

**Written Evidence of Interveners
Submission to the National Energy Board**

**Hearing Order GH-1-2004
Mackenzie Gas Project**

Submitted by: CRA: A Coalition representing Alternatives North, the NWT Literacy Council, the Roman Catholic Diocese of Mackenzie, the National Anti-Poverty Organization, the Northern Territories Federation of Labour, and the Public Service Alliance of Canada North

June 1, 2005

Our submission provides comments about the following issues listed in Hearing Order GH-1-2004:

- The estimated cost of construction of the Mackenzie Valley
- The economic feasibility of the proposed project
- The potential commercial impacts of the proposed project
- The suitability of the design of the proposed project
- The ability of the proponent to manage risk and financial liabilities related to the construction, operation, and decommissioning of the proposed project
- The appropriateness of the Applicant's public consultation program and the adequacy of aboriginal consultation
- The need for the proposed project
- The terms and conditions to be included in any approval the NEB may issue

Estimated cost of construction and economic feasibility

The proponent and the NEB need to consider the economic feasibility of the proposed project from a full cost accounting perspective. The traditional Gross Domestic Product methodology does not distinguish between financial activities that contribute to well-being and those that can harm people, communities, and the environment. For example, the oil spill resulting from the disaster on the Exxon Valdez tanker resulted in a huge increase in the GDP but was not a socially or environmentally beneficial activity. GDP accounts can offer a very skewed picture of the real impacts of the project under review.

We recommend the NEB and the proponent use Genuine Progress Indicator (GPI) accounts to obtain a more comprehensive measure of human, economic, and environmental well-being. GPI accounts measure the physical, qualitative, and financial dimensions of all living and produced capital. Living capital refers to people, society, and nature. Produced capital refers to financial wealth and infrastructure. GPI accounts will give a more accurate and complete analysis of economic feasibility than GDP methodology.

For a more thorough study of GPI accounts, we refer you to a report by the Parkland Institute of Alberta available at the following electronic link:

<http://www.ualberta.ca/~parkland/post/Vol-V-No2/04anielski.html>

The NEB needs to consider that governments, businesses, and the volunteer sector will have increased direct and indirect costs because of project impacts. The proponent clearly identifies various types and degrees of environmental, social, and economic impacts. For example, the EIS notes that the NWT will need increased human and financial capacity for policing, housing, education and training, and health and social services. Public and Aboriginal governments, businesses, and the volunteer sector provide these services. The EIS also notes the project's impacts include an increased need for physical infrastructure such as roads, barge landings, and other transportation facilities, as well as increased capacity for emergency response, forest fires, and community infrastructure.

To date, no one has provided an estimate of project-related costs to governments, businesses, and/or the volunteer sector. Until we know these costs, it is impossible to know the overall net benefit or deficit of the MGP on the NWT's economy.

The foregoing clearly speaks to the economic feasibility of the proposed project. As a Regulatory body charged with protecting the public interest, it is incumbent upon the NEB to consider the economic feasibility and the cost of the Mackenzie Gas Project in the most complete terms. This includes accounting for the negatives as well as the positives, that is, the full costs of the project.

We discuss a related issue in the following paragraphs in this section - the lack of information about the revenue that the project will provide to the NWT.

The project will do the great majority of its capital spending in Alberta, not in the NWT. However, the impacts and associated costs will be much greater in the NWT. This regional difference affects the project's economic feasibility. It's clear the project will benefit the Alberta economy. It is not so clear that it will be a net benefit for the NWT economy.

To date, the proponent provides no estimate of the amount of tax revenue various orders of government will receive. Without a tax revenue estimate, it is impossible to know if the project is truly affordable or desirable, particularly to the Government of the NWT who will bear the brunt of externalized project costs.

The current, low royalty rates were set to encourage exploration, particularly in the high arctic where development costs are high. The Pembina Institute did a thorough analysis of the royalty regime. We recommend the NEB review their report "When Government is the Landlord" as part of your economic feasibility assessment. The electronic link to this report is:

<http://pembina.org/pdf/publications/GovtisLLMainAug17.pdf>

The existing royalty regime favours a rapid removal of resources that does not provide a fair return to the overall public purse. Neither the royalty regime nor the overall formula funding arrangement for the NWT allow for long-term, fair return for the territorial government. The royalty regime is not in keeping with a hugely profitable project like the Mackenzie Gas Project.

The NEB must consider how project timing and rate of production will affect the economic impacts on the NWT. The rate of development and the rate of gas flow will have a significant effect on the potential commercial impact of the proposed project and the public good. If the project is approved, we recommend a slower rate of construction and gas flow than the maximum capacity for the pipeline.

A slower rate will increase the ability of the NWT to prepare for project impacts and for the NWT and Canada to retain greater economic benefits. The proponent states 'the pace of gas development in the Mackenzie Delta and Mackenzie Valley will be determined by gas producers, not by the Mackenzie Valley pipeline proponents'. This may be the case, but the NEB has a responsibility to attach terms and conditions that will maximize regional and national benefits and assure a fair return to the public purse.

Potential commercial impact

The proponent clearly states that the construction period offers many jobs and the operation phase offers few jobs. They also clearly state that the NWT labour pool isn't big enough or skilled enough to fill many construction jobs. It appears that NWT residents will make up only a small percentage of the needed labour force. The proponent makes no specific commitments about the number of northern jobs or workers.

The proponent, government, and other agencies are working together to train northern residents for project-related jobs. If construction starts in 2006, a limited number of people will have completed their training. If the MGP is approved, the start date should be delayed to maximize training opportunities for northerners. The proponent should identify specific targets for northern training, including specific commitment related to women and Aboriginal people.

The number of northern jobs directly affects the commercial impact on the NWT. For example, a greater number of northern workers will reduce in-migration and the resulting impacts on infrastructure and institutional capacity, and increase taxation revenue for the NWT. As the NEB is charged with looking at the commercial impact of the project, it must consider variables such as percentage of northern hires that clearly affect the commercial impact of the project. The proponent should make commitments to northern hiring in legally binding agreements, with specific quotas for Aboriginal workers and women.

The proponent clearly recognizes people will leave existing jobs for project-related jobs. Governments, businesses, and the volunteer sector will pay extra to recruit, hire, and train new staff. People may have to temporarily go without

important community goods and services. And all this will happen in an inflationary environment where all sectors already need increased capacity.

Experience with other resource development projects in the Canadian north shows that commercial impacts follow a 'boom and bust' cycle. The construction phase will be large, fast-paced, and over in a short time. Prices for housing and goods and services will rise. Prices may or may not fall afterwards, but certainly incomes will fall as a result of decreased levels of employment. People will experience lifestyle changes they can't necessarily support for the long term. Commercial impacts include the fact that individuals, governments, businesses, and the volunteer sector will need to absorb the inflationary shock and then readjust during the 'bust'. Each sector will have a different capacity to handle the changes, and some will have very limited capacity.

The project will cause uneven development. Benefits and problems will spread unevenly among communities and regions, male and female, Aboriginal and non-Aboriginal, youth and elders, well-educated and low literacy, rich and poor, business and government and volunteer sectors. Benefits and problems will also spread unevenly over time.

The NEB must impose terms and conditions that address uneven development, as a key commercial impact of the project. One possible mitigation measure is for the proponent to pay into a fund that the GNWT could draw on to offset the increased cost of living that results from the project. The GNWT could use this fund to support individuals on a fixed income and help them deal with increased costs for basic needs such as housing. It could also be used to provide a credit on everyone's taxes. If inflation falls after the boom, the payments could be dropped and any remaining funds returned to the proponent. Regardless, the payment could be phased out over time, and in an orderly manner, to allow individuals and the economy the opportunity to absorb the inflationary shock over time.

The proponent recognizes in-migration as part of the project's impacts. NWT residents may also move from one community to another, often from small communities to regional centres. Many factors such as education, occupation, and income affect people's mobility. People with higher socio-economic status have a greater tendency to relocate. In the context of this project, a worst-case scenario could be non-Aboriginal workers move in, get the main benefits from jobs, and then move on.

We encourage the NEB to consult the following study for further background on these issues. We included a hard copy of this report with the hard copy of our written evidence. We don't have an electronic link for it.

- Clement, Wallace. 1989. "Debates and directions: A political economy of resources." In W. Clement and G. Williams (eds.), *The New Canadian Political Economy*. Montreal-Kingston: McGill-Queen's University Press.

The suitability of the design of the proposed project

Environmental damage is an inevitable result of pipeline construction and operation. However, the amount of disruption and damage can be limited by the use of best practices and technologies. This will be especially important for the Mackenzie Gas Project, as much of the route will cross very remote areas and fragile arctic and sub-arctic regions.

For example, the NEB needs to consider that access will be limited and it will be difficult to clean up and repair leaks and spills. The arctic and sub-arctic ecosystems are fragile. They have a limited biodiversity and limited capacity to withstand and recover from environmental disturbance. With no intervener funding, we did not have the capacity to carry out a complete assessment of the physical design of the MGP. But we submit the NEB is responsible to compare the proposed design with best practices and technologies available in the global industry.

According to the Pembina Institute:

"With pipeline construction and operation, most of the best practices refer to choices that industry should make before construction starts. Companies should select the least environmentally damaging configuration of pipeline facilities and pipeline route. They should use low-impact construction techniques, and equipment and technology at facilities that minimize air emissions, as well as leaks and spills..."

Particular attention should be paid to:

- Minimizing land disturbance and disturbance to habitat, for example by using existing rights of way and minimizing the width of new rights of way.

- Minimizing soil erosion and damage to riparian areas, for example by maintaining vegetation on stream banks and boring under sensitive river and stream crossings.
- Minimizing direct and indirect wildlife disturbance, for example by scheduling construction to avoid important wildlife activity like mating or nesting.
- Minimizing leaks and spills, for example by using careful corrosion control methods, proper signage, and emergency shutdown valves.
- Avoiding impacts on fish and fish habitat, for example by setting activity back from watercourse edges.

There are many more examples of best practices and we recommend the NEB refer to the Pembina Institute's report for a full consideration of them.

Pipeline Construction and Operation: A Primer

The electronic link for this report is:

http://pembina.org/pdf/publications/nps_Pipeline.pdf

The NEB should also consider the use of renewable energy during the construction of the MGP. Some provinces in Canada have started to implement a new management tool, Renewable Portfolio Standards - legislation and regulations that require a specific proportion of renewable energy within an energy source portfolio. We're aware that the GNWT does not currently have such standards. We're also aware that GNWT officials participate in discussions with the provinces, other territories, and the federal government about the most effective use of this type of management tool.

We recommend that NEB impose conditions such as Renewable Portfolio Standards on the MGP. Such conditions would help reduce greenhouse gas emissions and could potentially increase northern renewable energy infrastructure and expertise.

The ability of the proponent to manage risk and financial liabilities related to the construction, operation, and decommissioning of the proposed project

The proponent's environmental and effects monitoring provisions are particularly weak and lack detail, compared to similar projects that have progressed through environmental assessments in the NWT. This brings into question the proponent's ability to monitor risks related to operations and decommissioning of the proposed project.

For example, monitoring provisions don't include details about roles and responsibilities, they do not identify or describe any indicators, they make no effort to link indicators back to VECs (valued ecosystem components) or to predicted effects, and they did not set out specific timelines. These details are essential for a clear commitment to a monitoring programs for both construction and operations phases.

We suggest the proponent should be required to:

- i) Describe any existing environmental monitoring programs in the Mackenzie Valley. Describe their potential relationship to proposed monitoring initiatives for the MGP.
- ii) Describe how the proponent consulted government and other agencies about environmental monitoring and follow-up. Identify a timeline for future discussions and agreements.
- iii) Identify preliminary environmental indicators related to the effects of the MGP. Identify the costs to gather and analyze the data. Identify what costs and how much the proponent is prepared to cover.
- iv) Propose roles and responsibilities to design, implement, and evaluate monitoring programs and management plans. Include a timeline for this process that relates to key milestones for the overall project.
- v) Describe the role of Traditional Knowledge and community-based monitoring in the overall regime to monitor and manage environmental effects of the MGP.
- vi) Develop preliminary monitoring plans for various types of environmental effects, and present a draft. Include the following details at a minimum: roles and responsibilities for mitigation measures, measurable targets to gauge success, proposed thresholds for

management responses, preliminary costs and multi-year budgets, and any other significant features.

- vii) Suggest or recommend how various orders of government will formally review and approve environmental monitoring and follow-up agreements. Various orders of government include Aboriginal, territorial, community and others.
- viii) State whether the proponent supports independent, third-party environmental management, oversight, and audit. Outline how independent monitoring could be structured and timed, and how it relates to internal management systems.

The NWT has seen many industrial projects where, at the end of the undertaking, there is a very significant public liability. For example, see the October 2002 Report of the Commissioner of the Environment and Sustainable Development at:

<http://www.oag-bvg.gc.ca/domino/reports.nsf/html/c20021002ce.html> and
<http://www.oag-bvg.gc.ca/domino/reports.nsf/html/c20021003ce.html>

The north, and Canadian taxpayers as a whole, cannot afford the same thing happening with the MGP. Any approval of the MGP must be guided by the widely accepted “polluter pays” principle. Although, lack of regulatory guidance may add difficulty to defining what it may mean for this specific undertaking.

For example, see a recent report from the Canadian Arctic Resources Committee that deals with mining reclamation, and points out the absence of any general regulatory guidance on the issue of reclamation:

<http://www.carc.org/2005/mining49.NWTMiningReclam%20final%20-21Jan05.pdf>.

For decommissioning, the proponent should be required to:

- Describe any existing regulatory and policy guidance for the final closure, restoration, and reclamation requirements for the entire project and all of its components (e.g. pipeline, gathering systems, production facilities, roads, borrow sites, and others).
- Submit an initial closure and reclamation plan with details that set out reclamation goals, objectives, and criteria (measurable targets). The

initial plan should demonstrate the use of proven technology and methods that have a high degree of success. It should set out any post-closure monitoring and remediation requirements, including responsibilities and costs. It should provide details on progressive reclamation measures and early or temporary closure.

For decommissioning, regulatory bodies, including the NEB, should:

- Require regular, at least annual review of any closure and reclamation plans, and of the financial assurance or security held.
- Require full and liquid financial security to cover remediation and reclamation activities for the entire MGP, that may be required at any given point, and as if a third party were to carry out the necessary work.
- Ensure that any closure and reclamation plan for the MGP, and any further regulatory or policy guidance for hydrocarbon development, respect and adopt ecological integrity. This includes considering biological diversity, ecological functions, and productivity.
- Develop appropriate and clear regulatory or statutory requirements for remediation, reclamation, and closure of hydrocarbon development in the NWT, that ensure ecological integrity and sustainable communities.

The need for the proposed project

The proposed project includes a pipeline system from the Mackenzie Delta to just south of the NWT border. The defined need for the project does not consider the end use of the natural gas. We suggest that the NEB must consider the end use of the natural gas in its determination of the need for the proposed project.

Evidence demonstrates that Mackenzie gas is headed to the Alberta Tar Sands and its expansion. An attached file outlines the evidence. The expansion of the Tar Sands will cause significant increases in greenhouse gas emissions. This will have a detrimental effect on Canada's ability to meet its commitments under the Kyoto protocol.

Mackenzie gas is directed at the US energy market, either directly or via tar sands oil production. Free trade agreements dictate that once Canada establishes a proportion of sales to the US, Canada must maintain that proportion regardless

of domestic needs or impacts. The ability of the NWT to use any of this natural gas to meet its own energy needs must be determined up front or it will not be possible to do so in the future.

The need for the project should include information about how the project can help the NWT become more energy self-sufficient in the long term. It should also include information about how communities can access natural gas to replace diesel generated power or fuel oil heating. The NEB should attach terms and conditions that make natural gas available to NWT communities at a fair cost.

The need for the project should also include information about the net energy gain from the project. It is evident that a net energy gain must be established in order to justify the need for the project. A net energy analysis should measure the total fossil fuels used to construct and operate the project and compare that with the total fossil fuels the project produces. This analysis should also consider the end use, including the scenario of using gas to extract oil from the tar sands.

Public consultation

We suggest the public has not been properly consulted. The public has not had a full opportunity to determine the true risks and benefits of the largest industrial project the north has ever faced – and one that will change the NWT forever.

Here are a few reasons why we say this:

- i) Many interveners have stated that the amount of funding available for public participation in the Joint Review Panel process is totally inadequate. The NEB has absolutely no funding for public participation. Without funding, meaningful public participation is almost impossible for people in regional centres and even less so for people in smaller, more remote communities, particularly when almost all of the documents are available in English only and not written in plain language.
- ii) Women were part of public consultation but we question whether or not their voices were heard. The proponent has not properly considered or analyzed the needs of women. For example, they need to develop and implement several mitigation measures to address the needs of women in a male-dominated industry and work force.

- iii) Written materials were used during public consultation. However, the proponent has not used appropriate plain language documents. Plain language helps people read, understand, and use written information. People need plain language information to participate effectively in this process. The NEB and the JRP should also make sure their public documents use plain language.
- iv) The public has struggled with many problems and irregularities in the review process. For example:
 - Understanding the differences between the NEB and the JRP process.
 - Finding the time to participate in two different processes.
 - Reviewing a huge amount of technical information within an unrealistic timeframe.

Conclusions

Given the major concerns we have raised and the lack of information about the true costs of the project, we recommend that the NEB **not approve** the Mackenzie Gas Project as it is currently proposed.

If the NEB approves the project, we recommend the following terms and conditions:

- 1) The proponent should use a defined amount of renewable energy in project construction and operations. For example, 30%.
- 2) The Federal government, in consultation with the GNWT, should coordinate a public review of the royalty regime and change the royalty and tax regime before any natural gas flows out of the NWT.
- 3) Mackenzie gas should be used to replace coal-fired and diesel-generated power plants elsewhere in Canada and should not be used to fuel the Alberta tar sands.
- 4) The proponent should delay construction at least two years, until northern residents complete training to maximize project job opportunities. The proponent should make specific commitments about training a certain proportion or number of women and Aboriginal people.
- 5) The Government of Canada should settle any outstanding land claims, such as in the Deh Cho Region, before the project is approved.

- 6) The proponent should identify specific commitments for the number of northerners who get direct project jobs, including specific commitments for women and Aboriginal people.
- 7) The Government of Canada, the Government of the Northwest Territories, and interested Aboriginal governments should sign a devolution agreement before the project is approved.
- 8) The proponent should cap the rate of flow to maximize the lifespan of the pipeline and allow NWT residents to better retain economic benefits. The proponent should earn the industry average rate of return on its investment but not the exaggerated rates that rapid extraction of natural gas would provide.
- 9) Mackenzie Valley communities should have access to the natural gas at a fair price.
- 10) The proponent should be required to use best practices as outlined in the Pembina report.
- 11) The proponent should be required to provide full and liquid financial security to cover remediation and reclamation activities for the MGP.

Evidence for Link Between the Mackenzie Gas Project and the Alberta Tar Sands

The following provides news stories (radio transcripts, newspaper articles and business news), excerpts from reports and industry presentations that provide evidence for the link between the natural gas to be carried by the Mackenzie Gas Project and the natural gas required by the Alberta tar sands projects. Highlighting in the text below has been added to emphasise specific points.

CBC North Radio, Tuesday, February 15, 2005, 12:30/4:30 p.m.

CBC: An exploration company that plans to spend millions drilling for gas in the Beaufort Sea is fretting about obstacles in the path of a Mackenzie Valley pipeline. **Michel Scott is the vice-president in charge of northern exploration for Devon Energy.** He says it's taking a long time for the project to move forward. The company plans to spend \$60 million next winter to drill an exploration well in the Beaufort Sea and if Devon finds gas it would be carried south through the Mackenzie Valley pipeline. Scott says the regulatory process for the pipeline and the Deh Cho lawsuits against it are obstacles and they comes at time when Alaska is showing new interest in its natural gas pipeline. Scott says southern markets need the gas.

SCOTT: Here in Alberta the point was made that we've got a lot of new demand coming on stream with the oil sands. In our case we're also, we've drilled some on shore wells, but we are also planning a well here a little later at the end of this year over the 05-06 winter.

CBC: **Scott says the Mackenzie Valley pipeline could supply up to 10 percent of the natural gas required to extract oil from the tar sands in Fort McMurray.**

From the Alberta Chamber of Resources OIL SANDS TECHNOLOGY ROADMAP UNLOCKING THE POTENTIAL JANUARY 30, 2004

http://www.acr-alberta.com/Projects/Oil_Sands_Technology_Roadmap/OSTR_report.pdf

p. 14

Oil sands projects are heavily dependent on natural gas use for energy and power (co-generation) and hydrogen production for upgrading. In-situ energy demand with today's technology requires 1000 cubic feet of natural gas per barrel recovered. Mining recovery demand is a more modest 250 cubic feet per barrel. Upgraders need as much as 500 cubic feet per barrel of synthetic crude for energy and hydrogen today, and this will climb as synthetic crude quality demands increase. An extrapolation of natural gas usage by oil sands development to 2030, as based on current project natural gas rates for a reasonable mix of projects, is shown in Figure 2.3.

In this scenario, **natural gas usage would rise from 10% of combined WCSB, Coal Bed Methane (CBM) and Mackenzie supply by 2012, to an unthinkable 60% or more by 2030.** Such a demand level, combined with competition from other markets in the face of dwindling reserves, will only drive price increases. LNG imports into North America may begin to set price levels.

May 10, 2005 07:30 AM US Eastern Timezone

Apex Reports on News of Native Aboriginal Group Dismissing Canada's Pipeline Demands; Major Oil Partners Still Committed to Moving Arctic Projects Ahead

SALT LAKE CITY --(BUSINESS WIRE)--May 10, 2005--Apex Resources Group Inc. (OTC BB: APXR), today reported on news that native communities in Canada's North are making demands for cash in exchange for rights to build a C\$7 (U.S. \$5.6) billion gas pipeline across their lands, given the economic changes the project will bring (source: Reuters Canada).

The major oil partners, including Imperial Oil, stated that they are still committed to the project, which would run southern markets from the MacKenzie Delta on the Beaufort Sea. The pipeline possesses the potential to be a source of much needed economic development for the aboriginal people.

The oil companies said last week the land issues and regulatory delays should be resolved before the hearings start in the autumn.

Specifically, the lands of the Gwich'in people make up a large part of the northwestern corner of the Northwest Territories. The companies also need to deal with the Sahtu, Inuvialuit and Deh Cho First Nations. The talks with the companies focused on contracting, employment and education, as well as land deals.

Canadian Deputy Prime Minister Anne McLellan stated this week she agreed with the oil companies that the aboriginal communities are asking the industry to provide things that should not be part of access agreements, such as annual taxes. The federal government is searching for solutions, but has no legal role in the discussions.

"We are pleased that all parties, the aboriginal people, the government and the major oil companies are committed to one common goal - a reasonable solution. The pipeline, through these discussions and negotiations, is the evident and necessary outcome. The economy of the North American continent depends on it," stated John Hickey, Director.

In June 1997, Apex Resources Group purchased a 3.745% working interest in the Beaufort Sea Area known as the Itiyok 1-27 Well, which was drilled in 1983. A review of the well data and geological prognosis indicates that a 640 acre area would contain proven recoverable gas reserves of 108 Bscf and proven recoverable oil reserves of 8,976 MSTB working interest net reserves of 4.04 Bscf and 336 MSTB. Seismic data indicates a structure closure of approximately 40 square KM with a gross potential reserve of 1.16 TCF and 160 MMSTB (working interest net - 34 Bscf and 4.7 MMSTB). The lands in which the Apex Resources Group Inc. owns an interest comprised of 21.54 square KM containing gross potential reserves of 625 Bscf of gas and 86 MMSTB of oil (working interest 23.4 Bscf of gas and 3.2 MMSTB of oil).

With oil at approximately US\$50.00 per barrel and gas close to US\$7.00 per cubic feet, Apex interest in proven reserves would be 45 Million US Dollars and with an additional potential to be drilled out would represent 323 Million US Dollars. **In October 2004 the announcement of the development of the Mackenzie Valley Pipeline became of significant importance to Apex interest in the Beaufort Sea.**

A substantial portion of the gas to be transmitted from the Beaufort Sea through Alberta will be used to further develop the Alberta Oil Sands (formerly the Alberta Tar Sands). The Alberta Oil Sand reserves that are retrievable today are estimated to be 280-300 billion barrels of oil and total reserves for Alberta including oil not recoverable by using current technology are estimated at 1700-2500 billion barrels. Cyclic steam stimulation (CSS) and steam assisted gravity drainage are currently being used in recovery of oil from the sands. The steam will be generated by the use of the gas to be transmitted by the new pipeline.

Husky Energy Inc. (HSE.TO) announced recently that it will go forward with plans for a new US\$10Billion oilsands project and will begin looking for partners after it clears regulatory rules this year. Husky hopes to begin production from its leases by 2009 using the steam assisted gravity drainage mentioned above.

It had been reported that initial production will be 50 thousand barrels of oil per day and increase production up to 200 thousand barrels per day in various increase stages. Husky, controlled by Li Ka-shing, a Hong Kong billionaire, is in talks with the Chinese state-owned oil companies about possible partnerships.

As consumption increases, the need for Northern gas is substantially increased, creating more value for Apex' holdings.

By the Board of Directors,
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Business News Highlights

[http://powermarketers.netcontentinc.net/newsreader.asp?ppa=8kowu%5DZhpooppqTUfb!6C\)bfek%5C!](http://powermarketers.netcontentinc.net/newsreader.asp?ppa=8kowu%5DZhpooppqTUfb!6C)bfek%5C!)

Agreement with Aboriginals Opens Way for North Alberta Cross-over Line

An agreement on aboriginal co-operation has been made as the opening move towards building a new natural gas pipeline across northern Alberta as a direct connection to the oilsands region.

Dene Tha' Chief Stephen Didzena confirmed his community reached an understanding with TransCanada PipeLines Ltd. on building a relationship that will be essential for the project to go ahead.

Petroleum News
North America's Source for Oil and Gas News
October 2001

Vol. 6, No. 14 Week of October 28, 2001

Mackenzie Delta gas could be destined for Alberta oil sands

Gary Park

Mackenzie Delta gas producers could buy themselves a large chunk of insurance for their oil sands projects in northern Alberta by bringing the Arctic resource into production, a report by Calgary-based investment dealer FirstEnergy Capital Corp. shows. The gas would be a valuable source of feedstock....

<http://www.petroleumnews.com/pntruncate/34655074.shtml>

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Where Will Gas from the Mackenzie Delta Go? Bitumen Development!

October 19, 2001

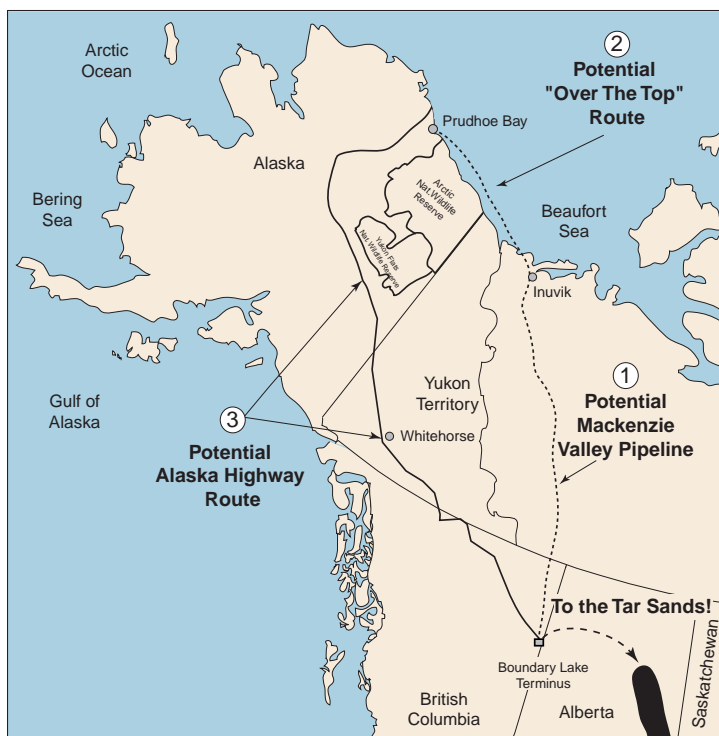
Producers Sign Pipeline Agreement With First Nations. The Mackenzie Valley Producer Group, which consists of Imperial Oil, Conoco Canada, Shell Canada and ExxonMobil Canada, announced on Monday they signed a memorandum of understanding (MOU) with the First Nations of the Northwest Territories. The MOU provides a framework to pursue the potential development of the Mackenzie Valley pipeline which can transport Mackenzie Delta gas to markets in Canada and access pipelines to The United States. The potential pipeline route as well as other potential routes from Alaska are shown in the map to the right. The First Nations were represented by the Mackenzie Valley Aboriginal Pipeline Corporation which is an entity that will hold the interests in the pipeline on behalf of the First Nations. The MOU addresses several issues including employment, training, education and pipeline ownership. Note that this is not a formal announcement of the pipeline work beginning, as the Producer Group is still working on the feasibility study and the decision to begin the regulatory process is expected to be made by the end of this year.

Initial Volumes For The Producer Group Of 800 to 1,000 Mmcfd. Imperial is expected to have the highest production rates of the Producer Group with our estimate of approximately 500 Mmcfd of capacity, which is based on 3.0 Tcf of reserves in the Taglu field (100% IMO) and assuming a 15 year reserve life index (RLI). Using 1.0 Tcf of reserves in the Niglintgak field (100% SHC) and the 15 year RLI, we estimate Shell will have 180 Mmcfd of productive capacity. The 1.8 Tcf Parsons Lake field (75% Conoco and 25% ExxonMobil Canada), will add approximately 250 Mmcfd for Conoco and 80 Mmcfd for ExxonMobil Canada. The location of the Taglu, Niglintgak and Parsons Lake fields are shown in the map on page two.

As part of the MOU the First Nations has a target participation in the pipeline of one third, or 400 to 500 Mmcfd. This is in addition to the Producer Group's volumes of 800 to 1,000 Mmcfd (for a total initial production of 1,200 to 1,500 Mmcfd in the pipeline). In addition to financing, the First Nations are also responsible for providing gas volumes which will come from new discoveries in the Delta by either the Producer Group or other parties, such as AEC, Anadarko, Anderson, BP, Burlington and Petro-Canada.

Some Northern Gas Will Likely Be Used For Bitumen Projects. It is important to note that three producers in this pipeline group, Conoco, Imperial and Shell, all have large bitumen projects that are either on production or expected to be brought on production over the next ten years which require significant amounts of natural gas. The Northern gas provides Conoco, Imperial and Shell either a hedge against higher gas prices or actual CH₄ molecules to be used in their bitumen operations.

POTENTIAL PIPELINE ROUTES FROM THE NORTH



Data Source: BP, National Energy Board, Cambridge Energy Research Associates and TransCanada PipeLines Limited

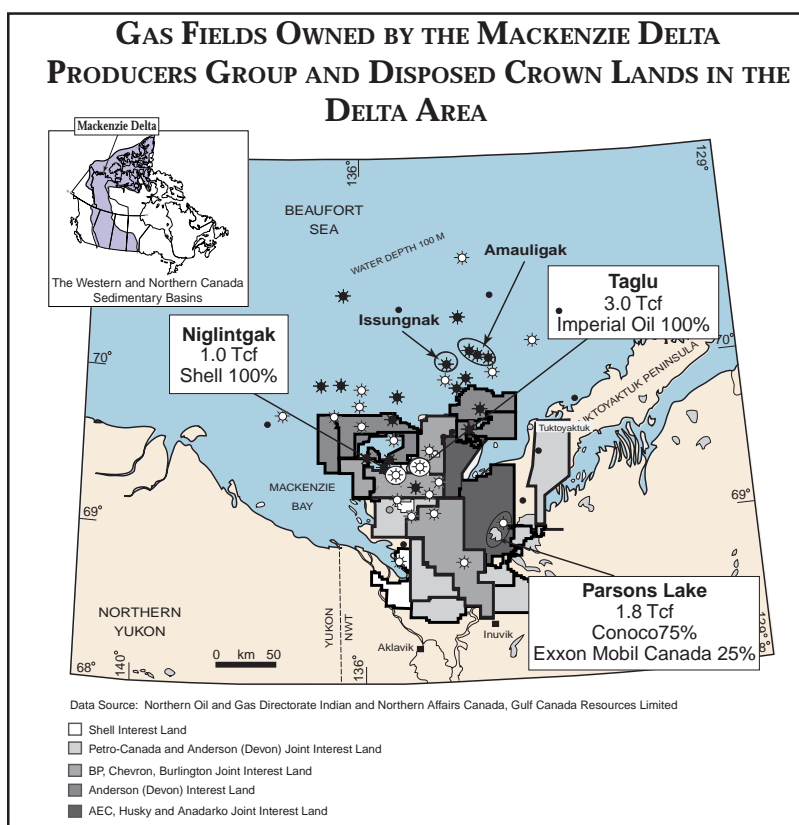
John R. Mawdsley, P.Geol.

Where Will Gas from the Mackenzie Delta Go? Bitumen Development!

October 19, 2001

Imperial's bitumen production from Cold Lake is expected to grow to 180,000 B/d by 2010 which will consume approximately 150 Mmcf/d of gas and its 25% interest in Syncrude will require 75 Mmcf/d by 2010. This totals 225 Mmcf/d for these two operations, almost half of the production Imperial may produce from the Mackenzie Delta. Conoco's Surmont project could be producing 75,000 B/d by 2010 which would consume approximately 65 Mmcf/d of gas, or 25% of the Company's Mackenzie Delta production volumes.

Shell's Athabasca Oil Sands Project (SHC 60%), which is planned to come on-stream in approximately one year, may be producing as much as 225,000 B/d (gross) of bitumen by 2010 if a second phase of development goes ahead. Including the gas required at the upgrader in Edmonton, this project would consume over 140 Mmcf/d. Shell is considering the development of another 200,000 B/d mine which, including associated upgrader capacity, would require another 125 Mmcf/d of gas. This would total 265 Mmcf/d for these projects, significantly more than our estimate of 180 Mmcf/d the Company may be producing from the Mackenzie Delta.

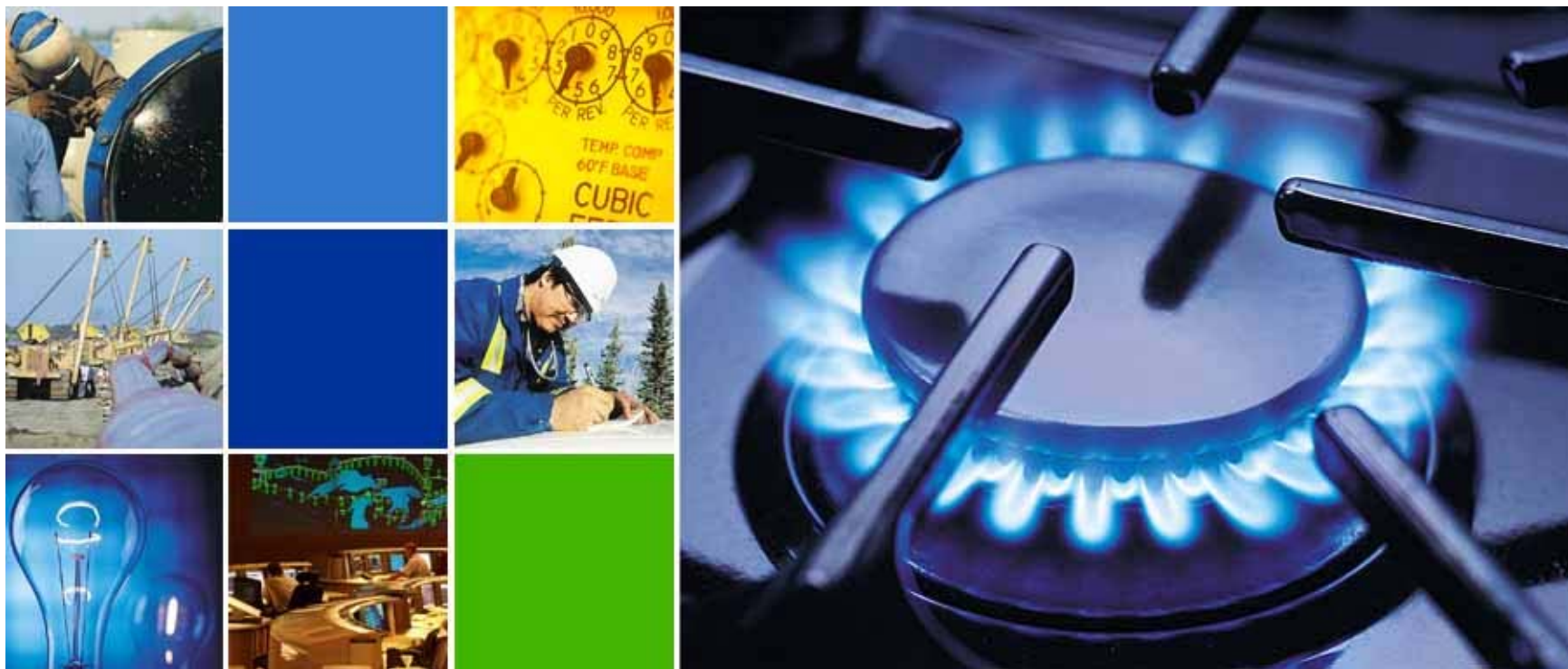


From the perspective of the bitumen business as a whole, including all in-situ and mining operations, we expect that the demand for gas from these projects and the associated upgraders will be almost 1,500 Mmcf/d by 2010. Note that this is significantly more than the 800 Mmcf/d to 1,000 Mmcf/d of initial rates that the Mackenzie Delta may provide. **In other words, we need all the Northern gas for the development of our immense bitumen resource - and more.**

Do the Current Low Gas Prices Concern the Producer Group? Simply, No. The Producer Group is concerned about what gas prices will be in the years following when the pipeline comes on-stream. We (and they also must) believe that the demand for gas in North America will increase in the coming decades due not only to bitumen development but also for new power generation projects and growth in traditional markets. This will occur at the same time as gas becomes more difficult to find, more expensive to bring on-stream and has steeper declines. As a result, we

believe that gas prices will exceed US \$3.50 per Mcf for the longer term, a price that will make it feasible to build the pipeline from the Mackenzie Delta to markets in Canada and the "Lower 48".

The Debate Continues: Which Pipeline Will Be Built First? As we have discussed in the past, we expect that both the Mackenzie Valley and Alaska Highway pipelines will be built; the demand for gas will be there for both projects. Although the "over the top" route might be less expensive than the Alaska Highway route, we do not believe it will be built due to political and environmental reasons. At this point, the Mackenzie Valley route and the Producer Group appear to have more momentum than the Alaska Highway route. The Mackenzie Delta Producer Group is expected to decide by the end of the year if they will begin the regulatory process while the Prudhoe Bay producers have recently stated that, under current conditions and fiscal structure, no pipelines from Alaska are economic. We believe that the Mackenzie Delta Producer Group will decide to initiate the regulatory process early next year and the gas could be on-stream in five to seven years. This is clearly positive for the Producer Group as well as the Canadian pipeline companies (TransCanada Pipelines and Enbridge) that will likely become involved in the pipeline construction and operation.



Natural Gas Supply for Oil Sands

Oil Sands Supply and Infrastructure Conference

February 24, 2004

**Steve Clark - VP, Gas Development
& Director, Sales & Marketing**



Key Messages



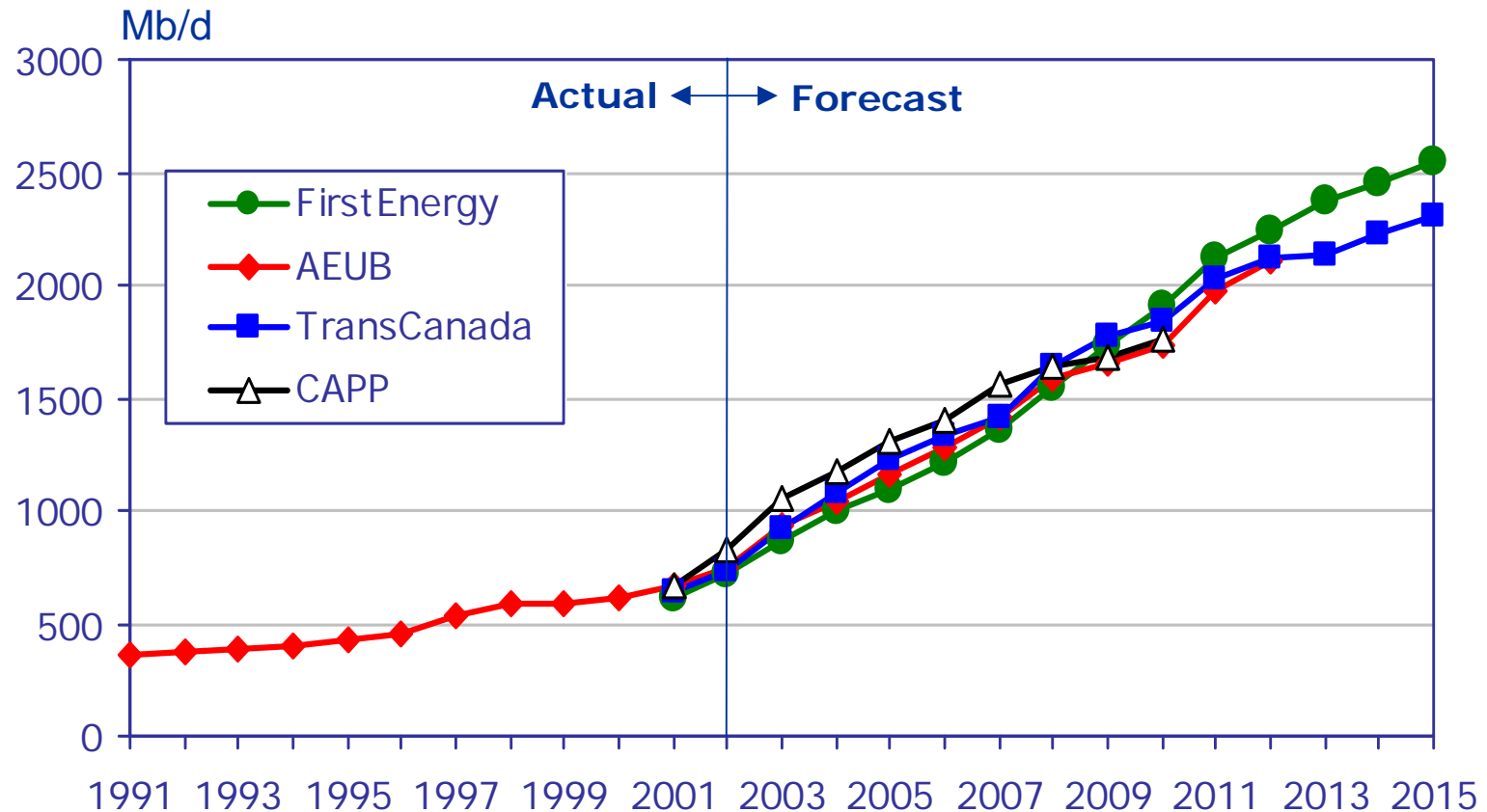
- The oil sands will continue to be a key supply source for North American oil demand
- The demand for natural gas will grow dramatically over the next decade to support oil sands development, yet it will compete with other markets
- Northern gas will play a key role in providing a long-term, reliable supply source to meet demand within Alberta and export markets
- TransCanada continues to take steps to ensure its pipeline facilities will support this critical energy development

Oil Demand



- World: 80 MMb/d (2003) to 120 MMb/d by 2030
- 1.5 % per annum growth over the period
- 30 MMb/d consumed in U.S. and Canada by 2030
- Estimates of 4 -5 MMb/d of oil sands production by 2030 (approx. 16% of N.A. demand)

Oil Sands Production Forecasts



Sources: FirstEnergy, AEUB, CAPP, TransCanada. Note: includes 100 Mb/d non-thermal bitumen production

- Most forecasts show production doubling in next 10 years

Natural Gas Usage



Photo courtesy Suncor

- Energy use
- Gas-fired power
- Upgrading (hydrogen production)
- In situ:
 - 1 Mcf NG/bbl recovered
- Mining:
 - 0.25 Mcf NG/bbl recovered
- Upgraders:
 - 0.5 Mcf NG/bbl - energy / hydrogen

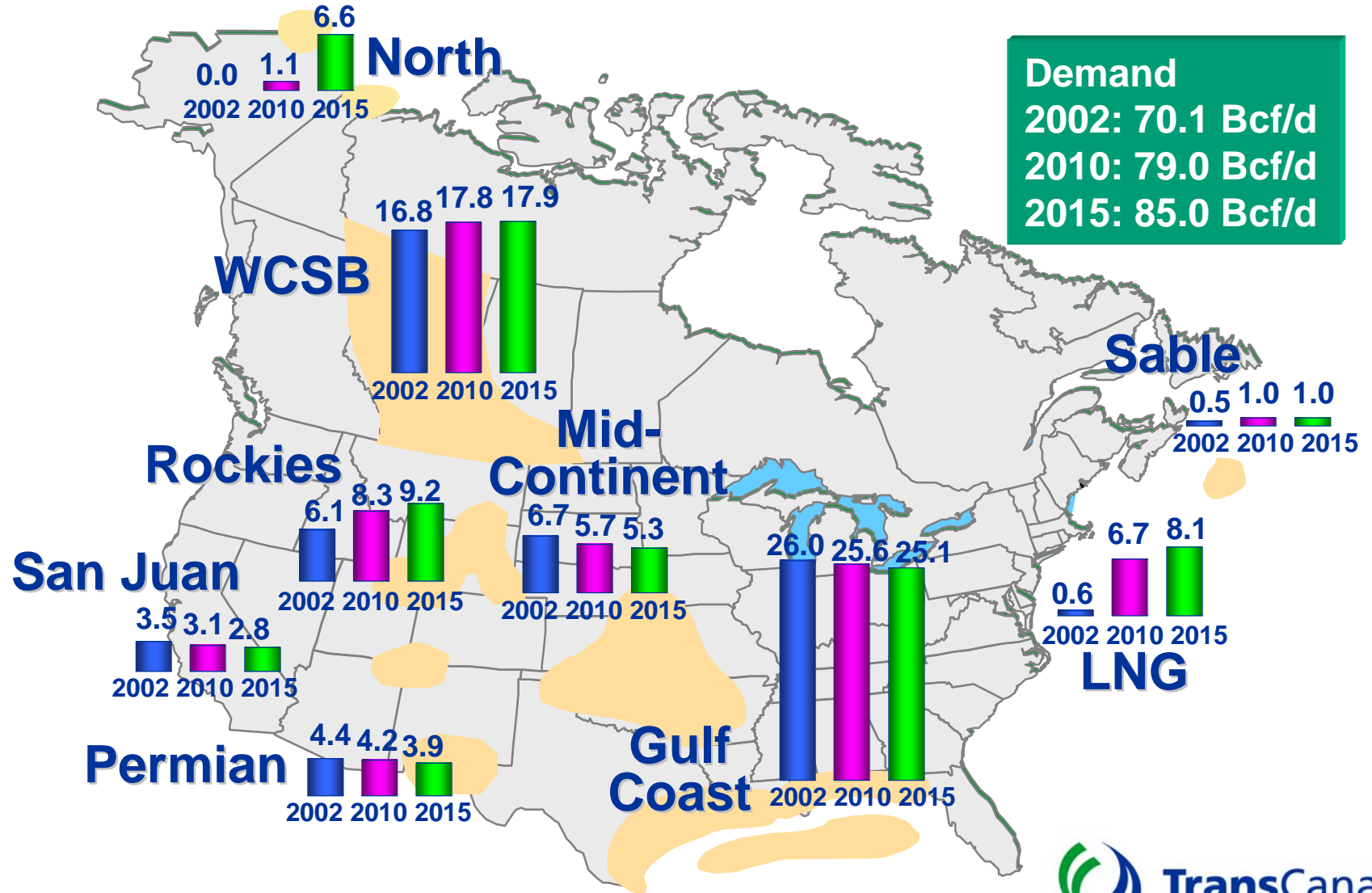
Supply Crunch?



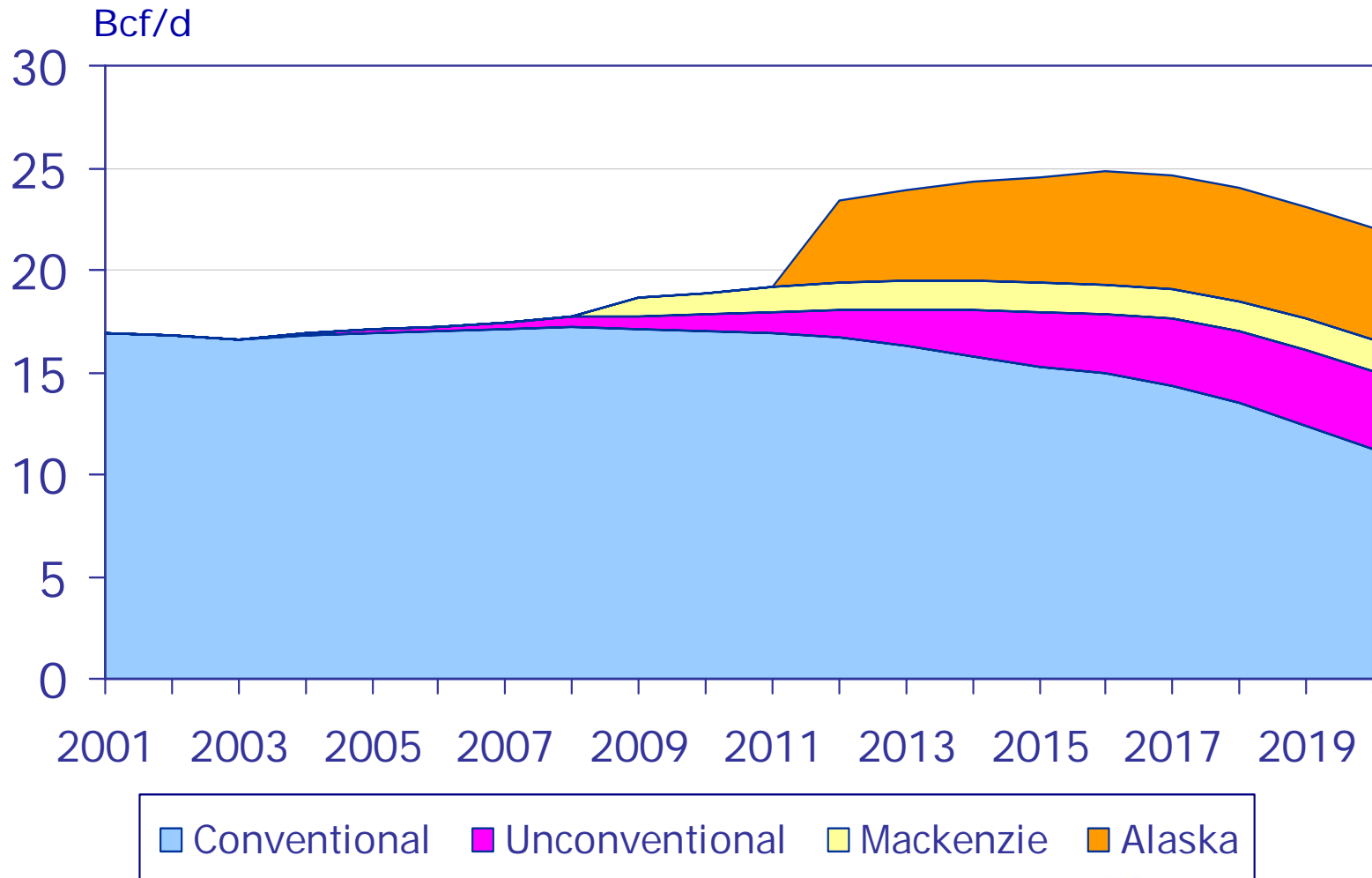
Photo courtesy Suncor

- Dramatic increase in demand for current and planned oil sands production by 2015
- Application of new technology post 2010
- Competition for supply
- Unconventional and northern gas
- LNG
- Alternatives

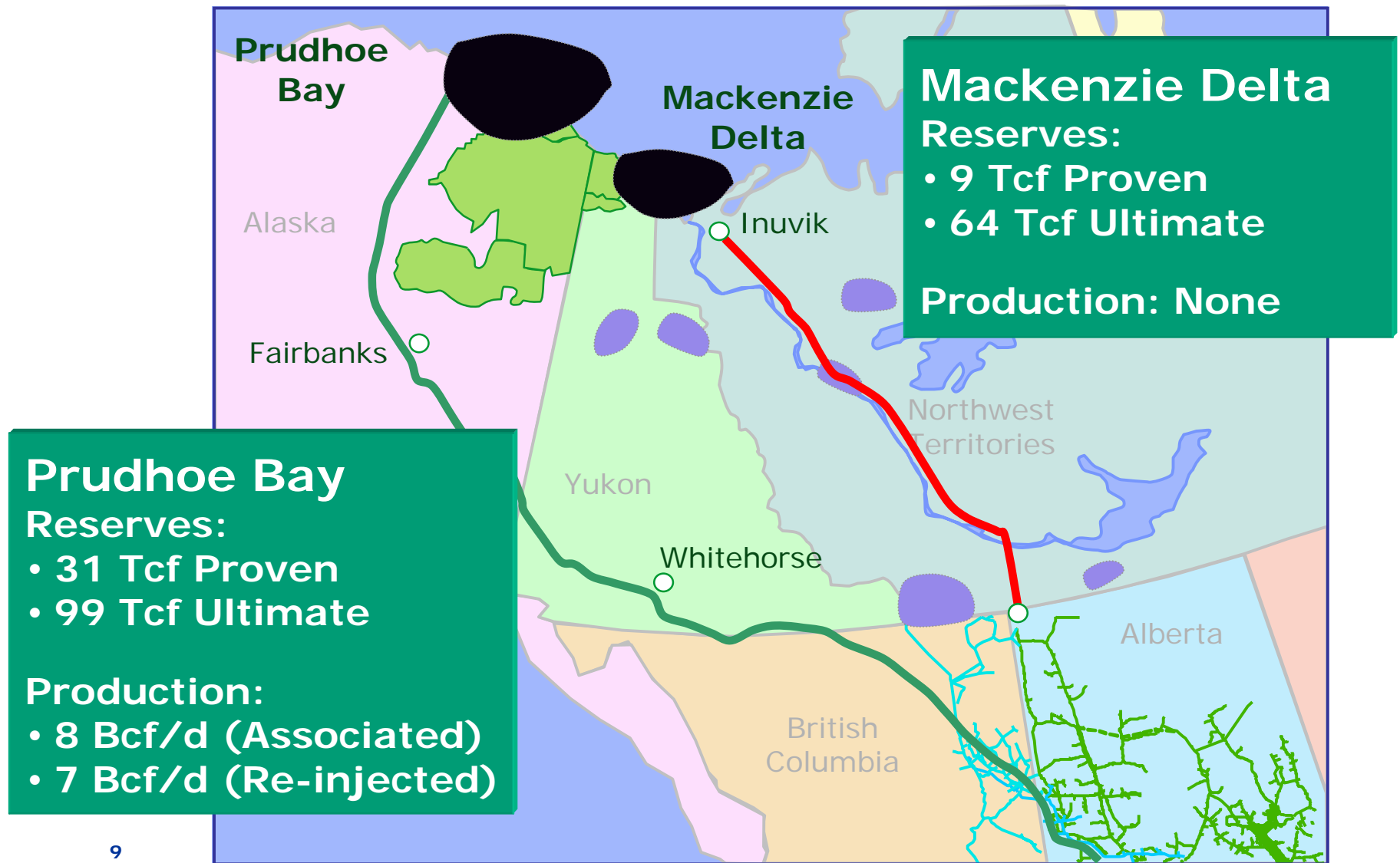
North American Gas Supply Outlook (Bcf/d)



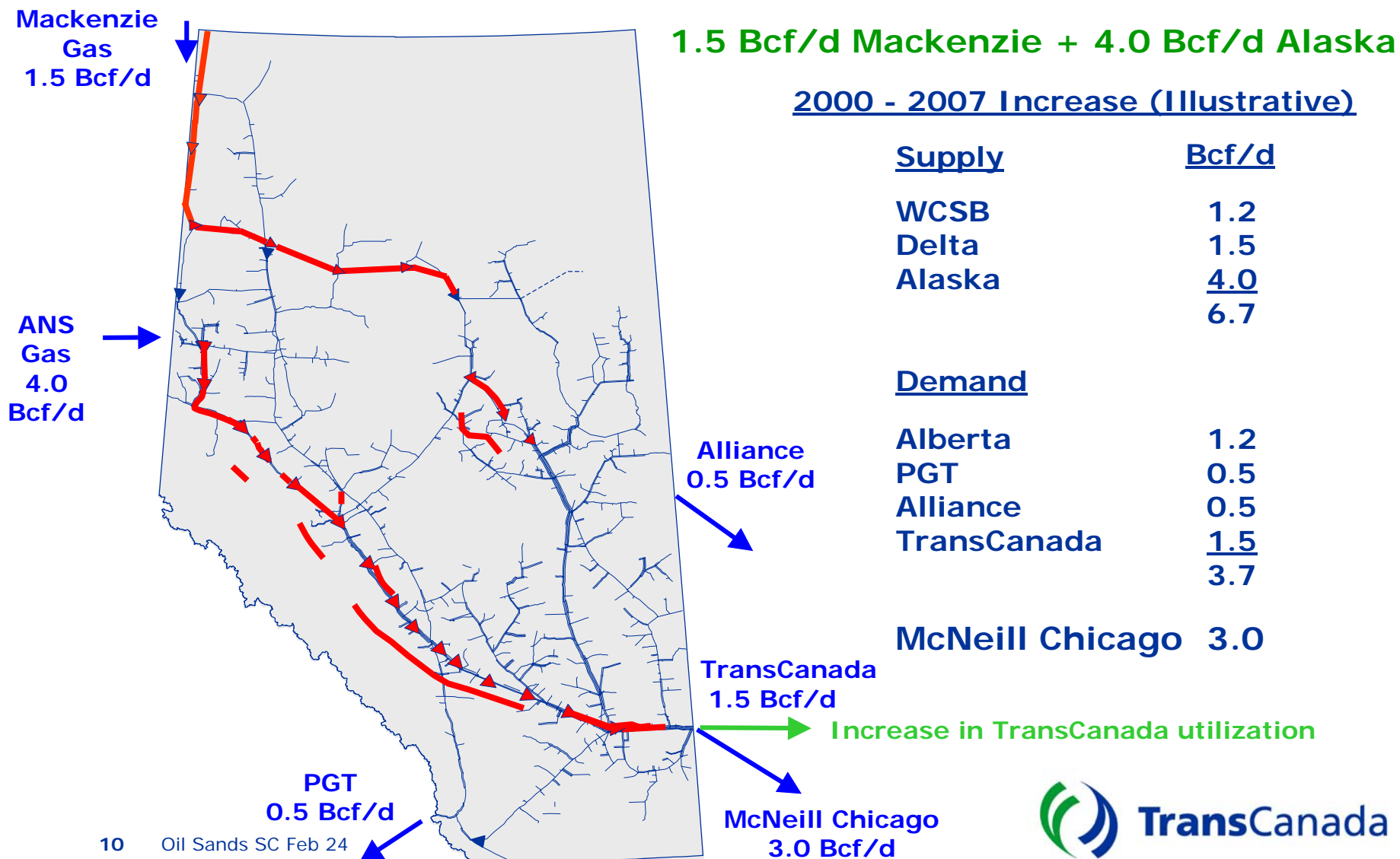
WCSB Gas Supply Forecast



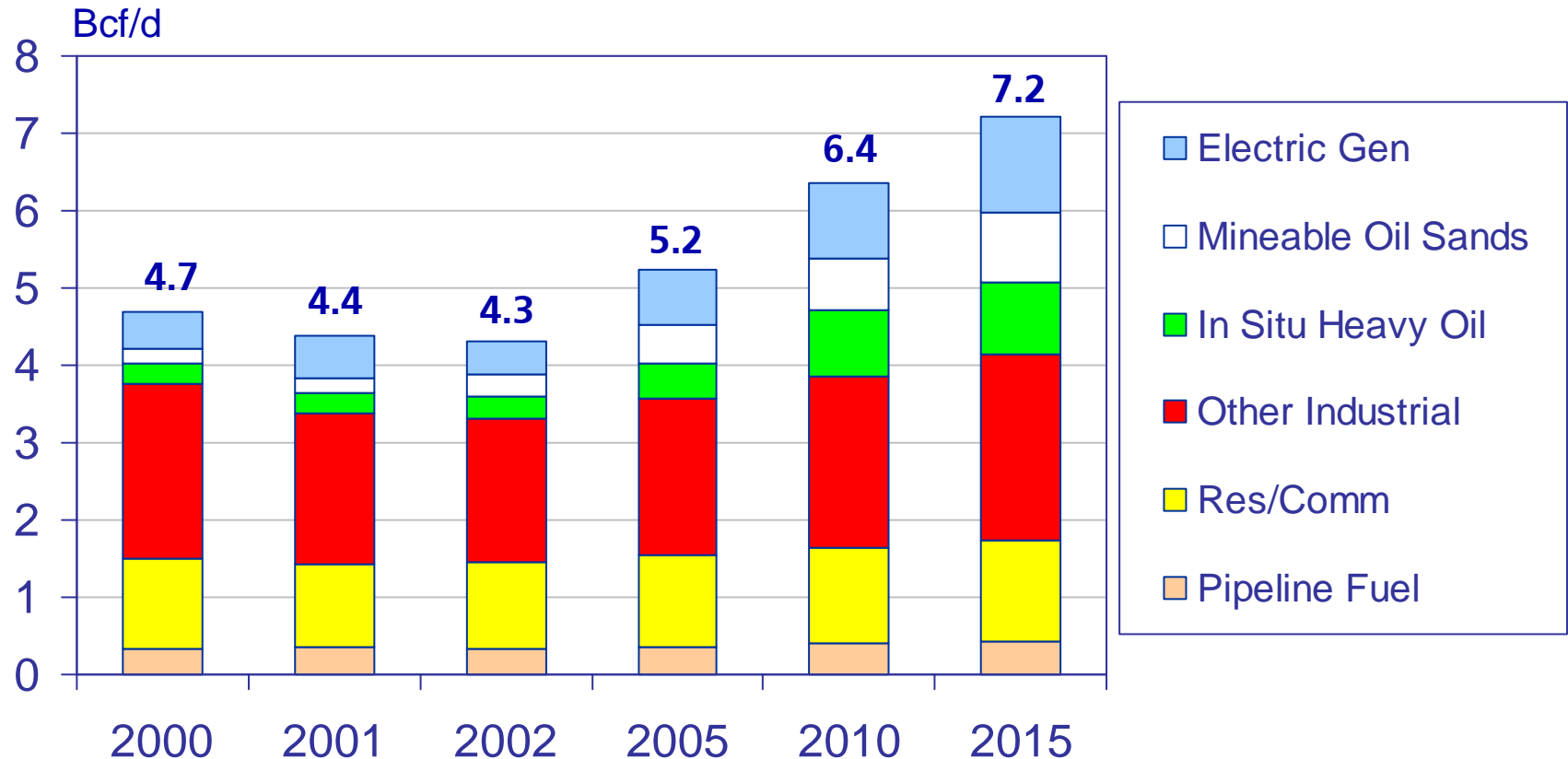
Northern Gas Reserves



Accommodating Northern Gas in the Alberta System

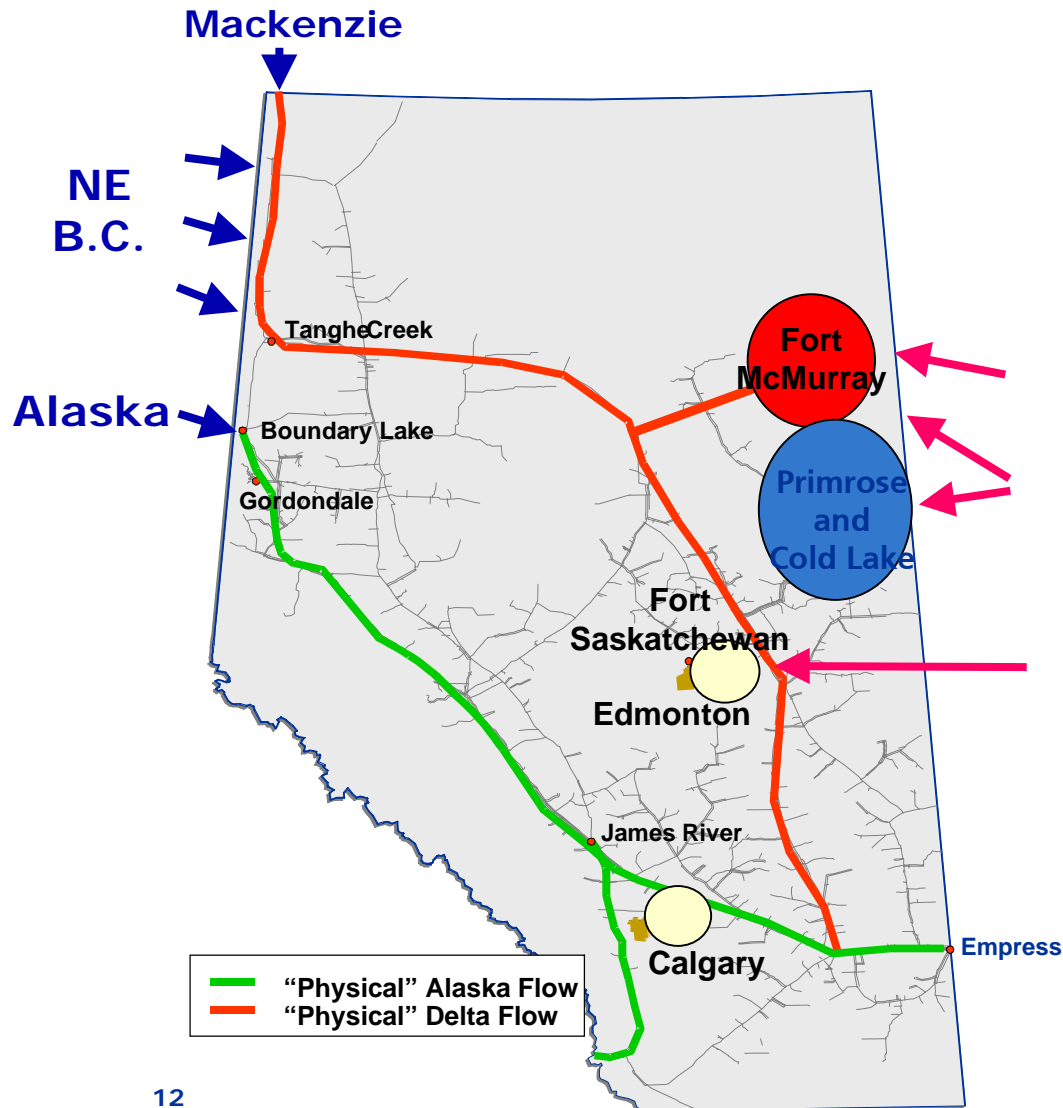


Western Canada Gas Demand



- Western Canada demand is forecast to increase 2.9 Bcf/d by 2015, led by electric generation and oil sands growth.

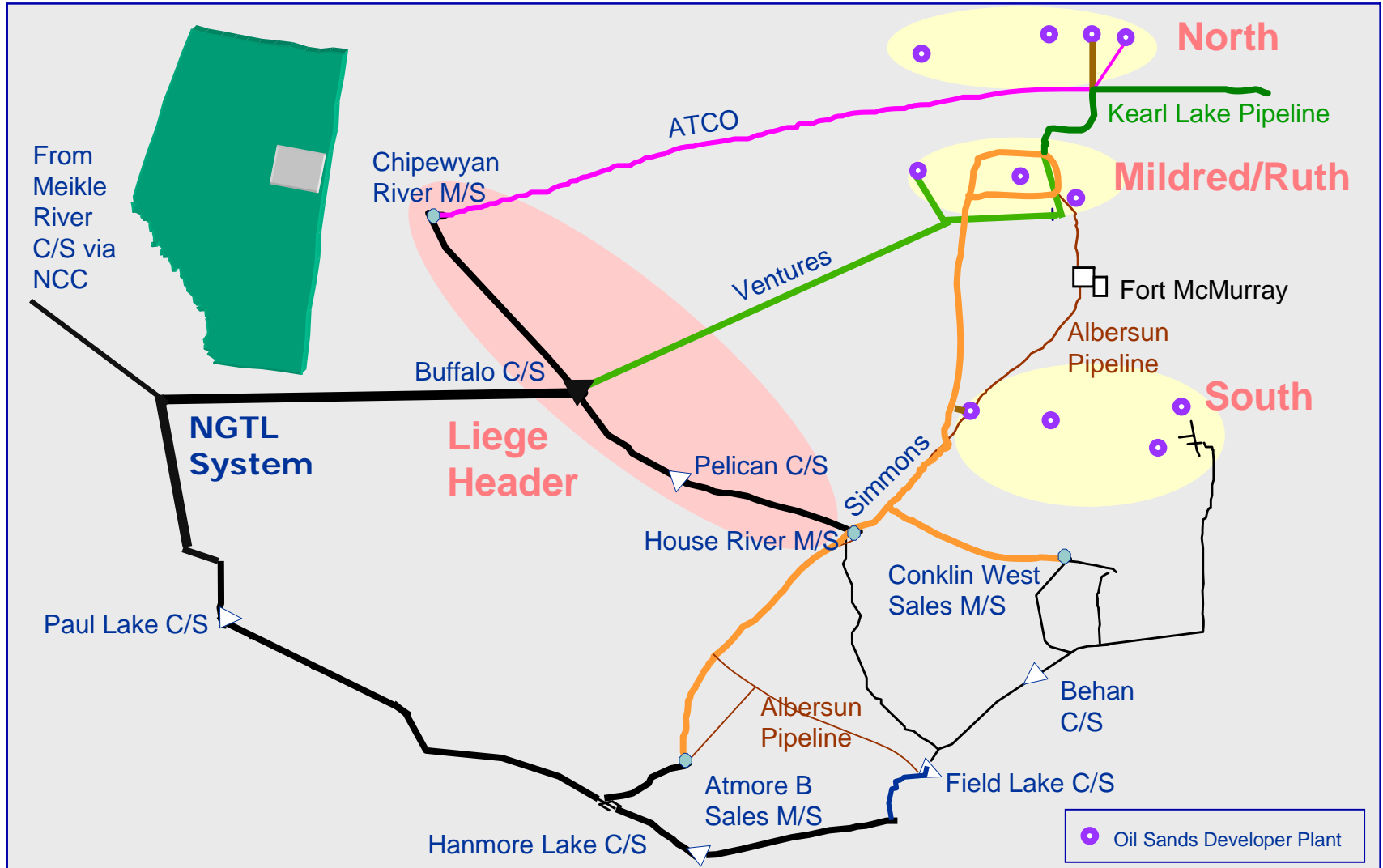
Alberta Demand Growth and Location



2002 - 2015 Growth

	Bcf/d
Mineable Oil Sands	0.6
In Situ Heavy Oil	0.6
Electric Generation	0.6
Upgrading/Other	<u>0.4</u>
Total Industrial	<u>2.2</u>
Core demand	0.1
Total Demand	<u>2.3</u>

Fort McMurray Area



Summary



- In-situ and mining projects require reliable sources of natural gas supply.
- Gas supply requirements are expected to increase from current 0.6 Bcf/d to 1.8 Bcf/d by 2015.
- Northern gas development will provide additional long term supply to meet growing intra Alberta and export demands.
- TransCanada is actively aligning its pipeline system infrastructure to meet the expected growth in gas supply requirements.



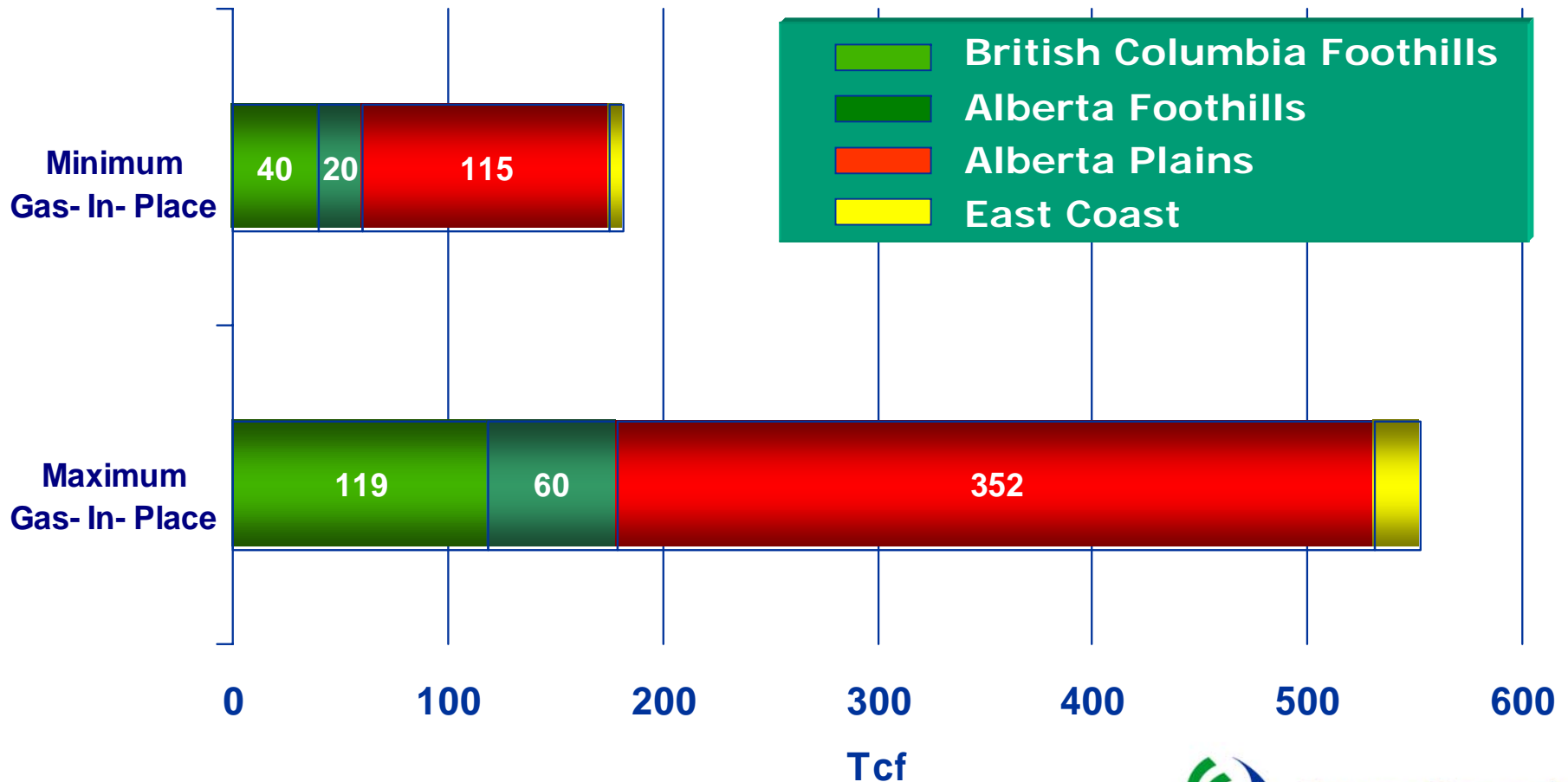
BACKUP

Huge CBM potential



2001 Canadian Potential Gas Committee Estimate:

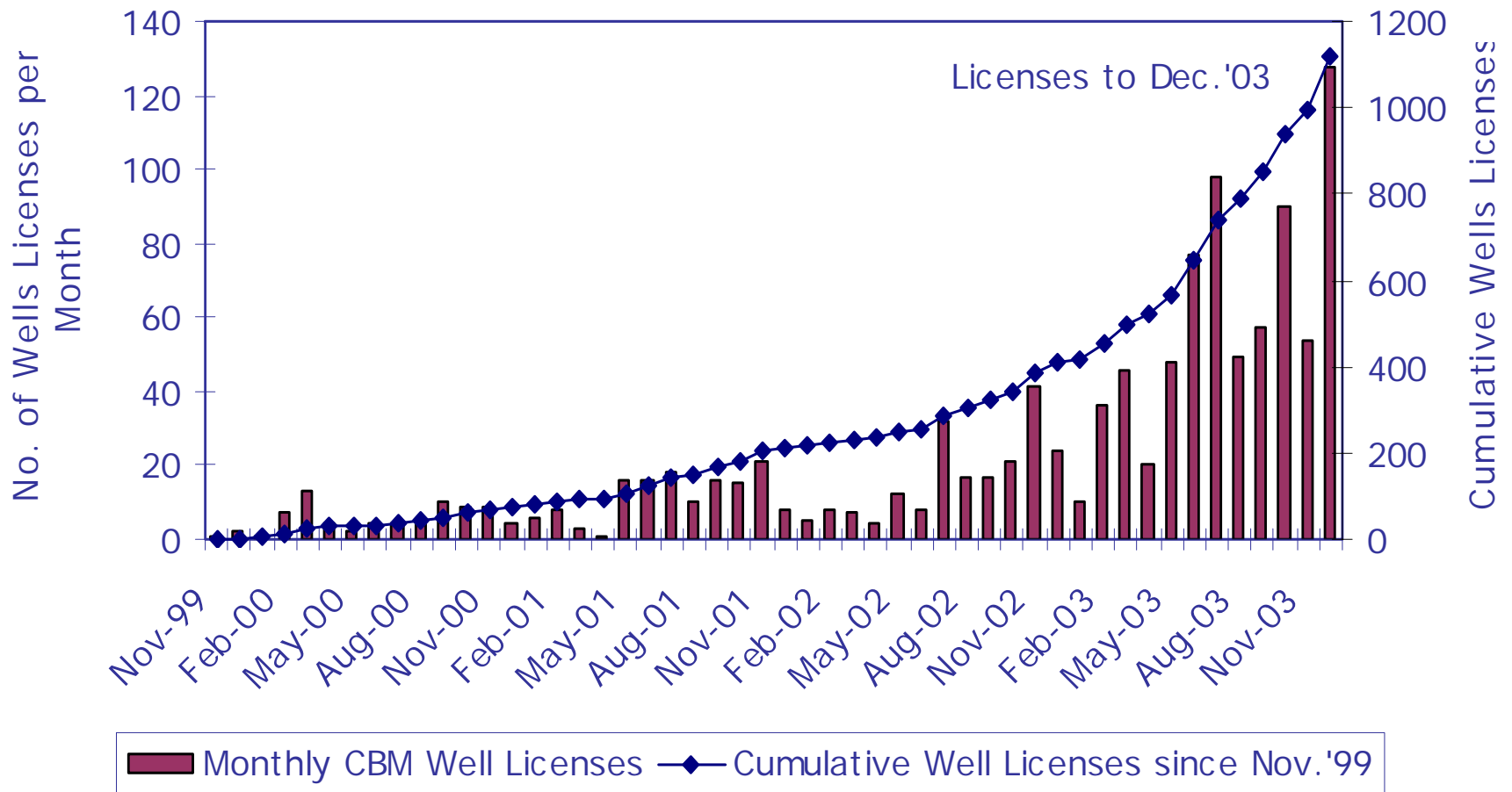
Canada: 182 - 553 Tcf Alberta: 135 – 412 Tcf



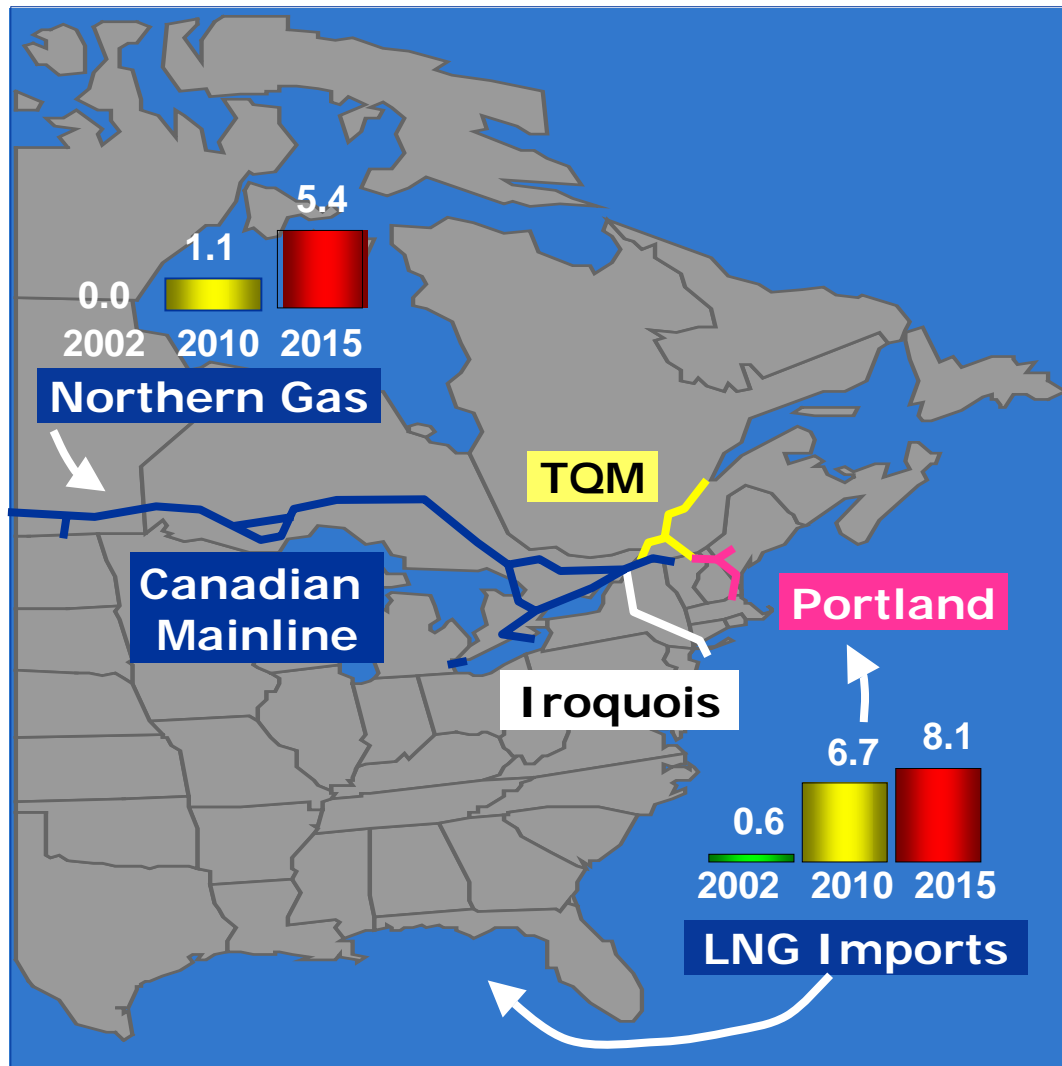
CBM Well Licensing on the Rise



Alberta Monthly CBM Well Licenses since Nov.'99

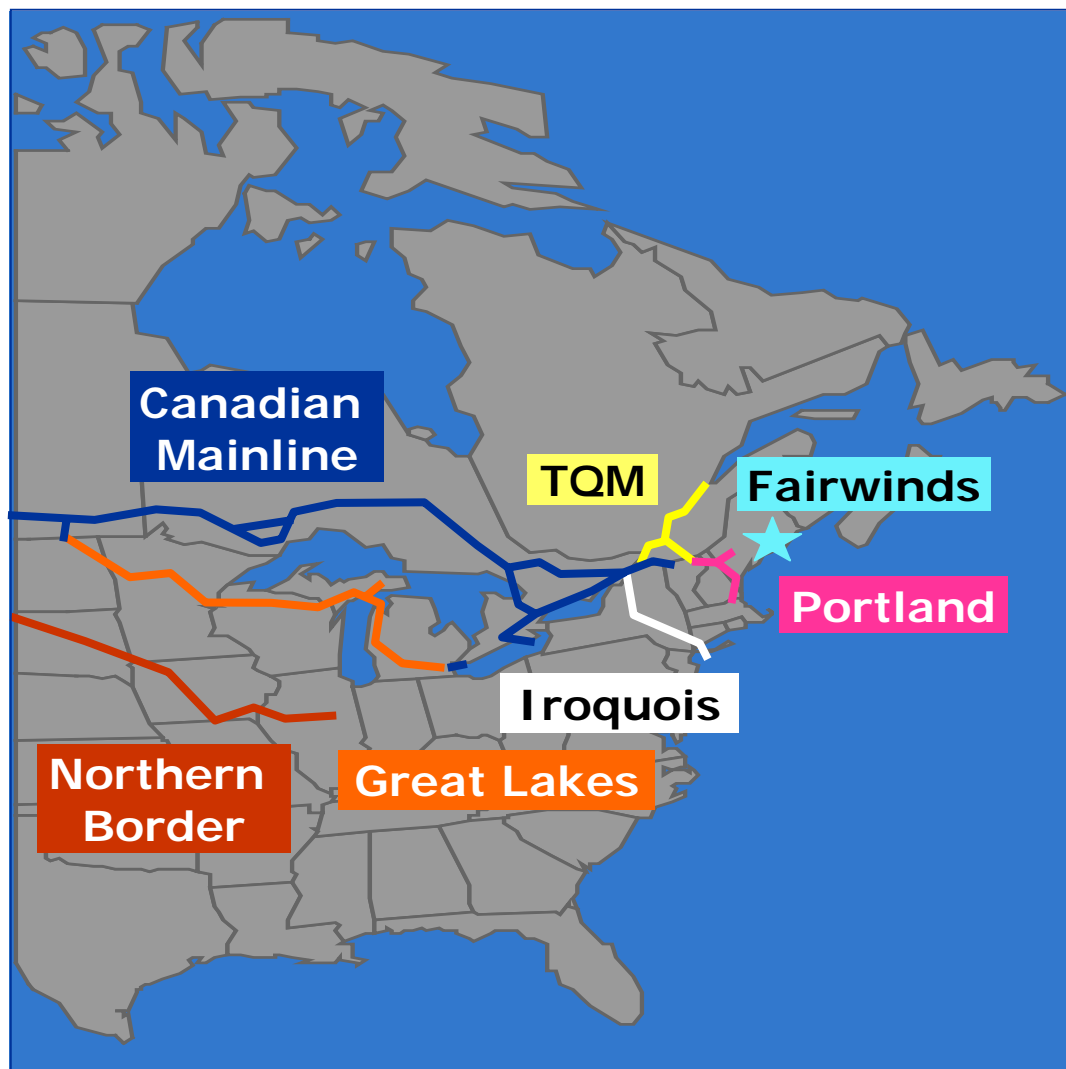


New Supply Required (Bcf/d)



Northern gas and LNG imports will be needed to meet North American demand.

Fairwinds Project



- Jointly proposed by ConocoPhillips and TransCanada
- Seeking approval to develop a LNG import terminal in Harpswell, Maine
- \$350 million capital cost
- Design capacity 500 MMcf/d
- Would connect to existing pipeline infrastructure west of Portland

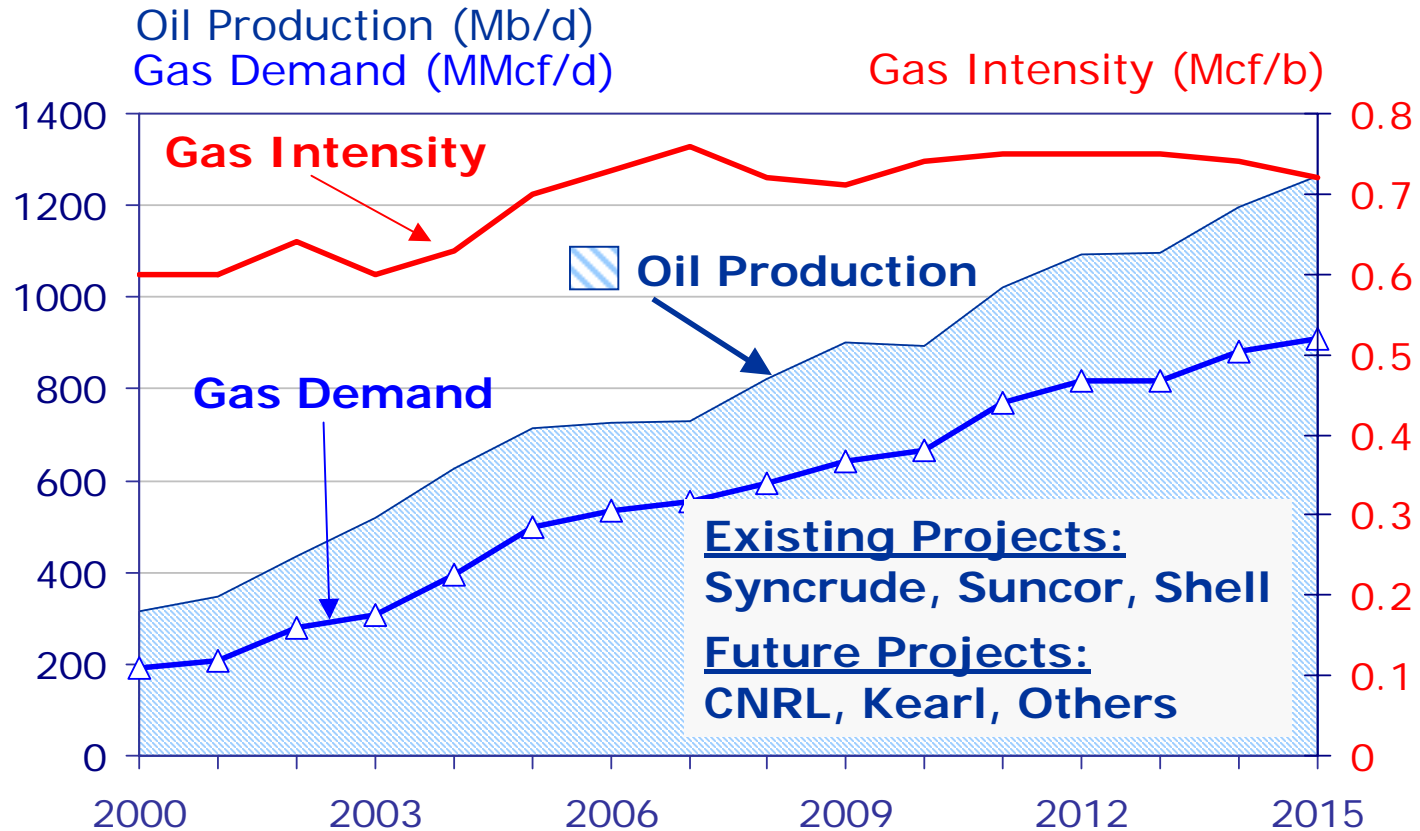


Proposed Fairwinds LNG



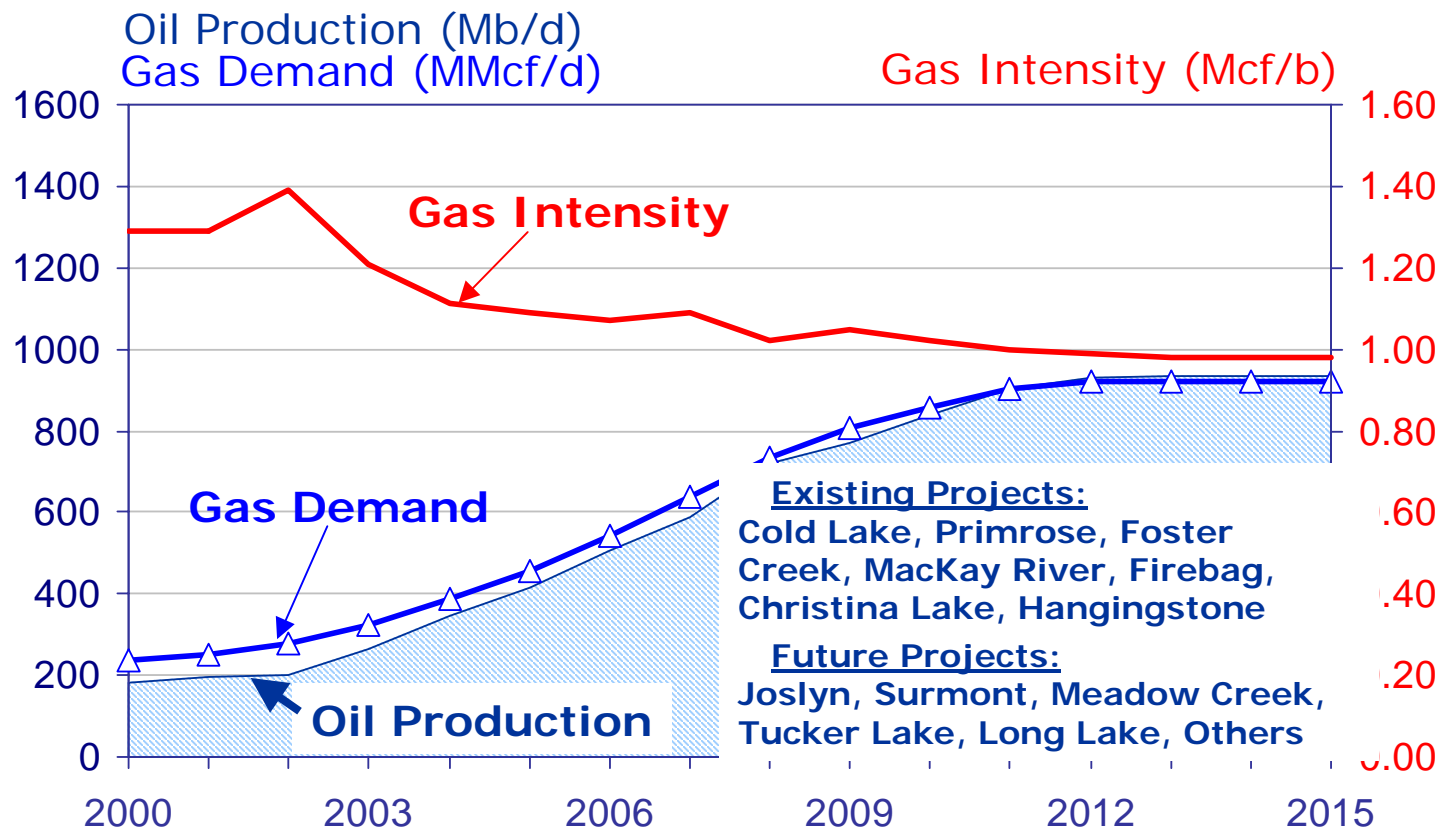
Courtesy: Fairwinds

Mining Projects Gas Intensity



- Gas intensity will rise with improved SCO product quality and new cogen at existing and future mining projects.
- Some new projects (Shell included) will upgrade bitumen offsite.

In Situ Projects Gas Intensity



- Gas intensity will drop as more efficient projects come onstream.
- Much of this bitumen (e.g. Firebag, Meadow Creek) will be upgraded to SCO.