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THE THREE COMPONENTS OF NATURAL GAS DEMAND

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Overview

Natural gas contracts frequently tie gas prices to a thermal parity with oil products. Long-term contracts benefit the industry and consumers by providing a predictable basis for investment. On the other hand, such contracts also create market rigidities, as has been the case in Europe the last few years, where there has been considerable controversy over gas price disparities.

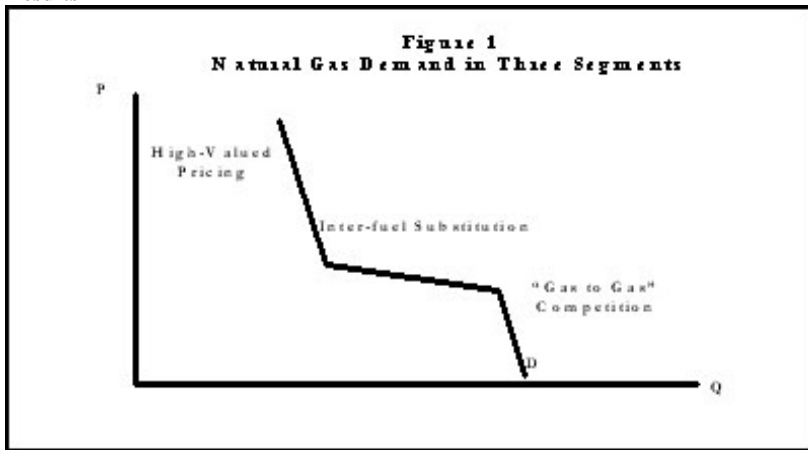
In short-term commodity markets, gas prices are set by the least-valued activity allowing prices to rise significantly above or fall below thermal parity with oil. In the 1980s and 1990s the North America gas market experienced "gas to gas" competition, where gas prices were frequently below thermal parity with heating oil. At this time there was heavy competition for the boiler fuel market and, on the margin, gas was in competition with high sulfur fuel oil and coal. However, because the North American market had been liberalized, low gas prices benefited all consumers, not just the marginal users.

Improved efficiency in gas-fired power generators has changed the nature of natural gas demand. In most cases, gas generators are serving electricity load that is highly price inelastic in the short term. Consequently, gas prices can rise dramatically when the market is constrained, as they have done in the U.K. and North America in the last few years.

Methods

This paper will describe the components of natural gas demand and identify their functional shape. The nature of the demand schedule is then used to explain price volatility in commodity markets and long-term pricing in contract markets.

Results



Conclusions

It is essential to understand the components of natural gas demand before setting policies aimed at developing gas supplies.

Liberalized gas markets provide much greater flexibility and efficiently allocate existing supply to competing components of demand. They may, however, be less efficient in promoting long-term investment in natural gas. This is especially important to Europe and Asia, where the richest gas deposits are significant distances from market centers and cross international borders, requiring substantial investments in pipeline infrastructure.