July 2009

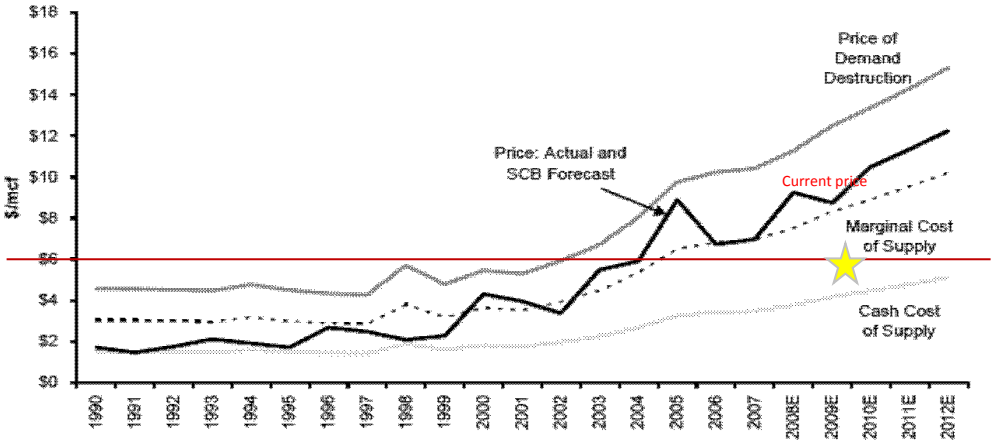
The Case for Natural Gas

At first glance, the current situation in natural gas markets appears grim. Gas prices are down more than 70% from their peaks and are trading at seven year lows. Demand for natural gas is declining with the global slowdown, and new supply is increasing from both unconventional players and from LNG (liquefied natural gas). So why is Sionna bullish on natural gas?

We continue to believe that natural gas is a cyclical commodity, and that the current downturn in pricing is no different from previous cycles. Based on our analysis of supply and demand, we don't believe that there has been a structural change in the market and we think that natural gas prices should rise back to marginal cost. As a result, we believe that natural gas currently represents an attractive investment opportunity.

At Sionna, we analyze commodities by looking at the marginal cost of supply. Economic theory suggests that a rational business will produce more of a good when the price that they are receiving is above their marginal cost. If a rational business produces natural gas at a marginal cost of $7.00/mcf[1] but receives a price of $8.00/mcf, then this business will continue to produce more natural gas. The excess profit will attract more competition which will inevitably drive the price of natural gas down. Conversely, if a business can only sell natural gas for $4.00/mcf but it costs $7.00/mcf to produce, then sensibly this business will reduce or stop production. In this environment, unsuccessful competitors may leave the industry or enter bankruptcy, which will drive the price of natural gas up. In either case, the economic forces at work will push the price of natural gas towards the marginal cost of production, the cost of producing the next additional unit of gas demanded, in the long term. In a simplified formula, marginal cost is the cash cost plus depreciation plus the cost to replace reserves. Put another way, the marginal cost is the minimum price required for the industry to sustain itself over the long term. Over time, all commodities revert back to marginal cost.

[1] A unit of measure in the oil and gas industry for natural gas; 1000 cubic feet

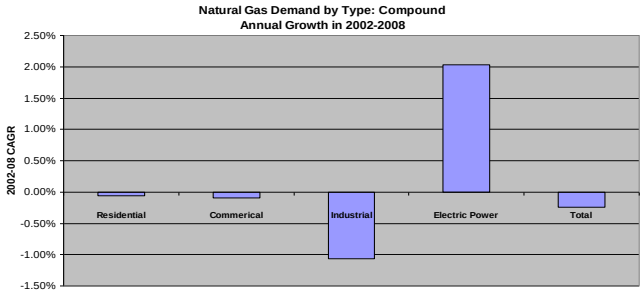


Marginal Cost of Natural Gas Supply

Source: Sanford Bernstein

The chart above shows that natural gas prices tend to trade at the marginal cost of production in the long term. Currently, natural gas is priced at $4.00/mcf – well below marginal cost. This is not sustainable in the long term because most market participants do not generate profits at these prices. Therefore, unless there has been a structural change in the market, the marginal cost curve should still hold and prices should trade back towards marginal cost, or $7.00/mcf. We would argue that there has not been a structural change and that natural gas should trade back up to marginal cost in the long term.

Natural gas prices are weak due to a number of reasons, the most prevalent of which is that the slowing economy has substantially weakened demand for natural gas. There are four main sources of demand. One third of total demand is tied to the residential and commercial markets, which are primarily driven by weather and are therefore relatively insensitive to economic activity. Another third is tied to electric power, which is a secular growth sector. The last third is for industrial use (chemicals manufacturing, petroleum refining and coal processing) which will likely weaken with GDP in the short term. As shown in the chart to the right, the secular decline in demand for natural gas from the industrial segment will likely be offset by the secular growth in demand from electric power. The immediate outlook for total market demand is that it is likely to remain relatively flat or to decline slightly.

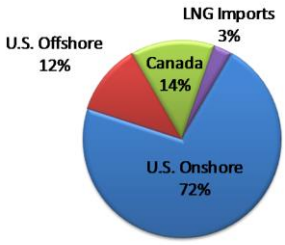


Source: Energy Information Administration

When discussing natural gas supply, it is important to note the distinction between the regional structure of the natural gas market and the global nature of the oil market. This divergence is apparent because gas must be moved primarily by pipeline but oil is easily moved by truck or ship to its end consumer. Every gas well in North America needs to be connected to a pipeline in order to get to end-market and consequently, 97% of the gas consumed in North America is produced in North America. In addition, due to this system, North American gas pricing is very different from other natural gas regions in the world.

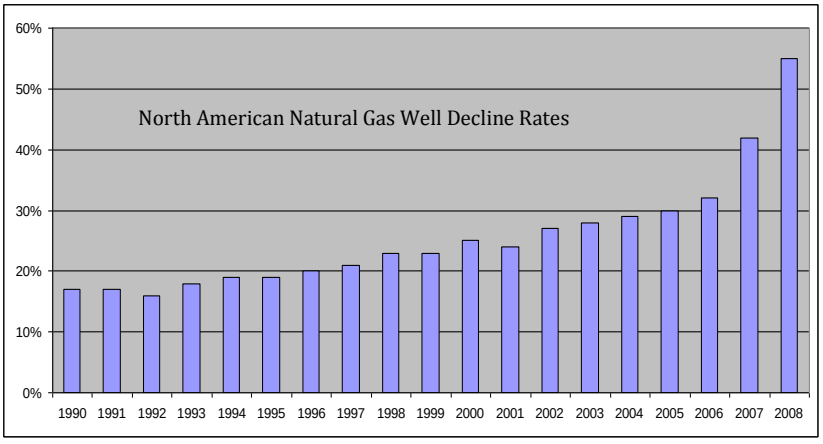
There are three main sources of natural gas supply in North America: the United States, Canada and imports of liquefied natural gas (LNG). The biggest change we have seen in the supply chain has been in Canada and US onshore, as production actually increased in these regions after decades of decline. This has largely been driven by the use of new technology on unconventional wells, which has resulted in higher initial production rates but also with quicker depletion of the resource and a concurrent rapid decline in production. The question to ask is whether these higher production rates are due to better geology or better technology. We would argue that production is higher because the reservoirs are being extracted at a faster rate. Structurally, the geology is still the same as ever: a mature and declining resource.

North American Natural Gas Supply



Source: Energy Information Administration

Decline rates are a measure of how quickly a well is depleted. The chart below shows that in 1990, a typical natural gas well depleted by 17% in the first year of production. Today, a new natural gas well declines at a rate close to 55% in its first year. This is primarily due to the increased usage of technology, which exposes more of the reservoir to the well and results in faster extraction of gas. What that also means is that when drilling stops, which has happened recently due to low prices, production will fall off more dramatically than in the past and allow supply to correct quickly. Rig count declined significantly six months ago so we can expect production to begin to decline.



Source: Peters and Company

The wildcard for supply is LNG. Liquefied natural gas has the ability to change the North

American market structurally but is still too insignificant in size and too capital intensive to do so. Gasification facilities are multi-billion dollar projects with five-year lead times. Supply and ramp-up activities also happen in a step function and this year, many of the LNG investments from previous years are coming online. At the same time, global demand is plummeting and unconventional wells that were drilled last year are coming online, increasing North American production. All these factors combined have caused natural gas prices to fall dramatically.

This year has been the perfect storm for natural gas. It will take time for the market to absorb the new LNG capacity. Consensus is that LNG will be 5% of the market in 2009, up from 3% two years ago. This extra LNG production does not invalidate the marginal cost curve, but it does mean that the natural gas prices will take longer to revert back to marginal cost. In the long term, natural gas prices should still be higher because the biggest piece of the supply pie, Canada and onshore US, is facing accelerating decline rates.

In the short term, we expect a continued supply and demand imbalance as wells drilled in last year's high price environment come on and we absorb additional LNG supplies. The next few months should continue to be challenging for natural gas prices. However, in the long term, we believe that buying natural gas-leveraged companies when gas prices are trading below the marginal cost of supply is a prudent investment strategy. Overall, we are overweight natural gas and we continue to see good value in well-managed natural gas-leveraged companies.

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