

**Submission of the  
Government of the Northwest Territories**

**to the**

**United States Senate  
Committee on Energy and Natural Resources**

**on**

**Alternative Proposals for the  
Transportation of Alaskan Natural Gas**

**October 2, 2001**

## Introduction & Overview

The Government of the Northwest Territories is grateful for the opportunity to provide these comments to the United States Senate Energy and Natural Resources Committee as it reviews the status of proposals for the transportation of natural gas from Alaska to the lower 48 states and considers legislative proposals to expedite the construction of a pipeline from Alaska.

The Government of the Northwest Territories fully respects the right and obligation of the United States Congress to establish appropriate national energy policy within the framework of its bilateral and multinational trade agreements. Moreover, the Government of the Northwest Territories appreciates both the current national security and economic context in which the Committee is considering these issues. Accordingly, the views expressed herein are intended to be advisory in nature, and offered with deference to the prerogatives of this Committee as it weighs the issues involved in optimizing development of Alaska's natural gas resources.

The Government of the Northwest Territories submits that there are a number of critical factors that should be thoroughly analyzed in making any governmental decision – to the extent it *should* be a governmental decision – with regard to the relative merits of alternate routes for bringing natural gas from northern Alaska to U.S. markets. Among these factors are (1) the economic costs of the pipeline, (2) the energy security implications, (3) the environmental impacts and risks, (4) the potential for other issues to cause delay, (5) the potential for development of future additional natural gas resources, and (6) the implications for economic development along the route and national economic benefit.

The position of the Government of the Northwest Territories on these matters is that a sufficient analysis of these factors has not been performed to summarily preclude, as a matter of law, one of the most promising routes. In this light, the Northwest Territories expresses its serious concerns with respect to Section 701 of H.R. 4, and urges this Committee to refrain from taking similar action.

Indeed, the weight of the analysis available to the Government of the Northwest Territories provided by producers, researchers, and policy analysts supports the view that the Beaufort Sea/Mackenzie Valley option is the most promising, least costly option to get Alaskan natural gas to the U.S. market place sooner, rather than later. Insofar as the Government of the Northwest Territories fully expects that a stand-alone project from the Mackenzie Valley will be built, the true incremental economic and environmental costs associated with connecting Alaskan gas to the Mackenzie corridor is significantly less than any alternative currently under review.

Regrettably, there is a significant amount of misinformation with respect to the Beaufort Sea/Mackenzie Valley route. The purpose of this document is, in part, to address some

of the erroneous claims and to provide the Committee additional facts that should be part of the record for the Committee's decision-making process.

### **Alternate Pipeline Routes May Legally Be Considered**

As a threshold issue, it is important to establish that consideration of pipeline routes other than the ANGTS route is not legally precluded or mooted by prior government approvals or agreements.

There has long been an acknowledgement of the need for American gas to flow from the producing regions of that country through Canada to American consumers. Such an acknowledgement resulted in the signing of the Agreement between the Government of Canada and the Government of the United States of America concerning Transit Pipelines (the Pipeline Transit Treaty) in 1977.

This Treaty provides for the unobstructed flow of hydrocarbons between the two jurisdictions. It is a treaty of general application and, as such, deals with any transit pipeline, not a specific pipeline route or project. This characterization of the general nature of the Treaty was confirmed by Prime Minister Chretien in a letter to Premier Stephen Kakfwi of the Northwest Territories dated January 25, 2001 in which the Prime Minister wrote:

“The Alaska Natural Gas Transportation System (ANGTS) is a viable option to transport Alaskan gas, if gas producers choose this route for commercializing their gas resources. The Canada-U.S Agreement on ANGTS, however, does not preclude the possibility of alternative projects being developed, including an offshore Beaufort Sea/Mackenzie Valley option.” [Attached as **Attachment 1**]

This position was reiterated as recently as September 5, 2001 in a letter from Ambassador Kergin to Secretary Abraham. In this letter, written in response to Section 701 of H.R.4, an attempt to prohibit an offshore Beaufort Sea pipeline route, the Ambassador argued that “industry should not be restricted in its assessment of [pipeline] routing proposals, that government should not foreclose routing options prior to industry completing its assessment, and that all routes should be afforded equal, fair consideration.” [Attached as **Attachment 2**]

In addition to the Pipeline Transit Treaty, there exists a project-specific agreement between our two countries, the Agreement Between Canada and the United States of America on Principles Applicable to a Northern Natural Gas Pipeline. Unlike the Pipeline Transit Treaty, this Agreement speaks to a specific pipeline project to bring Alaskan gas from Prudhoe Bay through Canada to markets in the United States. The details of the routing are well known and need not be repeated here. Proponents of the Alaska Highway route have made much of this Agreement and have argued that its very existence precludes the consideration of any other route. As outlined above, the Government of Canada does not subscribe to this view.

The Staff Report of the Federal Energy Regulatory Commission, submitted to the Senate Committee on Energy and Natural Resources last January, detailed a number of concerns relating to the purported exclusivity of the ANGTS routing and the continued application of the approvals granted to that routing in 1977.

In its Report, FERC concluded that the mere existence of the Alaska Natural Gas Transportation Act (ANGTA), the legislation that covers ANGTS, does not preclude an application for a proposal to transport Arctic natural gas being filed under the terms of the Natural Gas Act. Thus, the ANGTA “does not bar proposals that might compete with ANGTS.”

One may safely conclude, then that neither the Treaty nor the Alaska Natural Gas Transportation Act precludes an alternative route from being considered and approved by regulatory authorities.

### **Existing Approvals May No Longer Be Valid**

Not only is it perfectly legal and appropriate to consider alternate routes for Alaskan gas, it is also unclear whether the prior authorizations can be utilized for the project currently being proposed on the Alaska highway route in view of the many changes from the original project. It is worth noting that many of the same advocates of the immutable nature of the Agreement are not adverse to amending it if required by their interests. Merely because the revived ANGTS project follows the earlier route does not mean that it is the project originally approved for that route – indeed, it appears to be quite a different project:

- The Alaskan Joint Committee on Natural Gas Pipelines recommends in its proposals to Congress that the Dempster Lateral route be eliminated from consideration under ANGTA (Proposal # AH 1) and that a package of tax incentives including accelerated depreciation, investment tax credits and downside tax credits be provided in support of the ANGTS line (Proposal # T2). As the Agreement clearly envisages both a Dempster Lateral pipeline (a portion of which was to be paid for by American shippers through their participation in the cost of service of this leg) and the private financing of the project, the amendments proposed by the Joint Committee would result in a substantially different project from the one approved by both governments in 1977.
- There is certainly a proposed change in the “capacity” of the ANGTS as presently being presented by its proponents. The original capacity of the line was for 2.5 billion cubic feet (bcf) per day, with an eventual increase to 3.2 bcf. The line as currently modeled is expected to ship some 4 bcf per day, a significant capacity change.
- It is notable, moreover, that the project was clearly intended to move Alaskan gas through Canada to lower 48 markets with both a “western” and an “eastern” leg established under the Agreement to carry the gas to California and mid-west markets. There is no provision within the Agreement that allows for the removal

of any significant volumes of product from the line during trans-shipment through Canada. The sponsors of the revived ANGTS-route project appear to have omitted the critical downstream system connections the original project mandated.

In its own report, FERC noted that many of the elements of the ANGTA, and hence FERC's conditional approval granted in 1977, may not apply in the current regulatory environment. The Commission began by observing that in order to facilitate the construction of the ANGTS line to meet the perceived energy crisis being experienced in the United States:

“Congress established special procedures, and modified certain aspects of the regulatory process, such as streamlining environmental review, consolidating certain Federal authorities that would otherwise be exercised by various executive branch departments and agencies, curtailing the opportunity for competition in transporting Alaska natural gas supplies, and sharply limiting judicial review.”

FERC questioned whether such limitations on environmental review, competition and judicial recourse would be acceptable in today's environment. Next, the Commission considered the specificity of the approvals granted and noted that the President's Decision approving ANGTS describes the project with “some specificity” and has, by virtue of its approval by Congress, the force of law. FERC then raised the question as to the applicability of the original approvals and noted that “to the extent a proposal is made that differs in route or capacity from that envisioned in the Commission's report, the conclusions therein might no longer be valid.”

While FERC does not directly say so in its analysis, it is obvious that the proposed pipeline project designed today would differ significantly from one designed twenty-five years ago. The Report's conclusions, while not determinative, undercut the attempted prohibition of alternative routes for Alaskan gas and raise the issue of the specificity of the original approvals and their continued application.

### **Key Factors that Should Weigh in the Decision:**

- **The Commitment to Market-Driven Energy Decision-Making**

The Government of the Northwest Territories is committed to the application of market-based principles in the development of the north's petroleum resources.

In this, we are consistent with the position expressed by the Right Honourable Jean Chretien, Prime Minister of Canada, in an address to the Canadian Association of Petroleum Producers in April of this year. In his speech, the Prime Minister noted that Canada's energy development

“will be governed by an unswerving commitment to competitive markets and fair regulation.”

The GNWT further believes that it is the duty of governments to facilitate the investment decisions of producers through the establishment of regulatory processes that are fair, inclusive and timely. It is not the duty of governments to interfere in market-based decisions, as any such interference will almost surely result in an economically inefficient outcome.

In this conclusion we are also consistent with that of the Honorable Pat Wood III, Chairman of the Federal Energy Regulatory Commission, who was quoted in a September 22 article in the Los Angeles Times as saying :

“Government tends to corrupt because it picks winners and losers, as opposed to letting them be picked by customers who vote with their dollars.”

Such an embracing of markets as the most effective vehicle for ensuring energy supplies is occurring throughout the world as countries that once were firmly committed to central planning and government intervention have come to realize the benefits of market competition over government mandate.

In the context of this Committee’s work, this means that the key economic stakeholders should not have their views of their own self-interest superseded by a government decision that does not take costs fully into account. The most credible study of the relative costs is probably that performed by Purvin & Gertz, an independent and renowned engineering consultancy and **not** a project sponsor seeking to justify the conclusions that best serve its own interest, for a group of industry participants. Although the entire study remains confidential and proprietary, Purvin & Gertz has granted permission to quote the portion of the executive summary which addresses relative project economics:

Assuming that similar volumes of gas are transported, the Beaufort Sea/Mackenzie River Valley pipeline route costs approximately 30% less than the competing TransAlaska/Alaska Highway Route. Total project costs for the Alaska Highway route are estimated at \$12.0 Billion in comparison with the \$8.3 billion for the Beaufort Sea/Mackenzie River Valley route.

Building a ‘piggyback’ route, that allows gas from the Mackenzie Delta to combine with gas originating at Prudhoe Bay on its way to the continental gas market, presents the lowest cost pipeline investment option. Assuming that 2.5 Bcfd of Alaska gas originating in Prudhoe Bay is combined (or piggybacked) with 1.5 Bcfd of Mackenzie gas for a total of 4 Bcfd, the total pipeline investment is \$7.1 billion. This value is almost 15% lower in comparison with the case that transports 4 Bcfd of gas solely from Prudhoe Bay via the Beaufort Sea/Mackenzie River Valley route.

Assuming 4 Bcfd of gas is transported to Fox Creek, Alberta, for delivery into the continental market, the transportation unit cost of service for 4 Bcfd of Prudhoe Bay gas via the Alaska Highway route is \$US 1.41 per MMBtu versus \$1.14 for 4

Bcfd for the mixed gas (Prudhoe Bay/Mackenzie Delta) via the Beaufort Sea/Mackenzie River Valley route.

The Alaska producer gas netback price for the 4 Bcfd Alaska Highway route is \$0.50 per MMBtu (excluding any NGL credit). This assumes a gas market price of \$US 2.59 per MMBtu and a price differential of \$US 0.68 per MMBtu between Fox Creek and Henry Hub. ... The Alaska natural gas producer gas netback price for the 4 Bcfd Beaufort Sea/Mackenzie River Valley route is \$0.77 per MMBtu. This assumes no additional credit as a result of piggybacking of Canadian gas is assigned to the Alaska producer. [Purvin & Gertz, Inc., *Alaskan Gas Development Strategies*, October, 2000, Page V-30]

As a result of this work and the follow-on analyses by companies involved, the Government of the Northwest Territories fully expects that commitments will be made to the construction of a pipeline from the MacKenzie Delta to Alberta in the near term, **with or without any commitment of Alaskan gas throughput**. Of course, if Alaskan gas were to be linked to this route for transportation to market, the size and extent of the pipeline would be different, and both Alaskan and Mackenzie Delta producers would benefit from improved transportation economics.

A Mackenzie Valley pipeline would travel some 1,140 miles from the Delta to connect with the existing western Canadian pipeline system. Should the route include Prudhoe Bay gas, the line would enter the Alberta system at or near Gordondale. Absent this gas, that is with the need to transport only 1.2 bcf of Delta gas, the line would enter the system some 186 miles farther north at or near Zama, Alberta. Access at this more northern receipt point would, of course, reduce the capital cost of the pipeline from current estimates.

Delivery of Mackenzie Delta gas to the market, perhaps years in advance of Alaskan gas, is likely to change continental gas market dynamics. There is a risk that, if Alaskan gas is not economically linked to the same transportation system, the supplies of Mackenzie delta gas would be sufficient to provide the market's needs to the point that any proposal to bear the incremental capital costs of a later Alaska pipeline could not be supported.

- **Security Issues**

In these sad days of recognizing that we must pay heightened attention to the security of key energy infrastructure, the security implications of the alternate routes must be evaluated seriously and objectively.

The suggestion that the ANGTS route is preferable from a security perspective because more of it would be built on US soil is baseless. There is no negative security implication from the pipeline crossing Canadian soil, and both proposed routes transit Canada in any event. All of North America is a common energy market under NAFTA, and therefore share common security concerns that are not a function of national boundaries.

Objective analysis of the national security implications would instead be likely to turn on vulnerability and risk, and may not favor the ANGTS route. ANGTS would put the gas pipeline into the same right-of-way with the elevated TAPS crude-oil line, long recognized to be one of the most exposed and vulnerable of major energy systems. A major incident on the right of way could potentially disable both systems. Placing the gas pipeline immediately along the Alaska highway would create further issues of protecting it from unauthorized access. Although shorter and easier to construct, the Mackenzie Valley pipeline may also offer a less accessible as well as separate gas pipeline route.

Security of supply is important to any country whose petroleum demands exceed its domestic production. The United States is blessed with significant domestic gas production, but nonetheless requires some fifteen percent of its daily demand to be filled by imports. The vast majority of these imports come from Canada. Current long-term forecasts of increased lower 48 demand and reduced conventional supply do, moreover, raise the need for additional gas reserves to be developed in both the medium and long-term.

In the matter of oil, the United States is less fortunate, with over fifty percent of its daily demand being filled by imports. As with natural gas, Canada is a significant supplier of this needed oil and petroleum products, providing sixteen percent of demand. Canada stands to play an increasingly vital role in providing additional supplies to the United States, with the development of Alberta's tar sands likely to be a significant source of new oil.

The existence of the resource base and Canada's clear intention to provide American access to this base is a given. The price at which this resource base will be available is another. In the case of oil, the world market sets the price but natural gas, being primarily a continental product, is determined in the North American market. Producers and shippers can play a significant role in ensuring that this price remains attractive to the market.

The long-term natural gas supply source for the U.S. market will likely be the reserves of the far North, Alaska, the Northwest Territories and the High Arctic islands. However, on their own, the reserves of Alaska and the High Arctic may not be economical to produce and therefore may never reach the market. Energy security is not helped by these resources if they are not brought to market, and if they are uneconomic, they will not be brought to market. Linking them through one transportation system improves their economics of delivery to the market, and therefore their chances of making a major contribution to continental energy security.

The Government of the Northwest Territories believes the most economical way to move these three basins to market is through a "Y" configuration that brings the Alaskan and High Arctic reserves to the Mackenzie Valley and through it to the south. Such a routing would provide economies of scale and through the joining of the three basins, would help realize significant unit cost savings thus ensuring these reserves are available to the market.

- **Environmental Impacts**

Any natural gas project of the scale envisaged here must of necessity have an impact on the environment. How great this impact might be, and how it can best be prevented and/or mitigated, will be the subject of regulatory hearings in both countries.

As with the other elements of the debate on routes and alternatives, the subject of environmental impacts has been enlisted in the support of competing routes.

The impacts raised to date range from the seismic sensitivity of the Atigun Pass in Alaska and the consequent likely shifting of any pipeline travelling through it, to prospects of buckets of natural gas liquids washing ashore following an under-ice explosion.

The clarification of these and other impacts should properly be dealt with in regulatory hearings, and care needs to be taken that unfounded environmental claims, and threats of litigation based on these claims, do not predetermine route selection.

Any environmental analysis should begin with an admission that there are dangers associated with pipeline transport of hydrocarbons - to deny this would be to deny reality. The Office of Pipeline Safety has reported that in the period from 1990 through 1999, there were a total of 3917 liquid fuel spills in the United States, resulting in 201 deaths, 2,826 injuries and \$ 778 million in property damage. In fact, as recently as September 22, the TAPS line in Alaska reported a spill of some 1200 gallons of oil during routine testing of its system.

Yet, more and more pipelines are being put into service and more are planned. The recent commissioning of the oil pipeline to carry Northstar production of 65,000 barrels per day from six miles offshore Alaska's north coast to land is only the most recent example of projects reaching out to new reserves in the offshore. The project follows on the successful operation, since 1987, of the offshore Endicott Field located 15 miles from Prudhoe Bay. To date, this field has produced some 400 million barrels of oil from under the Beaufort Sea.

Both of these projects enjoyed the support of the State of Alaska.

Over its total length within the NWT, the pipeline right of way would affect only a limited number of trees. At the north end, the pipeline would cross 93 miles of the Tuktoyaktuk Coastal Plain. This Plain is characterized by a continuous cover of shrubby tundra vegetation with the most significant feature of the ecoregion being its distinctive delta landforms. Wetlands cover 25 – 50 % of the area. Much seismic and exploration activity has been conducted through this area over the past thirty years.

Moving south, the pipeline would travel 155 miles across the Great Bear Lake Plain, an area extending from the Mackenzie Delta to Great Bear Lake. Through this area the

predominant vegetation consists of open, very stunted stands of black spruce and tamarack with secondary quantities of white spruce.

Next would be the Norman Range, an area that extends from the community of Fort Good Hope on the east side of the Mackenzie River to Willowlake River south of Great Bear Lake. The route would cover some 108 miles through this area, an area dominated by open stands of black spruce with an understory of dwarf birch. As with the Delta, this area has seen significant seismic and exploration work although here the activity has been conducted over the past seventy-five years.

Finally, the pipe would cross 21 miles through the Mackenzie River Plain, before entering the existing right-of-way of the Enbridge oil pipeline that travels the rest of the way through the NWT to Alberta. The native vegetation of the Mackenzie River Plain consists predominantly of medium to tall, closed stands of black spruce and jack pine. (The vegetation descriptions used are from “Narrative Descriptions of Terrestrial Ecozones and Ecoregions of Canada” an Environment Canada publication).

- **Environmental Approval Processes**

Any pipeline transversing the Northwest Territories will be subject to regulatory review by a variety of agencies including the National Energy Board, the Mackenzie Valley Environmental Impact Review Board, the Environmental Impact Screening Committee and Review Board for the Inuvialuit Settlement Region, the Canadian Environmental Assessment Agency, the Department of Indian Affairs and Northern Development, the Mackenzie Valley Land and Water Board, the NWT Water Board, the Inuvialuit Land Administration, Inuvialuit Game Council, Sahtu Land and Water Board, Gwich'in Land and Water Board, and the Government of the Northwest Territories.

While the coordination of such a diverse group of regulators may on the surface appear daunting, the Chairs of the Boards have met on a number of occasions over the past eighteen months and have developed an outline for a coordinated regulatory review for a Mackenzie Valley pipeline project. This outline will be available for public comment in October.

The situation for the Foothills Project is not as well defined. While environmental reviews were conducted twenty-five years ago, and permits and approvals were granted, much has changed from a legal perspective in the intervening years.

As noted in the attached legal opinion from Lawson, Lundell, “the two most significant issues from this perspective have been the introduction of new environmental assessment requirements and the recognition and protection of Aboriginal rights under section 35 of the Constitution Act, 1982.” [Attached as **Attachment 3**]

In respect of the former, the Lawson, Lundell opinion concludes that the Foothills Project would not be exempt from review under the Canadian Environmental Assessment Act. (“CEAA”)

Their conclusion states :

“□it appears clear that the Foothills Project will have to go through an environmental review process under CEAA before any of the above authorizations could be obtained. There are significant implications for this in terms of timing. There are also significant implications in terms of the potential for legal challenges to the Project.”

The opinion also deals with the development assessment process proposed, *but not yet established*, for environmental reviews in the Yukon Territory.

“Land claims agreements in the Yukon have significantly changed project review and approval requirements in the Yukon since the passage of the Northern Pipeline Act. The Umbrella Final Agreement (the “UFA”) between Canada, the Council for Yukon Indians, and the Yukon government requires that a new Yukon Development Assessment Process (“YDAP”) be put in place in the Yukon. Although the legislation was supposed to be enacted within two years of the coming into force of the UFA, it is now six years later and no legislation has been enacted.

Chapter 12 of the UFA sets out the requirements for the YDAP. YDAP applies to projects and to significant changes to existing projects. A “project” is defined as “an enterprise or activity or class of enterprises or activities *to be undertaken* in the Yukon that is not exempt from screening and review.” There is also a definition for “existing projects” but that refers to an enterprise or activity that *has been undertaken* or completed. Therefore, unless the Foothills Project is exempted from review under the legislation when it comes into force – which in light of the magnitude of the Project and its potential effects seems unlikely – it would be subject to review under the YDAP.

In light of the difficulties that the governments have had in reaching consensus on the legislation, it could be some time before this legislation comes into force. In addition, it will likely take some time for those administering the process to develop the experience and expertise required to handle major project applications. This could cause significant delays, especially because under section 12.14.1.2 of the UFA, the federal and Yukon governments may not issue any approvals or provide financial assistance with respect to a project until the YDAP process has been completed.”

The Government of the Northwest Territories holds no predetermined position on the environmental merits or drawbacks of any particular pipeline routing, preferring to leave such an analysis to the legislatively mandated regulatory processes in both Canada and the United States.

- **Aboriginal Issues**

Another significant change that has occurred since the approval of the Foothills Project is the recognition of aboriginal and treaty rights under section 35 of the Constitution Act, 1982 and the subsequent judicial developments which have occurred with respect to the interpretation and protection of these rights.

The Lawson, Lundell opinion notes that the matter of Aboriginal rights is particularly acute in the Yukon Territory because of the lack of treaties in place with the majority of Yukon First Nations along the pipeline route. Starting at the Alaska border, the Foothills Project would pass through the traditional territories of the White River First Nation; the Kluane First Nation; the Champagne and Aishihik First Nations; the Ta'an Kwach'an First Nation; the Kwanlin Dun First Nation; the Teslin Tlingit Council; and the Liard First Nation.

Of these seven First Nations, only two have land claims agreements in effect today. The remainder are at various stages of completion. In addition, the Kaska Dene from northeastern British Columbia also assert aboriginal rights and title in the southeast Yukon along the pipeline route.

Some have argued that the Northern Pipeline Act, as legislation passed before aboriginal rights received constitutional protection, may allow some negative effects on these rights. However, the Act expressly states that it does not affect these rights. Section 25 of the Act provides :

Notwithstanding this Act, any native claim right, title or interest the native people of Canada may have had prior to April 13, 1978 in and to the land on which the pipeline will be situated continues to exist until a settlement in respect of any such claim, right, title or interest is effected.

For the First Nations who have not yet concluded land claims agreements, the legal effect of Foothills' Certificates and easement must be considered in light of section 25. To the extent that the Certificates or other regulatory approvals infringe on any aboriginal rights or title of those First Nations, those First Nations may be able to challenge the validity of those approvals. Government would also have to meet the consultancy requirements established by the Canadian courts to justify any infringement of unextinguished aboriginal title or rights.

A pipeline up the Mackenzie Valley would cross four separate Aboriginal land claim areas: The Inuvialuit Settlement Region ; the Gwich'in Settlement Area, the Sahtu Settlement Area and the Deh Cho Region. Of these four, the first three have settled their claims. The Deh Cho First Nations continues its discussions with the Government of Canada toward resolving the issues raised in its proposal for a Deh Cho process.

As a result of the settlement of these three northern claims, the Northwest Territories is experiencing significant petroleum exploration activity with, for example, industry having work commitments in the Inuvialuit Settlement Region of \$1 billion (Canadian) over the next four years. Exploration activity is also proceeding in both the Gwich'in and the Sahtu Areas.

Aboriginal leaders from throughout the NWT have agreed to work together to realize an ownership position in a Mackenzie Valley pipeline. The Aboriginal Pipeline Group is currently negotiating such a position with the Delta Producers' Group consisting of Esso

Resources, Shell Oil and Conoco. Leaders from the Deh Cho have not yet determined the role they may play in such a consortium.

It is important, however, that a clear distinction be drawn between the Deh Cho's land claim process and its possible involvement in the Aboriginal Pipeline Group. The latter decision is a commercial determination that individual communities and their regional body will make based on their analysis of the economic opportunity presented.

As to the former, Premier Stephen Kakfwi of the GNWT has confirmed that while the Deh Cho interim measures agreement will be honoured, resource revenue sharing and devolution issues will be negotiated through the Intergovernmental Forum process while existing regulatory regimes, and not the land claims process, will be used to ratify the construction of a Mackenzie Valley pipeline.

- **Developing Access to Future Natural Gas Resources**

American gas demand continues to grow while conventional supply continues to fall. This past year saw Americans consume some 22 Tcf of gas, of which 3 Tcf was imported, the vast majority of that from Canada. American demand is projected to grow by some 4.5% annually, reaching 32 Tcf over the next twenty years. Such a growth would move gas from its current market share of 16% of total energy use to 35 %. This is largely the result of the increased use of gas for electricity generation. A major contributor to the increasing use of natural gas in the electric utility sector is the lower capital costs and shorter construction lead times of advanced combined-cycle plants in comparison with conventional coal-fired plants.

The U.S. Department of Energy attributes to the lower 48 some 167 Tcf of conventional gas reserves, with the likelihood of an additional 1300 Tcf of unconventional and currently uneconomic reserves. The conventional reserves represent about eight years' consumption at the current rate. This supply base is, however, under increasing pressure as the decline rate from new wells continues to increase. A recent study by U.S. Energy Information Agency shows that while Gulf of Mexico wells drilled in 1972 declined from their peak at an average rate of 17 % per year, natural gas wells drilled in 1996 have been declining at an annual rate of some 49 %.

Like the American market, the demand for natural gas is expected to grow in Canada. Ontario, for example, currently receives just under 1 Tcf annually from Alberta. Significant growth is expected in this market as Ontario Hydro decommissions nuclear plants and replaces them with co-generation facilities fueled by natural gas. In addition, the Government of Ontario is under increasing pressure from neighbouring American states to reduce the sulphur emissions associated with its coal-burning power generation.

Alberta gas reserves have declined for the past five years, with this past year seeing only 67% of production being replaced by newly discovered gas. Current gas reserves are estimated by the National Energy Board at 38 Tcf, which translates to under 9 years production. The Alberta Energy Utilities Board estimates Alberta's reserves to be

somewhat higher, at 43 Tcf. More to the point, and more ominously for the future, the Alberta reserves have been declining at an increasingly rapid rate. In 1994, the reserve to production ratio was 12.7, that is, there was nearly thirteen years of reserves left at the then current rate of production. This ratio has continued to decline over the past five years and now stands at the nine years mentioned above.

Of further concern is the nature of these reserves. On balance, they tend to be scattered and in relatively small pools. Such pools are, of course, subject to rapid depletion. The National Energy Board, in its recently completed study of short-term gas deliverability, estimates the decline rate to be as high as 40 percent. Based on this decline rate, the NEB projects that production from existing wells in the Western Canada Sedimentary Basin will decline by about 3 billion cubic feet per day per year. This is an unsustainable situation.

The challenge is to find the additional gas that will be needed to meet the increasing demand. While there are many possible supply sources in North America, many of them are currently not available for development. Offshore California, the east coast of the State of Florida, the west coast of British Columbia all have great potential to supply gas but all are subject to drilling moratoriums and it is unlikely that drilling will be allowed anytime in the near future.

The North would seem to be the logical source of the new gas North America will need. The State of Alaska contains significant gas deposits with known reserves of nearly 35 trillion cubic feet (Tcf) at Prudhoe Bay and up to an additional 30 Tcf onshore and offshore the northern coast of the state. The Mackenzie Delta contains some 9 tcf of proven onshore reserves with estimates of an additional 60 Tcf.

There are at present feasibility studies being conducted on the economics associated with the development of these reserves. There are choices that will have to be made on how best to bring these resources to southern markets. The Government of the NWT believes that these choices would be best underscored by a firm commitment to market principles.

A pipeline up the Mackenzie Valley will open up new, relatively unexplored sedimentary basins that will provide additional gas supplies for North American consumers. A Mackenzie Valley pipeline can connect to no less than seven established and potential natural gas basins - Mackenzie Delta/Beaufort Sea, Anderson/Horton Plains, Colville Hills, Peel Plateau, Great Bear Basin, Mackenzie Plain, and the Cameron Hills. The Mackenzie Delta is estimated to have 9 trillion cubic feet (tcf) of proven natural gas reserves and an additional 64 tcf of probable reserves. In the Fort Liard area, there are 1.5 tcf of proven gas reserves and an estimated 3.5 tcf of probable reserves.

Further, a recent study by Reinson and Drummond revealed striking geological similarities between the long-producing Louisiana Gulf Coast, a basin that currently yields about 5.3 tcf of gas a year, and the Mackenzie Delta. Their study estimated an additional 30 tcf of Louisiana reserves and 55 tcf, an estimate the authors concede may be conservative, underlying the Mackenzie Delta. The cumulative Louisiana Basin

production to date is over 185 Tcf and, in keeping with the parallels drawn in the study, one could expect similar or greater production levels from the Delta.

- **Achieving Economic Benefits**

Governments seek to maximize the benefits from resource development within their boundaries. The Government of the Northwest Territories is no different from others in this respect.

There are essentially two ways in which a jurisdiction can realize benefits from resource development within its borders. One is to add value to the product, the other is to add cost.

In a market where frontier reserves are at the price margin, where they are truly “price-takers” and not “price-makers”, any additional costs imposed on their development will only serve to make them less attractive to the market.

If, in an attempt to ensure the development of these uneconomic resources, resources made uneconomic through unrealistic demands for local benefits, government provides project subsidies, the additional cost of the resource is simply moved from the developer to the taxpayer. Such a situation is not sustainable.

**There are a variety of mechanisms by which the economic benefits associated with a construction project of this magnitude may be equitably shared between U.S. and Canadian interests. These benefits are not necessarily proportionate to respective pipeline mileage within the two countries.**

**There are a number of ways in which the economic benefits to Alaska of gas supply development could be achieved without predetermining a pipeline route for all north Alaskan resources. These should be explored, and the direct economic benefit to Alaska of building the less costly route should be understood.**

- **Construction Logistics**

For much of its route, a Mackenzie Valley pipeline would follow the river that gives the Valley its name. This river would also provide the means to transport in the materiel and supplies needed for the construction of the pipeline, much as it did during the construction of the Norman Wells oilfield expansion and the construction of the Enbridge oil pipeline in the early 80s.

This same river played a similar role during the construction of the Canol Pipeline during the Second World War, a project that saw Norman Wells oil shipped westerly across the NWT in support of the American war effort in Alaska. Much of the work on this project was overseen by the U.S. Army Corps of Engineers.

## **Conclusion**

Any decision with regard to a northern pipeline to connect the gas reserves of the Northwest Territories and Alaska to market should be based on the twin principles of environmental acceptability and economic efficiency as determined by the market itself.

The Government of the Northwest Territories is confident that the legislatively mandated environmental review processes to which a pipeline project will be subject in both countries will address the environmental issues. The Government is also confident that, unless they are preempted legislatively, the key economic stakeholders in the Alaskan resources will reach a decision about the optimum route that their governments should respect.