Natural Gas Winter Outlook 2008-2009

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Clean Natural Gas: ***Smart, Secure and Essential***

Executive Summary

The Natural Gas Supply Association's (NGSA) eighth annual Winter Outlook summarizes the association's view of existing natural gas market conditions and fundamentals. The analysis covers the key points that can affect supply and demand, which ultimately impact industrial and consumer users.

NGSA does not forecast natural gas prices, but for the 2008-2009 heating season the association anticipates flat price pressure on the natural gas market relative to last winter. Our expectation is based on slightly warmer than normal weather, a stagnant economy, mild growth in natural gas demand, relatively high natural gas storage levels, along with an increasing amount of natural gas production. The major pressure points include:

- **Weather**: Weather is the largest single factor affecting natural gas demand and customer bills, and it is also the most difficult to predict. The National Oceanic and Atmospheric Administration (NOAA) indicates the continental United States will see a slightly warmer-than-normal winter throughout much of the country, leading in turn to flat winter-to-winter price pressure.

- **Economy**: This winter NGSA anticipates the economy will be stagnant. Public data indicate economic growth will place downward winter-to-winter pressure on natural gas prices this heating season.

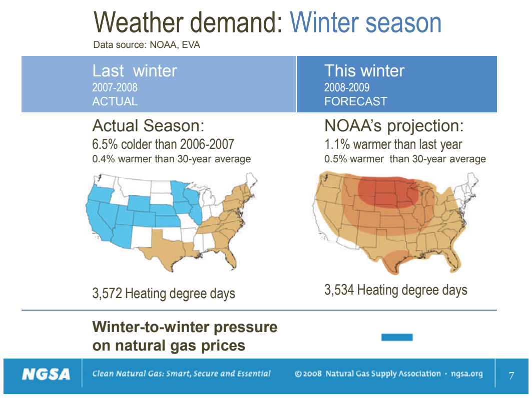
- **Demand**: Small increases in natural gas demand in all sectors are expected to place flat pressure on natural gas prices compared to last winter.

- **Storage**: The natural gas industry is once again expected to enter the heating season with storage inventories at relatively high levels, which should also lead to additional market stability.

- **Production**: Drilling and completion, including technology advances and resource recovery methods, are proving to be very successful both onshore and offshore. Production is rising in several basins and in the Gulf of Mexico deepwater, with overall production reaching its highest rates since the early-to-mid 1970s. Natural gas supplies from production this winter are forecast to be approximately 7.9 percent higher than last winter. Therefore, despite expected modest declines in total overall imports this winter, NGSA expects that onshore and offshore production increases will likely lead to an overall downward pressure on the wholesale market this winter heating season.

All of these projected pressure points are interrelated. Any deviation from this forecast is likely to affect the other assumptions in this equation. *The severity of winter weather will undoubtedly be the biggest, single determining factor impacting the market.*

Weather/Demand



NOAA is forecasting a slightly warmer than normal winter for most of the U.S. with the exception of the California coast and parts of the Northeast. The firm Energy Ventures Analysis, Inc. (EVA) is forecasting 3,534 heating degree days (HDD) this winter, compared to 3,572 HDD last winter, which was the coldest since 2001. The number of heating degree days is defined as the difference between 65 degrees Fahrenheit and the average outside temperature for that day. As a result, the slightly warmer weather will likely put flat pressure on the natural gas market relative to last winter.

As always, a significantly colder than expected weather pattern could lead to upward price pressure, especially if the coldest temperatures are concentrated in those regions that mainly use natural gas for heating: the West, Midwest, and Mid-Atlantic states. The opposite would be true if the weather turns out to be much warmer than normal.

While we relied on NOAA's winter forecast for our analysis, it is worth noting that at least one private firm, AccuWeather.com, predicts colder than normal winter temperatures for 2008-2009.

Economy/Demand

This heating season, the economy is expected to slow down further when compared to last winter. Despite low Gross Domestic Product (GDP) growth, additional energy demand is anticipated this winter, particularly in the industrial and electric sectors, which are expected to increase 1.5 percent and 4.1 percent, respectively, compared to last winter.

According to Global Insight, a nationally recognized economic forecasting firm, the GDP is expected to increase 1.2 percent from last winter. Manufacturing, another important factor for natural gas demand, is

Economy/Demand

Winter season Period-to-period change Data source: Global Insight	Last winter 2007-2008 ACTUAL	This winter 2008-2009 FORECAST
Economy	Low growth	Stagnant
GDP growth	2.4%	1.2%
Unemployment rate	4.9%	5.9%
Manufacturing	2.0%	-1.6%
CPI	4.1%	4.3%
Winter-to-winter pressure on natural gas prices		

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projected to decline 1.6 percent this winter compared to last winter's growth rate of 2.0 percent due to reduced consumer spending, net exports, and hurricane impacts. In addition, the unemployment rate is expected to increase to 5.9 percent and inflation is forecast to increase 4.3 percent. NGSA anticipates downward winter-to-winter pressure on the natural gas market based on the economy.

Overall Gas Demand

An independent demand analysis performed by EVA notes that winter-to-winter natural gas demand will increase 2.4 percent up to 78.5 Billion cubic feet per day (Bcfd). The residential and commercial sectors are expected to increase 1.1 percent.

EVA's analysis found that in 2007, for the first time in history, the amount of natural gas used to generate electricity exceeded the amount of natural gas used by industry; this is expected to occur again in 2008. One of the factors behind the growth in gas-fired generation during this period of relatively low electricity demand is the lack of increases in competing fuel units. Further, the average capacity factor for the gas-fired generation has increased from 20 percent to 25 percent over the last two winters. Power generation is our growth sector.

While demand destruction within the industrial sector from 2000 to 2006 was significant, more recently demand has rebounded in that sector. It appears there are a series of factors driving this growth, which, while individually are relatively small, are significant, including (1) growing ethanol production, (2) increased domestic fertilizer production, and (3) increased domestic production of basic chemicals.

NGSA anticipates that the slight increase expected in overall natural gas demand will lead to flat winter-to-winter price pressure.

Storage/Supply

Storage/Supply

Winter Season Period to period change Data source: EVA, ICE	Last Winter 2007-2008 ACTUAL	This Winter 2008-2009 FORECAST
End of Injection Season	3,545 Bcf	3,450 Bcf
Percent of Average Fill (Five-Year Average)	103%	98%
New Storage Capacity	86 Bcf	Est. 100 Bcf
Winter-to-winter pressure on natural gas prices		—

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Underground natural gas storage allows companies to physically stockpile natural gas supplies purchased in the summer for use during the winter when demand is at its peak. This season an estimated 100 Bcf of additional storage capacity is expected to be in place compared to last season's capacity.

Weekly injections in the beginning of the refill season were slow, albeit at higher prices. Increasing production has allowed for higher injection levels during the remainder of the season. With over a month left before the end of the injection season, storage levels are anticipated to reach a healthy level of 3,450 Bcf. However, as with other commodities, natural gas was relatively more expensive during the injection season compared to last year.

The counterbalancing of solid storage levels and slightly elevated injection prices should result in flat year-to-year market pressure.

Production/Supply

Production/Supply

Winter Season Period-to-period change Data source: ICE	Last Winter 2007-2008 ACTUAL	This Winter 2008-2009 FORECAST
Annual well completions	30,777	31,530
Annual average rig count	1,470	1,535
Winter average productions	53.3 Bcf/d	57.5 Bcf/d
Canadian imports	8.0 Bcf/d	7.5 Bcf/d
LNG imports	0.8 Bcf/d	1.0 Bcf/d
Winter-to-winter pressure on natural gas prices		

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Overall Lower-48 natural gas production is projected to be higher this heating season due to unconventional gas plays and production in the Eastern Gulf of Mexico which reflects the huge investments being made by majors and independents. Production levels are at the highest rates since the early-to-mid 1970s. Domestic natural gas production this winter is forecast to be approximately 57.5 Bcfd or 7.9 percent higher than last winter.

U.S. natural gas rig counts and natural gas well completions continue to increase despite wellhead price fluctuations. Well completions and rig counts are expected to reach 31,530 and 1,535 respectively. The rate of increase in well completion activity has slowed over the past year or two after a period of increased activity. The flattening of natural gas well completion activity reflects the fact that more wells are now complex horizontal operations with multi-stage fracturing that allow more natural gas to be produced from a single well. For these reasons, new completion activity may not always be a good measure of future gas production, whereas technological advances in completion and recovery are having a positive impact.

Imports continue to play an important role in supply. This winter ICF International forecasts that imports from Canada will average 7.5 Bcfd, a decline of 6 percent relative to last winter due to declining production in western Canada and increasing Canadian demand. In addition, liquefied natural gas (LNG) imports are expected to be relatively flat at 1 Bcf reflecting an impact of growing domestic production. Significant increases in production should result in downward winter-to-winter price pressure on the natural gas market.

Other Market Factors

There is clearly uncertainty in the overall marketplace as this document goes to print. Major economic upheavals could have an impact on the natural gas market.

Events, such as hurricanes, war, or any major unforeseen incidents could also impact the market. We have already seen an active hurricane season and some forecasters indicate we may see more hurricanes before this season is over.

If global commodities move in one direction or another, natural gas prices are likely to move as well.

Conclusion

This season's winter outlook

Winter Season Period-to-period change	This Winter 2008-2009 FORECAST
Weather	—
Economy	↓
Overall demand	—
Storage	—
Overall supply	↓
Winter-to-winter pressure on natural gas prices	—

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NGSA analysis of varying data indicates flat overall pressure on natural gas prices this winter, compared with the average for last winter season, primarily due to the following estimates affecting market pressure points:

- projected slightly warmer-than-normal winter
- stagnant economic growth
- near record storage inventory, but higher-than-average storage injection prices
- moderate growth in natural gas demand and higher domestic production levels

Because of its clean-burning characteristics, natural gas will continue to be a critical component of our nation's energy portfolio. Producers continue to show their long-term commitment to the natural gas market through billions of dollars of investment.

It is in our national interest to continue to expand access to and production of natural gas resources to help meet the energy demands of America.

For more information, please check out our websites or contact us directly.

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