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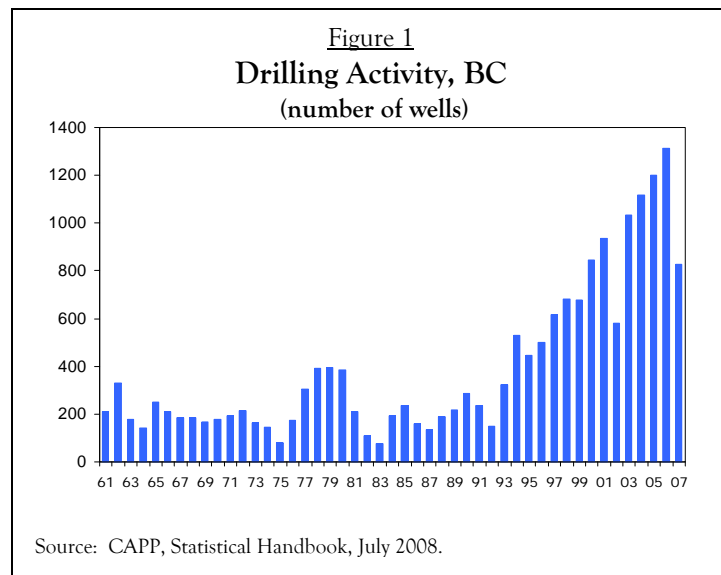
NATURAL GAS: A KEY GROWTH ENGINE FOR BC

British Columbia is fortunate to have world-scale natural gas reserves. Production has more than tripled over the past two decades, bringing an abundance of new jobs and wealth and making BC the second biggest producer in Canada, after Alberta. Unlike most other jurisdictions, BC's known natural gas reserves continue to increase, providing a foundation for the industry to double or even triple in size over the next 10-20 years. With forestry – long the province's biggest economic driver and the number one generator of export earnings – facing contraction due to the pine beetle and the ongoing decline of the Canadian pulp and paper industry, an expanding natural gas sector can provide a boost to BC's flagging exports and serve as a source of economic activity for the north. As it continues to grow, the natural gas industry is poised to play a larger role in the province's economy.

State of the Industry

Driven by robust demand in North America, higher global energy prices, modifications to Crown royalties, and advances in technology the past decade has seen profound change in BC's burgeoning natural gas industry. In terms of volume, natural gas production reached 32 billion cubic metres last year, up from 24 billion cubic metres in 1997 and 10 billion cubic metres in 1987. Thanks to higher prices, the value of producer sales has increased even more rapidly, rising six-fold over the most recent 10-year period.¹

Drilling, production and related industry expenditures have become important contributors to the province's economic well-being. Drilling activity has surged and new pipelines have been put in place to carry gas from the



¹ Canadian Association of Petroleum Producers, Statistical Handbook (July 2008).



north-east of the province to domestic and North American markets. The number of wells drilled has climbed from 200 per year in the early 1990s to more than 1,000. In 2007, drilling activity reached a peak of just over 1,300 new wells.

Smart Policies

The industry's expansion can be attributed in part to sound government policies in BC. A key initial step was taken in 1998 when the province established the

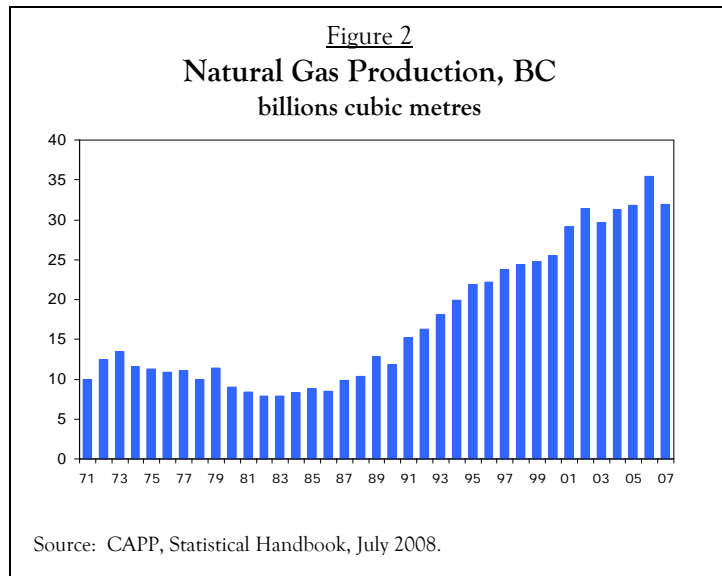
Oil and Gas Commission with the express purpose of creating a single regulatory and approval window for oil and gas activities. In conjunction with this initiative, the government also stepped up investment in road infrastructure.

With a stated goal of making British Columbia the most competitive oil and gas jurisdiction in North America, in May 2003 the government unveiled the four pillars of its Oil and Gas Development Strategy: (1) road infrastructure development; (2) targeted royalty reductions for marginal, deep wells and for summer drilling; (3) further regulatory streamlining; and, (4) an oil and gas service sector development initiative.

The government has made sure that royalties are competitive within North America. Since 2002, BC has implemented incentive-based royalties for marginal gas, royalty tax credits for deep-well exploration and horizontal drilling, and tax credits for summer drilling - all designed to spur more year-round activity, increase drilling and production, and develop a local service base. The establishment of a competitive policy and fiscal regime has been central to the industry's success in BC. Both natural gas and the broader energy industry are global businesses in which capital tends to flow to the most competitive jurisdictions.

Recently, the province put additional funding in place for infrastructure. A single piece of legislation to govern the Oil and Gas Commission has been passed. And, when labour market conditions tightened and the industry had difficulty finding workers, the province established a training fund to equip workers with the skills necessary for employment in the oil and gas sector. Northern Lights College, with seven campuses in northern BC including in Fort St John, offers programs in fields such as Land Resources Management, Oil and Gas Field Operations and Pre-employment Preparation for the Oil and Gas Industry.

In response to these positive changes, the oil and gas industry has invested tens of billions of dollars in British Columbia. Last year net cash expenditures by the industry totalled \$8.3

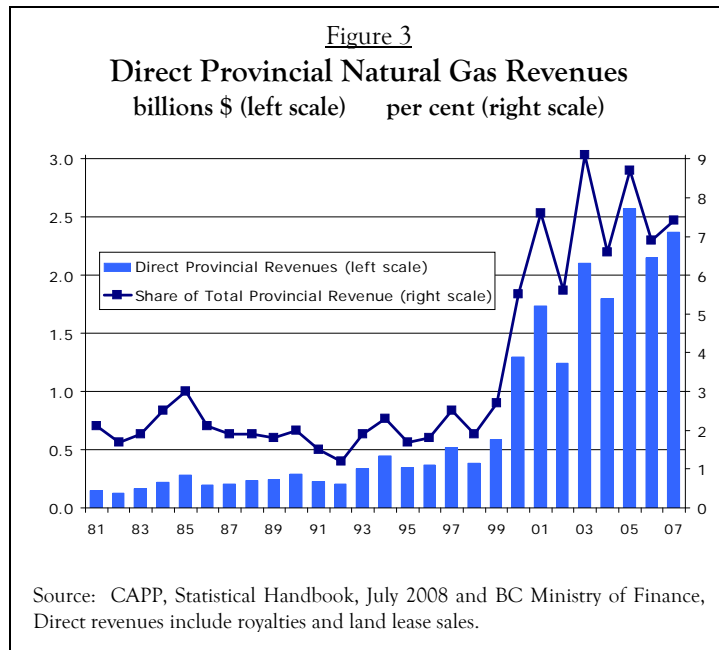




billion, a huge jump from \$2 billion 10 years ago. With the industry feeling positive about its prospects in BC, land lease sales and royalties have risen sharply. Provincial land lease sales surpassed the \$1 billion mark in 2007 and are on track to set a new record in 2008. The province recently reported that the sale of oil and gas rights resulted in \$501 million in bonus bids, bringing year-to-date sales to a hefty \$1.8 billion.²

Royalties paid by natural gas companies have consistently been over \$1 billion annually over the past few years and peaked at nearly \$2 billion in 2005.³ Royalties and land lease sales have become significant revenue sources for the province. Together, royalties and land lease sales yielded \$2.4 billion for Victoria last year.⁴ As a result of its rapid growth, the natural gas industry's direct contribution to provincial government revenue has risen from around 2% to more than 7% (and as high as 9%) in less than a decade. Natural gas has become a vital source of funds to finance provincially-delivered services such as health care, education and an array of social programs. It should be noted that the above figures refer only to direct resource-based revenues and do not include corporate or personal income taxes or sales taxes resulting from activity in BC's natural gas industry. If these indirect revenues were included, the economic and fiscal impact of the natural gas is even greater.

More fundamentally, natural gas has become a key part of BC's export base. While many other export-oriented industries have struggled under the weight of a strong Canadian dollar, the meltdown in the US housing market, and a thickening Canada-US border, natural gas exports have increased steadily. Since 1997, BC's natural gas exports has soared from \$1 billion to more than \$2.5 billion, and reached \$4 billion in 2005. With natural gas now accounting for 9-10% of BC's merchandise exports (compared to 4% a few years back), the growth of the industry has helped the province build a more diversified economic base, stimulated economic activity in northern BC, and supplied a welcome additional source of revenue for the provincial government.



² Ministry of Energy, Mines and Petroleum Resources, "Land Rights Sales Continue to Bring in Record Numbers," August 14, 2008.

³ Canadian Association of Petroleum Producers, Statistical Handbook (July 2008).

⁴ Canadian Association of Petroleum Producers, Statistical Handbook (July 2008), royalties paid and industry expenditures on land acquisitions.



Local Development

A major tenet of the Oil and Gas Development Strategy is to establish and grow a local (within-BC) service industry for the oil and gas sector. During the industry’s infancy and through the 1990s, most of the support services for drilling and production were supplied and purchased from Alberta-based organizations. This meant the spin-off benefits from oil and gas production tended to flow out of the province, which inhibited the development of the local service sector because of additional distance between suppliers and BC-based drilling activity, and also because the contemporaneous expansion of Alberta’s oil sands led to a general scarcity of the skilled labour and equipment needed to run the industry.

Developing a service industry capable of supporting BC-based drilling and exploration has also been a success story. Industry participants suggest that local service providers now meet most of the BC industry’s requirements. Employment figures appear to support this view. According to the 2006 Census (the only source of employment counts at a localized level), 1,660 people were working

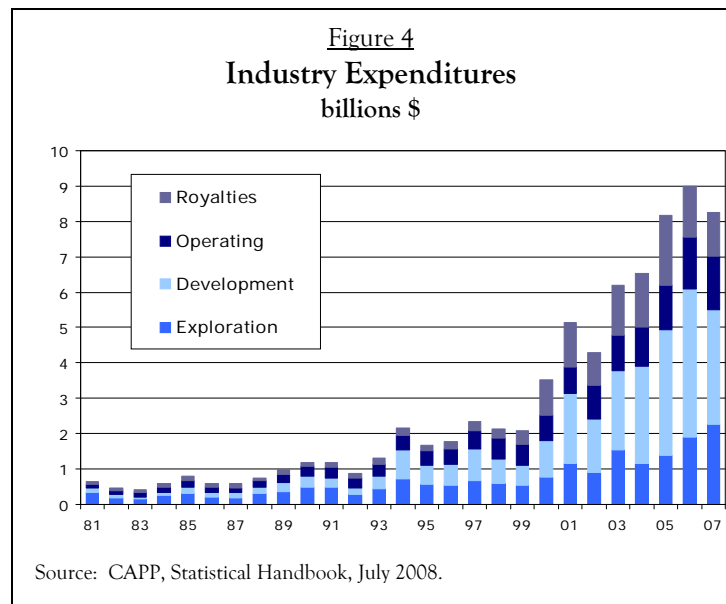
in Support Activities for the Oil and Gas Industry in BC, up from 765 in 2001. Altogether (taking extraction and support activities), there were at least 2,400 people working in the Oil and Gas Industry (2006 Census), double the number from just 5 years earlier.

Nor should it be overlooked that oil and gas has propelled growth in a host of other industries in northern British Columbia. Construction jobs have been created along with new jobs in retail and other consumer services. Total employment in Fort St John jumped from 9,440 in 2001 to 15,665 in 2006, one of the biggest percentage increases in the province.

Excellent Long-term Prospects

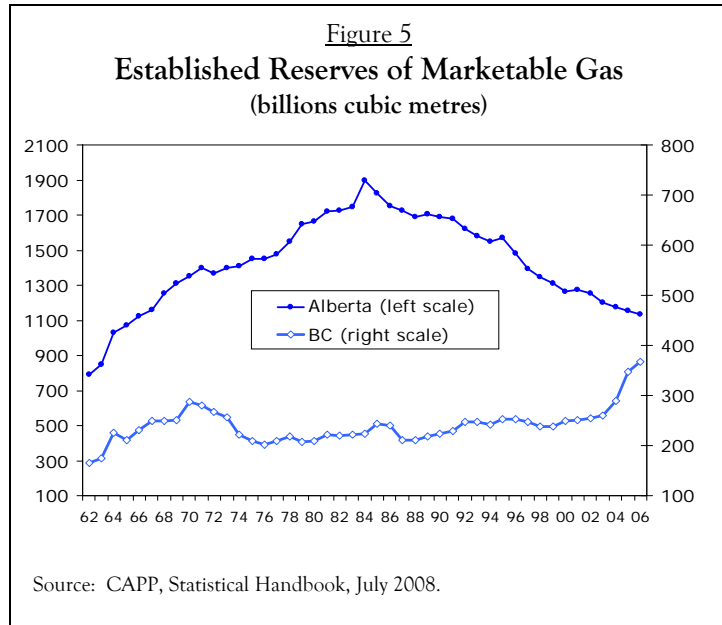
The medium to long-term prospects for natural gas in British Columbia are positive, for several reasons: i) demand for natural gas in North America will continue to grow; ii) BC is blessed with an abundance of gas reserves; and iii) the fiscal and policy environment established by the province continues to attract new investment.

Abstracting from recent market fluctuations and the fact that demand may soften as the economy slows, experts judge the medium-term outlook for natural gas demand in North





America as bright. The main reason is what's happening in the electricity sector. In the United States today, nearly half of electricity generation comes from coal-fired power plants.⁵ In an emerging carbon-constrained world, many of these plants are expected to switch to natural gas, which has a smaller carbon footprint than other sources of fossil fuel. Based on existing technology, jurisdictions can achieve sizable reductions in carbon emissions by changing fuels. Also, forecasts suggest that much new



generating capacity in the overall North American electricity sector will be in the form of gas-fired plants. It is instructive to remember that despite its current housing woes, the United States has relatively high rates of growth in population and household formation, which means it will build millions of new homes over the next 10-20 years. In addition to the associated requirements for electricity, many of these homes will be heated with natural gas. And industry in the US is likely to turn increasingly to natural gas as a source of energy.

With the medium-term demand fundamentals gas strong, BC is well positioned within North America because it is one of the few jurisdictions where known natural gas reserves continue to grow. The past five years have seen marketable gas reserves (a measure widely used in the industry - these reserves are accessible to transmission facilities) rise from 250 billion cubic metres to 368 billion cubic metres. Including reserves that are not adjacent to existing transmission facilities, BC's known reserves stand at an impressive 483 billion cubic metres.⁶ The picture in Alberta is very different. Although it has greater quantities of natural gas (1.1 trillion cubic metres), known marketable reserves in Alberta have been falling since the mid 1980s and are likely to continue declining as the oil sands sector grows. This pattern of dwindling natural gas reserves is common across most North American jurisdictions.

The other dimension to consider is the potential that exists to produce natural gas in other, less explored regions of the province. Currently, the north-east region, which covers part of the Western Sedimentary Basin, is the only area of BC where commercial quantities of natural gas are produced. Limited drilling and exploration programs, however, indicate that the province has other sedimentary basis containing substantial quantities of natural gas.

⁵ Energy Information Administration, <http://www.eia.doe.gov/cneaf/electricity/epa/epates.html>.

⁶ BC Oil and Gas Commission, August 2008 press release.



At least seven other onshore basins are believed to have significant hydrocarbon potential.⁷ The biggest are the Nechako and Bowser basins. Historical exploration has been limited in these areas. Current exploration activity is focused on coal-bed resources in the Bowser Basin and conventional gas in the southern Nechako Basin. The development of natural gas resources and the resulting additional economic activity and diversification would be welcome in these areas in light of the pine beetle infestation in this vast forestry-dependent area of British Columbia.

Gas-in-Place Estimates for Interior Basins and Southeast BC	
Basin	billions cubic metres
Nechako	261.8
Quesnel	8.4
Rocky Mountain Trench	0.1
Bowser	129.7
Sustut	52.7
Whitehorse Trough	52.8
Southeast BC	11.6
TOTAL	517.1
Source: Northeast British Columbia's Ultimate Potential for Conventional Natural Gas, National Energy Board and BC Ministry of Finance (March 2006), Appendix A1.	

Conclusion

Looking past the current global economic turmoil, the outlook for natural gas in BC is promising. North American demand is projected to grow steadily as more jurisdictions and energy utilities turn to natural gas as a relatively low-carbon energy source for electricity generation and for industrial and residential uses.

Maintaining an incentive-based royalty structure will be important as BC continues to develop its abundance of unconventional natural gas, which is harder and more expensive to extract than conventional resource. By engaging stakeholders and implementing appropriate royalty schedules, the province has succeeded in fostering exploration and investment, which in turn has led to rising quantities of known natural gas reserves.

Today, BC's natural gas industry is concentrated in the north-east region, where most of the industry's expansion is expected to occur over the next 5 to 10 years. Beyond that, other unexplored on-shore basins are believed to contain more gas than current known quantities in the north-east, meaning that the industry's long-term prospects in British Columbia are very bright indeed.

⁷ The province also has substantial offshore hydrocarbon potential. The Queen Charlotte/Hecate basin, Georgia basin and Tofino/Winona basin are believed to contain 683, 173 and 266 billion cubic metres of natural gas respectively (for an estimated total of 1.13 trillion cubic metres).