

# Natural Gas Winter Outlook

## Winter Heating Season

2003-2004

### Executive Summary

The Natural Gas Supply Association's (NGSA) Winter Outlook for the 2003-2004 heating season outlines the association's view of existing natural gas market conditions and fundamentals. This analysis reviews the key pressure points that affect supply and demand, and ultimately, consumer bills. NGSA anticipates about the same degree of pressure on the natural gas market this winter, compared with the average for last heating season.

- The weather is the largest single factor affecting natural gas demand and customer bills, and it is also the most difficult to predict. According to the National Oceanographic and Atmospheric Administration (NOAA), this will likely be a near-normal heating season, maintaining price-volatility risks.
- Contributing to flat or even downward pressure on the natural gas market is "demand destruction" among the industrial sector, manufacturing customers often able to conserve, suspend or switch fuels in response to fluctuating wholesale prices. The economy, meanwhile, is essentially just beginning to strengthen.
- A return to near-average natural gas storage levels is likely by the heating season, and is likely to provide some market stability.
- Although producers are responding to spot prices with a projected increase in drilling activity (both the rig count and well completions have increased significantly), history indicates such a short-term response may only be able to maintain overall production levels. It is likely therefore, that there will be an ongoing dependence on Canadian and LNG imports to help offset the accelerating decline-rate among existing "Lower 48" wells. This leads to counter-balancing price pressures within the market.

NGSA does not forecast natural gas prices. As a result of the ongoing tight balance between natural gas supply and demand, according to published reports, government and independent analysts are predicting that wholesale natural gas prices, now hovering about \$4-5 per thousand cubic feet (Mcf), will continue in the \$4-6 range throughout the heating season. Short-term price spikes in the wholesale futures markets also remain a possibility.

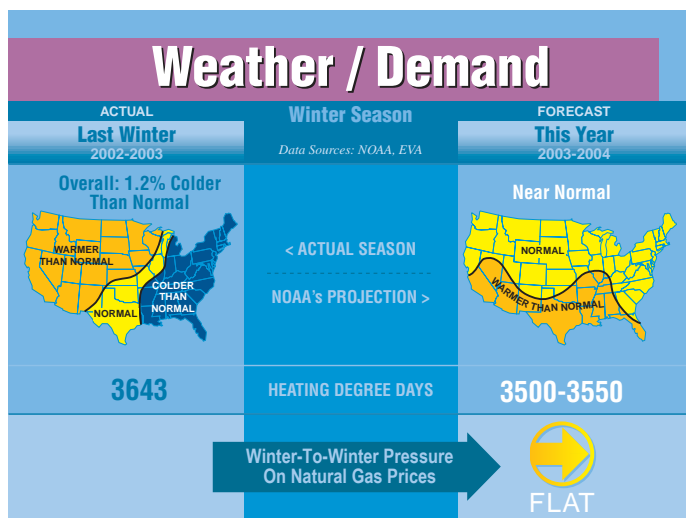
All of these projected pressure points are inter-related. Any deviation from this forecast



is likely to affect the other assumptions in this equation. As always, the severity of the winter will undoubtedly be the biggest, single determining factor impacting the market.

## Weather/Demand

The National Oceanographic and Atmospheric Administration (NOAA) is forecasting a near-normal winter, based on a 30-year average. This will tend to lead to similar winter consumption as last year among residential and small commercial customers.



Because residential natural gas customers make up 55 percent of all U.S. homes, a normal winter will lead to strong consumption. While a normal winter would serve to support wholesale prices at their present level, a weather pattern similar to last year's would lead to further upward pressure in the market, especially if the coldest temperatures are again concentrated in those regions that mainly use natural gas for heating—the Northeast, Midwest, and Mid-Atlantic states. A colder-than-normal winter across the entire U.S., on the other hand, would likely result in greater volatility and short-term price spikes. If it is a milder winter than last year, as some are forecasting, the opposite is likely.

## Economy/Demand

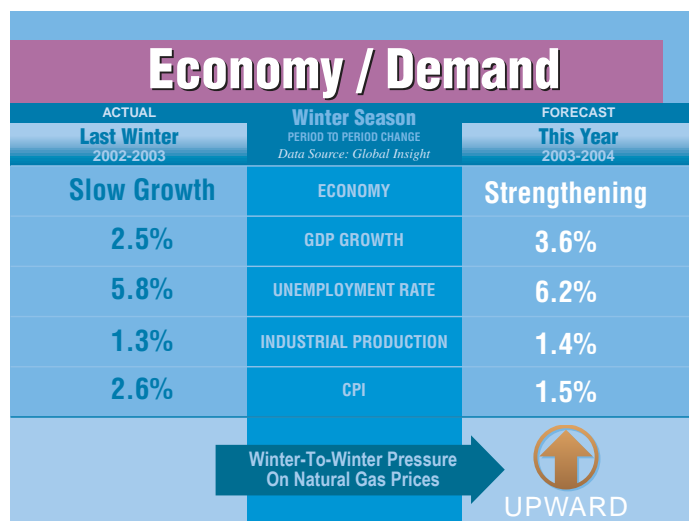
Although the engines of the economy have been sputtering, they appear to be revving up for an acceleration into and, perhaps, through 2004. Even though they may not hit a higher gear until after the heating

season, they are nonetheless likely to lead to some additional energy demands during the winter.

According to data from the nationally recognized economic forecasting firm Global Insight (formerly DRI-WEFA), gross domestic product (GDP) is expected to increase 3.6 percent from last winter. The consumer price index (CPI) is forecast to increase 1.5 percent. Another important factor for natural gas – industrial production – is projected to grow 1.4 percent from this period last year.

While this increased manufacturing, in particular, is likely to foretell additional energy consumption in the industrial sector, natural gas will capture only a share of that larger end-use market. In fact, as mentioned previously, there are likely to be offsetting reductions, as well, as some industrial customers conserve or switch processing fuels due to the tightness in the market and natural gas prices above the price of their alternative fuel.

According to an independent demand analysis performed by Energy Ventures Analysis (EVA), a number of natural gas-intensive industries have suspended some operations due to fuel-related market conditions.



“Within the chemical industry, approximately 20 percent of the U.S. fertilizer capacity has been permanently shut down, and another 25 percent has been temporarily shut down,” according to EVA. “At present, it is not clear how much of this temporarily shut-down capacity will return to operation at the start of next spring.”

## Storage/Supply

Underground natural gas storage allows companies to physically stockpile natural gas supplies purchased during the summer for later use during the winter, when demand is at its peak.

With weaker industrial demand and relatively mild summer temperatures dampening the electric genera-

Storage / Supply		
Last Winter 2002-2003	Winter Season <small>Data Sources: EIA, Gas Daily</small>	This Year 2003-2004
3,145 Bcf	END OF INJECTION SEASON	Est. 3,100 Bcf
101%	PERCENT OF AVG. FILL (FIVE-YEAR AVERAGE)	Est. 99%
25 Bcf	NEW STORAGE CAPACITY	Est. 27 Bcf
\$3.42 /MMBtu	INJECTION SEASON AVG. OF PUBLISHED HENRY HUB PRICES TO DATE	\$5.28 /MMBtu
Winter-To-Winter Pressure On Natural Gas Prices		FLAT

tion sector, weekly injections during the refill season have been running at historically high rates. Now, with less than a month left before the start of the heating season, it appears increasingly likely that North American utilities and other retail suppliers will have access to a near-average level of natural gas in storage.

While that figure may not reach last year's 3,145 billion cubic feet (Bcf), retail providers are still likely to have plenty of market flexibility within the parameters of a normal winter. This, in turn, is likely to provide some market stability by helping to dampen routine cold-weather price volatility in the wholesale spot markets.

However, given the projection for a slightly reduced storage level from last winter, we anticipate that this pressure point in the market will remain relatively flat. In addition, these increased summer costs will contribute to potentially higher end-use bills through the winter.

## Production/Supply

Overall, U.S. natural gas production is also projected to remain flat during the heating season. According to an independent projection provided by Energy and Environmental Analysis (EEA), significant increases this year in both well completions and rig count will serve only to maintain a rate of 50.6 Bcf per day.

It will take time for any additional drilling activity to result in extra supplies for consumers. The U.S. will continue to rely on Canadian and liquefied natural gas (LNG) imports to help offset an accelerating decline-rate among existing "Lower 48" wells. Meanwhile, Canadian suppliers are suffering from similar problems plaguing U.S. producers: slowed drilling in 2002 and steeper decline rates in mature fields.

Companies are in the process of analyzing new drilling opportunities and applying for permits, but the lag time can take up to 18 months before natural gas reaches market. In fact, while it may only take a few months to drill a producing well, it may take up to several years to secure the permits before drilling may begin.

Production / Supply		
ACTUAL Last Winter 2002-2003	Winter Season <small>Data Source: EEA</small>	FORECAST This Year 2003-2004
17,052	ANNUAL WELL COMPLETIONS	19,600
694	ANNUAL AVG. RIG COUNT	859
50.7 Bcf/d	WINTER AVG. PRODUCTION (U.S.)	50.6 Bcf/d
10.0 Bcf/d	CANADIAN IMPORTS	9.5 Bcf/d
0.76 Bcf/d	LNG IMPORTS	1.54 Bcf/d
Winter-To-Winter Pressure On Natural Gas Prices		FLAT

While still a relatively minor part of the supply equation, growth in LNG imports will also add some extra short-term market stability. With the opening of Cove Point and Elba Island facilities, LNG imports this heating season are projected to double, increasing to 1.54 Bcf/d from 0.76 Bcf/d last winter, according to EEA. Remember that even at this increased level, LNG would represent only 2.1% of a 74.5 Bcf per day winter market.

Altogether, production and import supply factors will apply counter-balancing price pressures on the market.

## Wild Cards

**Hurricane Season:** Some forecasters are predicting the continuation of a busy tropical storm season, with the likelihood of several additional major hurricanes. If there are storms of sufficient magnitude in the Gulf of Mexico, they can cause damage to platforms and gathering lines, leading to prolonged supply disruption.

**Middle East Unrest:** Although the oil and natural gas markets are separate, the prices for the two sometimes tend to move together. Such things as continuing Middle East unrest, with its potential to disrupt petroleum imports, could then affect the natural gas markets, as well.

**Infrastructure Disruptions:** This summer's blackout in the Northeast is a prime example of the kind of catastrophic infrastructure event that, while unforeseen, can affect not only the energy marketplace in general, but also the fundamentals of natural gas supply and demand. Additional natural gas consumption was temporarily required in the electricity sector to help offset the loss of tripped nuclear and coal facilities in the region.

**Access Restrictions:** A major concern of natural gas producers is the maturity of the accessible resource base, where drilling for natural gas now takes place. Discoveries within the known basins are becoming increasingly smaller and the wells being drilled today have a shorter productive lifespan. Access to new areas is becoming more important to maintain

natural gas production levels. Without additional access, natural gas production will continue to stagnate and, eventually, decline.

In the short-term, producers are continuing to work to expand production both onshore and offshore. They are constantly working with state and federal agencies to secure leases and permits to expand the production of natural gas.

## Conclusion

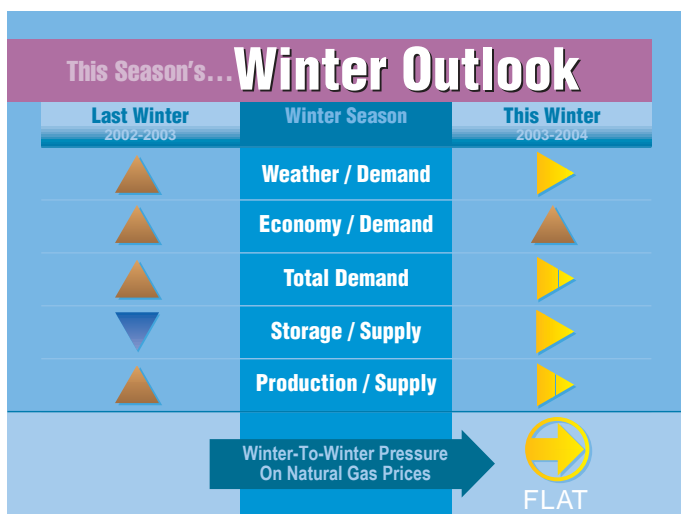
NGSA does not forecast natural gas prices. Government and other published reports, however, indicate flat pressure on natural gas prices this winter, compared with the average for last winter season, primarily due to the following estimates affecting market pressure points:

- projected near-normal weather
- a strengthening but still-hesitant economy
- re-stocked storage
- relatively flat production
- industrial fuel switching, closures and conservation.

This means there will continue to be a tight balance of supply and demand in the natural gas market. That is why government and independent analysts are predicting that wholesale natural gas prices, now hovering about \$4-5 per thousand cubic feet (Mcf), will remain in the \$4-6 range throughout the heating season.

The tight balance between supply and demand also means that deviations from the forecast have the potential to more significantly affect the supply/demand equation, and consequently, customer bills through the first quarter of 2004, and perhaps beyond.

For more information, please visit [www.ngsa.org](http://www.ngsa.org), or [www.naturalgas.org](http://www.naturalgas.org).



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