalachiaInterior	46.3	44.8	49.3	47.0	44.3	39.8	49.8	48.4	46.3	44.6	48.5	46.7	187.4	182.2	230.3 186.1
Western	131.4	131.4	138.5	137.7	127.5	113.4	130.7	130.2	127.8	112.9	133.8	129.5	538.9	501.8	504.1
Primary Inventory Withdrawals		0.6	2.4	-1.5	-0.7	0.3	3.1	-1.6	-1.0	0.7	2.9	-1.6	0.9	1.1	1.0
•	2.4	3.5	3.2	2.1	3.0	2.5	3.3	2.9	2.2	2.4	3.3	2.9	11.3	11.6	10.8
Imports	27.7	24.6	22.7	22.3	22.0	22.5	20.9	22.1	20.0	2.4	3.3 21.5	23.3	97.3	87.4	88.2
Exports															
Metallurgical Coal	16.9	15.8	15.2	15.2	13.5	12.8	11.5	12.6	12.5	13.1	11.8	13.4	63.0	50.5	50.8
Steam Coal	10.9	8.8	7.5	7.1	8.5	9.7	9.4	9.4	7.5	10.3	9.7	9.9	34.3	37.0	37.4
Total Primary Supply	219.4	225.4	238.2	228.6	216.8	191.4	223.1	215.5	218.5	196.3	224.5	210.7	911.6	846.8	850.1
Secondary Inventory Withdrawals	30.6	-14.8	8.4	-28.0	-3.3	-11.2	16.7	-3.8	-0.1	-6.0	14.1	-4.5	-3.8	-1.6	3.5
Waste Coal (a)	3.2	2.8	2.6	2.6	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	11.2	10.8	11.1
Total Supply	253.2	213.3	249.2	203.2	216.3	182.9	242.5	214.3	221.2	193.1	241.4	209.0	919.0	856.0	864.7
Consumption (million short tons)															
Coke Plants	4.8	5.1	5.2	5.2	4.4	4.3	5.0	4.9	3.9	3.7	4.4	4.2	20.4	18.6	16.2
Electric Power Sector (b)	231.3	196.0	231.2	193.0	196.5	172.8	227.0	198.5	205.9	178.8	226.5	193.8	851.4	794.8	805.0
Retail and Other Industry	12.0	10.9	11.0	11.1	11.4	10.3	10.5	11.0	11.4	10.5	10.5	11.0	45.0	43.1	43.5
Residential and Commercial	0.7	0.4	0.4	0.7	0.8	0.6	0.5	0.7	0.8	0.5	0.5	0.6	2.2	2.6	2.4
Other Industrial	11.3	10.5	10.6	10.4	10.6	9.8	9.9	10.3	10.6	10.0	10.0	10.4	42.8	40.6	41.1
Total Consumption	248.2	212.0	247.4	209.3	212.3	187.4	242.5	214.3	221.2	193.1	241.4	209.0	916.9	856.5	864.7
Discrepancy (c)	5.0	1.3	1.9	-6.1	4.0	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	2.1	-0.6	0.0
End-of-period Inventories (million sho	rt tons)														
Primary Inventories (d)	•	45.6	43.2	44.7	45.5	45.2	42.1	43.7	44.7	44.0	41.1	42.7	44.7	43.7	42.7
Secondary Inventories	124.0	138.9	130.5	158.4	161.7	172.9	156.2	160.1	160.1	166.2	152.0	156.5	158.4	160.1	156.5
Electric Power Sector	118.3	132.9	123.8	151.4	155.6	166.1	148.8	152.3	153.4	158.8	144.2	148.4	151.4	152.3	148.4
Retail and General Industry	3.5	3.6	4.4	4.8	4.1	4.5	5.1	5.5	4.8	5.0	5.6	5.9	4.8	5.5	5.9
Coke Plants	1.8	1.9	1.8	1.9	1.6	1.9	1.8	1.8	1.5	1.9	1.8	1.8	1.9	1.8	1.8
Coal Market Indicators															
Coal Miner Productivity															
(Tons per hour)	5.47	5.47	5.47	5.47	5.61	5.61	5.61	5.61	5.46	5.46	5.46	5.46	5.47	5.61	5.46
Total Raw Steel Production	0.47	3171	311	3	3.01	5.07	0.07	5.01	5. 10	5. 10	5. 10	3. 10	3.47	5.07	3. 10
(Million short tons per day)	0.262	0.263	0.271	0.262	0.247	0.243	0.232	0.213	0.216	0.219	0.199	0.187	0.264	0.233	0.205
Cost of Coal to Electric Utilities															
(Dollars per million Btu)	2.33	2.39	2.37	2.37	2.26	2.30	2.31	2.29	2.29	2.32	2.32	2.28	2.36	2.29	2.30

<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

		201	14			201	15			201	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Electricity Supply (billion kilowatthou	rs per day	')													
Electricity Generation	11.49	10.77	12.06	10.54	11.33	10.87	12.32	10.63	11.08	11.02	12.51	10.74	11.21	11.29	11.34
Electric Power Sector (a)	11.04	10.36	11.62	10.11	10.91	10.47	11.87	10.19	10.65	10.61	12.05	10.29	10.78	10.86	10.90
Comm. and Indus. Sectors (b)	0.44	0.41	0.44	0.42	0.42	0.41	0.45	0.43	0.43	0.41	0.46	0.45	0.43	0.43	0.44
Net Imports	0.11	0.12	0.16	0.14	0.17	0.19	0.18	0.11	0.11	0.11	0.14	0.09	0.13	0.16	0.11
Total Supply	11.59	10.89	12.22	10.68	11.50	11.06	12.50	10.73	11.19	11.13	12.65	10.83	11.35	11.45	11.45
Losses and Unaccounted for (c)	0.72	0.86	0.76	0.73	0.77	0.94	0.75	0.72	0.59	0.91	0.78	0.72	0.77	0.80	0.75
Electricity Consumption (billion kilow	atthours p	er day un	less note	d)											
Retail Sales	10.48	9.67	11.07	9.58	10.36	9.77	11.36	9.63	10.23	9.86	11.46	9.72	10.20	10.28	10.32
Residential Sector	4.31	3.36	4.26	3.45	4.19	3.40	4.39	3.44	4.00	3.39	4.42	3.47	3.84	3.86	3.82
Commercial Sector	3.62	3.65	4.06	3.54	3.61	3.72	4.19	3.59	3.63	3.76	4.25	3.63	3.72	3.78	3.82
Industrial Sector	2.52	2.65	2.73	2.57	2.53	2.63	2.75	2.58	2.58	2.69	2.78	2.60	2.62	2.62	2.66
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)	0.39	0.36	0.39	0.37	0.37	0.35	0.39	0.38	0.37	0.36	0.40	0.39	0.38	0.37	0.38
Total Consumption	10.87	10.04	11.46	9.95	10.73	10.12	11.75	10.01	10.60	10.22	11.86	10.11	10.58	10.65	10.70
Average residential electricity															
usage per customer (kWh)	3,023	2,372	3,040	2,456	2,916	2,386	3,107	2,430	2,786	2,357	3,099	2,425	10,892	10,839	10,667
Prices															
Power Generation Fuel Costs (dollar	rs per mill	ion Btu)													
Coal	2.33	2.39	2.37	2.37	2.26	2.30	2.31	2.29	2.29	2.32	2.32	2.28	2.36	2.29	2.30
Natural Gas	6.82	4.93	4.25	4.30	4.09	3.40	3.79	4.14	4.24	3.81	4.06	4.42	4.98	3.84	4.12
Residual Fuel Oil	19.97	20.44	19.75	14.72	10.82	11.61	11.99	11.98	11.90	12.83	13.06	12.88	19.18	11.38	12.66
Distillate Fuel Oil	23.40	22.77	21.88	18.72	15.39	16.46	16.31	17.11	17.41	17.83	18.21	18.60	22.34	16.09	17.97
End-Use Prices (cents per kilowatth	our)														
Residential Sector	11.91	12.73	13.01	12.38	12.24	13.04	13.30	12.65	12.59	13.31	13.58	12.94	12.50	12.81	13.12
Commercial Sector	10.55	10.68	11.11	10.59	10.50	10.79	11.50	10.80	10.78	11.04	11.73	11.01	10.75	10.92	11.17
Industrial Sector	6.99	6.92	7.36	6.76	6.76	6.89	7.59	6.85	6.91	7.00	7.68	6.91	7.01	7.04	7.14

<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.

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

<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 Informati	on Aamii			ıı-ıerm	⊏nergy (		July 20	I S		22.	•	ı		Vac	
<u> </u>	1st	201 2nd	3rd	4th	1st	201 2nd	3rd	4th	1st	201 2nd	6 3rd	4th	2014	Year 2015	2016
Residential Sector	131	ZIIU	Jiu	701	131	ZIIU	Jiu	7111	131	ZIIU	Jiu	7111	2014	2013	2010
New England	153	111	136	118	152	112	137	120	140	112	139	120	129	130	128
Middle Atlantic	423	315	383	323	423	323	402	325	389	317	404	325	361	368	359
E. N. Central	616	446	513	479	588	443	555	475	552	440	550	476	513	515	505
W. N. Central	352	246	293	265	325	237	312	263	321	247	313	268	289	284	287
S. Atlantic	1,080	858	1,088	861	1,072	895	1,120	861	998	861	1,131	866	971	987	964
E. S. Central	404	278	363	288	390	283	374	283	357	280	373	283	333	332	324
W. S. Central	617	501	731	498	602	518	726	498	574	537	740	505	587	586	589
Mountain	238	242	321	226	234	239	341	231	246	247	349	237	257	261	270
Pacific contiguous	419	347	422	378	394	341	412	372	406	340	407	374	391	380	382
AK and HI	14	11	12	13	13	12	12	13	13	12	12	13	13	12	12
Total	4,315	3,355	4,260	3,449	4,194	3,402	4,390	3,442	3,997	3,391	4,419	3,467	3,844	3,856	3,819
Commercial Sector	4,313	3,333	4,200	3,443	4,134	3,402	4,390	3,442	3,997	3,391	4,419	3,407	3,044	3,000	3,019
New England	148	138	154	139	148	141	157	139	145	138	156	139	145	146	145
Middle Atlantic	442	413	461	409	444	418	475	411	440	415	477	413	431	437	436
E. N. Central	511	490	526	480	510	494	553	488	512	506	561	494	502	511	518
W. N. Central	287	273	298	272	281	273	312	276	286	283	318	281	282	286	292
S. Atlantic	803	842	920	793	805	869	957	810	813	869	969	820	840	861	868
E. S. Central	239	237	271	226	235	243	283	228	234	244	286	230	243	247	249
W. S. Central	494	521	610	504	496	541	623	509	497	546	637	518	532	542	550
Mountain	239	259	287	243	239	261	299	249	247	271	306	254	257	262	269
Pacific contiguous	442	463	514	461	434	460	517	463	439	470	519	466	470	469	474
AK and HI	17	16	17	17	16	16	17	403 17	439 16	16	17	17	16	16	16
Total	3,621	3,652	4,056	3,544	3,609	3,716	4,193	3,589	3,629	3,759	4,246	3,632	3,719	3,778	3,817
Industrial Sector	3,021	3,032	4,030	3,344	3,003	3,7 10	4, 133	3,003	3,023	3,733	7,270	3,032	3,713	3,770	3,017
New England	49	50	52	50	49	50	53	48	48	49	52	48	50	50	49
Middle Atlantic	201	198	205	194	198	199	209	197	203	203	210	198	199	201	204
E. N. Central	525	532	544	519	520	521	536	508	519	527	537	509	530	521	523
W. N. Central	231	240	253	238	237	248	268	250	245	256	270	252	241	251	256
S. Atlantic	372	397	404	383	376	393	398	375	373	400	405	381	389	386	390
E. S. Central	279	287	296	283	279	291	289	284	296	292	290	285	286	286	291
W. S. Central	431	465	471	444	428	448	483	449	440	470	488	453	453	452	463
Mountain	210	235	250	220	217	240	256	227	223	246	263	234	229	235	403 241
Pacific contiguous	213	233	244	223	217	229	245	227	216	229	203 245	227	227	229	229
AK and HI	13	14	14	14	13	14	14	14	13	229 14	243 14	14	14	229 14	229 14
Total	2,522	2,646	2,734	2,567	2,531	2,632	2,753	2,580	2,577	2,686	2,775	2,601	2,618	2,625	2,660
Total All Sectors (a)	2,322	2,040	2,734	2,307	2,331	2,032	2,755	2,360	2,377	2,000	2,775	2,001	2,010	2,025	2,000
New England	352	300	344	308	350	304	348	309	335	300	349	309	326	327	323
Middle Atlantic	1,078	936	1,059	936	1,077	951	1,097	945	1.045	947	1,103	948	1,002	1,017	1,011
E. N. Central	1,654	1,469	1,584	1,480	1,620	1,459	1,647	1,473	1,585	947 1,475	1,103 1,650	946 1,481	1,547	1,550	1,548
		-			•						901	801			835
W. N. Central	870	760	843	776	843	758	892	790	853	786			812	821	
S. Atlantic	2,259	2,100	2,415	2,041	2,256	2,161	2,479	2,050	2,188	2,134	2,509	2,071	2,204	2,237	2,226
E. S. Central	922	803	931	797	904	817	946	795	888	817	950 1 866	798	863 4 573	865	863
W. S. Central	1,542	1,487	1,812	1,446	1,527	1,507	1,832	1,455	1,511	1,553	1,866	1,476	1,572	1,581	1,602
Mountain	687	737	858	689	690	740	897	708	716	763	918	725	743	759	781
Pacific contiguous	1,076	1,040	1,182	1,064	1,046	1,033	1,177	1,064	1,064	1,042	1,174	1,069	1,091	1,080	1,087
AK and HI	44	41	43	43	42	41	43	44	43	41	43	44	43	42	43
Total	10,481	9,674	11,072	9,581	10,356	9,770	11,357	9,633	10,227	9,857	11,463	9,722	10,202	10,280	10,319

<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 Electricity Prices (Cents per Kilowatthour)

U.S. Energy Informa	Luon Aum	201		ا ال	Energy	20		713		201	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Residential Sector				-		-									
New England	17.53	18.03	17.60	18.24	20.42	20.73	20.22	19.51	19.66	19.85	19.99	20.01	17.82	20.22	19.87
Middle Atlantic	16.26	16.58	16.66	16.02	15.76	16.22	16.58	16.18	16.21	16.64	16.98	16.59	16.38	16.18	16.61
E. N. Central	11.56	12.96	12.98	12.73	12.22	13.34	13.18	12.95	12.57	13.61	13.47	13.20	12.50	12.89	13.19
W. N. Central	10.04	11.80	12.31	10.65	10.25	12.15	12.51	10.90	10.55	12.38	12.83	11.15	11.14	11.42	11.70
S. Atlantic	11.31	11.98	12.13	11.61	11.39	12.02	12.26	11.78	11.81	12.40	12.54	12.04	11.75	11.87	12.21
E. S. Central	10.30	11.21	10.97	10.66	10.34	11.24	11.08	10.85	10.81	11.59	11.40	11.14	10.75	10.85	11.22
W. S. Central	10.40	11.43	11.39	11.06	10.67	11.53	11.62	11.16	11.03	11.71	11.78	11.26	11.07	11.26	11.47
Mountain	10.93	12.02	12.33	11.31	11.31	12.32	12.62	11.57	11.62	12.66	12.97	11.87	11.71	12.03	12.35
Pacific	12.93	12.78	15.53	13.15	13.68	14.21	16.44	13.81	14.21	14.59	16.97	14.29	13.65	14.59	15.05
U.S. Average	11.91	12.73	13.01	12.38	12.24	13.04	13.30	12.65	12.59	13.31	13.58	12.94	12.50	12.81	13.12
Commercial Sector															
New England	15.62	14.32	14.43	14.33	16.93	15.74	16.32	15.86	18.67	17.46	17.78	17.18	14.68	16.22	17.78
Middle Atlantic	14.29	13.32	13.94	12.94	13.18	13.37	14.68	13.32	13.40	13.63	14.90	13.50	13.64	13.67	13.89
E. N. Central	9.69	9.96	10.00	9.88	9.75	10.01	10.05	9.92	9.90	10.10	10.11	9.96	9.88	9.94	10.02
W. N. Central	8.60	9.39	9.86	8.69	8.57	9.55	10.18	8.88	8.79	9.78	10.46	9.13	9.15	9.33	9.57
S. Atlantic	9.83	9.68	9.70	9.65	9.68	9.58	9.87	9.79	9.85	9.76	10.05	9.96	9.72	9.73	9.91
E. S. Central	10.26	10.51	10.40	10.22	10.22	10.40	10.45	10.51	10.53	10.59	10.61	10.66	10.35	10.40	10.60
W. S. Central	8.13	8.34	8.30	8.15	8.05	7.94	8.38	8.02	8.19	8.08	8.45	8.05	8.24	8.11	8.20
Mountain	9.12	9.89	10.19	9.42	9.39	10.15	10.47	9.63	9.63	10.39	10.75	9.88	9.69	9.95	10.20
Pacific	11.73	13.21	15.67	13.79	12.30	14.21	16.88	14.10	12.81	14.57	17.35	14.57	13.68	14.49	14.93
U.S. Average	10.55	10.68	11.11	10.59	10.50	10.79	11.50	10.80	10.78	11.04	11.73	11.01	10.75	10.92	11.17
Industrial Sector															
New England	12.97	11.47	11.43	11.18	13.18	12.12	13.19	12.03	14.03	12.72	13.73	12.46	11.74	12.64	13.24
Middle Atlantic	8.74	7.36	7.28	7.07	7.87	7.38	7.79	7.23	7.94	7.47	7.83	7.28	7.61	7.57	7.63
E. N. Central	7.01	6.84	7.01	6.85	6.87	6.88	7.18	6.99	7.04	7.02	7.30	7.09	6.93	6.98	7.12
W. N. Central	6.52	6.68	7.32	6.32	6.49	6.81	7.56	6.51	6.67	6.95	7.72	6.63	6.72	6.86	7.01
S. Atlantic	6.80	6.68	6.96	6.49	6.56	6.60	7.10	6.56	6.74	6.70	7.13	6.56	6.73	6.71	6.79
E. S. Central	6.16	6.23	6.76	5.68	5.78	6.11	6.79	5.78	5.83	6.13	6.79	5.77	6.22	6.12	6.13
W. S. Central	5.87	6.04	6.34	5.92	5.65	5.76	6.46	5.74	5.76	5.85	6.49	5.76	6.05	5.92	5.98
Mountain	6.15	6.73	7.38	6.25	6.18	6.70	7.53	6.33	6.34	6.86	7.72	6.46	6.66	6.72	6.88
Pacific	7.70	8.11	9.59	8.63	7.83	8.37	9.95	8.80	8.03	8.49	10.09	8.93	8.54	8.78	8.92
U.S. Average	6.99	6.92	7.36	6.76	6.76	6.89	7.59	6.85	6.91	7.00	7.68	6.91	7.01	7.04	7.14
All Sectors (a)															
New England	16.05	15.19	15.20	15.29	17.90	16.97	17.36	16.64	18.38	17.54	18.02	17.51	15.45	17.24	17.88
Middle Atlantic	14.00	13.15	13.63	12.78	13.20	13.07	14.04	13.01	13.36	13.29	14.29	13.23	13.42	13.35	13.57
E. N. Central		9.73	9.93	9.74	9.72	9.90	10.17	9.88	9.89	10.04	10.31	10.01	9.73	9.92	10.07
W. N. Central		9.31	9.95	8.64	8.64	9.47	10.21	8.80	8.84	9.68	10.46	9.02	9.14	9.30	9.52
S. Atlantic	10.04	10.05	10.34	9.88	9.97	10.05	10.50	10.03	10.21	10.25	10.70	10.20	10.09	10.15	10.36
E. S. Central	9.04	9.22	9.47	8.77	8.90	9.16	9.58	8.94	9.08	9.34	9.75	9.08	9.13	9.16	9.33
W. S. Central	8.41	8.66	9.04	8.47	8.41	8.52	9.16	8.39	8.56	8.66	9.26	8.45	8.66	8.65	8.76
Mountain		9.58	10.17	9.03	9.03	9.73	10.45	9.20	9.29	9.99	10.72	9.43	9.46	9.66	9.92
Pacific		11.93	14.35	12.47	11.89	12.90	15.26	12.85	12.36	13.22	15.68	13.26	12.59	13.30	13.69
U.S. Average	10.25	10.36	10.92	10.21	10.29	10.52	11.25	10.40	10.51	10.72	11.46	10.60	10.45	10.64	10.85

<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)

O.C. Energy information / terms		201	14	3,	Janoon	201				20	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
United States			-		-		-	-	-	-	-				
Coal	4,864	4,029	4,624	3,869	4,094	3,500	4,525	3,943	4,207	3,637	4,521	3,855	4,344	4,016	4,056
Natural Gas	2,715	2,898	3,725	2,948	3,236	3,416	4,141	3,138	3.057	3,261	4,111	3,164	3,074	3,484	3,400
Petroleum (a)	148	64	66	58	124	65	74	69	82	70	77	68	84	83	74
Other Gases	28	29	35	34	34	33	37	35	34	33	38	36	32	35	36
Nuclear	2,201	2,060	2,289	2,184	2,248	2,140	2,174	2,016	2,115	2,078	2,226	2,065	2,184	2,144	2,121
Renewable Energy Sources:	_,	_,	_,	_,	_,	_,	_,	_,	_,	_,-,-	_,	_,,	_,	_,	_,
Conventional Hydropower	703	849	652	633	797	819	598	574	684	939	689	617	709	696	732
Wind	553	549	367	525	506	569	434	558	607	652	476	612	498	517	587
Wood Biomass	119	114	121	118	117	113	124	118	118	115	128	122	118	118	121
Waste Biomass	56	59	60	59	55	58	62	60	59	60	62	60	58	59	60
Geothermal	45	45	45	46	47	45	45	44	45	43	44	44	46	45	44
Solar	35	61	61	44	56	91	86	50	52	105	113	73	50	71	86
Pumped Storage Hydropower	-13	-18	-21	-16	-14	-9	-15	-13	-13	-11	-15	-13	-17	-13	-13
Other Nonrenewable Fuels (b)	32	34	36	35	33	35	36	35	34	36	37	36	34	35	36
Total Generation	11,486	10,773	12,060	10,536	11,333	10,874	12,321	10,627	11,081	11,019	12,508	10,739	11,214	11,290	11,338
Northeast Census Region	11,400	10,773	12,000	10,550	11,333	10,074	12,321	10,027	11,001	11,019	12,500	10,739	11,214	11,290	11,330
	353	244	210	207	293	161	221	235	300	457	187	204	253	227	242
Coal				207		161 534				157		204			212
Natural Gas	413	485	632	493	479	534	667	531	495	553	697	544	506	553	573
Petroleum (a)	55	2	3	3	47	3	6	5	9	4	6	5	16	15	6
Other Gases	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Nuclear	542	471	539	531	545	500	505	469	493	482	513	476	521	505	491
Hydropower (c)	94	100	84	91	91	108	94	92	98	113	100	97	92	96	102
Other Renewables (d)	73	64	60	72	76	66	61	70	73	66	62	73	67	68	68
Other Nonrenewable Fuels (b)	11	12	13	12	11	12	12	12	12	12	12	12	12	12	12
Total Generation	1,542	1,381	1,543	1,411	1,543	1,385	1,567	1,416	1,482	1,389	1,579	1,413	1,469	1,478	1,466
South Census Region															
Coal	2,122	1,849	2,100	1,614	1,713	1,524	1,884	1,536	1,704	1,598	1,941	1,533	1,920	1,664	1,694
Natural Gas	1,544	1,729	2,088	1,637	1,976	2,064	2,387	1,790	1,777	1,991	2,339	1,765	1,751	2,055	1,968
Petroleum (a)	53	28	26	24	42	28	30	26	33	29	31	25	33	31	30
Other Gases	11	11	14	14	13	13	15	15	13	14	16	16	13	14	15
Nuclear	966	882	994	977	974	962	963	893	942	930	1,006	933	955	948	953
Hydropower (c)	150	107	80	107	127	121	83	103	137	125	89	109	111	109	115
Other Renewables (d)	241	257	204	240	228	276	239	285	302	327	273	321	235	257	306
Other Nonrenewable Fuels (b)	13	13	14	14	14	14	14	14	14	14	15	14	13	14	14
Total Generation	5,100	4,875	5,520	4,627	5,089	5,001	5,616	4,663	4,921	5,027	5,709	4,716	5,031	5,092	5,094
Midwest Census Region															
Coal	1,801	1,439	1,682	1,492	1,581	1,383	1,751	1,514	1,594	1,425	1,749	1,516	1,603	1,558	1,571
Natural Gas	194	184	203	189	295	234	278	207	255	234	293	212	193	253	248
Petroleum (a)	14	13	12	9	12	10	12	11	12	11	12	11	12	11	12
Other Gases	11	12	14	12	13	13	14	12	13	13	15	13	12	13	13
Nuclear	533	543	586	525	553	527	542	503	521	509	542	503	547	531	519
Hydropower (c)	33	45	44	41	42	45	44	38	44	47	47	40	41	42	45
Other Renewables (d)	253	214	148	244	250	226	165	246	261	251	180	266	214	222	239
Other Nonrenewable Fuels (b)	4	5	5	4	4	5	5	5	4	5	5	5	4	5	5
Total Generation	2,843	2,454	2,693	2,516	2,749	2,444	2,812	2,536	2,703	2,494	2,843	2,565	2,626	2,635	2,652
West Census Region															
Coal	588	497	632	556	506	432	669	657	609	458	643	602	568	567	578
Natural Gas	564	500	802	628	486	584	809	609	530	484	783	642	624	623	610
Petroleum (a)	25	21	24	23	23	23	26	27	27	26	28	28	23	25	27
Other Gases	5	5	6	6	6	5	6	6	7	5	6	6	5	6	6
Nuclear	160	164	170	150	176	151	163	151	159	156	166	154	161	160	159
Hydropower (c)	414	579	423	378	522	536	362	327	392	642	438	357	448	436	457
Other Renewables (d)	240	293	243	236	228	308	285	230	245	332	309	252	253	263	284
Other Nonrenewable Fuels (b)	5	5	5	4	4	5	5	250	4	5	5	5	5	5	5
Total Generation	2,001	2,063	2,304	1,982	1,953	2,044	2,326	2,012	1,975	2,108	2,377	2,045	2,088	2,084	2,127
(a) Desidual fuel all distillate fuel all a		2,003	2,304	ا ١٫٥٥٤		2,044	۷,۵۷	2,012	1,313	۷, ۱۵۵	2,311	2,040	۵,000	2,004	۷,۱۷۱

<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>	14			20 <sup>-</sup>	15			20	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Fuel Consumption for Electricity Ge	neration,	All Secto	rs												
United States															
Coal (thousand st/d)	2,579	2,161	2,522	2,105	2,190	1,906	2,475	2,164	2,268	1,971	2,470	2,113	2,341	2,185	2,206
Natural Gas (million cf/d)	20,666	22,042	28,356	22,049	23,991	25,892	31,588	23,134	22,622	24,755	31,380	23,339	23,296	26,164	25,534
Petroleum (thousand b/d)	262	111	115	103	216	115	130	123	146	124	135	121	147	146	132
Residual Fuel Oil	86	24	29	24	77	25	29	30	34	30	33	29	41	40	32
Distillate Fuel Oil	87	24	24	25	66	28	29	29	37	27	29	29	40	38	31
Petroleum Coke (a)	69	60	59	50	59	58	66	58	67	63	67	58	59	60	64
Other Petroleum Liquids (b)	20	3	3	4	13	4	6	5	8	5	6	5	7	7	6
Northeast Census Region															
Coal (thousand st/d)	161	113	102	96	132	73	103	109	136	71	86	93	118	104	97
Natural Gas (million cf/d)	3,191	3,701	4,921	3,729	3,614	4,076	5,166	3,967	3,711	4,180	5,360	4,037	3,890	4,209	4,324
Petroleum (thousand b/d)	92	4	6	5	76	6	11	10	17	8	11	9	26	26	11
South Census Region															
Coal (thousand st/d)	1,084	963	1,116	855	889	813	1,006	826	893	845	1,034	823	1,004	883	899
Natural Gas (million cf/d)	11,736	13,138	15,819	12,131	14,453	15,563	18,036	13,062	13,008	15,020	17,689	12,893	13,214	15,282	14,656
Petroleum (thousand b/d)	101	51	49	45	79	52	55	49	64	54	58	47	61	59	56
Midwest Census Region															
Coal (thousand st/d)	1,005	811	952	842	884	777	987	853	893	798	986	854	902	875	883
Natural Gas (million cf/d)	1,574	1,436	1,638	1,513	2,275	1,842	2,301	1,608	1,973	1,860	2,407	1,641	1,540	2,005	1,970
Petroleum (thousand b/d)	28	23	22	17	23	20	22	21	22	20	22	21	23	21	21
West Census Region															
Coal (thousand st/d)	329	274	351	313	286	243	379	376	346	257	363	343	317	321	327
Natural Gas (million cf/d)	4,165	3,767	5,979	4,675	3,649	4,411	6,085	4,497	3,930	3,695	5,924	4,768	4,651	4,667	4,583
Petroleum (thousand b/d)	41	33	38	36	38	37	42	43	44	42	45	45	37	40	44
End-of-period U.S. Fuel Inventories	Held by E	Electric Po	ower Sect	or											
Coal (million short tons)	118.3	132.9	123.8	151.4	155.6	166.1	148.8	152.3	153.4	158.8	144.2	148.4	151.4	152.3	148.4
Residual Fuel Oil (mmb)	10.5	10.6	10.4	12.7	10.2	10.8	11.1	11.4	11.4	11.2	11.0	11.1	12.7	11.4	11.1
Distillate Fuel Oil (mmb)	15.5	15.5	15.5	16.9	15.8	15.9	15.8	16.1	16.1	15.9	15.8	16.0	16.9	16.1	16.0
Petroleum Coke (mmb)	1.7	2.0	1.9	4.2	4.1	4.5	4.5	4.4	4.4	4.4	4.3	4.3	4.2	4.4	4.3

<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.

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

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

	'	201	4	0,		201	15			201	16			Year	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
Electric Power Sector															
Hydroelectric Power (a)	0.596	0.731	0.566	0.549	0.677	0.703	0.518	0.496	0.585	0.807	0.597	0.533	2.443	2.394	2.523
Wood Biomass (b)	0.063	0.056	0.064	0.063	0.063	0.056	0.067	0.061	0.063	0.057	0.071	0.063	0.247	0.246	0.254
Waste Biomass (c)	0.063	0.065	0.066	0.066	0.063	0.065	0.070	0.068	0.066	0.068	0.071	0.069	0.260	0.267	0.273
Wind	0.473	0.475	0.321	0.459	0.433	0.493	0.380	0.488	0.525	0.564	0.417	0.535	1.729	1.794	2.041
Geothermal	0.039	0.039	0.039	0.041	0.040	0.039	0.039	0.039	0.039	0.038	0.039	0.039	0.158	0.157	0.154
Solar	0.029	0.051	0.052	0.037	0.047	0.077	0.074	0.043	0.044	0.089	0.098	0.063	0.170	0.240	0.294
Subtotal	1.263	1.418	1.109	1.215	1.323	1.432	1.148	1.195	1.323	1.623	1.291	1.302	5.006	5.098	5.539
Industrial Sector															
Hydroelectric Power (a)	0.008	0.006	0.006	0.007	0.007	0.006	0.007	0.007	0.007	0.006	0.007	0.007	0.026	0.027	0.028
Wood Biomass (b)	0.318	0.327	0.335	0.336	0.321	0.301	0.303	0.302	0.293	0.289	0.300	0.303	1.317	1.227	1.185
Waste Biomass (c)	0.044	0.046	0.046	0.046	0.045	0.046	0.048	0.047	0.046	0.046	0.048	0.048	0.183	0.185	0.187
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)	0.182	0.190	0.190	0.196	0.189	0.192	0.188	0.190	0.187	0.190	0.194	0.192	0.758	0.758	0.763
Subtotal	0.557	0.574	0.582	0.591	0.567	0.551	0.550	0.552	0.538	0.536	0.555	0.555	2.305	2.220	2.185
Commercial Sector												'-			
Wood Biomass (b)	0.018	0.018	0.018	0.018	0.018	0.018	0.019	0.019	0.018	0.019	0.019	0.019	0.071	0.074	0.075
Waste Biomass (c)	0.012	0.011	0.011	0.012	0.012	0.011	0.012	0.012	0.012	0.011	0.013	0.012	0.046	0.048	0.048
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	0.036	0.036	0.036	0.036	0.037	0.035	0.037	0.037	0.036	0.036	0.037	0.037	0.144	0.146	0.146
Residential Sector															
Wood Biomass (b)	0.143	0.145	0.146	0.146	0.110	0.112	0.113	0.113	0.103	0.104	0.105	0.105	0.580	0.447	0.418
Geothermal	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.011	0.011	0.011	0.011	0.040	0.040	0.044
Solar (d)	0.062	0.063	0.063	0.063	0.069	0.070	0.071	0.071	0.077	0.077	0.078	0.078	0.252	0.281	0.311
Subtotal	0.215	0.217	0.220	0.220	0.189	0.192	0.194	0.194	0.191	0.193	0.195	0.195	0.871	0.768	0.773
Transportation Sector															
Ethanol (e)	0.256	0.276	0.277	0.281	0.266	0.283	0.281	0.281	0.262	0.282	0.293	0.285	1.089	1.111	1.122
Biodiesel (e)	0.040	0.048	0.055	0.053	0.034	0.053	0.063	0.070	0.059	0.063	0.069	0.071	0.196	0.219	0.261
Subtotal	0.296	0.324	0.332	0.334	0.299	0.336	0.344	0.351	0.321	0.345	0.362	0.355	1.285	1.330	1.384
All Sectors Total															
Hydroelectric Power (a)		0.737	0.572	0.555	0.685	0.709	0.525	0.503	0.592	0.814	0.605	0.540	2.469	2.422	2.551
Wood Biomass (b)	0.542	0.546	0.563	0.563	0.512	0.486	0.501	0.495	0.478	0.469	0.495	0.491	2.214	1.994	1.932
Waste Biomass (c)	0.119	0.121	0.124	0.124	0.120	0.122	0.130	0.128	0.124	0.125	0.131	0.129	0.488	0.499	0.509
Wind	0.473	0.475	0.321	0.459	0.433	0.493	0.380	0.488	0.525	0.564	0.417	0.535	1.729	1.794	2.041
Geothermal	0.055	0.055	0.055	0.057	0.056	0.055	0.055	0.055	0.055	0.054	0.056	0.056	0.222	0.221	0.222
Solar	0.092	0.116	0.117	0.102	0.117	0.147	0.146	0.115	0.122	0.168	0.177	0.142	0.427	0.524	0.609
Ethanol (e)	0.260	0.281	0.282	0.286	0.271	0.287	0.286	0.286	0.267	0.287	0.299	0.290	1.109	1.130	1.144
Biodiesel (e)	0.040	0.048	0.055	0.053	0.034	0.053	0.063	0.070	0.059	0.063	0.069	0.071	0.196	0.219	0.261
Biofuel Losses and Co-products (f)	0.182	0.190	0.190	0.196	0.189	0.192	0.188	0.190	0.187	0.190	0.194	0.192	0.758	0.758	0.763
Total Consumption	2.367	2.570	2.279	2.396	2.416	2.545	2.273	2.328	2.409	2.733	2.441	2.445	9.612	9.562	10.027

<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 biodiesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biodiesel may be consumed in the residential sector in

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

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

U.S. Energy Information Administration	n   Snor	<u>- 1 emn E</u> 201		Juliook -	July 20	20 <sup>.</sup>	15			20	16			Voor	
	1st	201 2nd	4 3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	Year 2015	2016
Macroeconomic			0.0				0.4				0.0				
Real Gross Domestic Product															
(billion chained 2009 dollars - SAAR) Real Personal Consumption Expend.	15,832	16,010	16,206	16,295	16,264	16,344	16,455	16,570	16,693	16,809	16,934	17,061	16,086	16,408	16,874
(billion chained 2009 dollars - SAAR)  Real Fixed Investment	10,844	10,913	11,000	11,120	11,170	11,223	11,311	11,388	11,460	11,529	11,609	11,696	10,969	11,273	11,573
(billion chained 2009 dollars - SAAR)	2,536	2,595	2,643	2,673	2,664	2,694	2,746	2,799	2,862	2,911	2,952	3,005	2,612	2,726	2,932
Business Inventory Change (billion chained 2009 dollars - SAAR)	40	100	95	93	106	70	46	45	41	56	63	72	82	67	58
Real Government Expenditures (billion chained 2009 dollars - SAAR)	2,869	2,881	2,912	2,898	2,890	2,909	2,924	2,929	2,931	2,932	2,939	2,934	2,890	2,913	2,934
Real Exports of Goods & Services (billion chained 2009 dollars - SAAR)	2,027	2,081	2,104	2,127	2,086	2,106	2,129	2,150	2,179	2,208	2,235	2,262	2,085	2,118	2,221
Real Imports of Goods & Services (billion chained 2009 dollars - SAAR)	2,474	2,541	2,535	2,599	2,634	2,649	2,687	2,728	2,766	2,812	2,850	2,893	2,537	2,674	2,830
Real Disposable Personal Income (billion chained 2009 dollars - SAAR)	11,810	11,900	11,970	12,093	12,251	12,320	12,399	12,464	12,548	12,615	12,712	12,813	11,943	12,358	12,672
Non-Farm Employment (millions)	137.8	138.6	139.4	140.2	141.0	141.6	142.1	142.6	143.1	143.6	144.1	144.5	139.0	141.8	143.8
Civilian Unemployment Rate (percent)	6.6	6.2	6.1	5.7	5.6	5.4	5.4	5.4	5.3	5.2	5.2	5.2	6.2	5.5	5.2
Housing Starts (millions - SAAR)	0.93	0.98	1.03	1.06	0.98	1.11	1.13	1.18	1.24	1.25	1.30	1.38	1.00	1.10	1.29
Industrial Production Indices (Index, 2007=		0.50	1.00	1.00	0.50	7.77	1.13	1.10	1.24	1.20	7.50	7.50	1.00	1.10	1.23
Total Industrial Production	100)	103.7	104.7	105.9	105.8	105.2	105.8	106.6	107.8	108.7	110.1	111.4	104.1	105.9	109.5
Manufacturing	99.4	101.2	102.4	103.5	103.2	103.4	104.0	104.9	106.2	107.2	108.7	110.1	101.6	103.9	108.0
Food	106.1	106.5	105.6	107.7	108.8	108.7	109.8	110.5	111.3	111.9	112.7	113.6	106.5	109.5	112.4
Paper	82.4	83.3	82.6	83.1	82.2	82.4	81.9	81.8	81.8	81.7	82.0	82.4	82.9	82.1	82.0
Petroleum and Coal Products	97.7	98.2	98.9	98.7	99.4	100.7	102.0	102.0	102.1	102.3	102.7	103.1	98.4	101.0	102.6
Chemicals	87.7	88.4	90.1	91.3	92.0	91.9	92.5	92.8	93.4	94.0	95.0	96.1	89.4	92.3	94.6
Nonmetallic Mineral Products	75.5	77.4	79.9	80.2	80.5	80.8	82.5	83.5	84.6	85.7	87.0	88.3	78.3	81.8	86.4
Primary Metals	101.9	106.2	108.2	105.5	99.8	98.1	96.4	95.8	96.2	95.8	97.5	99.7	105.5	97.5	97.3
Coal-weighted Manufacturing (a)	91.8	93.7	94.6	94.4	93.0	92.8	92.9	92.9	93.5	93.7	94.9	96.1	93.6	92.9	94.6
Distillate-weighted Manufacturing (a)	92.3	93.9	95.0	95.6	95.0	95.1	95.9	96.4	97.2	97.8	98.8	99.9	94.2	95.6	98.4
Electricity-weighted Manufacturing (a)	97.1	99.1	100.1	100.6	99.6	99.6	99.7	100.0	100.9	101.3	102.6	104.1	99.2	99.7	102.2
Natural Gas-weighted Manufacturing (a)	93.6	94.6	95.6	96.2	95.4	95.7	96.1	96.2	96.8	97.3	98.6	100.0	95.0	95.9	98.2
Price Indexes															
Consumer Price Index (all urban consumers) (index, 1982-1984=1.00)  Producer Price Index: All Commodities	2.35	2.37	2.38	2.37	2.35	2.37	2.38	2.39	2.40	2.42	2.43	2.44	2.37	2.37	2.42
(index, 1982=1.00)	2.06	2.07	2.06	2.02	1.92	1.92	1.93	1.94	1.96	1.97	1.98	1.99	2.05	1.93	1.97
Producer Price Index: Petroleum (index, 1982=1.00)	2.88	2.99	2.90	2.35	1.72	1.98	2.02	1.88	1.93	2.09	2.13	1.98	2.78	1.90	2.03
GDP Implicit Price Deflator (index, 2009=100)	107.7	108.3	108.6	108.7	108.7	109.3	109.8	110.3	111.0	111.6	112.1	112.7	108.3	109.5	111.9
Miscellaneous															
Vehicle Miles Traveled (b)															
(million miles/day)	7,702	8,684	8,604	8,292	8,001	8,847	8,817	8,470	8,118	8,967	8,874	8,555	8,323	8,536	8,629
(Available ton-miles/day, thousands) Aircraft Utilization	503	548	561	534	514	545	560	540	518	550	565	545	537	540	545
(Revenue ton-miles/day, thousands) Airline Ticket Price Index	310	347	353	332	321	345	353	336	326	351	358	341	336	339	344
(index, 1982-1984=100) Raw Steel Production	297.3	334.3	301.0	298.2	286.4	299.3	282.6	301.7	312.0	323.9	300.0	316.8	307.7	292.5	313.2
(million short tons per day)	0.262	0.263	0.271	0.262	0.247	0.243	0.232	0.213	0.216	0.219	0.199	0.187	0.264	0.233	0.205
Carbon Dioxide (CO <sub>2</sub> ) Emissions (million n	netric tons) 547	556	568	577	562	568	576	576	563	572	578	580	2,249	2,282	2,292
Natural Gas	54 <i>7</i> 461	298	305	377	362 471	313	324	393	563 465	315	326	398	2,249 1,441	2,282 1,502	2,292 1,504
Coal	463	397	461	391	397	357	324 454	393 401	413	361	320 451	390	1,713	1,608	1,615
Total Fossil Fuels	1,472	1,251	1,334	1,345	1,429	1,238	1,353	1,371	1,441	1,248	1,354	1,369	5,403	5,391	5,411
Total i USSII i UCIS	1,412	1,201	1,334	1,343	1,423	1,230	1,303	1,371	1,441	1,270	1,304	1,303	5,403	0,031	0,411

<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 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.

SAAR = Seasonally-adjusted annual rate

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

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

Table 9b. U.S. Regional Macroeconomic Data

U.S. Energy Informat	ion Admir			t-Term E	energy C		July 201	5							
	404	201		446	104	201		446	4-4	201		446	2044	Year	2046
Real Gross State Produc	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2014	2015	2016
New England	856	2009) 863	868	874	872	877	882	887	893	899	905	911	865	880	902
Middle Atlantic	2,395	2,412	2,447	2,459	2,452	2,463	2,481	2,497	2,514	2,528	2,544	2,560	2,428	2,473	2,537
E. N. Central	-	2,214	2,230	2,242	2,237	2,246	2,260	2,274	2,288	2,300	2,315	2,329	2,220	2,254	2,308
W. N. Central	1,020	1,031	1,043	1,047	1,044	1,049	1,056	1,063	1,070	1,077	1,084	1,092	1,035	1,053	1,081
S. Atlantic	-	2,832	2,858	2,872	2,871	2,890	2,913	2,935	2,960	2,982	3,006	3,031	2,839	2,902	2,995
E. S. Central	726	735	738	741	740	743	748	753	758	763	768	773	735	746	766
W. S. Central	1,945	1,976	2,002	2,016	2,010	2,013	2,022	2,037	2,053	2,070	2,086	2,104	1,985	2,020	2,078
Mountain	•	1,016	1,029	1,038	1,039	1,044	1,052	1,059	1,068	1,077	1,087	1,096	1,022	1,049	1,082
Pacific	2,807	2,845	2,903	2,917	2,911	2,928	2,951	2,973	2,998	3,021	3,046	3,071	2,868	2,941	3,034
Industrial Output, Manufa	-	•	•	,	2,311	2,320	2,301	2,373	2,330	3,02 1	3,040	3,071	2,000	2,341	3,034
New England	96.1	97.3	98.0	98.7	98.1	98.1	98.5	99.2	100.4	101.2	102.6	103.8	97.5	98.5	102.0
Middle Atlantic	94.4	95.7	96.4	97.2	96.7	97.1	97.6	98.3	99.4	100.1	101.4	102.6	95.9	97.4	100.9
E. N. Central	101.5	103.5	104.7	106.1	106.3	106.6	107.5	108.4	109.6	110.4	111.9	113.2	104.0	107.2	111.3
W. N. Central		103.5	105.6	106.1	106.4	106.7	107.4	108.4	109.0	110.4	112.5	113.9	104.9	107.2	111.8
S. Atlantic		96.9	98.3	99.4	99.2	99.7	100.6	100.4	102.8	103.6	105.0	106.2	97.4	100.2	104.4
E. S. Central	97.6	99.3	101.0	102.1	101.9	102.4	103.3	104.2	105.5	106.3	107.7	108.9	100.0	103.0	107.1
W. S. Central	104.1	106.2	107.6	108.9	101.5	107.3	107.7	104.2	109.7	110.5	112.1	113.5	106.7	107.9	111.5
Mountain	101.5	103.3	104.5	105.5	105.5	106.2	107.7	108.1	109.7	111.2	113.2	114.8	103.7	106.7	112.3
Pacific	101.3	103.5	103.5	103.3	103.3	100.2	107.0	105.6	109.9	108.0	109.7	111.2	103.7	100.7	109.0
Real Personal Income (B			105.5	104.4	104.1	104.4	104.0	100.0	107.0	100.0	103.1	111.2	102.0	104.1	103.0
New England	760	761	766	775	787	792	797	801	806	811	815	821	766	794	813
Middle Atlantic	2,035	2,039	2,055	2,077	2,108	2,115	2,131	2,141	2,155	2,165	2,178	2,192	2,052	2,124	2,173
E. N. Central	-	1,864	1,871	1,894	1,923	1,933	1,945	1,953	1,966	1,976	1,987	1,999	1,871	1,939	1,982
W. N. Central		881	885	895	907	912	919	924	930	934	940	947	883	916	938
S. Atlantic		2,494	2,509	2,540	2,579	2,601	2,620	2,637	2,659	2,679	2,699	2,721	2,505	2,609	2,690
E. S. Central	653	658	661	669	678	682	686	690	695	699	703	708	660	684	701
W. S. Central	1,542	1,556	1,570	1,594	1,614	1,620	1,630	1,639	1,652	1,665	1,679	1,694	1,565	1,626	1,672
Mountain	,	874	880	892	905	912	919	925	933	940	948	957	879	915	944
Pacific	2,327	2,345	2,373	2,401	2,444	2,461	2,481	2,498	2,517	2,534	2,553	2,574	2,361	2,471	2,544
Households (Thousands	-	_,	_,	_,	_,	_,	_,	_,	_,	_,	_,	_,	_,,:	_,	_,
New England	, 5,764	5,765	5,762	5,767	5,771	5,771	5,777	5,782	5,785	5,789	5,794	5,799	5,767	5,782	5,799
Middle Atlantic	15,836	15,838	15,829	15,843	15,849	15,849	15,860	15,870	15,874	15,885	15,897	15,908	15,843	15,870	15,908
E. N. Central	18,576	18,587	18,582	18,596	18,598	18,595	18,607	18,619	18,629	18,643	18,657	18,672	18,596	18,619	18,672
W. N. Central	8,410	8,423	8,429	8,447	8,460	8,469	8,484	8,498	8,510	8,525	8,540	8,557	8,447	8,498	8,557
S. Atlantic	24,217	24,276	24,320	24,398	24,468	24,527	24,605	24,683	24,756	24,837	24,918	25,000	24,398	24,683	25,000
E. S. Central	7,450	7,453	7,452	7,461	7,466	7,468	7,476	7,485	7,494	7,506	7,518	7,530	7,461	7,485	7,530
W. S. Central	14,103	14,148	14,182	14,232	14,274	14,311	14,356	14,401	14,441	14,487	14,533	14,579	14,232	14,401	14,579
Mountain	8,604	8,625	8,642	8,672	8,698	8,721	8,751	8,780	8,808	8,841	8,875	8,909	8,672	8,780	8,909
Pacific	18,186	18,232	18,267	18,323	18,371	18,411	18,460	18,505	18,552	18,603	18,652	18,702	18,323	18,505	18,702
Total Non-farm Employm	ent (Millio	ns)													
New England	7.1	7.1	7.1	7.1	7.2	7.2	7.2	7.2	7.2	7.3	7.3	7.3	7.1	7.2	7.3
Middle Atlantic	18.7	18.8	18.8	18.9	18.9	19.0	19.1	19.1	19.1	19.2	19.2	19.3	18.8	19.0	19.2
E. N. Central	21.0	21.1	21.2	21.3	21.4	21.5	21.5	21.6	21.6	21.7	21.7	21.8	21.1	21.5	21.7
W. N. Central		10.3	10.4	10.4	10.4	10.5	10.5	10.5	10.6	10.6	10.6	10.7	10.3	10.5	10.6
S. Atlantic	26.1	26.2	26.4	26.6	26.7	26.9	27.0	27.2	27.3	27.4	27.5	27.6	26.3	27.0	27.5
E. S. Central	7.6	7.7	7.7	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.7	7.8	7.9
W. S. Central		16.2	16.4	16.5	16.6	16.6	16.7	16.7	16.8	16.8	16.9	17.0	16.3	16.6	16.9
Mountain		9.7	9.8	9.9	9.9	10.0	10.1	10.1	10.1	10.2	10.2	10.3	9.8	10.0	10.2
Pacific		21.2	21.4	21.6	21.8	21.9	22.0	22.1	22.1	22.2	22.3	22.4	21.3	21.9	22.3

<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 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	Energy (			15							
	1st	201 2nd	4 3rd	4th	1st	20 <sup>-</sup> 2nd	15 3rd	4th	1st	20 <sup>-</sup> 2nd	16 3rd	4th	2014	Year 2015	2016
Heating Degree Days	181	ZIIU	SIG	4(1)	181	ZIIU	SIU	4111	181	ZIIU	SIU	4(1)	2014	2013	2010
	3,561	883	147	2,084	3,852	821	143	2,221	3,197	863	134	2,221	6,675	7,036	6.416
New England Middle Atlantic	3,437	701	100	2,064 1,964	-	62 I	99	2,221	3,197 2,932	677	134 86	2,221	6,202	6,320	5,713
E. N. Central	3,935	701 727	168	2,365	-	661	132	2,018	2,932 3,126	728	66 127	2,018	7,194	6,739	6,234
W. N. Central	-	755	178		-	642	152		3,120	686	154			· ·	
South Atlantic	3,861 1,712	755 196	176	2,511 1,040	3,373 1,674	158	17	2,432 1,010	3, 192 1,493	211	154	2,432 1,009	7,305 2,962	6,606	6,464 2,728
	2,270	229	18	1,412	-	188	23	1,342	1,493 1,896	268	15 22	1,343	3,929	2,859 3,700	3,529
E. S. Central W. S. Central	1,480	91	4	848	,	70	23 5	1,342 877	1,304	101	4	876	2,423	2,352	2,285
Mountain	•	713	152	1,764	,	681	144	1.860	2,204	668	141	1.859	4,753	4,587	4,873
	1,254	467	57	988	-	517	69	1,063	1,312	503	88	1,063	2,765	2,722	2,967
Pacific	•	467 479	57 81		,		76	,	,	503 478	75		,	· ·	,
U.S. Average	2,450		01	1,541	2,341	441	76	1,544	2,128	4/6	75	1,542	4,551	4,402	4,223
Heating Degree Days, Pri New England	or 10-year 3,152	836	134	2,167	3,166	838	134	2,147	3,212	824	141	2,148	6,289	6,285	6.325
Middle Atlantic	,	660	88	•	•	666	90	,	2,983	652	96	1,974	5,636	· ·	5,704
	2,905	690		1,983	,	694		1,976	,			,	,	5,667	,
E. N. Central	-		120	2,243	-		123	2,262	3,247	689	131	2,256	6,170	6,272	6,323
W. N. Central		686	149	2,404	-	691	150	2,433	3,298	692	157	2,439	6,449	6,546	6,585
South Atlantic	1,465	194	14	1,006	-	196	14	1,013	1,502	185	15	1,010	2,679	2,704	2,712
E. S. Central	1,810	236	19 5	1,336	-	236	19	1,358	1,899	225	20	1,354	3,402	3,466	3,498
W. S. Central	1,157	85 700		827	-	86	5	834	1,221	83	5	841	2,075	2,113	2,150
Mountain	•	728	156	1,887	-	730	150	1,873	2,231	722	149	1,879	5,038	5,012	4,981
Pacific		625	96 77	1,236	-	621	92	1,205	1,493	608	87	1,198	3,511	3,452	3,387
U.S. Average	2,161	492	77	1,569	2,182	493	77	1,567	2,199	483	79	1,564	4,298	4,319	4,325
Cooling Degree Days	•		0.40	•	•	400	400			00	445	0	440	500	504
New England	0	76	342	0		123	400	0	0	89	415	0	418	523	504
Middle Atlantic	0	157	434	6		227	542	5	0	168	562	5	596	774	736
E. N. Central		231	377	3		241	535	7	0	216	545	7	610	782	769
W. N. Central		262	538	12		294	661	10	3	273	682	10	812	968	968
South Atlantic	107	643	1,061	194		783	1,136	225	111	621	1,139	225	2,005	2,280	2,095
E. S. Central	6	504	922	65		595	1,032	64	25	494	1,036	64	1,497	1,715	1,620
W. S. Central		781	1,442	220		871	1,455	183	66	814	1,488	183	2,477	2,560	2,552
Mountain		438	868	94		440	948	79	19	440	957	79	1,432	1,512	1,495
Pacific		227	694	113		247	611	76	31	199	576	76	1,074	989	882
U.S. Average	34	394	776	96	47	456	840	91	38	391	847	91	1,300	1,434	1,367
Cooling Degree Days, Pri	-	_							_						
New England	0	83	417	1		85	419	1	0	86	411	1	500	505	498
Middle Atlantic	0	167	558	5		168	557	5	0	172	541	6	730	731	719
E. N. Central	3	230	546	6		234	545	6	3	231	532	6	785	787	771
W. N. Central		277	678	9		282	683	9	7	282	674	9	972	981	972
South Atlantic	110	636	1,154	213		635	1,155	210	113	661	1,142	210	2,112	2,109	2,127
E. S. Central	35	528	1,045	57		526	1,053	52	32	543	1,039	53	1,666	1,664	1,668
W. S. Central		882	1,506	190		883	1,519	184	90	892	1,506	183	2,680	2,680	2,671
Mountain		420	922	70	17	424	929	75	21	430	933	75	1,431	1,445	1,459
Pacific	26	166	589	58	26	170	602	65	29	182	605	67	839	863	884
U.S. Average	41	393	843	83	40	396	849	83	42	406	841	84	1,361	1,369	1,374

<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).