

# The Supply Challenge for the Canadian Natural Gas Industry

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## **Introduction**

North America is in the midst of a natural gas crisis that is manifesting itself as high burner tip prices in consumers' households, including the homes of geotechnical professionals who have been striving to find more of the resource over the past 10 years. How did North America arrive at this crisis point? Was there a lack of foresight on the part of governments, E&P companies, and investors? The truth is that one can apportion blame on all of these stakeholders, but the challenge rests on the shoulders of the E&P industry to change its spending habits and return to exploration. A combination of low commodity price outlooks, an E&P focus on the exploitation of existing gas reserves to provide superior return on capital to shareholders, and non-existent national energy policies (both north and south of the border) have curtailed exploration efforts over the past 10 years. The industry must now turn its efforts to the exploration for new gas reserves, and geophysical technology should play an increasingly important role in this change effected by the E&P industry.

## **Outline**

This paper will present a history of the natural gas business in Canada, from activity, supply/demand, and pricing perspectives. Gas completions have grown from approximately 4,500 in 1995 to a forecast of over 10,000 in 2001. However, gas production out of Western Canada has only grown from 14.0 Bcf/d in 1995 to a forecast 16.5 Bcf/d in 2001. Over the same period, AECO-C spot prices have risen from C\$1.00 per Mcf to recent highs of C\$8.00 to C\$10.00 per Mcf. Thus, the economics have dramatically improved but most of that price improvement has occurred over the past two years and, therefore, has not manifested itself in full cycle economic evaluations.

Over 70% of the gas well completions in Alberta in 1999 and 2000 were in the eastern part of the province. This focus in capital expenditures satisfied the investors' demands for return on capital that exceeded the cost of capital. However, the result of this type of activity was to lower average initial production rates and accelerate the depletion of existing reserves. Importantly, the role of Canada is, and will continue to be, central to the growth of the North American natural gas business but spending efforts need to be directed toward exploration lest we disappoint the American consumer with limited future growth. However, minimum price support levels (C\$5.00 to C\$6.00 per Mcf) may be required to generate recycle ratios in excess of two times, and thereby sustain full cycle exploration economics in the Western Canadian Sedimentary Basin or in the Far North.

We will discuss current supply / demand dynamics and variables that can boost supply or destroy demand. Current supply of 60 to 63 Bcf/d is finely balanced with heating demand in winter and cooling demand in summer. However, low gas storage levels, a growing independent power producer market, the health of the economy, fuel switching, and price caps will be important variables for economists trying to forecast a sustainable base price level for gas.

The natural gas price levels that a healthy economy can sustain may not be enough to justify current full cycle exploration costs. The challenge for the geophysical industry is to reduce full cycle finding and development costs and to avoid being perceived as an additional cost in the cycle.