Petroleum and Electricity Prices: Outlook for 2005

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ABSTRACT

Energy Demand, Supply, and Prices

U.S. energy demand increased in 2004 relative to 2003. Domestic energy production declined slightly and energy imports increased. The producer price index for all fuels and energy increased in both nominal and inflation-adjusted terms. However, the inflation-adjusted price of energy remains lower than that experienced in the early 1980s. Crude oil prices increased sharply throughout the year, and reached record levels late in 2004. Gasoline and diesel fuel prices followed increases in crude oil prices.

Crude oil and fuel price increases in 2004 were largely the result of supply disruptions. Labor unrest in Latin and South America and several hurricanes in the Gulf of Mexico contributed to supply problems. The Iraq War reduced oil deliveries to export terminals. Several U.S. refineries experienced problems that exacerbated fuel price increases. These impacts were relatively large because the U.S. does not have any excess oil refining capacity. Although several refineries have increased capacity over the past two decades, the last new refinery was built over 25 years ago.

Petroleum Outlook

World petroleum supplies are expected to increase in 2005. OPEC produces approximately 30 percent of the world’s crude oil. Currently, OPEC’s daily output is relatively high. Consequently, OPEC is targeting production cuts of 1 million barrels per day. OPEC’s stated price target over the past decade was $35 per barrel. Recently, OPEC has indicated a new target of $40 per barrel. Whether they can maintain this higher price in the long run is subject to speculation.

U.S. oil production is expected to increase in 2005 and many supply problems are being corrected. World oil trade is functioning relatively well. Oil inventories are increasing because of a relatively mild winter and because of relatively high prices. Currently, crude oil futures prices are indicating that 2005 crude oil will average $42 per barrel. However, several supply related factors could cause prices to average as low as $37 per barrel. In general, the U.S. should experience lower fuel prices in 2005 relative to 2004.
Electricity Outlook

Currently, 50 electric generating plants are under construction in western U.S. states. This increase in capacity should put downward pressure on electric rates. Of course, Montana’s Public Service Commission regulates Montana power rates.

Renewable Fuels Outlook

Ethanol is a fuel additive produced primarily from corn that is used to oxygenate gasoline. Oxygenated gasoline burns more cleanly and reduces air pollution. The use of oxygenated gasoline has been mandated in many major metropolitan areas especially during winter months. Ethanol’s major competitor has been MTBE. MTBE is a petroleum-based product that has recently been found to cause significant groundwater contamination. Hence, its use will likely end by 2007.

National legislation (primarily tax incentives and subsidies) is encouraging the doubling of ethanol use by 2012 with a target amount is 5 billion gallons per year. Just over 3 billion gallons were produced in 2004. Existing ethanol production capacity totals 3.6 billion gallons per year and another 0.7 billion gallons of capacity is under construction.

Ethanol in an unbranded commodity and entry barriers are quite low. Production capacity appears to have been increasing slightly faster than demand. Hence, ethanol plants have little bargaining power over purchasers. Therefore, successful plants must follow a low-cost strategy. Such a strategy demands that plants have at least 40-60 million gallons of annual capacity. In addition, it appears that ethanol plants are most efficient when corn is used as the primary input. Transportation logistics in terms of grain origination, ethanol sales, and by-product usage are critical in determining plant locations.