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Annual Natural Gas Update

Nearly complete Energy Information Administration statistics for natural gas in 2007 show some surprising changes from the previous year.

Last year, oil prices jumped 50 percent and approached record levels even when adjusted for inflation. Compared to the oil markets, natural gas was much less exciting. Nevertheless, the trends may provide clues to our gas future.

The most conspicuous change was that gas consumption increased more than 5 percent over 2006 levels to over 23 trillion cubic feet (tcf), despite a small increase in the average NYMEX price. More than half of this increase can be attributed to colder weather during the 2007 heating season months. I expect that most of the rest is due to increasing gas consumption for electric generation, although this data is not yet available.

The 1.2 tcf increase in consumption was met by increased domestic production, more imported liquefied natural gas (LNG), and a draw on storage.

The good news is that domestic production increased both last year and the year before, after two consecutive years of decline. The bad news is that the increase in production was only half as big as the increase in consumption.

LNG imports jumped 38 percent, but that number is somewhat misleading, since LNG provides only a small percentage of the nation's gas supply. It is now a bit over 3 percent. Nevertheless, the U.S. is becoming inexorably more dependent on imported LNG. The continuing erosion of the value of the dollar makes it more expensive for the country to compete for those supplies in the international marketplace.

Pipeline imports from Canada rose only marginally, as Canadian gas is increasingly needed for syncrude production from Alberta tar sands. Exports to Mexico dropped, allowing a bit more gas to remain in the US.

For nearly the entire year, the amount of gas in storage remained near the high end of long-term averages. In the months since November 2007, storage levels have fallen to more usual levels. I find it remarkable, however, that near-record storage levels for most of 2007 failed to depress gas prices. Prices have remained stubbornly high, despite ample amounts in storage.

Market pundits attribute this strength to some kind of sympathy with rapidly rising oil prices. However, the 2007 average energy price of crude oil was about $12.5 per million BTU, nearly double the energy price of gas. Clearly no rational person was switching from gas to oil last year, so why the prices should be correlated is anybody's guess.

Perhaps market behavior isn't as rational as economists assume?

In any case, in the early months of 2008, gas storage levels have dropped to more usual values for this time of year, and the price of gas has soared. The average NYMEX contract for the next 12 months is nearing $10/MMBTU, a level not seen since the hysteria triggered by the hurricanes Rita and Katrina in the fall of 2005. As I write this, the April gas contract is trading at a startling $9.76/MMBTU (and crude is at $105.42/bbl!)

Gas drilling activity set another record in 2007 with nearly 33,000 wells completed, up 4.2 percent. Production was up only 3 percent, however, indicating that depletion of large mature fields continues to require more holes with smaller returns.

So what can we expect in 2008?

There is ample gas in storage for the remainder of this year's heating season, and we should emerge with levels around the 5-year average. However, this level is 0.4 tcf less than last year, putting upward pressure on prices.

I expect gas consumption to decrease slightly if heating and cooling demand returns to normal levels. Supplies should be adequate if prices do not collapse, although I look for drilling requirements to continue to increase.

A collapse in the price of crude oil, perhaps triggered by a global economic slowdown, would reduce gas prices somewhat. However, the floor under gas prices now appears to be in the $7 range. At lower prices, production and import levels would have difficulty satisfying expected consumption.

On the other hand, there appears to be ample upside potential for gas price increases with oil prices the biggest wild card. It is difficult to believe that crude oil prices could reach $150/bbl this year, but we didn't expect oil prices to increase 50 percent last year, either. Crude oil production—including unconventional crude—has been nearly flat for the last 36 months, and if this trend continues, any oil price is possible as increasing demand chases limited supplies. Gas would go along for the ride.

But who knows? The energy game is full of surprises.

——*Dr. Rich Ferguson, Research Director, CEERT,* rich@ceert.org.

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