

Natural gas supply: politics or policy?

by Charles J. Mankin

A guest commentary by the director of the Oklahoma Geological Survey in Norman, Oklahoma.

Natural gas development in the United States has been driven largely by politics. When first discovered in the late 1800s in association with crude oil, its value was limited to heating for local use because of the inability to transport the commodity to potential markets distant from the well. The development of large-diameter interstate pipelines rapidly expanded the use of natural gas for industrial process heat, electrical power generation, and home heating. Today, natural gas supplies about one-fourth of the nation's energy requirements.

In a landmark decision in 1954, the U.S. Supreme Court upheld the right of the federal government to regulate the price of natural gas in interstate commerce (*Phillips Petroleum Co. v. Michigan-Wisconsin Pipeline Co.*). That ruling set the stage for many of the problems that were to follow in the marketing and maintenance of a natural gas supply in this country.

The ruling, in effect, legalized a two-tier marketing system. Under this arrangement, natural gas that was sold in the interstate market was regulated by the Federal Power Commission (now the Federal Energy Regulatory Commission), while natural gas produced and marketed from state or fee land within the state of origin was exempt from such regulation. The price for intrastate-marketed gas kept pace with inflation, while interstate-marketed gas lagged behind under the thesis of consumer price protection. The result was a generally adequate supply of natural gas for the intrastate market and a growing supply shortage for the interstate market. This shortage grew because the price of natural gas in constant dollars declined each year, thus encouraging increased use while discouraging development. Market growth peaked in 1973 with the annual sale of 22.6 trillion cubic feet (tcf).

Boom and bust

The administration and Congress responded to the so-called energy crisis of 1973 by passing several bills designed to address a growing problem in natural gas. The perception in Washington was that most of the natural gas potential in the United States had been developed, and little additional

supply could be expected from future exploration. This regulatory agenda culminated in 1978 with the passage of the Natural Gas Policy Act (NGPA). A primary purpose of the act was to eliminate the two-tier marketing structure that had produced adequate supplies in the intrastate market and growing shortages in the interstate market.

One section of the NGPA deregulated the price of natural gas developed below a depth of 15,000 feet. That provision, together with the perception of a growing supply shortage, triggered a massive exploration effort for deregulated natural gas. Prices offered by interstate pipeline companies soared to as much as \$7-9 per thousand cubic feet with guarantees for minimum quantities purchased per year (so-called "take or pay" provisions). Euphoria reigned in the "oil patch," and billions of dollars from investors poured into the gas-producing states. Little thought was given to who would be able to afford such gas.

In spite of the enormous amount of money wasted in this "feeding frenzy" of the petroleum industry, a lot of gas was found and produced. But during the period 1977-84, price escalation and regulation caused natural gas consumption to decline from 19-16 trillion cubic feet per year, the loss coming primarily from the industrial and electric power-generating sectors. This resulted in a growing surplus of natural gas supply and a corresponding collapse in price. A multitude of bankruptcies followed, and the effects are still evident in gas-producing states.

Today, we find that natural gas is again prominent on the federal agenda, and is being touted as the fuel of choice. The NGPA has been repealed, and the price of natural gas is about \$1.40 per thousand cubic feet at the well on an average annual basis. However, while the magnitude of the undiscovered resource base is very large in the opinion of most experts, converting that base to supply may prove to be politically difficult. As much as one-half of the undiscovered potential is located in areas that are either barred from development by administrative or congressional mandate, such as the Outer Continental Shelf, except for the Gulf of Mexico, or are in areas that make such development unlikely, such as the natural gas in subsurface reservoirs overlain by wetlands. Furthermore, the continuing demand for ever-larger quantities of crude oil for transportation fuel will produce a growing quantity of lower-grade fuel oil and residual oils. These commodities are, in effect, by-products of the refining process for transportation fuel, and will present strong price competition for natural gas in the industrial sector.

Natural gas can make an increasingly important contribution to the nation's future energy supply, not only as a traditional source of heat and petrochemical products but as a transportation fuel as well. Whether it achieves that objective will depend on the degree to which the politics of expediency can be suppressed in favor of sound, long-range energy policy. If the history of natural gas development to date is any indicator, the prospects for such an outcome seem unlikely.