

Decline in Industrial Gas Consumption tied to Influences other than the Recession

As the chart below shows, when seasonally and weather adjusted, the industrial natural gas consumption reported by the U. S. Energy information Administration experienced a sharp decline totaling 14% over the recessionary period since January 2008. Although the average monthly decline has been 80.4 Bcf over this period, this is the net effect of several market influences.

The decline associated with the recession-slowed economic activity was dominant, but when disaggregated the influences upon industrial gas consumption obviously are more complicated. Other factors may accelerate or slow the decline in consumption. Some may be short-term and some longer-term. Consequently, we identified and statistically measured the impacts of several of these. For example, the natural gas price changes may increase or decrease the rate of decline in industrial consumption, and their impact may be virtually immediate, or, if they persist, the impact will affect capital investment. Longer-term trends reveal longer-term consumption influences such as lower gas consumption per unit of industrial output. This may reflect such factors as a shift to a less energy intensive economic structure or increasing investment in more energy efficient equipment. We also can expect industrial consumption to respond to the relative changes in the prices of substitute fuels. i.e., fuel switching.

By modeling the industrial natural gas consumption during the recessionary period, we determined that the decline in economic activity accounted for an average of 72.7 Bcf per month decrease in consumption. We also estimated that the longer-term declining trend of gas-per-unit of industrial output accounted for an average 25.5 Bcf of the total realized decline per month. To slow the decline we estimated that a decrease in prices actually stimulated an offsetting average upward adjustment of 14.5 Bcf per month in industrial gas consumption. In other words, if natural gas prices had not fallen by approximately 50%, the total decline in industrial consumption would have been

approximately 19% over the period. We also determined that fuel switching had neither a positive nor negative influence on industrial gas consumption during the period. This is probably because the fuel oil price decline paralleled the decline in natural gas prices.

Although one cannot necessarily extrapolate this analysis to predict the rate of growth in industrial gas consumption as the economy recovers, it does suggest that the recovery will not be a mirror image of the decline. For example, even if the economic activity expands at the same rate that it contracted, the trend of less gas consumption per unit of industrial output surely will carry forward to some degree. Furthermore, if natural gas prices rise, the model shows that this will slow the rate of growth in industrial gas consumption.

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Seasonally Adjusted Industrial Gas Consumption

