

Natural Gas: Can We Produce Enough?

The Issues

Since 1998, natural gas prices have doubled, briefly quintupled, and returned to 1998 levels. Natural gas drilling rig counts have dropped by 40 percent then increased to record levels before dropping again. What caused these cycles? What does it mean to future supply? What can be done?

The Response

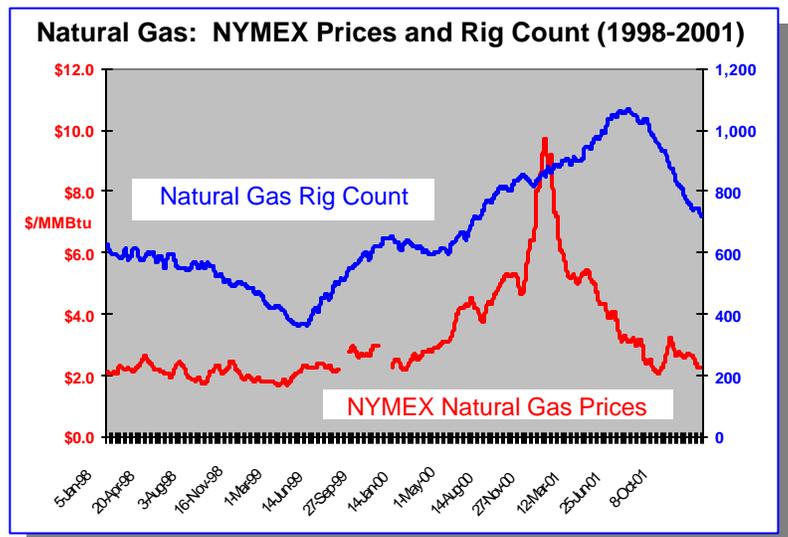
Current natural gas production is largely the result of geologic and exploration efforts made in past years that are now supplying the market. As a result of the petroleum price crisis of 1998-99, investment in new natural gas exploration was sharply curtailed. Petroleum and natural gas are found and produced together by the same companies and funded from the same capital pool. So, as petroleum prices fell, capital for new well development was drastically cut. It affected both petroleum and natural gas wells.

At the depth of the petroleum price crisis, the rig count for natural gas wells – a good marker for industry activity – was down by more than 40 percent. When oil prices recovered, most domestic drilling capital went toward natural gas and wells were drilled at the highest rates since the mid-1980s. In 2000, for the first time in over a decade natural gas reserves showed a substantial increase. However, it can take from three to fifteen months for a relatively routine project to be completed depending on factors such as: government permitting, availability of drilling equipment, labor availability, time to drill the well, infrastructure to connect to natural gas pipelines, and the weather at the production site. Larger, more complicated projects take longer.

By the end of 2000, the consequences of reduced drilling in prior years took its toll. Short-term natural gas production could not keep up with demand. Storage dropped as the winter approached. The New York Mercantile Exchange (NYMEX) reacted and prices soared. In 2001, the market responded. Demand dropped. Prices returned to lower levels ultimately to ranges not seen since 1999.

Correspondingly, by year-end 2001, drilling rig utilization began to fall. Taken together with falling oil prices, this reduction in capital investment will limit future natural gas availability.

In the short term, these fluctuations are destabilizing to the development of the natural gas supply that is needed to meet future demand. In the long term natural gas supply will depend on a number of key factors. These have been largely defined in the 1999 National Petroleum Council *Natural Gas* study. Increasing supply will require improved access to the natural resource base, access to capital, access to technology, and access to the human resources needed to develop new production. Two of these – access to the natural resource base and access to capital – are significantly dependent upon federal government policies. Without changes to these policies it will be more difficult to increase natural gas production adequately to meet future supply needs. Even with resource base access improvements,

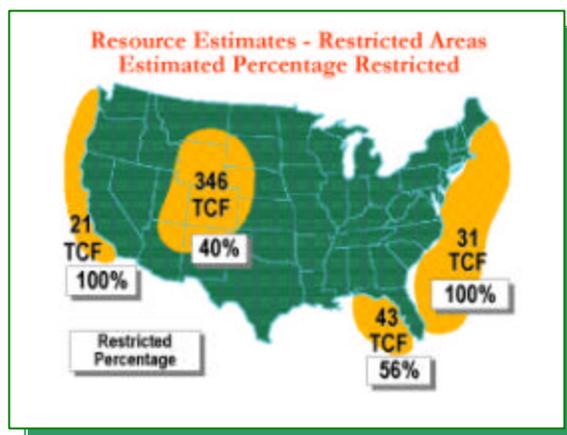


there will still be substantial challenges. The industry must raise an estimated \$658 billion from 1999 to 2015, create a workforce capable of drilling the wells, and build the rigs necessary to increase annual drilling rates from 24,000 to 37,000 by 2010 to as high as 48,000 by 2015.

Access to the Natural Resource Base

Current federal policies seriously limit access to the national resource base. These policies must be restructured to meet future natural gas demand. Some of these restrictions are absolute moratoria on offshore development of key resource areas. These moratoria are based on outdated views of the risks involved with offshore exploration and production.

As emphasized in the Department of Energy's *Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology* publication, "Advanced offshore platforms...and subsea completions are equipping offshore operators to explore and produce in deeper, more remote, and harsher environments. These advances enable increased access to deepwater resources, while minimizing disruptions to ocean ecosystems." Yet, current federal moratoria are prohibiting the exploration and development of at least 75 trillion cubic feet of potential natural gas supply.



In addition, federal policies in the Rocky Mountains have limited the development of another 137 trillion cubic feet of natural gas through a mix of prohibitions and permitting limitations. These constraints are also based on outdated perceptions that natural gas production threatens sensitive environments. Again, the same DOE document emphasizes that "Smarter operations in the Rockies enable successful exploration and production while protecting an environment marked by rugged mountains, sensitive Federal lands, and fragile habitats."

These Federal policies toward government controlled lands are a linchpin to meeting future natural gas demand. They must be modified to assure that the benefits of supplying this clean burning essential fuel are fully considered. The National Energy Policy recognized the magnitude of these limitations. Executive Orders to consider energy implications in federal decisionmaking and to convene a task force to improve permitting are important first steps in developing a response.

Access to Capital

The federal tax code continues to play a critical role in capital availability to produce domestic natural gas. To meet future natural gas demand, producers must spend around \$40 billion per year through 2015 – an increase of approximately \$10 billion per year. To get these funds, this inherently risky industry must compete against both other domestic investment options that produce higher returns and the lure of lower cost foreign investments.

Short Term Tax Reforms

- ??Allow expensing of geological and geophysical costs and of delay rental payments
- ??Create a countercyclical marginal well tax credit
- ??Eliminate net income limitation on percentage depletion for marginal wells
- ??Eliminate 65% net taxable income limit on percentage depletion
- ??Modify the Alternative Minimum Tax

Reform of the tax code will significantly determine the success of this effort. Today, there is wide support for a short list of tax reforms by both Republicans and Democrats. Many have already been passed by the Congress in some form. They should be enacted at once. Beyond these, further tax reforms to encourage new exploration and production should be developed and passed.