Canadian Natural Gas Winter 2005-06 Outlook

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Introduction

This paper provides a brief history of the Canadian natural gas commodity market, as well as an outlook for Canadian natural gas supply and prices for the upcoming winter heating season of 2005-2006.

Market Overview

Canadian natural gas production levels are much higher than domestic consumption. In 2004, Canada produced 16.9 Billion cubic feet per day (Bcf/d) of natural gas – 8.2 Bcf/d (49%) was consumed domestically, while 8.7 Bcf/d (51%) was exported to the US.

In contrast to Canada, the United States (US) consumes more natural gas than it produces, and must import natural gas. The US imports natural gas from Canada by pipeline, and from other countries (e.g., Trinidad and Tobago) via large ocean tankers that carry liquefied natural gas (LNG). The US obtains roughly 16% of its natural gas supply from Canada and 3% from other countries via LNG imports.

Natural gas commodity prices are determined in markets where many buyers and sellers exchange gas. The most important natural gas commodity markets in Canada are the intra-Alberta market (also called AECO), and the market at the Dawn, Ontario natural gas hub. The most important US market is at Henry Hub, Louisiana.

Regional Canadian and US natural gas commodity markets are well connected by natural gas pipelines. This allows supply and demand fundamentals to be transferred across all markets. For example, when natural gas demand is high in the US Midwest, buyers from that market may purchase natural gas supply in Alberta, and move it to the US Midwest by pipelines. Thus, natural gas demand, supply, and prices in Canada are influenced by demand, supply, and price changes in the US, and vice-versa. When markets are tight and prices are high in the US, the situation is the same in Canada. Natural gas prices in Canada and the US track each other. Canada and the US are often described as being an integrated continental natural gas market.

Slow Supply Growth, Steady Demand Growth

Between 1986 and 2001, Canadian natural gas production grew steadily, more than doubling from 7 Bcf/d to 16.6 Bcf/d. However, in the last three years, production from western Canada has flattened out, despite record levels of drilling activity. Producers drilled the largest and highest-quality reservoirs first. Now, finding new natural gas involves drilling into smaller and lower-quality reservoirs. Thus, more and more wells are needed in order to replace old wells which have declined,

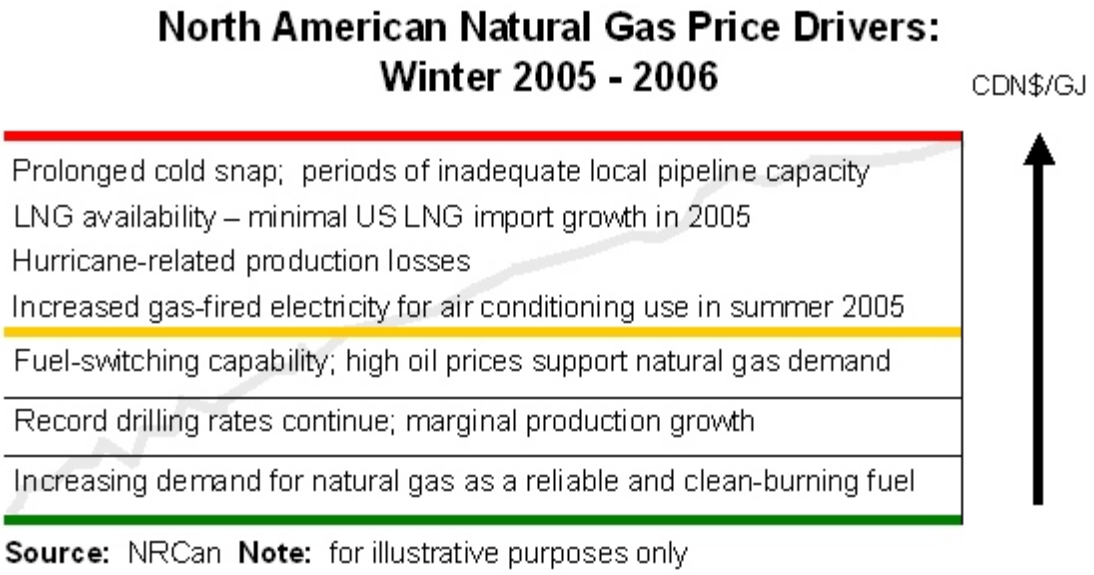
and increases in overall productive capacity come about more slowly. The situation is similar in the US. While natural gas production is essentially flat, natural gas demand continues to grow steadily, due to the clean-burning nature and overall attractiveness of natural gas as a fuel for homes, businesses, industries, and electric power stations.

Recent High Natural Gas Prices

This combination – steady demand growth and slow supply growth – has contributed to steadily increasing North American natural gas commodity prices since the beginning of 2004. Another contributing factor over the past year has been very high world crude oil prices. Since petroleum products are substitutes for natural gas in some applications, the prices of the two fuels influence each other.

In August 2005, hurricane damage began to disrupt natural gas production in the US Gulf of Mexico offshore producing region. At the height of damage, almost 9 Bcf/d was shut-in. As of mid-November 2005, a considerable amount of production remains off-line. This also contributed to higher North American natural gas prices.

Over the first eleven months of 2005, the intra-Alberta natural gas commodity price averaged CDN $7.93/GJ, 23% greater than the same period in 2004.



Canadian Natural Gas Winter Market Outlook

The levels of consumer and industry demand for natural gas, and the amounts of supply available to meet their needs, are the keys to understanding natural gas prices. Some key factors that might influence natural gas markets and prices are summarized in the graph above, and then discussed item by item in the following sections.

a. Weather – Hot Summer Temperatures and Hurricane Activity

Weather can impact both natural gas supply and demand, and is perhaps the largest single 'wildcard' affecting natural gas prices. Given the tightness of the market, a sudden disruption in supply (i.e., production shut-ins from hurricane activity) or strong growth in demand (i.e., a cold weather snap or a prolonged heat wave), can prompt significant price increases.

North America's summer of 2005 included two important events for natural gas markets. The first event was summer heat, which caused higher natural gas demand for power generation for summer cooling loads. The second event was reduced natural gas supplies as a result of a busy hurricane season.

Recent hurricane activity in the US – Katrina, Rita, and Wilma – made the tight North American natural gas market worse by damaging infrastructure and shutting in offshore natural gas production in the US Gulf of Mexico Offshore. As of November 1st, about 5 Bcf/d of natural gas production remained off-line, equivalent to 50% of the pre-hurricane daily natural gas production level in the Gulf of Mexico offshore.

High natural prices across North America were exacerbated as a result of recent hurricanes. Given uncertainty regarding when the Gulf of Mexico offshore natural gas production will return to pre-hurricane levels, many forecasters have revised their winter price outlooks upwards.

b. Storage Levels

Weather, which affects natural gas supply and demand, in turn affects natural gas storage levels. The amount of available natural gas in storage has an influence on seasonal and short-term natural gas prices. Low storage levels send a signal to the market that there is a smaller supply cushion and prices will rise, while high storage levels signal to the market that there is a larger supply cushion and prices fall.

The summer demand surge (due to power generation), followed by the supply shock (hurricanes) negatively impacted US natural gas storage levels during the summer refill season and produced the highest summer North American natural gas prices on record.

However, despite the production losses from hurricanes, storage operators continued to fill storage, with the result that North American gas storage inventories are at normal levels, with the winter now about to start. As of November 1, 2005, US natural gas storage inventory is estimated at approximately 3,170 Bcf, roughly 120 Bcf below November 2004, but 80 Bcf above the 5-year average for November. Similarly, Canadian natural gas storage levels are healthy, estimated at roughly 480 Bcf, equal to last November and slightly above the 5-year average.

c. High Crude Oil Prices

Natural gas demand and prices are affected by crude oil and refined oil (i.e., residual fuel oil and distillate) prices. There is competition between natural gas and refined oil products for demand, since some industrial and power generators have dual-fuel capabilities, particularly in the US northeast. This causes a strong relationship between crude oil and natural gas prices.

In 2004, West Texas Intermediate (WTI) prices averaged US$41.42/barrel, up $10.28 or 33% over 2003 levels. The average WTI crude oil price for the first half of 2005 was US $51.39/barrel, 40% higher than in 2004. High crude oil and distillate prices continue to support high natural gas prices.

d. Drilling and Production

Natural gas producers continue to respond to higher prices by drilling at record levels and by expanding their search for new sources of supply. In western Canada, 15,627 natural gas wells were drilled in 2004, 12% greater than in 2003. During the first eight months of 2005, 9,769 wells have been drilled, 3% less than the same period last year. Lower drilling numbers are due to wet weather and flooding, which hindered drilling results in June and July. Drilling is expected to increase substantially in the latter half of 2005.

Higher natural gas prices in 2005 should continue to prompt high levels of drilling over the duration of the year. The National Energy Board expects that 17,000 natural gas wells will be drilled in 2005, surpassing record levels of 2004.

However, despite record drilling in recent years, production remains relatively flat because exploration is now finding smaller and smaller pools, due to the increasing maturity of the conventional supply basins in western Canada and the US Gulf Coast. For example, the NEB estimates that Canadian natural gas production will average 17 Bcf/d in 2005 and 17.1 Bcf/d in 2006, only slightly more than 2004 levels of 16.9 Bcf/d.

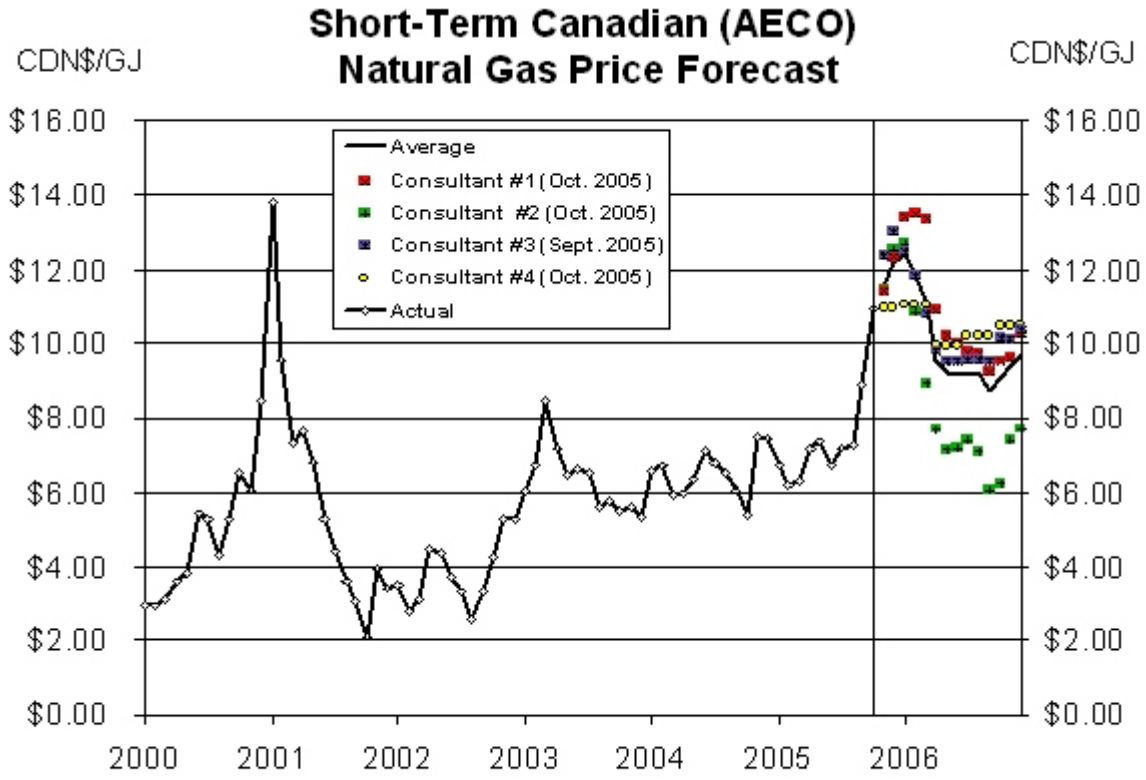
Steady, if modest, increases in domestic natural gas production combined with a carryover from the robust storage levels in 2005 will together contribute to a moderate improvement in the Canadian natural gas supply picture through 2006. Limited potential to increase supply significantly in the

short-term, combined with increasing demand will result in continued high natural gas prices throughout the remainder of 2005 and 2006.

Short-Term Canadian Natural Gas Price Forecast

As of October 2005, Canadian natural gas prices were in the CDN $10-11/GJ range. The figure below shows historical monthly intra-Alberta natural gas prices, and forecast prices from four consultants on retainer to the Department. The outlook for the upcoming winter heating season is for continued high, and even, rising natural gas prices. This outlook also suggests that natural gas prices will surpass those of last winter.

The average of the four forecasts results in Canadian natural gas commodity prices of CDN $11.80/GJ over the November 2005 - March 2006 winter heating season, considerably higher than last winter.



Source: GLJ and various consultants. **Note:** (1) AECO actuals from GLJ.

Impact of Higher Natural Gas Prices on Canadian Consumers

About 50% of Canadians heat their homes with natural gas. The price a residential consumer pays for natural gas (i.e., a burner-tip price) is based on three main components: pipeline transportation, local distribution costs and the price of the natural gas commodity. While the price of the natural gas commodity fluctuates, the other charges remain fairly constant. As the price of the natural gas commodity increases, it comprises a larger percentage of the total amount consumers pay for home heating and results in a higher burner-tip price.

Natural gas commodity prices have risen and consumers are likely to pay more to heat their homes during the 2005-2006 winter heating season. Given the variety of contracting arrangements possible, different rate-setting mechanisms in different provinces, and differing temperatures and natural gas usage across the country, it is difficult to quantify consumer heating costs for the upcoming winter.

However, considering consumer rates to date, and expectations about prices for the upcoming winter, an average-sized residential household in Canada (using 100 GJ per year and 75 GJ during the peak winter months) could pay up to $370 more for natural gas used this winter compared to last year. For many consumers, their contracting arrangements, or those of their distribution company, will tend to either reduce this amount, or spread it out over the coming year.

The Government of Canada recognizes the impact that higher energy prices can have on Canadian consumers. On October 6, 2005, the Canadian government announced measures to address the impact of higher energy costs. These include an Energy Cost Benefit payment which will be made to low-income Canadians ($250 to low-income families or senior couples, $150 to single low-income seniors), energy efficiency incentives for homes and buildings, and actions to increase market transparency and accountability.

Further details about the federal government's comprehensive package can be found at the Department of Finance Canada Web Site: http://www.fin.gc.ca/news05/05-066e.html

CONCLUSIONS

Increasing demand, flattening natural gas production, recent hurricane activity, hot summer temperatures across most of North America, and surging world crude oil prices are contributing to high natural gas prices. As of October 2005, Canadian natural gas prices were in the CDN $10-11/GJ range, and are forecast to be even higher over the upcoming winter. Canadian natural gas prices are forecast to average CDN $11.80/GJ over the winter of 2005/06, considerably higher than actual prices over the previous winter. If this forecast proves correct, an average-sized residential household in Canada could pay up to $370 more for natural gas used this winter compared to last year.

With Canadian natural gas storage at a comfortable level entering the winter heating season, weather remains the wildcard. If the winter of 2005/2006 proves to be mild, natural gas prices could be lower than forecasted. Conversely, if the winter is extremely cold, prices could surpass expected levels.