

In-Depth Natural Gas Price Outlook

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There are many more reasons to be bearish (anticipation of lower prices) than bullish (anticipation of higher prices) at this time. However, the front-month natural gas futures contract on the New York Mercantile Exchange (NYMEX) has reached a six-year low.

Economic Outlook

A few weeks ago, Federal Reserve Chairman Ben Bernanke said the recession isn't going to be as deep as expected, but there will need to be some data to support such a statement before consumer confidence returns and at this time, data indicates that the 1st quarter of 2009 is going to be worse than the 4th quarter of 2008.

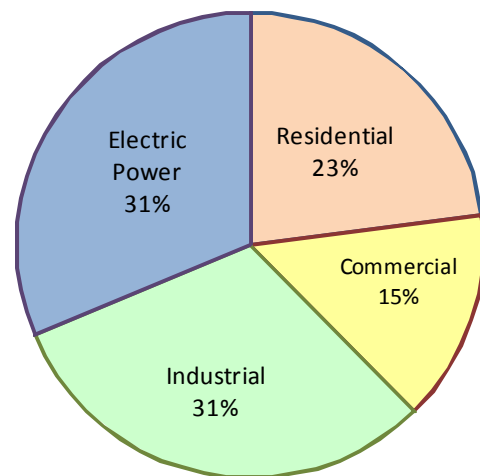
In January, construction projects fell to their lowest level in over 4 years. Industrial production came in about 10% lower than in January 2009 versus January 2008, and natural gas-intensive industries are falling even faster, metals, agricultural and chemical sectors showing declines of 20% to 36%. Orders for automobiles dropped by 6% in January, and steel mills are operating at about one-half of their capacity compared to one year ago. The Institute for Supply Management factor index for February came in at 35.8 compared with 35.6 in January and readings less than 50 signal a contraction. Then on Friday, March 6, 2009, the Labor Department announced that nonfarm payrolls shrank by 651,000 in February and revised data from the last two months to reflect that there were 161,000 more job losses than previously estimated. The unemployment rate soared to 8.1% in February from 7.6% in the previous month, reaching its highest level since December 1983. The Conference Board also reported that February consumer confidence sank to its lowest level in 40 years coming in at 25 -- far below the January index of 37.4. Consumer spending comprises about 70% of the economy and it has declined at the fastest pace in almost three decades. The Department of Commerce reported that the U.S. gross domestic product fell 6.2% during the last quarter of 2008. This is the largest decline in the GDP since the first quarter of 1982 when it dropped 6.4%, and economists were expecting a decline of 3.8%. With this type of data, it is difficult to envision that an economic rebound is near.

What This Means to Natural Gas Demand

Recent reports show that industrial natural gas consumption was down 10% in December 2008 over December 2007 levels. In its latest *Short-Term Energy Outlook*, the Energy Information Administration (EIA) projects that natural gas consumption from the industrial and electric power sectors will decline by 5.1 and 1.0 percent, respectively, for 2009. This is significant given the large percentage shares of each of these sectors relative to overall natural gas consumption levels. The pie chart below indicates the percentage of natural gas consumption by sector according to information from the EIA. There is also a small percentage that relates to vehicle fuel, but it was so minimal, we excluded it from the chart.

Unfortunately, we believe a sharp decline in manufacturing production still lies ahead because January and February natural gas consumption numbers may have still included the completion of orders that were placed 3-6 months earlier. Basically, the outlook for natural gas demand looks dismal while at the same time production is surpassing 2008 levels.

Percentage of Annual Natural Gas Consumption by Sector



Source: 2008 data from the EIA

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Production Outlook

According to the most recent data from Baker Hughes, the U.S. natural gas drilling rig count has fallen to 916 rigs. This is substantially lower than its peak of 1,606 hit in September 12, 2008, and it marks the lowest level for natural gas drilling rigs since February 2004. However, the drilling rig count decline has yet to make a significant impact in production output. According to the EIA, U.S. natural gas production increased by 4.4 Bcf/day to 63.4 Bcf/day in December. The number while expanding did show that production was down from the month before, and that is the trend we would expect to see for the next few months — production levels continuing to outpace 2008 levels but reflecting a slight contraction from the month before.

This isn't just the situation in the U.S., but around the world. Natural gas demand is declining around the globe, while at the same time production levels and/or liquefied natural gas (LNG) export capabilities are increasing. This is bearish for natural gas prices in the U.S., but it is also bearish for LNG prices.

In the February monthly edition of *The Advisor*, we extensively covered the drilling rig count decline, as well as production output from prolific shale regions. ([Click here to view](#)). So, we aren't going to go reiterate that information, but there are even a few more reasons why our outlook has turned increasingly bearish.

With demand down and production up, analysts now estimate that the U.S. natural gas market is oversupplied by 6-8 Bcf per day and that doesn't even include the anticipated estimates of LNG projected to hit the East Coast by the third quarter of 2009.

At this time, the wildcards for natural gas price aren't necessarily the drilling rig count or hot summer weather, but rather LNG imports and the timing of an economic recovery. Over the past two years, global LNG export capacity has significantly grown, but now natural gas demand around the world has weakened. As heating needs come to an end in Europe, LNG is expected to make its way to the U.S. There is no way to know exactly how much LNG will reach the U.S., but estimates range from a total of 500 Bcf to as much as 1.1 Tcf and daily estimates range from 2 Bcf/day to as much as 6 Bcf/day.

Plus, the U.S. may also have more gas available from Canada because of falling crude oil prices. Canadian oil sands production is extremely natural gas intensive and it grew substantially over the past several years. For example, in 2003, natural gas consumption in Canada virtually tripled due to growth in oil sands production. This meant less gas available for export to the U.S. However, new oil sands projects are estimated to only be profitable when the price of crude oil is at \$70 a barrel or above. With the price of crude oil hovering around \$40-\$45 per barrel, production from oil sands projects is expected to fall and new projects, in particular, will be placed on hold. This means an increase in natural gas imports available from Canada because Canada too is seeing prolific production gains from horizontal drilling in shale plays.

When you combine a decrease in demand, with an increase in LNG supplies and more imports available from Canada, even if the drilling rig count continues to decline, natural gas prices are likely to remain suppressed in the U.S., particularly if storage inventories expand as expected.

Storage Inventories Could Test Limits

At the end of February 2003 (no that isn't a typo), the front-month natural gas NYMEX contract was trading at around \$6 per MMBtu. Natural gas storage inventories were dangerously low and a dramatically changed weather forecast calling for below-normal temperatures put the nation into a panic. Natural gas storage inventories cannot be taken to zero because a certain amount of natural gas must remain in storage fields to insure pressures are maintained and the field isn't damaged. The colder weather forecasts lead to projections that the nation may test what those minimum storage levels may be. Fears over where the natural gas would come from to meet demand led to numerous curtailments of supplies to industrial customers and the assessment of stiff penalties if more natural gas was taken than was ordered. Meanwhile, the front-month natural gas NYMEX contract rallied more than \$4 per MMBtu over just two days, reaching \$10.40 per MMBtu on February 25, 2003. The price rally was short-lived as temperatures didn't turn out to be as bad as expected, and by February 27, 2003, the front-month natural gas NYMEX contract returned to trading in the \$7-\$8 per MMBtu range.

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What's the point of looking back at 2003? First, we wanted to emphasize what can happen when there is fear of "no where to get gas." Second, we wanted to point out that the \$4 per MMBtu price rally was confined to just the front-month, so while the March 2003 natural gas NYMEX price soared to over \$10 per MMBtu, the April 2003 natural gas NYMEX contract only reached into the \$7 per MMBtu range, indicating that the market viewed this as a short-term situation only.

So, what happens if the opposite occurs and fears of "no where to go with gas" occur. Because demand has been down and production has been up, natural gas storage inventories on March 31, 2009, are expected to still be around 1,600 Bcf. Even though the spring nuclear maintenance season means an increase in natural gas demand from natural gas-fired electric generators, this year there should be plenty of gas to go around, and it is expected that storage owners will aggressively inject natural gas into storage in April and May 2009 because gas supplies for those months are selling at a \$1-\$1.50 per MMBtu discount to next winter's natural gas price levels. Plus, even if Mother Nature delivers a hotter summer, the recession is expected to curb natural gas demand from the electric power sector by around 1 Bcf/day.

These factors alone will help natural gas storage inventories refill faster. However, if the economy doesn't rebound this summer and LNG deliveries start to show up, it is very feasible that natural gas storage inventories could test maximum storage capacity levels. The same panic seen when the system integrity was tested in 2003 could again occur in the fall of 2009, but from a completely opposite perspective.

System integrity basically refers to the operation of the overall natural gas system and when that is at risk, pipeline and storage field operators will take whatever measures are necessary to restore it. Just as damage to storage fields can occur if gas supplies in inventories fall too low or rise too high, gas supplies in the interstate pipeline system must also be maintained at a certain level. Too little gas in the pipeline system leads to a reduction in pressure, while too much gas in the pipeline system can lead to heightened pressures and extremely dangerous situations. Thus, it is important that an adequate level of natural gas be maintained in the pipeline system that is neither too high or too low.

A Price Collapse in the Fall

The anticipation of the situation of "no where to go with gas" is what has led some analysts to predict that natural gas prices could fall to \$2.50 per MMBtu by this fall. If that happens, it likely means the nation is testing maximum storage capabilities, and this means the potential for penalties for taking less gas than actually ordered.

Another factor that adds even more uncertainty to the outlook is the start-up of the Rockies Express Pipeline on November 1, 2009. The start-up of this massive pipeline means that producers in the Rocky Mountains will have the capability to move their production all the way to Ohio. This is significant because it is estimated that the cost of production in the Rockies could be as low as \$1.50-\$2 per Mcf. If Rocky Mountain natural gas makes its way east while at the same time industrial demand is down, there will be some heated competition develop among sellers of natural gas. Rocky Mountain producers could very well be competing for market share in the Midwest and Northeast that has long been held by Gulf Coast producers. At the same time there is a huge amount of natural gas coming from shale plays in Texas, Louisiana, Arkansas, and the Appalachians so there are parts of the nation that are flush with natural gas at the same time demand is down and supplies from a completely different geographic location, the Rockies, becomes available.

The situation painted above creates the potential for storage to reach maximum levels earlier than normal, and if that happens there will not be a home for gas that is being produced. This can force shut-ins of natural gas that aren't voluntary, but rather necessary or even critical to maintain the integrity of nation's natural gas system. Of course, if producers see this potential, they may also opt to shut-in wells sooner rather than later to try to avoid it.

Longer-Term Implications

Natural gas buyers may view this information as very good as it offers some great buying opportunities for not only 2009 but for the next several years. However, the natural gas market will inevitably return to a state of balance or equilibrium — the question is when. If there simply isn't a place for natural gas to go because storage is full, producers will be forced to shut-in supplies. Shutting in a production

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field isn't as easy as hitting an on/off switch — it takes time and it has risks associated with it because the producer cannot be guaranteed that production will return to pre-shut-in levels. So, if a producer is forced to shut in production, they will likely keep it shut-in for a longer period of time in an effort to boost prices faster.

At this time, by the end of 2009 or early 2010, available natural gas production is expected to decline by around 4 Bcf/day, taking it back to about 2008 levels. However, if producers begin to shut-in supplies at a faster pace, that number could expand to a decline of 7 Bcf/day and this means when the economy rebounds, a recovery in natural gas prices will occur more quickly. There is unfortunately, no way know exactly when a price recovery will occur or to what extent it will be.

One factor that has taken a back seat for the time being are the natural gas positions being held by the non-commercial sector, which is primarily comprised of speculators. From early July 2008 to early October 2008, this sector increased its “net-short” natural gas contract positions to over 170,000 contracts by continuing to be aggressive sellers with the thought of “sell high, buy low.” During this three-month span, the front-month natural gas NYMEX price fell from \$14+ per MMBtu to the \$6-\$7 per MMBtu price range. Natural gas prices on the NYMEX move up and down based on the number of buyers and sellers. When there are more players looking to sell, than buy, prices move down, and conversely, if there are more players looking to buy, than sell, prices move up. As of March 3, 2009, the non-commercial sector still holds a “net-short” position of around 149,000 natural gas NYMEX contracts. While the overall total of contracts held by this sector has been reduced, when they believe the downside is over, these players will liquidate their positions and take their profits.

In order to liquidate a short position, a player will enter the market as a buyer. If multiple players that are net-short decide to liquidate quickly and within a short amount of time of one another, it could create a dramatic influx of buying in the marketplace. Because positions held by commercial (producers, end users, utilities, etc.) utilities) and non-commercial players are only tabulated and reported to the public once a week, the influx of buying could be viewed as the start of a rebound in demand and an economic recovery. If that is the case, end users and suppliers

who have been sitting on the sidelines may decide to also become buyers. Basically, in a matter of weeks, if accompanied with the right fundamental data, the outlook for natural gas prices could change dramatically with a massive entry of buyers. Ironically, while the number of speculators involved in natural gas has declined as the credit crisis has evolved, these players still hold some significant clout. If they believe the bottom is in, they have the potential to make that a self-fulfilling prophecy through an aggressive liquidation of net-short positions. If that occurs, it could move the price of natural gas to levels that are higher than justified by the underlying fundamentals because even under an economic recovery, natural gas demand isn't going to come roaring back — it will likely be a gradual increase, just as it has been a gradual decline.

Our Outlook

We don't believe the non-commercial sector will aggressively liquidate their net-short positions until they believe an economic recovery is closer and that is one of the reasons we support a weaker price environment for the next several months. That doesn't mean there won't be periods of brief rallies, but overall, the possibility of historically low prices in the fall due to a lack of storage capacity is feasible at this time — but it's important to note that we believe any significant price collapse will be confined to just a few months, particularly if an economic recovery appears to be nearing because natural gas, while currently plentiful, is and will continue to be viewed as a favorable fuel choice for the environment.

Longer-term — after the economy has started to recover, after the natural gas market has reached a state of equilibrium, and after the non-commercial sector has reduced their extreme net-short position, a new price environment could very well be established. Over the past few years, given the price of alternative fuels and rising demand, it has become acceptable for buyers to expect natural gas commodity prices to range from \$7-\$9 per MMBtu. However, we anticipate that this trading range will be substantially lowered to \$5-\$8 per MMBtu as drilling costs decline, shale production continues, Rockies production reaches more areas, and more LNG supplies become available worldwide. Thus, a \$4 or sub-\$4 per MMBtu price level may be available for 2009, but we think it is highly unlikely at this time for 2010 and beyond.