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Short-Term Energy Outlook

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Highlights

- This edition of the *Short-Term Energy Outlook* is the first to include monthly forecasts through December 2010.

- The energy forecast is sensitive to economic conditions. In this forecast, U.S. real gross domestic product (GDP) is expected to decline by 2 percent in 2009, leading to decreases in domestic energy consumption for all major fuels. Economic recovery is projected to begin in 2010, with 2 percent year-over-year growth in GDP.

- In the past 6 months, the monthly average price of West Texas Intermediate (WTI) crude oil has fallen from $133 per barrel in July to $41 in December. WTI prices are projected to average $43 per barrel in 2009 and $55 in 2010.

- Average monthly U.S. prices for regular gasoline and diesel fuel were $1.69 and $2.45 per gallon, respectively, in December 2008, more than $2.25 per gallon below their monthly peaks last July. Economic contraction in 2009 and lower projected crude oil prices are expected to reduce annual average retail gasoline and diesel fuel prices in 2009 to $1.87 and $2.27 per gallon, respectively.

- Residential heating oil prices during the current (2008-09) heating season are projected to average $2.48 per gallon, a reduction of 25 percent from the 2007-2008 heating season. Residential propane prices are projected to average $2.14 this winter, a decrease of 13 percent from last winter. Residential natural gas prices are projected to average $12.17 per thousand cubic feet (Mcf), a decrease of 4 percent from last winter.

- The U.S. economic downturn is also contributing to lower natural gas prices. The Henry Hub natural gas spot price is projected to decline from an average of $9.13 per Mcf in 2008 to $5.78 per Mcf in 2009, but then increase in 2010 to an average of $6.63 per Mcf.

Global Petroleum

Overview. The downward trend in oil prices continued in December as the worsening global economy weakened oil demand and the second Organization of Petroleum Exporting Countries (OPEC) agreement for substantial production cuts within a month has failed, thus far, to support substantially higher prices. The outlook for supply and demand fundamentals indicates a fairly loose oil market balance over the next 2 years. The global economic downturn points to declining oil consumption in 2009, while additional production capacity from both OPEC and non-OPEC nations should boost surplus production capacity, reducing the likelihood of a renewed strong upward pressure on prices. Global real GDP growth (weighted according to shares of world oil consumption) is assumed to be 0.6 percent in 2009 and 3.0 percent in 2010. These projections compare with 4.6 percent real GDP growth in 2007 and 3.2 percent in 2008. The oil price path going forward will be driven mainly by the depth and duration of the global economic downturn, the pace and timing of the recovery, and actual OPEC production.

Consumption. World oil consumption continues to be revised downward in response to the global economic downturn. Global consumption is estimated to have been largely unchanged in 2008 and is projected to fall by 800,000 barrels per day (bbl/d) in 2009. Total world oil consumption is expected to record a modest rebound in 2010, rising by 880,000 bbl/d from year-earlier levels, on the assumption of the beginning of an expected recovery in global economic growth. Oil consumption growth is concentrated in countries outside of the Organization for Economic Cooperation and Development (OECD), particularly China, the Middle East, and Latin America. However, projected declines in oil consumption in OECD countries more than offset any non-OECD oil consumption growth in 2009 (World Oil Consumption). If the world economic recovery happens sooner or is stronger than EIA now anticipates, oil consumption could decline at a slower rate or potentially increase at a faster rate than expected, putting upward pressure on oil prices.

Non-OPEC Supply. Non-OPEC supply is projected to rise modestly over the next 2 years. After falling by 340,000 bbl/d in 2008 because of project delays and disruptions in Central Asia and the Gulf of Mexico, non-OPEC supply is projected to grow by about 180,000 bbl/d in 2009 and 90,000 bbl/d in 2010. These projections assume that unexpected delays to new non-OPEC supply that have occurred in the past will continue through the forecast period. Supply growth in countries such as the United States, Brazil, and Azerbaijan is expected to more than compensate for continued declines in many non-OPEC nations, particularly Mexico, the North Sea, and Russia. The global economic slowdown and falling oil prices bring additional risk to the usual uncertainties concerning non-OPEC supply growth, such as unexpected disruptions, project delays, and underestimation of decline rates. Lower oil prices bring into doubt the viability of some high-cost non-OPEC projects, especially those utilizing nonconventional technology or those seeking to exploit frontier oil basins. The credit crunch associated with the global economic crisis can also make it difficult to acquire financing for new projects or even finance the investment required to prevent accelerated declines at producing fields. If conditions in global financial markets lead to delayed investment in existing and new oil fields, then even a short-lived economic downturn could have longer-term ramifications for world oil supply. This would heighten the risk of a return to a tight supply situation once the world economy and oil demand growth recover.

OPEC Supply. OPEC's December announcement that it would cut crude oil production again, following its earlier cut in November, has not yet led to a substantial increase in oil prices. Together, the two announced cuts imply a new overall target for production (excluding Iraq) of 24.845 million bbl/d , 4.2 million bbl/d below actual September production. However, the market is not presently convinced that OPEC members will willingly curtail output enough to lead to much higher prices. Adherence to the announced cuts will be challenging, as several individual countries are motivated to maintain production at higher levels to to generate revenue needed to finance their government programs amid falling prices. The lack of transparency in the new agreement, highlighted by the failure to publicize individual country production cuts, is one indicator of the reluctance of countries to cut production consistent with the group's new overall production target. OPEC plans to meet again on March 15 in Vienna to evaluate the effectiveness of its recent actions.

EIA projects that total OPEC crude oil production (including Iraq) will fall by more than 2 million bbl/d, from 31.4 million bbl/d in September 2008 to 29.3 million bbl/d in the first quarter of 2009, implying a compliance rate of a little more than 50 percent. Because of Indonesia's exit from OPEC, EIA has revised its historic and forecasted values for OPEC oil production to be consistent with the current membership. OPEC crude oil production is expected to average 30.0 million bbl/d in 2009 and 30.7 million bbl/d in 2010. In addition, EIA expects that OPEC production of non-crude liquids will rise substantially next year, growing by 600,000 bbl/d in 2009 and by 850,000 bbl/d in 2010. The combination of lower demand for OPEC crude oil and the capacity expansions expected in several OPEC countries means that surplus production capacity could increase to roughly 4.0 million bbl/d in 2009 and 4.7 million bbl/d by the end of 2010, compared with the 1 to 2 million bbl/d of surplus capacity available over the past several years (OPEC Surplus Oil Production Capacity).

Inventories. Revised data indicate that OECD commercial inventories rose by 330,000 bbl/d in the third quarter of 2008, lower than historic rates for inventory builds during that time of year. OECD commercial inventories stood at 2.63 billion barrels at the end of the third quarter, equivalent to 57 days of forward consumption cover. On the basis of days of forward cover, OECD commercial inventories are well above average historic levels, and EIA projects that they will remain there through the end of 2010 (Days of Supply of OECD Commercial Stocks). The combination of substantial surplus capacity and above-average inventories should dampen price pressure over the period. In any event, a sustained rebound in prices is not likely until the economic recovery causes a sustained rebound in demand for OPEC crude oil.

U.S. Petroleum

Consumption. The increase in prices to record levels in 2008 and the weakening economy drove total petroleum products consumption down by about 1.2 million bbl/d, or 5.7 percent, from the 2007 average (U.S. Petroleum Products Consumption Growth). Motor gasoline consumption declined by slightly more than 300,000 bbl/d, or 3.3 percent. Despite the cold weather that gripped much of the Nation in December, distillate fuel consumption in 2008 declined by 5.3 percent from the year before. In 2009, total petroleum products consumption is projected to fall by nearly 400,000 bbl/d, or 2 percent, due to continued economic weakness. Consumption for both motor gasoline and distillate fuel are forecasted to decline by about 100,000 bbl/d each. The expected economic recovery in 2010 is projected to boost total petroleum products consumption by 150,000 bbl/d, or 0.8 percent, and both motor gasoline and distillate consumption are each projected to rise by about 50,000 bbl/d.

Production. In 2008, domestic crude oil production averaged 4.9 million bbl/d, down by 140,000 bbl/d from 2007 (U.S. Crude Oil Production). However, in 2009, domestic output is projected to increase by over 300,000 bbl/d to an average of 5.25 million bbl/d. This would be the first increase in production since 1991. Output is projected to rise by a further 50,000 bbl/d in 2010. Contributing to the increases in output are the Gulf of Mexico Thunder Horse platform, which is coming on stream now, and the Tahiti platform, expected to come on stream late in 2009.

Prices. Having fallen from record highs to below $40 per barrel, WTI prices averaged near $100 per barrel in 2008. Under current economic assumptions and assuming no major crude oil supply disruptions, WTI prices are expected to average $43.25 per barrel in 2009 and $54.50 per barrel in 2010 (Crude Oil Prices).

Regular-grade gasoline prices averaged $1.68 per gallon on January 5, down substantially from their July 14 peak of $4.11 per gallon. These prices are projected to average $1.87 per gallon in 2009 and $2.18 per gallon in 2010. Because of lower motor gasoline consumption, the difference between the retail gasoline price and the cost of crude oil is expected to remain narrow for much of 2009 but is expected to increase slightly in 2010.

On-highway diesel fuel retail prices, which averaged $3.79 per gallon in 2008, are projected to average $2.27 per gallon in 2009 and $2.54 in 2010. The projected continuation of the decline in the consumption of diesel fuel in the United States as well as a slowing of the growth in distillate fuel usage outside the United States are expected to result in a weakening of refining margins for distillate throughout the forecast.

Natural Gas

Consumption. Total natural gas consumption is estimated to have increased by 0.7 percent in 2008, primarily driven by a 5.8-percent increase in heating degree-days year-over-year. Natural gas consumption is projected to decline by 1.0 percent in 2009 and then increase by 0.7 percent in 2010 (Total U.S. Natural Gas Consumption Growth). The demand outlook for 2009 is largely driven by expectations of continued economic weakness. The slight consumption growth projected in the residential sector is expected to be more than offset by consumption declines in the commercial, industrial, and electric power sectors this year. With the natural-gas-weighted industrial production index projected to fall by 6.6 percent in 2009, industrial sector natural gas consumption is expected to decline by 3.0 percent. Consumption growth in 2010 is expected to be limited to the electric power sector, with all other sectors expected to decline slightly.

Production and Imports. Total U.S. marketed natural gas production is estimated to have increased by 5.9 percent in 2008 led by the development of unconventional reserves in the Lower-48 States. Total marketed production is expected to increase by 0.7 percent in 2009, and then decline by 0.9 percent in 2010. Producers have already begun to react to lower prices and the outlook for lower consumption as evidenced by the recent pullback in drilling activity. The number of rigs drilling for natural gas in the Lower-48 onshore region has fallen from about 1,540 in August 2008 to under 1,200 at the beginning of January 2009. Despite the cutback in drilling activity, the current outlook suggests that some production curtailments may be necessary during the latter part of 2009 in order to balance the market. Nevertheless, in 2009, Lower-48 production outside of the Gulf of Mexico (GOM) region is expected to increase by 1.0 percent. Although drilling activity is expected to begin recovery in 2010, production is projected to decline relative to 2009 by 4.7 percent in the Federal GOM and by 0.4 percent in the Lower-48 non-GOM.

U.S. imports of liquefied natural gas (LNG) are estimated to have totaled about 350 billion cubic feet (Bcf) in 2008. Shipments of LNG to the United States are currently expected to rise to about 420 Bcf in 2009. However, limits to natural gas storage capacity outside the United States could unexpectedly boost U.S. imports of LNG during the summer months if global demand for natural gas does not increase as expected. U.S. LNG imports in 2010 are projected to reach a little more than 500 Bcf.

Inventories. On January 2, 2009, working natural gas in storage was 2,830 Bcf (U.S. Working Natural Gas in Storage). Current inventories are now 87 Bcf above the 5-year average (2004-2008), and 31 Bcf above the level during the corresponding week last year. Storage inventories are expected to finish the 2009 winter season (March 31, 2009) at over 1.5 trillion cubic feet (Tcf), about 270 Bcf above the corresponding period last year, but below the 1.7 Tcf mark recorded in 2006. The expected supply overhang throughout the 2009 injection season (April 1 to October 31) is projected to send the resulting working gas inventories near the previous high reported on November 2, 2007.

Prices. The Henry Hub spot price averaged $9.13 per Mcf in 2008 but ended the year averaging $5.99 per Mcf in December. Weak natural gas demand associated with poor economic conditions together with strong domestic production growth contributed to the recent decrease in prices that is expected to persist in 2009. On an annual basis, the Henry Hub spot price is expected to average $5.78 per Mcf in 2009 and $6.63 per Mcf in 2010. As consumption reacts to worsening economic factors, natural gas prices may need to fall further than currently forecast in order to restrain production activities and balance the market during the second half of 2009, particularly as inventory nears storage capacity. Prices are expected to begin to increase in 2010 as the economy improves.

Electricity

Consumption. Total electricity consumption is projected to decline by 0.5 percent in 2009 (U.S. Total Electricity Consumption), with an expected 3.6-percent decline in electricity sales to the industrial sector during due to economic conditions partially offset by slight growth in residential electricity sales. Total electricity consumption is expected to rebound in 2010 by 1.5 percent, driven by growth in the commercial and residential sectors.

Prices. A number of utilities that increased electricity rates last summer have begun reducing prices in response to fuel costs which have fallen from last year's peak levels.

Other utilities are pursuing slight increases to cover the cost of upgrades to generation and transmission facilities. Overall, U.S. residential electricity prices are forecast to grow by 2.3 percent in 2009 and by 2.0 percent in 2010 (U.S. Residential Electricity Prices).

Coal

Consumption. The projected decline in electricity consumption, combined with projected increases from other generation sources (nuclear, petroleum, and wind) will lead to a 0.7-percent decline in electric-power-sector coal consumption, which accounts for more than 90 percent of total coal consumption. An expected increase in electricity consumption in 2010 of 1.5 percent will lead to a 1.9-percent increase in electric-power-sector coal consumption. Consumption growth in the coke plant sector is estimated to have been flat in 2008 but is expected to fall by 8.2 percent in 2009 and by 5 percent in 2010 due to the economic slowdown. Retail and other industrial sector coal consumption is expected to decline by 9.0 percent in 2009 but increase by 0.7 percent in 2010 as economic conditions improve (U.S. Coal Consumption Growth).

Production. A significant increase in coal exports in 2008 contributed to a 2.8-percent increase in coal production. Production is expected to fall in 2009 by 4.0 percent as lower total domestic coal consumption is combined with declines in exports and a small increase in imports. Production is projected to increase by 2.4 percent in 2010 as domestic consumption and exports increase with an improving economy (U.S. Annual Coal Production).

Exports. Reductions in global coal demand, coupled with the return to normal supply conditions in major coal-producing and exporting countries that experienced disruptions during 2008, are expected to reduce U.S. coal exports, which grew by nearly 40 percent in 2008, by 10 million short tons in 2009, a 12-percent decrease. The improving global economy in 2010 will spur global coal demand and this will lead to a projected 12-percent increase in exports.