

Short-Term Energy Outlook

June 9, 2009 Release

Highlights

- Spot prices for crude oil and petroleum products have increased over the past month. The price of West Texas Intermediate (WTI) crude oil is expected to average \$67 per barrel for the second half of 2009, an increase of about \$16 compared with the first half of the year.
- The average U.S. price for regular-grade gasoline, at \$2.62 per gallon on June 8, was almost 60 cents per gallon higher than its price at the end of April. Regular-grade gasoline prices are expected to reach their summer seasonal peak in July, with a monthly average close to \$2.70 per gallon. The annual average regular-grade gasoline retail price in 2009 is expected to be \$2.33 per gallon, rising to \$2.56 in 2010. The annual average diesel fuel retail prices are expected to be \$2.40 and \$2.67 per gallon in 2009 and 2010, respectively.
- The monthly average Henry Hub natural gas spot price is expected to stay under \$4 per thousand cubic feet (Mcf) until late in the year as abundant natural gas supplies converge with weak demand driven by an 8-percent decline in industrial sector consumption. The price is projected to increase from an average of \$4.13 per Mcf in 2009 to an average \$5.49 per Mcf in 2010 as expected economic growth boosts industrial consumption of natural gas.
- Based on the current Atlantic hurricane season outlook from the National Oceanic and Atmospheric Administration (NOAA), EIA estimates expected production shut-ins on the U.S. Gulf Coast during the upcoming hurricane season (June through November) of about 4.5 million barrels for crude oil and 36 billion cubic feet for natural gas (see the [2009 Outlook for Hurricane Production Outages in the Gulf of Mexico](#)). Actual shut-ins are likely to differ significantly from this expectation depending on the number, track, and strength of hurricanes as the season progresses.

Global Petroleum

Overview. Oil prices rose for the third consecutive month in May, driven in part by expectations of a global economic recovery and future increases in oil consumption. In addition, a weaker dollar and increasing financial market activity are prompting higher prices for commodities, overshadowing weak oil supply and demand fundamentals. The weaker dollar may indicate that economic activity abroad, especially in Asia, is stronger than currently estimated, which would provide an upside risk to the oil price forecast. Downside risks, such as continuing weak demand as indicated by sluggish first quarter 2009 oil consumption data, high inventories, and increased surplus production capacity levels within the Organization of the Petroleum Exporting Countries (OPEC) could moderate the upward price pressure, especially if the global economic recovery is delayed and/or weaker than expected.

Consumption. World crude oil and liquid fuels consumption remains below year-ago levels. Total consumption during the fourth quarter of 2008 was 2.8 million barrels per day (bbl/d) below fourth quarter 2007 levels because of the global economic downturn. The year-over-year decline in total consumption increased in the first quarter of 2009 to an estimated 3.4 million bbl/d. Oil consumption in countries that are members of the Organization for Economic Cooperation and Development (OECD) fell by 2.4 million bbl/d in the first quarter of 2009, compared to the first quarter of 2008, accounting for more than 70 percent of the total decline. The rate of consumption decline is expected to moderate later in the year. After falling by an average 1.8 million bbl/d in 2009, global consumption is projected to grow by 0.7 million bbl/d in 2010 in response to expected positive global economic growth ([World Liquid Fuels Consumption Chart](#)).

Non-OPEC Supply. After falling by 270,000 bbl/d in 2008, total non-OPEC supply is projected to rise by 400,000 bbl/d in 2009 and remain almost flat at the 2009 level in 2010. Over the forecast period, higher output in a few countries, such as Brazil, the United States, and Azerbaijan, is expected to offset declining production in Mexico, the North Sea, and Russia ([Non-OPEC Crude Oil and Liquid Fuels Production Growth Chart](#)).

OPEC Supply. OPEC crude oil production is estimated to have averaged approximately 28.7 million bbl/d in the first quarter of 2009 and is projected to average 28.6 million bbl/d in the second quarter. This represents a roughly two-thirds compliance rate with announced production cuts. OPEC, which held production targets steady at its May 28 meeting, plans to meet again on September 9 in Vienna to review market conditions. Over the forecast period, prospects for an economic recovery and a rebound in oil consumption signal higher demand for OPEC oil.

OPEC crude oil production is projected to average 28.5 million bbl/d in 2009, before rising slightly to 28.8 million bbl/d in 2010. However, OPEC production capacity is expected to rise by 1.2 million bbl/d by the end of next year, relative to the end of 2008, which will increase surplus production capacity and help mitigate upward price pressure.

Inventories. Revised data indicate that OECD commercial inventories at year-end 2008 stood at 2.7 billion barrels. At 57 days of forward cover, OECD commercial inventories were well above average levels for that time of year ([Days of Supply of OECD Commercial Stocks Chart](#)). Preliminary estimates suggest that OECD commercial inventories increased by 46 million barrels during the first quarter of 2009, rather than declining seasonally, reaching 60 days of forward cover. The United States was responsible for this counter-seasonal build in OECD commercial inventories, with other OECD-member commercial stocks declining slightly. However, with the expected global demand increase in 2010 not forecast to be fully matched by increased supply, global inventories are expected to fall slightly over the forecast period.

U.S. Crude Oil and Liquid Fuels

Consumption. Based on the weak economy, total consumption of liquid fuels and other petroleum products is projected to contract by 550,000 bbl/d (2.9 percent) in 2009 ([U.S. Petroleum Products Consumption Growth Chart](#)), including a decline of 220,000 bbl/d (5.5 percent) in distillate fuel consumption and about 100,000 bbl/d (6.9 percent) in jet fuel consumption. Motor gasoline, however, is projected to increase by 30,000 bbl/d (0.3 percent) as a result of the substantial declines in retail prices from last summer and the stabilization of real disposable income. The gradual economic recovery in 2010 is expected to contribute to a 300,000-bbl/d (1.6 percent) increase in total liquid fuels consumption.

Production. Total domestic crude oil production averaged 4.96 million bbl/d in 2008, down from 5.06 million bbl/d in 2007 ([U.S. Crude Oil Production Chart](#)). Production is expected to increase to an average of 5.27 million bbl/d in 2009 and 5.32 million bbl/d in 2010, including an estimated expectation, with a wide range of uncertainty, of hurricane-induced outage of about 4.5 million barrels for the offshore region in 2009 (see the [2009 Outlook for Hurricane Production Outages in the Gulf of Mexico](#)).

Prices. WTI crude oil prices, which averaged \$99.57 per barrel in 2008 ([Crude Oil Prices Chart](#)), are projected to average \$58.70 per barrel in 2009 and \$67.42 per barrel in 2010. As always, energy price forecasts are highly uncertain. One measure of how the market reflects this uncertainty is the sizable participation in near-term options on

crude oil futures contracts at strike prices that are significantly different from current futures market prices. This reflects the tendency for crude oil prices to fluctuate within a wide range in a relatively short period.

EIA projects that regular-grade motor gasoline retail prices, which averaged \$3.26 per gallon in 2008, will average \$2.33 per gallon this year, up 21 cents per gallon from last month's *Outlook* projection. These prices are projected to rise to \$2.56 per gallon in 2010, 26 cents above that projected in the previous *Outlook*. Diesel fuel retail prices, which averaged \$3.80 per gallon in 2008, are projected to average \$2.40 per gallon in 2009, up 14 cents from the previous *Outlook*. Diesel fuel retail prices are projected to average \$2.67 per gallon in 2010, up 19 cents per gallon from the previous *Outlook*.

Natural Gas

Consumption. Total natural gas consumption is projected to decline by 2.2 percent in 2009 and then increase slightly in 2010 ([Total U.S. Natural Gas Consumption Growth Chart](#)). While total natural gas consumption remains hampered by the broad economic downturn, the persistence of low natural gas prices into the fourth quarter of 2009 is expected to lead to a 2.7-percent increase in electric power sector consumption in 2009, offsetting a portion of the 8-percent decline expected in industrial sector consumption. Additional declines expected in the residential and commercial sectors this year also contribute to the lower 2009 consumption estimate. The anticipation of some economic recovery in 2010 is the basis for slight consumption increases in the commercial and industrial sectors next year, with little change expected in the residential sector. Furthermore, if the dollar remains weak and natural gas prices remain relatively low, consumption in the industrial sector may be bolstered by increased exports of natural-gas-intensive products. Finally, consumption in the electric power sector is expected to remain flat in 2010 as natural gas prices rise relative to coal prices.

Production and Imports. Total U.S. marketed natural gas production is expected to decline by 1.1 percent in 2009 and by 2.6 percent in 2010. Low natural gas prices brought about by the current economic slump have had a dramatic impact on recent drilling activity. According to Baker Hughes, total working natural gas rigs are now down 56 percent from the September 2008 peak. Although a corresponding decline in production has yet to appear in data through March 2009, total U.S. marketed production is expected to drop by nearly 5 billion cubic feet (Bcf) per day between the first and fourth quarters of 2009. The decline in annual production is expected to occur almost exclusively in the Lower-48 non-Gulf of Mexico (GOM) this year, more than offsetting the small expected increase in GOM output. This projection includes an estimated expectation of hurricane-induced outage of about 36 Bcf for the offshore

region in 2009 (see the [2009 Outlook for Hurricane Production Outages in the Gulf of Mexico](#))

The lagged effect of this year's drilling pullback is also expected to result in lower natural gas production in 2010. However, EIA does not anticipate that working rigs and natural gas prices need to return to 2008 levels for production to increase. Recent improvements in technology have reduced finding and development costs, lowered completion times, and greatly enhanced well productivity, increasing the production potential from domestic sources. As a result, production is expected to respond adequately, with a shorter lag, to sustained increases in demand.

U.S. liquefied natural gas (LNG) imports are expected to increase to about 495 Bcf in 2009, from 352 Bcf in 2008, due to weakness in demand for LNG in the global market. The severe economic contractions in the LNG-consuming countries of Asia have increased the amount of available LNG in the global market, elevating LNG purchases in Europe, where natural gas prices remain slightly above those in the United States. In the coming months, as storage facilities in Europe are replenished and new liquefaction capacity comes online, available LNG cargoes are expected to be directed to U.S. terminals. While there is still a degree of uncertainty associated with the start-up of new liquefaction capacity and the availability of shipments, higher than expected LNG imports would almost certainly have a dampening effect on prices and cause lower domestic natural gas production or pipeline imports.

Inventories. On May 29, 2009, working natural gas in storage was 2,337 Bcf ([U.S. Working Natural Gas in Storage Chart](#)). Current inventories are now 423 Bcf above the 5-year average (2003–2007) and 546 Bcf above the level during the corresponding week last year. The estimated inventory build in May was 465 Bcf, the largest increase for this particular month since at least 1976, when records were first kept. Working natural gas stocks are now expected to reach 3,659 Bcf at the end of the 2009 injection season (October 31), roughly 94 Bcf above the previous record of 3,565 Bcf reported for the end of October 2007.

Prices. The Henry Hub spot price averaged \$3.96 per Mcf in May, \$0.33 per Mcf above the average spot price in April. Prices remain low as natural gas supplies continue to seep into a weak market. As working natural gas inventory nears storage capacity limits, prices may need to decline further to induce necessary adjustments in supply or stimulate demand. Anticipated economic recovery and seasonal space-heating demand are expected to contribute to some price strength in early 2010, and enhanced production capability from domestic supply sources is expected to limit sustained upward price movements throughout the forecast period. The Henry Hub spot price is expected to average \$4.13 per Mcf in 2009 and \$5.49 per Mcf in 2010.

Electricity

Consumption. During the first quarter of 2009, total consumption of electricity fell by an estimated 3 percent compared to the same period last year primarily because of weak industrial consumption. Growth in residential retail sales during the second half of this year is expected to slightly offset continued declines in industrial electricity sales. Total consumption is projected to fall by 1.8 percent for the entire year of 2009 and then rise by 1.2 percent in 2010 ([U.S. Total Electricity Consumption Chart](#)).

Prices. Retail residential electricity prices increased an estimated 8 percent during the first quarter of 2009 compared to the first quarter of 2008 ([U.S. Residential Electricity Prices Chart](#)) because of regulatory lags in the pass-through of fuel costs. However, lower fuel costs for generation are expected to be passed through to retail consumers later this year, keeping the annual 2009 growth in prices around 5.0 percent. Residential prices are expected to grow by just 2.4 percent during 2010.

Coal

Consumption. A decline in overall electricity generation, combined with projected increases from natural gas, nuclear, and renewable (hydroelectric and wind) generation sources, are projected to lead to a 4.6-percent decline in coal consumption in the electric power sector this year. The projected electric power sector consumption of 994 million short tons (MMst) in 2009 is the first time since 2002 that annual consumption would be below the billion short ton level. An expected increase in total electricity generation of 1.5 percent in 2010 is expected to lead to a 1.7-percent increase in electric-power-sector coal consumption. Non-power-sector coal consumption, for both steam and coke production, is projected to decline by 33 percent in 2009, reflecting very weak industrial activity ([U.S. Coal Consumption Growth Chart](#)).

Production. Production is expected to fall by about 7 percent in 2009 in response to lower total domestic coal consumption, export declines, and high coal inventories. The April 2009 production estimate of 88.3 MMst is the lowest monthly coal production figure since May 2004. Conversely, the estimated March 2009 secondary coal inventories of 183.9 MMst is the highest in over 20 years (secondary inventories were 185.5 MMst in December 1987). Production is projected to increase slightly (0.6 percent) in 2010 as domestic consumption and exports increase with an improving economy ([U.S. Annual Coal Production Chart](#)).

Exports. Reductions in global coal demand are expected to reduce U.S. coal exports by about 16.5 million short tons, a 20-percent decrease, in 2009. The projected

rebound in global economic activity is expected to increase global coal demand and lead to a 24-percent increase in exports in 2010.

Prices. Despite declines in electricity demand and lower fuel costs, the annual average delivered coal price is projected to increase to \$2.16 per million Btu (MMBtu) in 2009 due to a pricing lag between mine-mouth and delivered coal prices caused by long-term coal contracts. Current delivered prices were set when contracts were entered into during a period of high prices for all fuels one year or more ago. Although record increases in spot prices (some well over 100 percent) for several types of coal contributed to the increase in the cost of coal, spot market purchases make up only a small portion of total coal consumed. The average delivered coal price is expected to decline to \$1.98 per MMBtu in 2010, as expiring high-priced contracts are replaced.