Perspectives on the Unconventional Revolution in North American Natural Gas

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Three global mega-challenges have combined to create a perfect storm for world economies. Over the past 18 months focus on climate change concerns gave way to soaring oil and gas prices and then passed to the global financial crisis. The North American natural gas business has not been unscathed by this turmoil. Unfortunately, a welcomed surge in natural gas production emerged on the cusp of the economic recession and slumping energy demand. Good news for consumers is the fact that oil and gas prices have dropped 50% or more from first half 2008 highs. These factors, though, pose significant concerns for oil and gas producers and could signal a paradigm shift in North American energy markets.

On the positive side, innovative gas producers have "broken the code" to unlock productivity from shale gas reservoirs. Success in the Barnett shale spread to the Fayetteville, Woodford, Haynesville and Marcellus shales in the U.S. and to the Tupper Montney and Muskwa shales in British Colombia while promising tests are underway in many other North American shale source rocks. As a result of higher shale well productivities, U.S. average well peak production and EURs increased during 2007, breaking a 10-year decline in these parameters. Correspondingly, U.S. gas production capacity increased by some 4.5% during 2007 and about 9% during 2008. Similarly, increasing shale production is expected to reverse the decline in Canadian gas production. This is good news for North American energy security and provides welcome flexibility for future energy planning. In the near term, though, higher than average gas storage volumes and a surge in global LNG supplies loom as bearish price factors along with the economic recession.

There are other negative issues:

- Natural gas prices, which averaged almost $9 per Mcf during 2008, hovered near $4.00 per Mfc at the end of March 2009. Ample gas supplies and soft demand will hamper price recovery during 2009.

- Soaring Rockies gas production has exceeded export pipe capacity with resulting large discounts in gas prices and curtailed production.

- Huge new gas resources in the Ark-La-Tex region and Appalachian Basin that have established pipelines and are close to large consumers may reshape North American gas markets.

- Upstream costs increased during 2008 adding to the squeeze on gas wellhead profits. Balancing costs with prevailing low gas prices is a major challenge for producers.

- The future of Arctic gas and role of imported LNG must be reassessed in terms of new supply, demand and price factors

- The change in the U.S. administration is accompanied by increasing power for anti-oil and gas constituents. At this time it is not clear if punitive attitudes toward oil and gas will prevail in legislation or if a collaborative approach will help to forge new clean energy policies that capitalize on abundant, secure domestic gas resources.

This paper will review these factors with respect to future directions for the North American gas business.