

Natural Gas Price/Supply Assessment Information

Wholesale Market Overview Tutorial

Dr. Jeffrey V. Conopask
Senior Economist

In general, a quick natural gas wholesale market overview is available by reviewing certain key factors on a weekly basis (e.g., the Henry Hub spot market price, future prices of the New York Mercantile Exchange (NYMEX), weather, storage levels, etc.) While the price indices provide a quick summary, the other elements (short-term and long-term weather forecasts as well as hurricane advisories and storage information) provide additional and complimentary understanding of how the gas markets are moving, not only currently, but where they may go in 4-6 months plus.

So how should this information be interpreted? First, the reader should understand that there are two types of wholesale markets basic to natural gas: a physical spot market for delivery tomorrow (actual transportation may delay that "tomorrow" for up to three days here) and a financial futures market for defining prices and quantities to guide contracts for future physical delivery next month, next winter, or next year (the market actually goes out three years, but the out months are not heavily traded contracts). The financial futures markets are used for price discovery as well as hedging and speculation as appropriate. Contracts are typically closed out before expiration and usually never involve the actual physical delivery of natural gas.

In order to understand the market action, certain benchmarks, based on the recent decade of experience with these markets, can be used. The following statements are good benchmarks for the next six months at least.

First, historically, a “normal” gas wholesale market, with no supply problems, had prices below \$3.00 per million British thermal unit (mmBtu). Today, the comfort level for a “normal” market has probably risen over the last year to \$4.00 and maybe \$5/mmBtu, assuming normal economic growth and weather conditions. Today’s market environment is adjusting to a long-run increase in demand due to increased competition for the use of gas in the production of electricity.

Second, prices in the \$4-5/mmBtu range would suggest pre-economic slowdown demand is back. Until the supply adjustment (more coming on) is made, we can reasonably expect these market prices to be a baseline norm for any comparisons to extreme conditions for the next couple of years. Supply is sufficient.

Third, prices above that “normal” level, such as the \$6 or even briefly \$10 levels of last December, are extreme demand times that will stress the deliverability of the system. The demand inducing that price spiking behavior would likely be caused by extraordinary weather events (e.g. a very cold winter). Most of that stress likely will be born by the storage facilities around the country originally designed to provide gas at winter peak times and be a physical hedge for gas whose price may climb in the winter due to increased heating demand, not only locally, but nationwide. The stress is related to taking out of storage more gas volumes, earlier than expected, for a given time during the winter. In the Washington, D.C. area, if too much gas is taken out of storage too early in the winter, there is a risk of not having gas for the coldest day (design day, which typically occurs in mid-January to early February). That was one of the reasons for the price spikes last December. In general, storage supply should be sufficient unless there is an extended cold snap of more than three months. Even then, flowing gas from new supply might make up any deficit, but at a very high price.

Fourth, any weather-related event has the capacity for affecting the market for varying periods of time. For example, weather forecasts of widespread hot weather for the next few days/week in the summer can affect prices (upward) significantly. Conversely, a warm forecast in the winter will likely send the price down. During hurricane season, if a storm is expected to intrude on the gas producing areas in the Gulf of Mexico, prices will rise since the well rigs’

production will be shutdown. In the Fall, a long-range forecast for winter (warmer than normal, colder than normal) will affect the markets by sending prices down or up depending on the expected demand.

Fifth, weekly natural gas storage reports from the American Gas Association also affect the market. If the current report is behind last year's fill rate or the last five year's average, the market will react bullishly (more gas needs to go in and less may be available come the next winter). If on the other hand, the fill rate is ahead of the previous years' goals at a particular week in the storage fill season, then that is construed as bearish (a negative affect as less commodity will be needed in the future) on prices.

All of these benchmarks interact with each other in complicated ways that evolve over time into very volatile ups and downs in price. Even short-term forecasting of the prices in these markets is very difficult. The futures markets reveal price trends over time, but those trends can reverse themselves numerous times depending on all of these factors.