



Indigenous and  
Northern Affairs Canada

Affaires autochtones  
et du Nord Canada

## ***Final Report***

# ***Evaluation of Petroleum and Minerals (PAA 4.3.1)***

***Project Number: 1570- 7/14095***

***Strategic Outcome: The North***

January 2016

Evaluation, Performance Measurement,  
and Review Branch  
Audit and Evaluation Sector



Canada

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## ***Glossary of Terms***

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**Canadian Frontier Lands:** Lands under federal jurisdiction in northern areas, offshore Newfoundland and Labrador, offshore Nova Scotia and other areas, such as the Gulf of St. Lawrence and Hudson Bay.

**Community Readiness:** The concept that communities have the resources such as financial literacy and mine skills training necessary to leverage the benefits associated with resource development.

**Consultation:** In this context, Canada's statutory obligation to ensure stakeholders engage in a meaningful dialogue with Aboriginal groups and ensure potential and established treaty rights are respected. For a more fulsome discussion of Indigenous and Northern Affairs Canada's (INAC) consultation duties see the June 2015 *Evaluation of Consultation and Accommodation*.

**Crown Lands:** Describes land owned by the federal or provincial government, with the authority of control over these public lands resting with the Crown.

**Devolution:** The transfer of responsibilities from the federal government to a provincial or territorial government. In this context the April 1, 2014, devolution of responsibilities from the federal government to the Government of the Northwest Territories is particularly relevant.

**Environmental Stewardship:** The responsible use and protection of the environment through conservation and sustainable development.

**Geoscience:** A strain of scientific study that focuses on the earth and geology. In this context geoscience is relevant as a means of identifying potential resource deposits.

**Lands database (Land Information Management System - LIMS):** An INAC database for land administration on Northern Crown lands, currently housed in Yellowknife. LIMS is often used in work relevant to mineral development such as environmental compliance activities.

**Northern Offshore:** Formally, as defined in sources such as INAC's 2013 *Northern Oil and Gas Report* pg. 4, the northern offshore includes "submarine areas, not within a province...the territorial sea of Canada or the continental shelf of Canada, but does not include the adjoining area, as defined in Section 2 of the *Yukon Act*."

**Petroleum and Environmental Management Tool:** An online, interactive geographic information system based on input from expert resources that generates maps on environmental and socio-economic sensitivity for different ecosystem components and areas of geological potential. It is used to support INAC consultations leading up to the Call for Nominations.

**Royalty Management System:** INAC's Information Technology platform for administering petroleum royalties by providing interest holders with a way to submit their required production and sales figures online.

# Executive Summary

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In accordance with the Treasury Board's *Policy on Evaluation* requirement to evaluate program spending every five years, the Evaluation, Performance Measurement and Review Branch (EPMRB) of Indigenous and Northern Affairs Canada (INAC) has conducted an evaluation of Petroleum and Minerals (sub-program 4.3.1) in fiscal year 2014-15 in order to meet Treasury Board requirements for program evaluation every five years. The scope of the evaluation includes reporting based on information from fiscal year 2009-10 to fiscal year 2013-14.

The Petroleum and Minerals sub-program is responsible for the petroleum and mineral resource interests of Northerners, Aboriginal peoples and Canadians generally on federal lands in the Northwest Territories, Nunavut, and the northern offshore. This includes four key program activities: managing and administering resources through oversight of land tenure, a rights registry and relevant supporting systems; assessing and collecting Crown royalties and payments to Aboriginal communities; supporting responsible and sustainable resource development; and providing advice for policy development, legislation and international initiatives.

The evaluation has found the following:

## ***Relevance***

The evaluation has found that the Government of Canada has clearly legislated roles under the *Petroleum and Minerals* sub-program through the *Canadian Oil and Gas Operations Act*, the *Canada Petroleum Resources Act*, and the *Territorial Lands Act*. The legislated roles and responsibilities of INAC and other federal departments and regulatory bodies were found to be clear.

However, in addition to the continued need for INAC's legislated responsibilities, the evaluation also found a clear and continued need for INAC's other roles such as facilitating consultation, sharing information and promoting resource development. As these additional roles are shared with other organizations, and the Northern Affairs Organization at INAC is adapting to recent changes as a result of Devolution and new legislation, it is important to clarify and coordinate roles and responsibilities with partners and stakeholders going forward.

**Recommendation: It is recommended that the Northern Affairs Organization clarify and communicate their role in the context of petroleum and minerals development.**

## ***Performance***

In each of its immediate outcomes of securing title for industry, managing a fair and stable royalty regime, ensuring benefits to communities and facilitating exploration, the sub-program has met its targets as per its 2014 performance measurement strategy. However, the evaluation has also found a number of external factors that affect performance, such as changes in commodity prices and a lack of infrastructure in the North. As such, performance-related recommendations are designed to maximize the sub-program's ability to achieve outcomes in light of these external factors.

## ***Effectiveness***

Generally, the program is providing secure title for industry. However, some sources suggested there is an opportunity to examine program design changes, such the length of time for which licences are issued, to ensure an appropriate balance in security for industry and other needs. While petroleum exploration remained stable over the evaluation period, minerals exploration declined, likely owing to external factors. Further investment in geoscience was identified as a way in which the Government could incentivize exploration in light of external factors.

**Recommendation: It is recommended that INAC continue to work with partners to support geoscience research, while maximizing the value of other northern scientific research through coordination and dissemination.**

The royalty regime was generally deemed to be fair and to provide a substantial contribution to the federal treasury. Sources proposed several options on how to further manage royalties that policy makers may wish to consider. These royalties, alongside tax revenue, jobs and business opportunities, demonstrate the ways in which northern regions benefits from northern resource development. However, there is an opportunity at a local level for more community readiness, and to further support communities in leveraging benefits from resource development.

**Recommendation: It is recommended that Northern Affairs Organization clarify roles between Canadian Northern Economic Development Agency (CanNor) and INAC to further engage capacity development partners, ensuring a coordinated approach to leveraging opportunities.**

## ***Efficiency and Economy***

The challenges of living in the climate and remoteness of the North cause northern regional offices to face challenges with recruitment and retention, which many sources noted results in turnover and potential impacts on program results. During the evaluation period, staff noted that Deficit Reduction activities, including additional human resources processes exacerbated these effects. Although not the intent of the policy, the new Treasury Board Directive on Travel, Hospitality, Conference, and Events Expenditures was perceived to affect staff's ability to connect with stakeholders and communities. Barriers to face-to-face communication add to confusion over roles and responsibilities among stakeholders in the post-devolution context of the sub-program.

While implementation and capacity-building necessary for the petroleum and minerals function is still ongoing in the first two years following devolution, devolution in the Northwest Territories is expected to increase efficiency and effectiveness of decision making going forward. It is also expected that, generally speaking, current and ongoing northern regulatory reforms will increase efficiency in the regulatory regimes across the Northwest Territories and Nunavut.

Regarding performance measurement, information management and information technology, opportunities for improvement were found. Specifically, there is an opportunity to revise performance measurement targets to better reflect what the sub-program has an ability to influence. It is important to review the sub-program's information management and information technology practices and capacity as well to ensure that it adequately captures, organizes and disseminates necessary information.

**Recommendation: It is recommended that Northern Affairs Organization consider options for integrated information management and decision making regarding land, environmental management and resource claims.**

### ***Other Evaluation Issues***

There are a number of unintended impacts from resource development, such as environmental risks, economic effects and social challenges. It is expected that the negative effects can be mitigated through an efficient regulatory regime and effective community readiness support.

Best practices found during the evaluation include land use planning, baseline data on environmental impacts, Regional Environmental Assessments and training programs such as the Mine Training Society.

### **Recommendations**

It is recommended that:

1. The Northern Affairs Organization clarify and communicate their role in the context of petroleum and mineral development.
2. The Northern Affairs Organization clarify roles between CanNor and INAC to further engage capacity development partners, ensuring a coordinated approach to leveraging opportunities.
3. The Northern Affairs Organization consider options for integrated information management and decision-making regarding land, environmental management and resource claims.
4. INAC continue to work with partners to support geoscience research, while maximizing the value of other northern scientific research through coordination and dissemination.

# ***Management Response and Action Plan***

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**Project Title:** Evaluation of the Petroleum and Minerals Sub-Program (PAA 4.3.1)

**Project #:** 1570-14095

## **1. Management Response**

The evaluation clearly identified where the sub-program has a legislative role and where its role is less well-defined but nevertheless important, such as in the area of resource development and industry support. The evaluation will be used to support the sub-program carrying out its legislative responsibilities in regard to royalties, mineral tenure and legislative improvements and to further define its role in facilitating resource development in the context of devolution and reassignment of economic development responsibilities to CanNor.

The sub-program will also continue to evaluate and refine its performance management indicators while recognizing that resource development activity is largely affected by external factors over which the sub-program has very little control. An examination of elements over which we have influence, including the length of time for which licences are issued (Exploration, Significant Discovery, and Production), the management of financial assurance for mine site remediation, and our contribution to geoscience that could facilitate resource development activity, will be undertaken.

The evaluation was also helpful in recognizing the importance of recruitment and retention of sub-program staff, their ability to communicate face-to-face with stakeholders and communities, and the need for the review of the sub-programs Information Management and Information Technology practices and capacity. However, the report lacked a clear recommendation on how to move forward to improve these aspects of the sub-program.

Web renewal and the review of management of financial assurance and implementation of online map selection system for Nunavut are ongoing and will address specific recommendations. The program will also initiate an examination of a collaborative management system for oil and gas resources in the Beaufort Sea and will establish a Northern Directors General's Forum (see Action Plan) in order to outline appropriate and realistic measures to address the evaluation's recommendations in a timely and effective manner, with the objective of managing petroleum and mineral resources in the North for the benefit of Northerners and all Canadians.

## 2. Action Plan

Recommendations	Actions	Responsible Manager (Title / Sector)	Planned Start and Completion Dates
1. It is recommended that the Northern Affairs Organization clarify and communicate their role in the context of petroleum and mineral development.	We <u>do</u> concur.	Michel Chénier, Director of Petroleum and Mineral Resources Management, Natural Resources and Environment Branch / Northern Affairs Organization	Start Date: Ongoing
	The Northern Affairs Organization will continue to clarify its role in the context of petroleum and mineral development through an outreach and education approach that includes: a) Updating content on the Petroleum and Minerals Management Directorate web-information site through the departmental web-renewal process. b) Continued participation at important mining, oil and gas conferences thereby having the opportunity to disseminate information to industry and stakeholders on our role in development and our regulatory responsibilities. c) Presenting the sub-program's role in petroleum and mineral development upfront during internal and external presentations whenever possible. d) Continuing to engage with industry groups such as the Prospectors and Developers Association of Canada, the Mining Association of Canada and the Canadian Association of Petroleum Producers. e) Continue to collaborate and clarify roles with federal, territorial and regional partners.		Completion: Ongoing
2. It is recommended that the Northern Affairs Organization clarify roles between CanNor and Indigenous and Northern Affairs Canada to further engage capacity development partners, ensuring a co-ordinated approach to leveraging opportunities.	We <u>do</u> concur.	Mark Hopkins, Director General, Natural Resources and Environment Branch, Northern Affairs Organization / Indigenous and Northern Affairs Canada	Start Date: January 2016
	The Northern Affairs Organization will continue to clarify the role between CanNor and Indigenous and Northern Affairs Canada to ensure a coordinated approach to resource development by establishing a Northern Directors General's Forum that will be comprised of the Director General from the Natural Resources and Environment Branch, the three regional directors general from the Territories and the Major Projects Management Office Director General from CanNor, other directors general will be invited as necessary. It is		Completion: Ongoing



	envisioned that this forum would meet monthly to discuss initiatives and roles across the two organizations.		
3. It is recommended that the Northern Affairs Organization consider options for integrated information management and decision making regarding land, environmental management and resource claims.	We <u>partially</u> concur.	David Rochette, Regional Director General, Nunavut Region, Northern Affairs Organization / Indigenous and Northern Affairs Canada	<i>Start Date:</i> January 2016
	The Northern Affairs Organization will continue to identify the shared information requirements for the management of lands, water resources, field operations and other resource management divisions. Further, the Northern Affairs Organization will pursue options (including platforms) to integrate the information across units to enable improved decision making.		<i>Completion:</i> Ongoing
4. It is recommended that Indigenous and Northern Affairs Canada continue to work with partners to support geoscience research, while maximizing the value of other northern scientific research through coordination and dissemination.	We <u>do</u> concur.	Michel Chénier, Director of Petroleum and Mineral Resources Management, Natural Resources and Environment Branch / Northern Affairs Organization and Catherine Conrad, Senior Director, Environment and Renewable Resources, Natural Resources and Environment Branch / Northern Affairs Organization	<i>Start Date:</i> January 2016
	Indigenous and Northern Affairs Canada will continue to work with partners to support geoscience research and maximize the value of other northern scientific research by: a) Continuing to collaborate with Natural Resources Canada and the Government of Nunavut through the Canada-Nunavut Geoscience Office and looking for additional opportunities for collaboration with other geoscience partners (Petroleum and Mineral Resources Management). b) Continuing to collaborate with our scientific partners at Natural Resources Canada, the Department of Fisheries, Oceans and the Canadian Coast Guard, the Environmental Studies research Fund and others, on the coordination of northern scientific research and dissemination of information (Environment and Renewable Resources). c) Integrating information for decision making based on evidence and scientific knowledge, into regulatory processes through regional and strategic environmental assessment initiatives, so that decisions are as informed as possible (Environment and Renewable Resources)		<i>Completion:</i> Ongoing

**I recommend this Management Response and Action Plan for approval by the Evaluation, Performance Measurement and Review Committee**

*Original signed by:*

**Michel Burrowes  
Director, Evaluation, Performance Measurement and Review Branch**

**I approve the above Management Response and Action Plan**

*Original signed by:*

**Stephen M. Van Dine,  
Assistant Deputy Minister, Northern Affairs Organization**

# 1. Introduction

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## 1.1 Overview

In accordance with the Treasury Board's *Policy on Evaluation* requirement to evaluate program spending every five years, the Evaluation, Performance Measurement and Review Branch (EPMRB) of Indigenous and Northern Affairs Canada (INAC) has conducted an evaluation of *Petroleum and Minerals* (sub-program 4.3.1) in fiscal year 2014-15.

The evaluation examines program activities between fiscal year 2009-10 and fiscal year 2013-14. Indicators from the sub-program's 2014 Performance Measurement Strategy were used to measure performance against stated outcomes.

The evaluation provides reliable evidence that will be used to support strategic policy and program decisions and, where required, expenditure management, decision making, and public reporting related to the Strategic Outcome '*The North*' and any further programming in this area. The evaluation was conducted by EPMRB with some assistance from the consulting firm, *Alderson-Gill and Associates*.

The evaluation report presents findings and recommendations on the sub-program's relevance and performance, including issues related to effectiveness, and efficiency and economy, as well as best practices and lessons learned.

## 1.2 Program Profile

### 1.2.1 Background and Description

In accordance with its 2014-2015 Program Alignment Architecture, Petroleum and Minerals operates as one of three sub-programs under the Northern Land, Resources and Environmental Management program:

- Petroleum and Minerals (4.3.1)
- Contaminated Sites (4.3.2)
- Land and Water Management (4.3.3)

This sub-program is responsible for the management of rights issuance for new petroleum exploration rights, terms and conditions of exploration, production licences, and maintains a rights registry that is open to the public. Specific projects managed by this sub-program include the Beaufort Regional Environmental Assessment, the Department's federal lead responsibility for the Mackenzie Gas Project and the Mineral and Energy Resource Assessments for National Park establishment.

The Petroleum and Minerals sub-program is carried out by the Petroleum and Minerals Resources Management Directorate of the Northern Resources and Environment Branch, Northern Affairs Sector of Indigenous and Northern Affairs Canada.

The Petroleum and Minerals sub-program is responsible for the petroleum and mineral resource interests for Northerners, Aboriginal peoples and Canadians generally on federal lands in the Northwest Territories, Nunavut, and the northern offshore.<sup>1</sup>

On April 1, 2014, the new *Northwest Territories Act* gave effect to the Northwest Territories Devolution Agreement by transferring the administration and control of public lands, resources and rights in respect of waters in the Northwest Territories to the Commissioner of the Northwest Territories.<sup>2</sup> The territorial government has now become responsible for the management of onshore lands, the issuance of rights and interests with respect to onshore minerals and oil and gas, and collecting royalties. The devolution of responsibility from the federal government to the territorial government has decreased, from INAC's perspective, jurisdiction and materiality of the Petroleum and Minerals sub-program, particularly in respect to the management of oil and gas.

The authority for the sub-program Petroleum and Minerals rests in separate pieces of legislation, governing separate activities related to petroleum and mines and minerals:

### ***Oil and Gas Authority***

The management of northern oil and gas is exercised under the following federal legislation:

- The *Canada Petroleum Resources Act* and its associated regulations govern the granting and administration of Crown exploration and production rights. Under this legislation, the Government has to give permission for oil and gas exploration to occur through a transfer of rights process, which enables the Minister to attach conditions to the agreement, such as restrictions that protect the environment.<sup>3</sup> Additionally, the *Canadian Petroleum Resources Act* establishes a royalty regime, where industry is issued rights during a “public call for bids” and must pay a royalty to the federal government for resources extracted.<sup>4</sup> Supporting this legislation, the *Frontier Lands Petroleum Royalty Regulations* prescribe the royalty rates, the calculation, reporting and associated interests or penalties.
- The *Canada Oil and Gas Operations Act* promotes safety, environmental protection, conservation of oil and gas resources and joint production agreements through its governance of oil and gas exploration, production, processing and transportation in federally controlled marine areas.<sup>5</sup> The *Canada Oil and Gas Operations Act* governs the authorization and regulation of petroleum operations and the requirement for Canada Benefits Plans. In a Canada Benefits Plan, a company proposing an oil and gas activity is required to describe the principles, strategies and procedures that ensure Canadians and Canadian businesses are provided full and fair opportunity to participate in the project.<sup>6</sup> Rights, royalty and benefit matters are managed by the Department on behalf of the Minister while the National Energy Board takes the lead role in the authorization and regulation of operations.

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<sup>1</sup> Petroleum and minerals in the Yukon are managed by the territorial government as per a devolution agreement, implementation of which began in 1998.

<sup>2</sup> INAC, *Northern Petroleum Resources*, May 2015, <http://www.aadnc-INAC.gc.ca/eng/1100100036087/1100100036091>

<sup>3</sup> INAC, *Evaluation of the Northern Regulation, Resources and Environmental Management Programs*.

<sup>4</sup> Natural Resources Canada, *Legislation and Regulations – Offshore Oil and Gas*, October 2014, <http://www.nrcan.gc.ca/energy/offshore-oil-gas/5837>

<sup>5</sup> INAC, *Evaluation of the Northern Regulation, Resources and Environmental Management Programs*.

<sup>6</sup> INAC, *Evaluation of the Northern Regulation, Resources and Environmental Management Programs*, February 2012.

## ***Mines and Minerals Authority***

Minerals resource management in the northern territories sub-surface lands include hard-rock minerals, precious gems and coal. The rights to these substances are administered through the *Territorial Lands Act* and its related regulations, such as the *Territorial Coal Regulations*. During the evaluation period, the *Territorial Mining Regulations* were split into the *Nunavut Mining Regulations* and the *Northwest Territories Mining Regulations* to account for changes as a result of Northwest Territories devolution. The territorial government's new *Mining Regulations* substantially mirror the federal regulations, which will continue to apply to certain specific parcels of lands in the Northwest Territories.<sup>7</sup>

### ***1.2.2 Royalty Administration***

Royalty rates in the North start at one percent in the first year of production and rising every 18 months by one percent to a maximum of five percent until the project payout.<sup>8</sup> Royalties on project payout cap at the greater of either five percent of gross or 30 percent of net.<sup>9</sup>

A web-based Royalty Management System was launched in April 2010 and is used by interest holders to submit the required production and sales figures. The Royalty Management System assists the Department to administer petroleum royalties efficiently.

Mineral royalties in the Northwest Territories and in mines in Nunavut established prior to the Nunavut Land Claim Agreement are subject to terms of *Northwest Territories and Nunavut Mining Regulations* where 13 percent of net value of mine production and the sum of the marginal royalty rates (see table 1) must be paid to the federal government annually.<sup>10</sup> In the Northwest Territories, there are three settled land claim agreements that govern royalty revenue sharing with Aboriginal groups: the *Gwich'in Comprehensive Land Claim Agreement*, *Sahtu Dene and Metis Comprehensive Land Claim Agreement*, *Inuvialuit Final Agreement*.<sup>11,12</sup>

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<sup>7</sup> There is a distinction between sub-surface minerals and surface mineral substances that have a specific purpose such as carving stone and building substances. These special use surface minerals are administered by the Land and Water Management sub-program (4.3.2) through the *Territorial Quarry Regulations*. INAC has the statutory responsibility under the *Territorial Lands Act* and its regulations for diamond valuation and audits related to the assessment and collection of mining royalties in Nunavut.

<sup>8</sup> INAC, *Oil and Gas in Canada's North – Active Exploration and New Development*, February 2012, <https://www.aadnc-inac.gc.ca/eng/1100100037301/1100100037302>

<sup>9</sup> INAC, *Oil and Gas in Canada's North – Active Exploration and New Development*.

<sup>10</sup> INAC, *FAQ about Mining Royalty in Nunavut and the Northwest Territories*, April 2014, <https://www.aadnc-inac.gc.ca/eng/1331039455218/1331039516621>

<sup>11</sup> PWGSC, *9.35.5 Comprehensive Land Claims Agreements in Effect*, November 2014, <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/section/9/35/5#section-9.35.5.5>

<sup>12</sup> INAC, *FAQ about Mining Royalty in Nunavut and the Northwest Territories*.

<b>Table 1 - Royalty rates for Mining in Northwest Territories and Nunavut<sup>13</sup></b>		
Bracket	n Value of Mine's Output (Mine Profit)	Marginal Royalty Rate
1	≤ \$10 000	0
2	\$10 000 < n ≤ \$5 million	5%
3	\$5 million < n ≤ \$10 million	6%
4	\$10 million < n ≤ \$15 million	7%
5	\$15 million < n ≤ \$20 million	8%
6	\$20 million < n ≤ \$25 million	9%
7	\$25 million < n ≤ \$30 million	10%
8	\$30 million < n ≤ \$35 million	11%
9	\$35 million < n ≤ \$40 million	12%
10	\$40 million < n ≤ \$45 million	13%
11	\$45 million < n	14%

The Nunavut Land Claim Agreement established royalty rates under Article 25, which guarantees that 100 percent of royalties from development on Inuit Owned Lands where Inuit own mineral rights go directly to Nunavut Tunngavik Incorporated on behalf of Inuit.<sup>14</sup> Nunavut Tunngavik Inc. is responsible for distributing royalties to Regional Inuit Associations who then use the funds in the interests of Inuit beneficiaries.<sup>15</sup> Nunavut Tunngavik Inc. has created a trust for royalties that will be distributed to Regional Inuit Associations when it has reached a certain level deemed sustainable, the minimum being \$100 million.<sup>16</sup> In an effort to reduce redundancies in service provision, the Regional Inuit Associations are intending to not use the royalties on services already covered by the Government of Nunavut through taxes.<sup>17</sup>

### ***1.2.3 Objectives and Expected Outcomes***

*For program logic, please see the logic model in Appendix A*

The Northern Land, Resources and Environmental Management program (4.3) supports *The North Strategic Outcome*:

- “Self-reliance, prosperity and well-being for the people and communities in the North.”

The Petroleum and Minerals sub-program is one of three that supports the Northern Land, Resources and Environmental Management Program with the program expected result, identified by the 2014-2015 Performance Measurement Framework, of:

- *Effective regulatory regimes are established in each of the three territories, which provide certainty to project proponents, Aboriginal organizations and Northerners.*

<sup>13</sup> INAC, *FAQ about Mining Royalty in Nunavut and the Northwest Territories*.

<sup>14</sup> *Nunavut Land Claims Agreement Act* (NLCA), 1993, Retrieved from <http://nlca.tunngavik.com/>

<sup>15</sup> NTI. *Resource Revenue Policy*, 2011, <http://www.tunngavik.com/files/2013/01/Resource-Revenue-Policy-Eng.pdf>

<sup>16</sup> NTI. *Resource Revenue Policy*, 2011.

<sup>17</sup> NTI. *Resource Revenue Policy*, 2011.

The objective and expected result of the Petroleum and Minerals sub-program is:

- *Petroleum and mineral resources on Crown lands in Northwest Territories, Nunavut and northern offshore regions are managed for the benefit of Northerners and all Canadians.*

The Petroleum and Minerals sub-program is supported by the following immediate outcomes:

- Secure title for industry
- Fair and stable royalty regime
- Benefits to communities from Northern Resource Development
- Increased exploration activity

The activities undertaken by INAC through the Petroleum and Minerals program are:

- Manage and administer resources
- Assessment and collection of Crown royalties and payments to Aboriginal communities
- Support responsible and sustainable resource development
- Provide advice for policy development, legislation and international initiatives

Under these activities, according to the 2015 – 2016 Report on Plans and Priorities for INAC, Petroleum and Minerals contributes to that expected result by:

- Managing Crown lands for oil and gas exploration and development through the administration of lands and allocation of rights.
- Developing an agreement with the governments of Northwest Territories and Yukon and the Inuvialuit for the collaborative management of oil and gas resources in the Beaufort Sea.
- Assessing Benefits Plans for proposed new oil and gas projects against requirements in new Benefits Plan Guidelines for the North.
- Administering the royalty regime and ensuring the correct amount of royalties and Crown revenues are collected by INAC from oil and gas and mining companies.
- Developing a modernized online map selection system for Nunavut mineral exploration and mining companies.
- Strengthening the management of environmental securities for mineral projects by working with Regional Inuit Association and project proponents on terms around managing security.

The 2014 – 2015 Report on Plans and Priorities for INAC outlines several other roles for the Petroleum and Minerals sub-program, including:

- Working through the Arctic Council, maintain a dialogue on important northern issues and collaborate on key initiatives that will contribute to safe, sustainable, and environmentally conscious practices related to oil and gas development and shipping in the Arctic.
- Advancing environmental and social studies pertaining to oil and gas operations on frontier lands through the Environmental Studies Research Fund and other funding avenues.
- Completing Beaufort Regional Environmental Assessment research projects, working group activities and Final Report (26 research projects and six working group activities).
- Implementing a modernized online map selection system for Nunavut mineral exploration and mining companies.

- Helping to strengthen the management of environmental securities for mineral projects to ensure that appropriate securities are maintained at all times and to reduce the liability of the Department.

### ***1.2.4 Program Management, Key Stakeholders and Beneficiaries***

The Petroleum and Minerals Program is managed by the Department of Indigenous and Northern Affairs Canada in partnership with Aboriginal organizations and territorial governments.

The program staff located at INAC Headquarters administers the overall delivery of Petroleum and Minerals. To accomplish this, the Petroleum and Minerals Directorate at headquarters does the following:

- Assures the collection and assessment of royalties, including implementing risk-based royalty audit framework.
- Manages the rights of existing license holders, modernize historical permits and terms and conditions for issuance.
- Implements Beaufort Regional Environmental Assessment Initiative through a targeted regional approach.
- Provides expert advice and policy/economic analysis on petroleum and mineral resource issues in the North to support senior-level decision-making processes
- Contributes to legislative and policy development activities, such as:
  - Revisions to Territorial Coal Regulations;
  - Advice to the Minister with respect to Canada Benefits Plans;
  - Participation in the National Energy Board Arctic Drilling Review;
  - Advancement of efficient and effective oil and gas management policies internationally, inter-departmentally and at Arctic Council; and
  - Provision of advice to land claim and devolution negotiation tables.

The program staff located at INAC Nunavut regional office supports Headquarters activities related to Northern oil, gas, mining and mineral development. Their responsibilities include:

- Providing advice to land claim negotiation tables.
- Organizing and participating in information sharing.
- Providing support and advice to Aboriginal communities and industries on an as needed basis.
- Providing region specific representation and support.
- Review mineral claim and prospecting permit holder reports.
- Engaging in information sharing with businesses, the public, and land and resource management partners to stimulate investment in the territories.
- Managing rapid growth in petroleum and mineral exploration sector.
- Consults with northern communities and engages and advises northern communities/industry on mutual requirements for petroleum and mineral exploration and development to sufficiently support a viable northern economy.
- Collaborate with Headquarters on regulatory reform, and revisions to regulations.



Industry stakeholders include industry associations such as the Canadian Association of Petroleum Producers and the Northwest Territories and Nunavut Chamber of Mines, petroleum and mining production and exploration companies, and a wide range of companies and professionals providing support services to these non-renewable resource industries.

### **1.2.5 Other Partners**

Federal responsibility for the management of Crown petroleum and minerals resources is divided at the sixtieth parallel. INAC is responsible for management in the North, and Natural Resources Canada is responsible for management in the South. However, INAC does not have sole responsibility for the management and regulation of Petroleum and Minerals in the North, and instead shares these responsibilities with a number of other federal departments:

- *The Canadian Environmental Assessment Agency* administers the *Canadian Environmental Assessment Act* guidelines;
- *Environment Canada* is responsible for preserving the quality of the environment in Northern Canada;
- *Fisheries and Oceans* is responsible for the protection of inland and oceanic fisheries;
- *National Energy Board* regulates frontier oil and gas, as well as pipelines;
- *Transport Canada* oversees the safety of marine transportation; and
- *INAC's Land and Water Management* sub-program (4.3.3) is responsible for surface minerals, and the implementation of statutory and comprehensive land claim agreement obligations in the North.

The Northern Project Management Office, situated in the Canadian Northern Economic Development Agency (CanNor) is responsible for the following:

- Coordinating partners for environmental assessments and regulatory processes;
- Facilitating issues management with exploration and active mines;
- Preparing project specific agreements to facilitate project planning and tracking timelines;
- Coordinating all federal Crown consultations and maintaining the Crown record; and
- Coordinating federal input into assessments.

CanNor is also responsible for supporting community readiness efforts to facilitate participation of northern communities in the regulatory process and maximization of their participation in the benefits from major resource development projects. CanNor contributes to assessing and analyzing the socio-economic impacts and benefits of major resource development projects to support the environmental process and community readiness planning.

*For a complete description of the regulatory regime in each territory and a list of organizations responsible for Petroleum and Minerals regulation in the North please see Appendix B and C.*

### 1.2.6 Program Resources

INAC invested approximately \$89 million in the Petroleum and Minerals sub-program during the five years covered by the evaluation. The following tables provide a historic breakdown.

<b>Table 2 - Petroleum 2009-2014 (actual)</b>					
	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Vote 1	\$13,557,230.20	<b>\$6,473,058.98</b>	<b>\$5,964,364.74</b>	\$6,361,202.04	\$5,766,095.29
Vote 10	\$2,179,785.00	\$1,022,950.00	\$2,807,089.00	\$2,937,114.00	\$2,538,407.00
Total	\$15,735,747	\$7,496,009	\$8,771,454	\$9,298,316	\$8,304,502
<b>Grand Total</b>					<b><u>\$49,606,028</u></b>

Source: INAC, Chief Financial Officer Sector, August 28, 2014

<b>Table 3 - Minerals 2009-2014 (actual)</b>					
	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Vote 1	\$9,308,225.31	\$10,228,695.20	\$7,775,533.32	\$7,787,055.64	\$9,071,795.79
Vote 10	\$0.00	\$0.00	\$0.00	\$0.00	\$13,512.00
Total	\$9,308,225	\$10,228,695	\$7,775,533	\$7,787,056	\$9,085,308
<b>Grand Total</b>					<b><u>\$44,184,817</u></b>

Source: INAC, Chief Financial Officer Sector, August 28, 2014

The program's work is not supported by any Transfer Payment Authorities.

## **2. Evaluation Methodology**

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### **2.1 Evaluation Scope and Timing**

The evaluation includes reporting based on information from fiscal year 2009-10 to fiscal year 2013-14 and focuses on INAC's commitments as per the sub-program's logic model and Performance Measurement Strategy dated March 20, 2014. As per Treasury Board guidelines, it examines the relevance, effectiveness, efficiency and economy, and design and delivery of program activities, outputs and outcomes.

The evaluation considered multiple factors, including changes to the current context and climate of the petroleum industry during the latter part of the period under evaluation, as well as changes to the sub-program's scope and materiality resulting from Deficit Reduction Activities Implementation and Northwest Territories Devolution, which took effect on April 1, 2014. As an example of how this context had an impact on the scope of the evaluation, as a result of Deficit Reduction Action Plan, the Petroleum and Minerals sub-program was consolidated under a single directorate. Furthermore, as a result of Devolution, the acreage under the jurisdiction of the sub-program was diminished when authority was transferred to the Government of the Northwest Territories.

The Evaluation Terms of Reference were approved by INAC's Evaluation, Performance Measurement and Review Committee (EPMRC) on September 25, 2014, and the evaluation was subsequently conducted between September 2014 and December 2015.

The following evaluations and reviews of activities pertaining to Petroleum and Minerals were considered in the scoping of this evaluation:

- Program Review of the Northern Oil and Gas Program: Phase 1, 2010
- Audit of Northern Oil and Gas, 2014
- Program Review of the Beaufort Regional Environmental Assessment, 2014
- Revenue Management and Guaranteed Deposit Process Assessment, 2014
- Program Review of the Devolution in Northwest Territories, 2015

### **2.2 Evaluation Issues and Questions**

The evaluation issues and indicators were developed based on the commitments as per the sub-program's Performance Measurement Strategy dated March 20, 2014. In keeping with Treasury Board requirements, the evaluation focused on the following issues:

#### *Relevance - Continued Need*

- To what extent has there been a need for providing support and guidance with respect to Petroleum and Minerals? How responsive has INAC been to that need?

#### *Relevance – Alignment with Government Priorities*

- To what extent has the sub-program been consistent with the objectives and priorities of the federal government?

*Relevance - Alignment with Federal Roles and Responsibilities*

- To what extent has the sub-program been consistent with the objectives and priorities of the federal government? To what extent does the sub-program contribute to INAC's strategic outcomes and the goals associated under the Petroleum and Minerals?

- *Performance - Effectiveness*

- In what ways does the sub-program create the conditions for the achievement of the following immediate outcomes:
  - Securing title for industry (immediate outcome no.1)
  - Fair and stable royalty regime (immediate outcome no. 2)
  - Benefits to communities from northern resource development (immediate outcome no. 3)
  - Increased exploration activity (immediate outcome no. 4)
- To what extent have petroleum and mineral resources on Crown lands in Northwest Territories, Nunavut and northern offshore regions been managed for the benefit of Northerners and all Canadians? (Intermediate/Ultimate Outcome/Objective)
- Have there been any unintended positive or negative impacts around Petroleum and Minerals?

- *Demonstrations of Efficiency and Economy*

- What are the costs to engaging in the program activities areas related to 4.3.1 and related outputs, and are there opportunities for increasing program efficiencies?
- To what extent do INAC activities complement – or do they unnecessarily duplicate related activities undertaken? Are appropriate linkages being made with existing programs?
- What factors (internal and external) have helped or hindered the achievement of expected results?

- *Design and Delivery*

- The Deficit Reduction Action Plan and Devolution has led to significant organizational and program changes. To what extent these factors had an impact on the design and the delivery of the program?
- How have legislated process and resulting policies had an impact on the performance of the program?
- To what extent does the newly revised 4.3.1 Performance Measurement Strategy contributes to performance measurement, management and reporting (e.g., can the strategy support the assessment of results?)

- *Other Evaluation Issue(s)*

- To what extent is gender-based analysis being considered?
- To what extent do Petroleum and Minerals activities support INAC's responsibilities under the Federal Sustainable Development Strategy?
- Are there opportunities (ie. notable best practices and lessons learned) for altering the design and/or delivery of the program in order to improve its performance?

The evaluation report was written based on the issues as identified by the *Treasury Board Policy on Evaluation*. Analysis of each of the evaluation questions was triangulated through multiple lines of evidence and integrated into a discussion of the Treasury Board Core Evaluation Issues of Relevance and Performance.

## **2.3 Evaluation Methodology**

The evaluation was conducted by EPMRB with assistance from the consulting firm, *Alderson-Gill and Associates* on the methodology report and data review.

### *Planning and Development of Methodology*

In order to develop the Terms of Reference, a preliminary meeting was held to inform the scope of the evaluation with representatives from the Northern Land, Resources and Environment Program and the Petroleum and Minerals sub-program. Additional meetings were held with respect to the sub-program's expenditure and business planning.

An Evaluation Working Group/Advisory Group was established subsequent to the approval of the Terms of Reference. The purpose of the Working Group/Advisory Group, consisting of program management representatives from Headquarters and the regions, was to assist the Evaluation team at various stages of the evaluation process, providing feedback on a detailed Methodology Report, Preliminary Findings, and Draft Report.

### **2.3.1 Data Sources**

The evaluation's findings and conclusions were based on the analysis and triangulation of the following lines of evidence:

- *Literature Review*

A review of domestic and international literature was conducted to examine issues of relevance, lessons learned, and best practices. Relevance was examined in the context of key issues related to Petroleum and Minerals and Northern Land, Resources and Environmental Management program. The evaluation focused on factors related to the ongoing need for management of petroleum and minerals (demographic and socio-economic information, community benefits, economic and social impacts), and unintended and intended impacts of resource development on Northern communities. The review included four sub-topics: (1) INAC's Petroleum and Minerals program; (2) effective resource development regulatory regimes; (3) effective resource management consultation and benefit agreements; and (4) infrastructure and economic development in northern Canada.

The literature review began with a systematic scan of reports, documents, and articles using key words and phrases related to the program. Key documents were identified for review and an index of documents with bibliographic information was created. The list of documents was assessed to verify that there were no gaps, ensuring the literature review did not duplicate previous research. Previous departmental evaluation or review research was included in this analysis.

- *Document and file review*

A document and file review was conducted to find information related to the program's relevance and performance. Approximately 45 key documents and files were reviewed, including:

- Program and policy related documentation: including Memoranda of Understanding, legislation, Canada's Northern Strategy, Speeches from the Throne, Reports on Plans and Priorities, related program evaluation and audit reports, departmental performance reports, performance management strategies and documents related to natural resource development (such as the Northern Oil and Gas Annual Report and the Exploration and Mining Guide for Aboriginal Communities); and
- Petroleum and Minerals internal documents: acts and regulations, progress and annual reports, benefits plans, maps, meeting minutes, management and business plans documents related to land and exploration, royalty administration files, and Oil and Gas revenue sharing documentation.

Documents from both the literature review and document review were analyzed against the evaluation questions, and themes and insights were identified in a findings template. Findings were triangulated with other lines of evidence.

- *Data Analysis*

A quantitative data analysis was also conducted for the purposes of providing a complete understanding of the performance and the impacts of the Petroleum and Minerals sub-program. This analysis focused primarily on performance, administrative, and financial data from existing INAC databases and relevant census data as well as INAC reviews, audits and evaluation data. The data covered the evaluation period from 2009-10 to 2013-2014. Findings from the technical report were triangulated with other lines of evidence.

The program's 2014 Performance Measurement Strategy draws upon data from the Fraser Institute, a Canadian research institute, which studies public policy.<sup>18</sup> Specifically, the Fraser Institute conducts an annual *Global Petroleum Survey* and *Survey of Mining Companies* to measure companies' perceptions of administrative regimes for petroleum and for minerals respectively. The studies rank jurisdictions on factors such as tax conditions, royalty regimes and environmental requirements. As will be discussed in Section 4 of this report, the surveys have been used in addition to other data and lines of evidence to measure program performance.

- *Key informant interviews*

Key informant interviews were used to gain a better understanding of the perceptions and opinions of individuals who have had a significant role in the Petroleum and Minerals sub-program, and who have a key stake in it.

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<sup>18</sup> <https://www.fraserinstitute.org>.

A list of interviewees was developed based on input from program management, the Working Group, and the Advisory Group. Interview guides were developed to address all evaluation issues and questions, and were tailored to the different interview respondent groups within each interview group and region. In doing so, the knowledge and expertise of the key informants was targeted specifically and was able to be used more effectively. Common questions were applied across the guides to strengthen the evaluation. Key informants with specific regional knowledge were also interviewed to inform the case studies.

Interviews were semi-structured and interview guides were sent to the interviewees by e-mail in advance of the interview to allow for preparation. Interviews were in person when possible and by telephone when necessary. Key informants' responses were typed and analyzed individually after each interview. A key informant interview technical report analyzed key themes and insights across all interviewees. Findings from the technical report were triangulated with other lines of evidence.

A total of 16 interviews were conducted with:

- Program officials (Headquarters and regional offices)[n=8]
- Stakeholders[n=5]
- Experts[n=3]

- *Case Studies*

A set of three case studies was conducted across the northern territories to examine differences in impacts across these areas. Issues related to the relevance, design and delivery, and performance of the Petroleum and Minerals sub-program were examined from a regional perspective. Additionally, the case studies provided insight into factors, which have facilitated or hindered the program at the regional level, and allowed the examination of best practices and lessons learned from front-line representatives and stakeholders.

As part of the case study for Nunavut, a site visit was conducted in Iqaluit. For the case study of Northwest Territories, a site visit was conducted in Yellowknife. The case study on Yukon was conducted remotely, given that the case study was conducted for comparative reasons only and INAC's Petroleum and Minerals sub-program has limited jurisdiction there.

The following methods were used to conduct the case studies:

- A review of documents: This was conducted primarily in Ottawa, drawing on INAC, the territorial governments, industry and academic documents. The review was used to develop a preliminary set of key factors in each of the three territories. These documents were also used to identify issues for discussion with interview respondents.
- Case study interviews: Interviews were conducted primarily in person, but also via telephone, in order to obtain information about the factors influencing exploration and development in the three territories. A total of 37 interviews were conducted with INAC program officials (eight), territorial government officials (18), industry associations and resource development companies (four), and other groups (seven).

- o A review of available data: The rates of exploration and development in each of the three territories were identified through analysis of Statistics Canada, INAC and other data, and formed the basis for studying the factors affecting performance.

### ***2.3.2 Considerations, Strengths and Limitations***

#### *Strengths*

Due to the recently completed audit of INAC management of Northern Oil and Gas, EPMRB made efforts to coordinate information requests with those made by Audit in order to reduce duplication of work and increased reporting burden on program representatives. Additionally, the evaluation followed up on the audit's findings, which noted that there was an opportunity to reassess program design.

Furthermore, the evaluation was able to leverage valuable information from two lessons learned case studies, which did not require additional expense or travel for the evaluation team:

- Findings from a review of the Beaufort Regional Environmental Assessment, an initiative which funded environmental research to facilitate resource development preparedness, were integrated into the final report.
- The evaluation team conducted a best practices and lessons learned case study of the Yukon through phone interviews and literature review. This allowed for a helpful comparison of a jurisdiction operating under alternate design and delivery, but with similar contextual factors such as climate and availability of infrastructure.

#### *Considerations and Limitations*

The timing of several events complicated the analysis of program design and delivery and performance:

- Recent fluctuations in commodity prices have had an impact on several key performance indicators such as the number of exploration licenses issued over the evaluation period. As is discussed throughout the report, while commodity price fluctuations affect performance measurement, they are not within the program's control and so should not be taken as an indication of actual performance.
- Devolution and ongoing northern regulatory reforms occurred toward the end of the period under review for the evaluation. As such, there has been a limited observation period with which to assess the impact of these changes. In one case, interviewee opinions on the impact of a new piece of legislation changed significantly between the time in which evaluators undertook a case study and the writing of the final report.



## 2.4 Roles, Responsibilities and Quality Assurance

EPMRB of INAC's Audit and Evaluation Sector was the project authority for the evaluation, and managed the evaluation in line with EPMRB's Engagement Policy and Quality Assurance Process.

The evaluation was assisted by the consulting firm *Alderson-Gill and Associates*, who participated in the Evaluation Working Group/Advisory Group and who validated the development of the detailed methodology, including tools, review and input related to the literature review. Additionally, the consultants assisted in the undertaking of data analysis and key informant interviews, the analysis of findings and in the drafting of preliminary findings.

An Evaluation Working Group/Advisory Group, consisting of the evaluation team and program representatives from Headquarters and the regions, provided feedback on the methodology, preliminary findings, and draft report, and validated the evaluation's findings.

EPMRB requested input from the EPMRC to support the development of an appropriate methodology to guide the evaluation. The EPMRC also reviewed key findings from all lines of evidence, as well as the final report

## 3. Evaluation Findings - Relevance

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The following sections examine issues related to relevance, including:

- Continued need for the program;
- Extent to which program objectives are aligned with government-wide priorities and link to INAC's strategic outcomes;
- Extent to which objectives of the program are consistent with the role and responsibilities of the federal government; and
- Duplication or overlap with other programs, policies or initiatives.

### 3.1 Continuing Need

**All lines of evidence indicate that there is a strong need for the program. Industry interest in northern petroleum and minerals leads to a need for federal oversight of petroleum and minerals development to ensure title is secure for industry, to leverage royalties for the Crown, to support benefits to communities and to facilitate exploration of Canada's frontier lands.**

#### *3.1.1 Setting the context – Northern resource potential*

A large proportion of Canada's exploitable oil, gas and minerals are on frontier (government-owned) lands in northern Canada. For example, 38 percent of Canada's remaining marketable resources in conventional fields are in the North, including 35 percent of Canada's light crude.<sup>19</sup> Furthermore, it is estimated that Nunavut has 1/3 of Canada's total petroleum reserves.<sup>20</sup>

There is immense economic potential for these northern resources. In 2010, there was a reported \$30 billion worth of proposed and actual oil and gas projects in the North.<sup>21</sup> The mining sector is expected to grow from \$1.6 billion to \$10.5 billion in the next 15 years as well.<sup>22</sup> While there is a large amount of potential for development, since 2014 commodity prices have drastically reduced exploration and development interest and activities. While commodity prices and the markets will continue to affect petroleum and minerals exploration and development, there is likely to be continued interest in northern petroleum and minerals in the future.

#### *3.1.2 A need for INAC's involvement*

The vast majority of key informant interviewees responded that there is a need for INAC's ongoing involvement in the management of these petroleum and minerals resources, as resource development potential in the North on government land necessitates effective and sustainable management. One key informant stated that it is important to ensure companies who are awarded licenses for petroleum and minerals, for example, have their rights protected. As such, it is important

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<sup>19</sup> 2013 Northern Oil and Gas Annual Report, pg 10

<sup>20</sup> INAC, Government of Nunavut, Nunavut Tunngavik Incorporated, and Canada-Nunavut Geoscience Office, *Nunavut: Mineral Exploration, Mining and Geoscience*, 2013, 9. [http://cngo.ca/app/uploads/Exploration\\_Overview-2013-Magazine-English.pdf](http://cngo.ca/app/uploads/Exploration_Overview-2013-Magazine-English.pdf)

<sup>21</sup> Internal program documents

<sup>22</sup> Ibid

to have a program in place to ensure secure title for industry. Several key informant interviewees noted as well that INAC's oversight is needed to ensure resource development occurs in an environmentally safe manner.

In addition to providing secure title for industry, INAC's involvement in issuing licenses contributes to the public good of exploration on frontier lands. The rights tenure provisions under the *Canadian Petroleum Resources Act* and the *Canadian Oil and Gas Operations Act* stem from a 1985 policy known as *Canada's Energy Frontiers: A Framework for Investment and Jobs*. The policy established the criterion that exploration licences are issued based on the value of exploration spending a company proposes to put forward for a given parcel of land.<sup>23</sup> One key informant suggested that the system was established in this way because incentivizing exploration of Canada lands and collecting information on their geological potential is of value to all Canadians. As such, it is logical that *increased exploration activity* is an immediate outcome of the Petroleum and Minerals program.

Given the economic potential described above, there is also an opportunity to leverage royalties to support government programs and to leverage opportunities for communities as well. Mining is one of Canada's most developed industries, employing 330,000 workers and making up 3.9 percent of the nation's gross domestic product in 2012.<sup>24</sup> Petroleum is also one of Canada's primary industries, employing 0.6% of the nation's labour force and representing 6.8 percent of Canada's gross domestic product in 2010.<sup>25</sup> Both sectors are significant employers in Aboriginal communities, with Aboriginal people making up five percent of Canada's oil and gas labour force from 2007 to 2012.<sup>26</sup> As of 2012, 24 advanced projects in the North had the possibility of creating \$38 billion in investment, with the development of these projects leading to 8,000 fulltime jobs.<sup>27</sup> Moreover, through exploration, it is possible that the number of operating projects will expand. Resource royalties are also a large source of revenue not just for communities but for the federal, provincial and territorial governments, with \$2.3 billion in royalties and taxes being paid to the provinces and territories in the 2011-12 fiscal year.<sup>28</sup>

In Nunavut, the only territory where the federal government continues to manage land, water and resources, mining is a particularly important industry for economic development. Currently, the Government of Nunavut's funding is 90 percent federal government transfers and 10 percent Nunavummiut taxes.<sup>29</sup> Royalties and taxation have the potential to change the funding structure of the Government of Nunavut, further developing its self-reliance. Nunavut's gross domestic product is expected to have the second highest growth rate in Canada, with 4.4 percent growth in 2014 and 7.8 percent in 2015.<sup>30</sup> Short term economic growth will be due to growth in Nunavut's mining sector.<sup>31</sup>

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<sup>23</sup> Ministry of Supply and Services Canada, *Canada's Energy Frontiers: A Framework for Investment and Jobs*, 1985, 9.

<sup>24</sup> Government of Canada, *Exploration and Mining Guide for Aboriginal Communities*, 2013, 5.

<http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/mineralsmetals/files/pdf/abor-auto/mining-guide-eng.pdf>

<sup>25</sup> Human Resources and Skills Development Canada, *Aboriginal Labour Market Bulletin*, 2013, 30.

<sup>26</sup> Human Resources and Skills Development Canada, *Aboriginal Labour Market Bulletin*, 5.

<sup>27</sup> Government of Canada, *Canada's Economic Action Plan: Natural Resource Development in the North*, 2012, <http://actionplan.gc.ca/en/blog/natural-resource-development-north>

<sup>28</sup> Energy and Mines Minister's Conference, *Mining Sector Performance Report: 1998 – 2012*, 10.

<sup>29</sup> Impact Economics, *2013 Nunavut Economic Outlook*, 2013.

<sup>30</sup> The Conference Board of Canada (CBoC), *Territorial Webinar: Economic Growth in the Territories to Pick Up*, 2014a.

<sup>31</sup> The Conference Board of Canada (CBoC), *Territorial Outlook: Economic Forecast*, 2014.

Non-Inuit people's employment rate is much higher than Inuit in Nunavut (95 percent and 46 percent respectively).<sup>32</sup> The territorial government is Nunavut's primary employer, and 88 percent of the workers in Nunavut are employed in the services sector more generally.<sup>33</sup> By 2025, it is expected that the services sector will employ the majority of workers, primarily services in the territorial government.<sup>34</sup> Growth in the mining and construction industries are anticipated to be drivers of growth in employment as well, with an expected annual growth in the labour market at a rate of 1.7 percent from 2013 to 2015 and a 1.8 percent annual employment growth rate.<sup>35</sup>

As such, several interviewees noted that INAC's involvement in petroleum and minerals is needed both to administer a royalty regime and as a facilitator to ensure the needs of both communities and industry are satisfied.

## 3.2 Alignment with Government Priorities

**The Petroleum and Minerals sub-program is aligned with government priorities, including Canada's Northern Strategy, the 2013-2015 budgets and recent Speeches from the Throne. Moreover, the Government has committed to program improvements in order to achieve these priorities.**

Canada's Northern Strategy identified the North as a fundamental part of Canada's heritage, future and identity. Through Canada's Northern Strategy, commitments were made toward several priority areas including *exercising Arctic sovereignty, protecting environmental heritage, promoting social and economic development, and improving and devolving Northern governance*.<sup>36</sup> The Petroleum and Minerals sub-program contributes to these goals and INAC's strategic outcome *the North* by managing petroleum and mineral resources on federal lands in Northwest Territories, Nunavut and northern offshore regions for the benefit of Northerners and all Canadians. Responsible resource development is a key pillar of Canada's Northern Strategy.

The Government has demonstrated its commitment to advancing resource development in Canada. Industry, territorial governments, institutions of governance, Aboriginal governments and organizations have expressed concern about the northern Regulatory regime. As such, the 2015 Economic Action Plan dedicated \$135 million over five years to improve the efficiency and effectiveness of resource development project proposals and \$34 million over five years to support the consultations necessary under the *Canadian Environmental Assessment Act*.<sup>37</sup>

Document review and key informant interviews found that the sub-program is consistent with the objectives and the priorities of the federal government. All key informant interviewees that responded to the question affirmed that the Petroleum and Minerals sub-program supports the priorities of the government. Specifically, the sub-program is aligned with the 2013, 2014, and 2015 *Economic Action Plans*. These documents call for helping Northerners "benefit from local

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<sup>32</sup> Nunavut Department of Economic Development & Transportation, *Kivalliq Socio-Economic Monitoring Committee Fall 2013 Report*, 2013.

<sup>33</sup> The Conference Board of Canada (CBoC), *Territorial Outlook: Economic Forecast*, 2014.

<sup>34</sup> The Conference Board of Canada (CBoC), *Territorial Outlook: Economic Forecast*.

<sup>35</sup> The Conference Board of Canada (CBoC), *Territorial Outlook: Economic Forecast*.

<sup>36</sup> INAC, *Canada's Northern Strategy: Our North, Our Heritage, Our Future*, 2009,

<http://www.northernstrategy.gc.ca/cns/cns-eng.asp>

<sup>37</sup> Government of Canada, *Strong Leadership: A Balanced-Budget, Low-tax Plan for Jobs, Growth and Security*, 2015, 19.

employment opportunities and rapid economic growth”<sup>38</sup> through northern oil, gas and minerals development. Moreover, they note that this sector is “one of the leading private employers of Aboriginal people.”<sup>39</sup> In order to promote economic development in the North, the Government has recognized the challenges faced by mining, oil and gas companies in resource exploration and is committed to reducing exploration costs. In 2010, the Government of Canada also committed \$21.8 million to support the Beaufort Regional Environmental Assessment to facilitate understanding of environmental factors in the Beaufort Sea.<sup>40</sup> This was done with the expectation that the research would facilitate exploration and development by filling in gaps in key information necessary for project approvals.<sup>41</sup>

Overall, the sub-program clearly links to the broader government priority in two major ways: (1) an effective and efficient regulatory and management regime supports and provides certainty to interested mineral, oil and gas companies that their investments will be protected; and (2) effectively managed petroleum and mineral resources enable Aboriginal organizations and Northerners to more easily access and benefit from consequent opportunities. As such, the Government has a stated priority of improving regulatory efficiency.

### 3.3 Alignment with Federal Roles and Responsibilities

**The Petroleum and Minerals sub-program is legislated as a responsibility for the Government of Canada through the *Canadian Oil and Gas Operations Act*, the *Canada Petroleum Resources Act*, and the *Territorial Lands Act*. The legislated roles and responsibilities of INAC and other federal regulatory bodies are clear.**

*For a detailed description of the program’s legislative mandate, see Section 1.2.*

Key informant interviews and case studies found that INAC’s legislated roles and responsibilities are clear. When asked whether INAC is fulfilling its mandate, all key informant interviewees that responded said that INAC is following the statutory mandate set out in the legislation discussion in Section 1.2.

**While there is a clear legislative mandate for the Petroleum and Minerals sub-program, INAC also has a variety of other roles that support the sub-program’s intended outcomes, including facilitating relationships, information-sharing, and ongoing statutory obligations. There is an opportunity to clarify and communicate these additional roles to partners and stakeholders.**

As can be seen in the program profile in Section 1.2, while the program conducts its core activities to meet the outcome of securing title for industry, ensuring a fair and stable royalty regime, overseeing benefits to communities and facilitating exploration at Headquarters, there are a number of additional activities conducted particularly through the regional office that are essential to supporting Petroleum and Minerals.

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<sup>38</sup> Government of Canada, *Jobs, Growth and Long-Term Prosperity: Economic Action Plan*, 2013, 76.

<sup>39</sup> Government of Canada, *Strong Leadership: A Balanced-Budget, Low-tax Plan for Jobs, Growth and Security*, 2015, 208.

<sup>40</sup> *Beaufort Regional Environmental Assessment – Program Review*. Prepared for Indigenous and Northern Affairs Canada, Nov. 2014. Pg. 7.

<sup>41</sup> Ibid.

Case studies highlighted a number of roles that INAC should continue to play. For example, the Northwest Territories Case Study found that INAC has a significant role in settling land claims, given their impact on resource development. Furthermore, INAC still supports institutions of public government, such as land and water boards in the Northwest Territories. INAC will continue to have a role managing residual lands and contaminated sites post-devolution.

Interviewees noted that INAC is an effective facilitator of consultation and engagement with communities, territorial governments, and industry as INAC has historically been the face of the federal government to northern communities, developers, and stakeholder. Case studies and key informant interviews noted that this is a key role that INAC plays in providing information to all parties to facilitate decision making on resource development. Key informant interviews and regional case studies indicated that INAC continues to have intimate relationships with those groups. As such, some key informants noted that INAC has an opportunity to do more to facilitate decision making for major northern projects.

INAC also plays a key role supporting northern geoscience and environmental research, scientific research infrastructure, including the Canadian High Arctic Research Centre, and socio-economic baseline data collection. Case studies emphasized the importance of having the Petroleum and Minerals program represented in the region to support continued relationship building and information sharing. In this regard, the Beaufort Regional Environmental Assessment was deemed to be a best practice as INAC played a lead role in facilitating research into environmental baseline data as well as socioeconomic research to support community readiness.<sup>42</sup>

**In the context of devolution and the creation of CanNor, some roles for INAC are unclear.**

CanNor and INAC appear to have complementary mandates, as the Petroleum and Minerals sub-program facilitates resource development, while the role of CanNor is to facilitate northern economic development. In the case studies of Nunavut and the Northwest Territories, key informant interviewees stressed the interconnected nature of CanNor programming and INAC's Petroleum and Minerals sub-program. For example, CanNor's Strategic Investments in Northern Economic Development provides crucial support to geoscience projects that advance potential for petroleum and mineral exploration. However, interviewees expressed concern that in some cases these roles overlap. The following roles were identified as areas of shared responsibility and potential duplication between INAC and CanNor:

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<sup>42</sup> *Beaufort Regional Environmental Assessment – Program Review*. Prepared for Indigenous and Northern Affairs Canada, Nov. 2014. Pg. 12.

- Community readiness - While community readiness is within the mandate of CanNor, the Northwest Territories case study found that INAC could also play an on-going role in supporting community governance and readiness for resource development. For example, INAC's Strategic Partnerships Initiative program, could continue to support readiness for jobs, business, and growth in northern communities.
- Socio-economic data - Case studies in Nunavut and Northwest Territories found that both CanNor and INAC collect baseline socio-economic data. These roles were found to be complementary, and a more closely co-ordinated approach to collecting that data was recommended. The evaluation found that there is a need to collect further baseline socio-economic data to assess the impacts of petroleum and minerals development on communities.
- Support for major projects - While CanNor is responsible for coordinating partners through the Northern Project Management Office, the case studies and key informant interviews noted that INAC continues to play a role in major northern projects. For example, INAC continues to be the lead on the Canadian High Arctic Research Centre in Cambridge Bay. The Mackenzie Valley Gas Project was also lead by INAC. Some key informant suggested that even after devolution, the federal government should have a role in projects of national importance and large 'nation-building' infrastructure projects like the Inuvik to Tuktoyaktuk highway.

### **INAC is adapting to recent changes as a result of Northwest Territories devolution.**

Devolution grants territories more control over land and resources, giving Northerners more agency over their economic and political futures. As such, the devolution of Northern Governance is a key pillar of Canada's Northern Strategy, with the goal of providing Northerners with more control over their economic and political affairs. The Yukon was the first territorial recipient of devolution, a process that started in 1986 and ended in 2003, with the transfer of responsibility for lands, water, forestry and mineral resources.<sup>43</sup>

The Northwest Territories experienced a gradual transition to devolution, with some services being devolved in 1986. The final Northwest Territories Devolution Agreement came into force on April 1<sup>st</sup>, 2014,<sup>44</sup> transferring control over land and resources to the territory and marking the final step in its devolution process.<sup>45</sup>

Although the geographic extent of INAC's land, water and resource responsibilities in post-devolution Northwest Territories is reduced, the Department will retain its authority for the following areas:

- Intergovernmental relations;
- Negotiation and implementation of land claim and self-government agreements;
- Indian and Inuit programs and services;
- Management of federal obligations related to contaminated sites; and

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<sup>43</sup> INAC, *FAQs – Yukon Devolution*, June 2013, <http://www.aadnc-INAC.gc.ca/eng/1352471189145/1352471271662>

<sup>44</sup> INAC, *Short History of Northwest Territories Devolution*.

<sup>45</sup> INAC, *Northwest Territories Devolution*, July 2013, <http://www.aadnc-INAC.gc.ca/eng/1352398433161/1352400493640>

- Regulation of petroleum and mineral resources on federal lands in the Northwest Territories, Nunavut and Arctic offshore regions.

While rights issuance and royalty collection clearly rest with Government of Northwest Territories, other responsibilities such as facilitating consultation, advocacy and provision of information, strategic research and infrastructure support are all unclear, and there is an opportunity to clarify roles and responsibilities of all stakeholders. As a best practice, the Client Services and Community Liaison unit at Government of Northwest Territories has been directing inquiries to the relevant stakeholders.

In particular, it was noted that INAC maintains control over resources on contaminated lands in the Northwest Territories. However, interviewees were generally under the impression that once these lands are cleaned, they will be transferred under the authority of the Government of Northwest Territories. However, it is unclear which parcels of land will be partially remediated and re-opened for resource development and which parcels will be turned into park space. Interviewees felt that INAC should have a comprehensive strategy for remediating and transferring these lands, but that one does not exist currently.

Key informant interviews, case studies, and the document review found that INAC's role has changed over the evaluation period given devolution of petroleum and minerals management to the Government of the Northwest Territories on April 1, 2014. While the evaluation found the transition has been relatively smooth, in some cases roles and responsibilities still need to be clarified as the Government of Northwest Territories settles into its role. Key informants and case studies found that INAC will need to ensure its role is clear post-devolution in light of progress towards Nunavut devolution.

Finally, it should be noted that in October 2014, a Chief Federal Negotiator was appointed to begin formal negotiations on a devolution Agreement-in-Principle for Nunavut, once signed this document will service as a guide for the final devolution agreement but no timeline for Nunavut devolution has been established.



## **4. Evaluation Findings – Performance (Effectiveness / Success)**

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The following sections examine issues related to performance. The effectiveness of the sub-program was assessed based on the intended outcomes as stated in the Performance Measurement Strategy.

Those outcomes include:

- Securing title for industry;
- Fair and stable royalty regime;
- Benefits to communities from northern resource development; and
- Increased exploration activity

Generally, the program is meeting its performance targets; however, some external factors have been found to have an impact on the program. As such, recommendations are designed to compensate for some of these factors, which are detailed in Section 4.5.

### **4.1 Securing Title for Industry**

**Generally, the program is providing secure title for industry. However, some sources suggest there is an opportunity to examine program design changes to ensure an appropriate balance in security for industry and other needs.**

#### ***4.1.1 Program meeting Performance Measurement targets***

The program's 2014 Performance Measurement Strategy lists 'number of new exploration licences' and 'committed work expenditures by petroleum companies on new exploration licences' as indicators for oil and gas under this immediate outcome, and 'percentage of total land area with titles in good standing' for minerals.

Regarding oil and gas, the target for new exploration licences to demonstrate secure title for industry is one per year. A full breakdown on number of licences issued can be seen in Table 14 in Section 4.4 on facilitating exploration, and demonstrates that the program is well above its targets in this area. There is no target identified for expenditure commitments given that this is conducted through a confidential bidding process; however, Table 4 below demonstrates that expenditures on oil and gas exploration licences has been relatively stable during the evaluation period (although they have declined slightly, perhaps due to commodity price fluctuations).<sup>46</sup>

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<sup>46</sup> Note that oil and gas exploration is occurring in the Northwest Territories but not in Nunavut, for reasons discussed in Section 4.5.

**Table 4 - Value of Expenditures on Oil and Gas Exploration in the Northwest Territories  
(in millions)**

	<b>Exploration</b>
2013	\$96 600 000
2102	\$77 800 000
2011	\$77 900 000
2010	\$113 900 000

*Source: Northwest Territories Bureau of Statistics, with data from Statistics Canada*

Similarly, minerals title was found to be secure. While the percentage of overall land in good standing was unavailable, tables 5 and 6 indicate the number of claims, permits and leases that are in good standing in the Northwest Territories and Nunavut:

**Table 5 - Mineral Tenure Activity in the Northwest Territories:  
Numbers of Claims, Permits and Leases by Year (2010-11 to 2013-14\*)**

	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
# of Claims in good standing	4,075	4,158	3,036	2,256
# of Prospecting Permits in good standing	111	101	89	28
# of Leases in good standing	1,273	1,337	1,339	1,374

*Source: Northwest Territories Mining Recorder's Office*

*\*2013-14 is the last fiscal year prior to devolution.*

**Table 6 - Mineral Tenure Activity in Nunavut  
Numbers of Claims, Permits and Leases by Year (2010 to 2014)**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
# of Claims in good standing	7,178	6,777	6,066	5,562	4,278
# of Prospecting Permits in good standing	477	314	259	196	110
# of Leases in good standing	631	567	627	701	492

*Source: Canada-Nunavut Geoscience Office, Nunavut Mineral Exploration, Mining and Geoscience Overview (2014)*

As can be seen, the leases in good standing in the Northwest Territories grew during the evaluation period; while it fluctuated but ultimately declined in Nunavut, this is likely due to low commodity prices, and therefore low activity levels rather than insecurity in title. In fact, there were only four disputes related to minerals title over the entire evaluation period, indicating a fair and well-managed title security process. Note that claims related to exploration are discussed separately in Section 4.4.

#### **4.1.2 Fluctuating Industry Perceptions of Title Security**

Although security of title is deemed strong as per the indicators set out in the Performance Measurement Strategy, industry has indicated that there are concerns in its security of title as managed by the Petroleum and Minerals program. Tables 7 and 8 show the results of a Fraser Institute survey of industry on perceptions of regulatory regimes for Petroleum and Minerals respectively:

**Table 7 - Fraser Institute *Global Petroleum Survey*: Ratings for the Northwest Territories on Composite Indices**

**Percentage of respondents: overall percentage<sup>1</sup> and percentage rating deterrent as strong**

Year (sample size)	Regulatory Climate Index	
	Overall	Strong
2014 (n=156)	52%	8%
2013 (n=157)	41%	17%
2012 (n=147)	38%	6%
2011 (n=135)	78%	34%
2010 (n=133)	45%	21%

<sup>1</sup> The overall percentages can include a small percentage (ranging from zero percent to four percent) or respondents who would not pursue investment due to the factors in the index.

**Table 8 - Fraser Institute *Survey of Mining*: Ratings for Nunavut Regulatory uncertainty as a deterrent to investment**

**Percentage of respondents: overall percentage and percentage rating deterrent as strong<sup>2</sup>**

Year (# of jurisdictions)	Nunavut - Regulatory uncertainty		Northwest Territories – Regulatory uncertainty	
	Overall	Strong	Overall	Strong
2014 (n=122)	41%	2%	46%	6%
2013 (n=112)	34%	6%	47%	19%
2012 (n=96)	37%	9%	38%	17%
2011 (n=93)	29%	8%	49%	26%
2010 (n=72)	45%	10%	63%	39%

<sup>2</sup> The percentages can include a small percentage of respondents who would not pursue investment due to this factor.

In these surveys, industry representatives were asked the extent to which regulatory climates were a deterrent to investing in various jurisdictions. As can be seen, industry concerns have fluctuated regarding regulatory certainty in both territories. One should use caution interpreting these data, as they do not give a clear picture of the extent to which ‘deterrent’ means ‘would invest’ or ‘would not invest.’ That being said, industry and program representatives explained to evaluators which issues specifically affected their confidence in security for industry for potential improvement, which are detailed below.

#### **4.1.3 Factors affecting security of title**

In Nunavut, there were few comments with regard to security of title; most interviewees felt the regulatory process was straightforward as compared to other jurisdictions. This was mirrored in the *2012 Evaluation of the Northern Regulation, Resource and Environmental Management* where industry was generally satisfied with INAC’s administration of the oil and gas permit and license issuance cycle. The industry representatives consulted noted that there were modest regulatory changes in Nunavut during the evaluation period, and this meant there were brief periods of uncertainty regarding the applicability of regulations. In one instance, industry felt that changes to water licences may limit the feasibility and affordability of operations, but generally title is deemed to be secure.

In the Northwest Territories, however, other challenges were raised. Interviewees noted two specific challenges in the approvals process for mineral development:

- First, that minerals work is significantly more difficult in areas where land claims are currently unsettled given that rights to lands and resources are far less clear than in settled areas. This challenge was also noted in the Government’s 2007 review of northern regulatory regimes.<sup>47</sup> The 2012 evaluation reiterates this challenge, with approximately half of the mining companies consulted experiencing difficulties due to land claim uncertainty, particularly in the Northwest Territories. The Mackenzie Valley was noted as an area of particular concern, and several key informants noted that one of INAC’s roles of greatest value going forward in the Northwest Territories should be to work toward settlement of land claims.
- Second, there were some concerns expressed that a number of regulatory bodies can call for environmental assessments on the grounds of ‘public concern’ in cases where to do so may not be warranted. In particular, interviewees felt that in some cases, a limited number of outspoken individuals were able to trigger assessments when they were unwarranted and during a project stage where an assessment is not affordable. While this debate is beyond the scope of the evaluation, interviewees did emphasize that better access to reliable environmental data and education for all parties would be beneficial to ensure a proper balance between environmental stewardship and project feasibility. An internal review of the Beaufort Regional Environmental Assessment found that this kind of initiative serves to better prepare all stakeholders for exploration and production by reducing uncertainty over potential environmental consequences.<sup>48</sup>

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<sup>47</sup> McCrank, Neil, *Road to Improvement: The Review of the Regulatory Systems Across the North*, 2008, 7, <http://glwb.com/sites/default/files/mvlwb/documents/McCrank-Report.pdf>

<sup>48</sup> *Beaufort Regional Environmental Assessment – Program Review*. Prepared for Indigenous and Northern Affairs Canada, Nov. 2014. Pg. 12.

Two more general comments emerged from discussion with key informant interviews and case study interviewees related to security of title for industry:

- A number of interviewees noted that despite INAC's recent efforts at clarification, consultation requirements remain unclear. Questions were raised regarding timing of consultation, whether to consult directly with communities versus representative organizations, and at what point consultation is deemed to be satisfactory. It should be noted that the 2015 *Evaluation of Consultation and Accommodation* also highlighted a need for clarity on consultation and accommodation issues and practices, and has recommended continued support and guidance to stakeholders on this issue.<sup>49</sup>
- Interviewees also spoke about the importance of land use planning. One interviewee noted that it is a tool that is valuable for managing the expectations of all parties and providing certainty given that it lays out intended land use. However, interviewees also cautioned that for land use planning to be effective, planners require adequate capacity and that it must be done in such a way that it does not conflict with pre-established regulations, which can unintentionally restrict development. Development of a land use plan for the territory of Nunavut is currently ongoing, and concerns have been raised that areas where mineral rights are already under disposition may be identified for conservation, thus prohibiting further development activity despite significant pre-existing investments. Interviewees stressed the importance of protecting existing mineral rights for areas already under disposition in order to ensure industry continues to feel that title is secure. As such, it is important to strike a balance between the aspirations of the land use plan and pre-existing mineral tenure.

Therefore, the program is generally providing secure title for industry. However, the discussion above provides considerations for further program improvements in this area.

## **4.2 Fair and stable royalty regime**

**Industry deems the royalty regime to be fair, and royalties from oil and gas and minerals production in the North provide a substantial contribution to the federal treasury. However, other sources suggest there is an opportunity for more strategic use of royalties collected.**

### ***4.2.1 Industry Ratings of Royalty Regimes Improving***

*Industry ratings of the royalty regime in the Northwest Territories have improved over the evaluation period.*

As per the indicator outlined in the 2014 Performance Measurement Strategy, the Fraser Institute survey, which measures industry's perceptions of the Petroleum and Minerals fiscal regime are presented below:

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<sup>49</sup> Indigenous and Northern Affairs Canada, *Evaluation of Consultation and Accommodation*, April 2015. pg. iv.

**Table 9 - Ratings of fiscal terms as a deterrent to oil and gas investment in the Northwest Territories (percentage of respondents)**

	<b>Moderate deterrent</b>	<b>Strong deterrent / would not invest</b>	<b>Overall</b>
2014	18%	8%	26%
2013	8%	8%	18%
2012	28%	8%	36%
2011	23%	16%	39%
2010	20%	18%	38%

*Source: Fraser Institute Global Petroleum Survey 2010-2014.*

- As can be seen here, the percentage of respondents who rated fiscal terms as a deterrent to investment in oil and gas is lower overall in 2013 (18 percent) and 2014 (26 percent) than in the previous years from 2010 to 2012 (ranging from 36 percent to 39 percent).
- Similarly, the percentage of respondents who rated fiscal terms as a strong deterrent to investment is lower by half in the 2012 to 2014 surveys (eight percent) than in 2010 (18 percent) and 2011 (16 percent).

In the 2014 Fraser Institute *Global Petroleum Survey*, industry representatives rated the Northwest Territories as 50th out of 156 jurisdictions on appropriateness of its fiscal regime, including royalties; it should be noted that the differences between the top 50 rankings are not large. The 2014 ranking represents a significant improvement over the ranking in 2010 when the Northwest Territories ranked 88<sup>th</sup>. The range of rankings over the 2010 to 2014 period are consistent with what one INAC representative described during the 2011-12 evaluation as “being in the middle of the pack, where you want to be.”

Mineral royalties in the Northwest Territories and Nunavut were deemed to be fair as well. In 2008, Two Duck Resources conducted a study known as *Comparative Review of the Rate of Royalty in the Canada Mining Regulation, as Relates to National and International Competitiveness* for INAC and the Mining Association of Canada. While the study had been commissioned due to perceptions that the royalty regime may be overly burdensome, it found that the royalty rates for mining in the Northwest Territories and Nunavut, which reach a maximum of 13 percent, are in the middle of Canadian jurisdictions.

#### **4.2.2 Substantial Royalty Revenue**

*Royalties from petroleum and minerals production in the North provide a substantial contribution to the federal treasury.*

Royalty revenues provide an indication of the level of overall petroleum and minerals productivity and profitability. A total of approximately \$45.0 million in royalties was received from oil and gas production on northern frontier lands from 2010-11 to 2013-14. The annual total declined somewhat over the evaluation period, from \$15.2 million in 2010-11 to \$8.3 million in 2013-14. The average annual amount of royalties received over this time period of \$11.3 million also represents a significant reduction from the average of \$24.0 million in previous five-year period from 2006 to

2010. In the longer term over the last 20 years, total royalty revenues for the federal government from mining in the North have increased substantially, from approximately \$8.7 million in 1995-96 to \$26.0 million in 2013-14. However, over the evaluation period, royalty revenues have declined substantially, from approximately \$109.0 million in 2010-11 to \$26.0 million in 2013-14. This is likely due to the reduction in oil prices over the evaluation period.

Revenues from licences experienced a large increase in 2013-14, from an average of just over \$13,000 from 2010-11 to 2012-13 to almost \$240,000 in 2013-14. This is an indicator of increased exploration activity and therefore the potential for an increase in royalties in future years, as can be seen in Table 10:

**Table 10 - Federal Government Revenues from Mining in Nunavut and the Northwest Territories (combined): Royalties and Licences 2010-11 to 2013-2014**

	<b>Royalties</b>	<b>Licences</b>	<b>Total</b>
2013-14	\$26,083,626	\$239,668	\$26,323,294
2012-13	\$57,387,289	\$11,887	\$57,399,176
2011-12	\$131,929,176	\$11,456	\$131,940,632
2010-11	\$108,706,590	\$13,788	\$108,720,378

*Source: Public Accounts of Canada, Public Works and Government Services Canada: INAC Revenues.*

#### *Oil and Gas royalties received*

Royalties received from oil and gas production on northern frontier lands from 2010-11 to 2013-14 are as follows:

2013-14 – \$8,291,808  
 2012-13 – \$10,189,004  
 2011-12 – \$11,408,182  
 2010-11 – \$15,180,954

*(Source: Public Accounts of Canada, Public Works and Government Services Canada: INAC Revenues)*

The *Northern Oil and Gas Annual Reports* present oil and gas royalties collected by calendar year. The total royalties collected from 2010 to 2014 are as follows:

2013 – \$10,046,685  
 2012 – \$9,992,786  
 2011 – \$11,652,548  
 2010 – \$15,762,287

#### **4.2.3 More Strategic Use of Royalties**

**Although the process for determining resource royalties is well defined, it is not transparent how those royalties are being used.**

Interviewees indicated that the royalty regime needs to be balanced so as to ensure Canadians can access benefits from resource development and to incentivize industry. While most interviews and the data review found that royalty rates in the North were competitive because they fell in the mid-range of other Canadian and international royalty regimes, one interviewee suggested that not enough royalty revenue was being collected, and that a public review of royalty rates would be beneficial. This was supported by literature as well as several interviewees from the previous evaluation.

Key informants also expressed concern over use of royalties. Some key informants indicated that their major concern with royalties was a lack of transparency about their usage, as they indicated, it was unclear what happened to the royalties after they were collected. Additionally, it was suggested by one key informant that federal royalties could be placed in a national fund or sovereign wealth fund for specific purposes, such as pensions. Other suggestions included using royalties to support the environmental assessment process, to reinvest in green technology for resource development, and to support community readiness activities such as job training and literacy development.

### **4.3 Benefits to communities from Northern Resource Development**

**Royalties, tax revenue, jobs and business opportunities are various ways in which northern regions can benefit from northern resource development. However, there is an opportunity at a local level for more community readiness, supporting communities to fully leverage benefits from resource development.**

The evaluation has found that northern regions can benefit from increased growth in employment, businesses, taxes, and royalty revenues related to northern resource development; however, adequate consultation and community readiness support are important factors in ensuring these benefits are realized.

#### ***4.3.1 Employment Benefits***

The 2014 Performance Measurement Strategy lists ‘Number of Northerners and Aboriginal people employed in operations’ and ‘Employment targets established in Benefits Plans are achieved’ are indicators to measure performance in this area. Obtaining data was a challenge as Canada Benefits Plans are confidential and there is no clear baseline for ‘Number of Northerners and Aboriginal people employed in operations.’ However, the following figures for mining and oil and gas employment were found:



**Table 11 - Person-Years of Mining Employment for Aboriginal People: 2010 to 2014  
Northwest Territories Diamond Mining and Nunavut Gold Mining**

Year	Northwest Territories			Nunavut
	Diavik Diamond Mine	Ekati Diamond Mine	Snap Lake Diamond Mine	Meadowbank Gold Mine
2014	244			241
2013	236	377	139	258
2012	238	384	149	250 (approx.)
2011	313	317	145	
2010	269	357	123	

Sources: *Diamond mining company annual socio-economic monitoring reports*; *Nunavut Mining, Kivalliq News (2014)*; *Agnico-Eagle presentation to Northern Lights Conference (January 2014)*

Note – blank spaces indicate where data were unavailable

The employment benefits from the oil and gas industry in the North are harder to determine. A provision in the *Canada Oil and Gas Operations Act* requires companies to develop Canada Benefits Plans, which are intended to provide employment and economic opportunities to Canadians and Canadian businesses. While the Petroleum and Minerals sub-program is responsible for approving *Canada Benefits Plans*, the content of those agreements is confidential. To provide greater clarity on the requirement of a Canada Benefits Plan, INAC published a new *Benefits Plan Guidelines for the North* in 2013 that provides clear direction to companies about their obligations for ensuring oil and gas activities benefit northern communities.

Overall, all lines of evidence found there are clear economic benefits from petroleum and minerals development in the North. The mining industry is the largest employer of Aboriginal people in the North, with Aboriginal representation making up about half of the northern diamond mining workforce in the Northwest Territories. Jobs and training opportunities were the most common benefit cited by key informants. As an example of this potential, between 1998 and 2012, mining contributed 35 000+ person-years of employment in the Canadian north.<sup>50</sup> In 2013, the Northwest Territories and Nunavut Chamber of Mines reported that 53 percent of the northern diamond mining workforce was Aboriginal. The *2012 Evaluation of the Northern Regulation, Resource and Environmental Management* also found that mining industry representatives and other stakeholders were near-unanimous in agreeing that mining activity had resulted in training and employment opportunities for Aboriginal people and other northern peoples.

#### **4.3.2 Economic and Business Benefits**

Furthermore, the mining industry is a significant purchaser of supplies and services from northern companies. As such, it makes a major contribution to the economies of the Northwest Territories and Nunavut. Between 1998 and 2012, mining contributed over \$9 billion to northern business development, \$4 billion of which was Aboriginal-owned.<sup>51</sup> Diamond production in Northwest Territories has contributed close to 40 percent of the territory's gross domestic product since 2004

<sup>50</sup> Mining Association of Canada (MAC), *Improving the Investment Climate in Canada's North: Key Challenges and Opportunities*, 2012.

<sup>51</sup> MAC, *Improving the Investment Climate in Canada's North: Key Challenges and Opportunities*.

through direct and indirect business opportunities.<sup>52</sup> The Northwest Territories and Nunavut Chamber of Mines reports that, in 2013, 66 percent of mining company expenditures (\$621 million of \$943 million) were with northern businesses; 26 percent of this total (\$248 million) was with Aboriginal business.

The Socio-Economic Agreements of the major producing mining companies in Nunavut and the Northwest Territories also specify targets for Aboriginal and Northern employment. While these agreements are private and do not require the terms to be made public, companies often produce annual socio-economic monitoring reports that present the actual employment figures to demonstrate the extent to which they are achieving the targets in the Socio-Economic Agreements.

### **4.3.3 Royalty Revenue Sharing**

*Significant mining royalty revenue is shared with Aboriginal communities.*

Royalty revenues from mining shared with Aboriginal communities in the Northwest Territories was \$35.5 million in 2012 and \$21.8 million in 2013. The 39 percent decrease in revenues to Aboriginal communities from 2012 to 2013 is not as large as the 54 percent decrease in total royalties by INAC over these two years.

The following table presents the approximate totals of diamond royalties shared with Aboriginal groups from 2010 to 2013.

**Table 12 - Diamond royalties shared with Aboriginal groups: 2010 to 2013**  
(approximate figures, in \$ millions)

	<b>Tlicho Government</b>	<b>Sahtu Dene Council</b>	<b>Gwich'in Tribal Council</b>
2013	\$600,000	\$400,000	\$400,000
2012	\$900,000	\$600,000	\$600,000
2011	\$1,500,000	\$900,000	\$900,000
2010	\$2,500,000	\$1,800,000	\$1,800,000

*Source: Measuring Success 2014: Northwest Territories diamond mines continue to create benefits, Northwest Territories and Nunavut Chamber of Mines, November 2014.*

*Note – blank spaces indicate where data were unavailable*

In Nunavut, on Inuit-owned lands, 100 percent of all royalties belong to the Inuit where they hold subsurface rights. On non-Inuit-owned lands, the Inuit receive 50 percent of royalties on the first \$2 000 000 received in royalties by the Government of Canada and five percent of any additional royalties received as per Article 25.1.1 of the Nunavut Land Claims Agreement. In 2011 and 2012, 100 percent of mining royalties collected were transferred to Nunavut Tunngavik Inc.

*While not as large as royalty revenues from mining, royalties received from oil and gas production are a significant source of revenue for First Nations in the Northwest Territories.*

<sup>52</sup> Impact Economics, 2008 *Northwest Territories Diamonds*. Prepared for the Northwest Territories/Nunavut Chamber of Mines and the Mining Association of Canada.

The following table presents a summary of resource revenue sharing with First Nations in the Northwest Territories from 2010 to 2013, along with the percentage related to oil and gas production. Total revenues presented are for royalties from oil and gas production, mining and quarrying.

**Table 13 - Oil and Gas Contribution to Resource Revenue Shared with Aboriginal Groups:  
2010 - 2013 (in \$1,000s)**

	2010	2011	2012	2013
Gwitch'in	\$356,000		\$806,000	\$616,000
Sahtu	\$356,000		\$806,000	\$616,000
Tlicho	\$496,000		\$1,121,000	\$857,000
Deh Cho	\$582,000			
Total revenues shared	\$1,791,000			

*Source: Mineral and Petroleum Resources Directorate*

*Note – blank spaces indicate where data were unavailable*

#### **4.3.4 The Importance of Consultation**

While mining companies manage financial and technical risks, the growing concept of ‘social license to operate’ calls on them to also consider social and environmental aspects of their projects. As such, benefits to communities is listed as an immediate outcome in the Petroleum and Minerals Performance Measurement Strategy.

Key informant interviews highlighted the importance of community consultation as a key component of maintaining this social license to operate. Furthermore, Key informant interviews and case studies found that governments and industry could do more to inform communities about the potential impacts of resource development on their communities in order to make informed decisions regarding opportunities and potential risks.

Aboriginal peoples and their traditional ways of life may be particularly vulnerable to the impacts of operations.<sup>53</sup> As is noted in the April 2015 *Evaluation of Consultation and Accommodation*, it is important to ensure stakeholders have support and guidance in their work to engage, consult and accommodate Aboriginal groups where appropriate as all development should engage and consult with Canada’s Aboriginal peoples in a fair, timely and culturally appropriate way throughout the project life cycle.<sup>54</sup> In lands covered by comprehensive land claim agreements such as Nunavut, there is a further legal imperative to work with Aboriginal groups.

<sup>53</sup> N.T.I. *Resource Revenue Policy*, 2011

<sup>54</sup> Indigenous and Northern Affairs Canada, *Evaluation of Consultation and Accommodation*, 2015, pgs. iii-iv.

#### ***4.3.5 Community Readiness Work Required for Further Leveraging of Benefits***

**There appears to be a disconnect between labour market needs and skills development in the North, preventing communities from fully leveraging the possible benefits of resource development. Greater education and training efforts could help ensure more northern workers are available for hire.**

The *2012 Evaluation of the Northern Regulation, Resource and Environmental Management* confirmed that there was a substantial benefit for some communities in the North, with significant potential for future benefit; however, it also indicated that benefits from development did not reach all communities and often communities close to small projects did not gain as much. There are challenges at a local level to fully leverage benefits given labour market conditions and limitations in community readiness.

The workforce capacity of the mining industry internationally and in Canada has become a barrier to petroleum and minerals development. The Canadian mining industry is expected to need an additional 120,000 workers by 2024 due to a need to replace aging workers,<sup>55</sup> creating an opportunity for greater inclusion of northern peoples. Furthermore, the hiring of local northern workers in resource development projects in Nunavut is legislated by the Nunavut Land Claim Agreement through the requirement for industries to create Inuit Impact Benefit Agreements for all Major Development Projects.<sup>56</sup> However, difficulties remain in hiring local labour due to low educational attainment in northern communities. While skills development opportunities exist for communities in close proximity to larger advanced mining projects,<sup>57</sup> it may be more difficult for newer projects and smaller companies to offer these opportunities.

Case study and key informant interview indicated that communities are unable to fully leverage the benefits of resource development due to a mismatch in labour market needs and the education and training available. The deficit in education and skills required to take advantage of employment and other business opportunities related to mining is a barrier to communities fully accessing the benefits of resource development.<sup>58</sup> Interviewees suggested that efforts should be made to support community readiness in order to address this misalignment.

It should be noted that the Beaufort Regional Environmental Assessment had a stated mandate to examine community readiness, impacts and benefits, and was found to contribute positively to knowledge on these subjects. As such, it is a best practice example of coordinated work to support community readiness for the purposes of leveraging benefits from resource development.<sup>59</sup>

Finally, the Northwest Territories Mine Training Society was noted as a best practice for leveraging benefits for communities. This organization is discussed further in Section 6.2.

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<sup>55</sup> Mining Industry Human Resource Council, *Canadian Mining Industry Employment, Hiring Requirements and Available Talent: 10-year Outlook*, 2014 National Report

<sup>56</sup> Stratos, *Mineral Resource Development Profile: Kivalliq Region, Nunavut*.

<sup>57</sup> Nishi-Khon and SNC Lavalin, *The Case for the Nunavut-Manitoba Highway*.

<sup>58</sup> Stratos, *Mineral Resource Development Profile: Kivalliq Region, Nunavut*.

<sup>59</sup> *Beaufort Regional Environmental Assessment – Program Review*. Prepared for Indigenous and Northern Affairs Canada, Nov. 2014. Pgs. 8, 12.

## 4.4 Facilitating Exploration Activity

While petroleum exploration has remained stable during the evaluation period, it has yet to occur in Nunavut. Furthermore, minerals exploration declined, likely due to external factors such as commodity prices, a lack of infrastructure and generally high costs of operating in the North. In light of these challenges, some sources noted that government could consider further facilitating exploration through strong investment in geoscience and potential changes to rights tenure.

### 4.4.1 Program Meeting Some Performance Targets

According to the sub-program's 2014 Performance Measurement Strategy, the indicators that demonstrate increased exploration activity are "increase in areas of new permits and claims to prospect, prospecting permits and claims" for minerals and "increase in number of licences issued" for oil and gas.

Data reviewed indicate that during the evaluation period, petroleum exploration remained relatively stable. Table 14 shows the available data on the number of new licences issued during the evaluation period as well as the associated value of work to be spent on exploration, and Table 15 shows the total licence types for oil and gas over the evaluation period:

**Table 14 - Number of new exploration licences and value of exploration work commitments**

Year	Number of new exploration licences	Location of land packages	Value of work commitments on new exploration licences. (in \$ millions)
2013	1	Central MacKenzie Valley	\$1.2
2012	2	Central MacKenzie Valley	\$92.0
	6	Beaufort Sea and MacKenzie Delta	\$7.5
2011	11	Central MacKenzie Valley	\$534
	2	Beaufort Sea and MacKenzie Delta	\$2
2010	1	Central MacKenzie Valley	\$1.7
	5	Beaufort Sea and MacKenzie Delta	\$109

*Source: Northern Oil and Gas Annual Reports 2010 - 2014*

**Table 15 - Land Disposition: by Interest Type (total number of licences)**

Year	Exploration Licences	Significant Discovery Licences	Production Licences
2013	30	139	23
2012	38	139	23
2011	34	139	23
2010	24	139	23

*Source: Northern Oil and Gas Annual Reports*

As can be seen, a number of new oil and gas exploration projects were initiated during the evaluation period, though only in the Northwest Territories.

On the minerals side of the program, exploration declined. As per the Performance Measurement Strategy, Table 16 shows the area of claims recorded and area of prospecting permits issued in the Northwest Territories and Nunavut respectively:

**Table 16 - Mineral Tenure Activity in the Northwest Territories:  
Land Area (in hectares) of Claims and Permits by Year (2010-11 to 2013-14\*)<sup>60</sup>**

	2010-11	2011-12	2012-13	2013-14
Area of Claims Recorded	474,109	444,250	85,626	138,682
Area of Prospecting Permits issued	682,837	179,052	293,233	0

*Source: Northwest Territories Mining Recorder's Office*

*\*2013-14 is the last year prior to devolution.*

As can be seen from Table 16, the decline in claims recorded per year in the Northwest Territories over the evaluation period is significant, having decreased by nearly 71 percent; the number of prospecting permits issued dropped to zero for 2013-14.

#### **4.4.2 Challenges with Performance Data**

Despite the use of these indicators in the Performance Measurement Strategy, key informant interviews and interviewees from the Northwest Territories case study noted that external factors are far more influential than actions program staff could take to facilitate exploration. Specifically, exploration only occurs in significant quantity when commodity prices incentivize it, and mineral prices declined during the evaluation period. Similarly, a lack of available infrastructure and generally high costs of operation in remote, northern environments were both cited as barriers to facilitating exploration by interviewees. Infrastructure was also cited as an explanation for low exploration activity in Nunavut in a 2007 report assessing the territory's readiness for devolution, noting that Nunavut's resources are considered 'stranded.'<sup>61</sup>

<sup>60</sup> Data for Nunavut were not available at the time of writing.

<sup>61</sup> Mayer, Paul, *Mayer Report on Nunavut Devolution*, 2007, 34.

It is important to note that although the program is meeting its oil and gas exploration targets from a technical standpoint, oil and gas exploration is not occurring currently in Nunavut. Interviewees noted that a lack of infrastructure that facilitates exploration results in little incentive to explore for oil and gas given that profitability is questionable. Interviewees also noted that Nunavut has undergone an assessment of oil and gas readiness and the Government of Nunavut is currently leading a process to examine what steps need to occur before Nunavut is fully ready for oil and gas exploration and development.

Key informant interviews and case studies suggested several ways the program can further incentivize exploration by industry despite the nature of this performance measure as being primarily influenced by external factors.

#### ***4.4.3 Geoscience: A best practice for incentivizing exploration***

Given the importance of scientific data on geological potential to all stakeholders, the document review, key informant interviews, and all case studies indicated that further investment in geoscience is a means of facilitating exploration. This was mirrored in the 2012 evaluation, where there was a consensus from industry that INAC needs to invest more in geoscience to realize the resource potential of the North. One of the goals of geosciences in this context is to give an indication of where there is resource potential, and therefore, where companies have a reasonable chance of finding significant discoveries. As such, in light of other factors that deter exploration (a lack of infrastructure, commodity prices, etc.) interviewees indicate that information on geological potential can help incentivize further exploration. One key informant noted that the Place-Fairway analysis, a comprehensive study into petroleum potential in the Nova Scotian offshore, was a best practice as it provided a significant amount of information on what resources may be available and in which parcels. Posting this information on the Nova Scotia offshore board's website in a user-friendly format was valuable as it enticed industry in the area.

However, interviewees also noted that there is not enough funding for all of the geoscience research that is needed. For example, the jointly-funded Canada-Nunavut geosciences office budget has been fixed since 1999, and at current budget levels one interviewee estimated that it would take 100 years to adequately map Nunavut's geological potential. Another interviewee noted that there are numerous sources of funds for sciences in the North, but that they are uncoordinated and leave gaps. For example, the interviewee suggested that the Canadian High Arctic Research Station program is set to focus on the effects of climate when it could be used for further geosciences work. Coordinating research needs among stakeholders is an area where interviewees suggested INAC could play a stronger role. This is corroborated by the 2012 *Evaluation of the Northern Regulation, Resources and Environmental Management Programs*.<sup>62</sup>

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<sup>62</sup> INAC, *Evaluation of the Northern Regulation, Resources and Environmental Management Programs*, 35.

#### **4.4.4 Further Incentivizing Exploration**

##### **Online Map Staking**

Program staff have been engaged in developing an online map-staking tool. As one interviewee noted, this is expected to save industry valuable time as it facilitates exploration without having to be physically present during initial stages. Internal document review notes that this is a much more efficient process than physical staking, where prospectors have to be flown into the area, and overlapping claims can occur, resulting in lengthy resolution of disputes. Furthermore, it has the potential to facilitate information-sharing amongst stakeholders as it provides a clear picture of land under exploration, and could facilitate land use planning and consultation activities. Several other key informants noted that it is intended to be a significant program improvement.

##### **Rights tenure**

If geoscience information is coordinated and disseminated well, it can incentivize companies to apply for exploration licences for oil and gas or to stake claims and apply for prospecting permits for minerals. Some key informants at Headquarters and interviewees in the Northwest Territories, as well as document review, suggest that changes to rights tenure for both oil and gas and minerals may also better incentivize exploration by industry.

Currently, exploration licences for oil and gas give the exclusive right to explore a parcel of land for nine years; if a company finds significant petroleum they can apply to INAC for a Significant Discovery licence, pending approval by the National Energy Board. As is noted in the 2013 Northern Oil and Gas report, Significant Discovery licences are designed to incentivize exploration with the possibility of ‘indefinite tenure’ over a patch of oil.<sup>63</sup>

Minerals tenure is similar; it operates on a free-entry system for staking claims, but explorers can also obtain a prospecting permit, giving exclusive rights to explore on a given parcel of land for three to five years and to stake a claim for up to ten years, depending on where the parcel is located.<sup>64</sup> If the company can demonstrate they have conducted a certain amount of exploratory work on the parcel of land, they can obtain a mining lease at 21 years’ length, renewable for an additional 21 years.<sup>65</sup>

While the data review indicates that the current system is successful, some key informants and case study interviewees suggested that the rights tenure may not be incentivizing exploration. For exploration licences and prospecting permits, respondents suggested the difficulties of operating in the North require more than nine years and three to five years respectively, depending on the location. In this phase of the process, then, licence lengths may be too short to allow for regulatory approval, hiring of staff, transportation of equipment into remote areas and proper exploration in harsh climates.

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<sup>63</sup> INAC, *Northern Oil and Gas Annual Report 2014*, 12.

<sup>64</sup> INAC, *FAQ about Mineral Tenure in Nunavut and the Northwest Territories*, April 2014, <http://www.aadnc-INAC.gc.ca/eng/1330617283096/1330617340416>.

<sup>65</sup> INAC, *FAQ about Mineral Tenure in Nunavut and the Northwest Territories*



Conversely, interviewees also expressed concern that indefinite tenure and 21 year renewable licences may provide too much leeway to continue facilitating exploration. While companies must demonstrate they are conducting exploratory work on their parcels, interviewees suggested there may be an opportunity to re-examine the value of work expected and/or the length of time allowed under these licences. This challenge was also noted in a report assessing Nunavut's readiness for devolution.<sup>66</sup> As such, there may be opportunities for INAC to examine the rights tenure system to further promote exploration in light of the external factors that influence it.

#### *Rights tenure in international jurisdictions*

The evaluation examined alternative rights tenure options used internationally. While it was determined that the current system is adequate, it should be noted that there are numerous systems for allocating exploration licences internationally:

Some key informants mentioned Norway as a comparison to Canada. In Norway, terms and conditions upon which companies are to be assessed when applying for petroleum licences is subject to change per licence. As is stated in Section 2 of *Norwegian Act 29* relating to petroleum activities, "The King may issue regulations relating to the contents of an application for exploration licence, the scope of such licence, the further conditions of the licence and the fee to be paid."<sup>67</sup> It should be noted that the 1985 policy that formed the basis for the modern *Canada Petroleum Resources Act* and *Canadian Oil and Gas Operations Act* rejected this type of system over concerns that it allowed for too much Ministerial discretion and industry was often unclear as to how winning companies were chosen.<sup>68</sup>

In Alaska, the United States Bureau of Land Management maintains an auction system every quarter for oil and gas leasing.<sup>69</sup> As such, revenue accrues directly to the Government following auction to the highest bidder. The land is subsequently rented to the bidder per acre for exploration as well as production purposes.

In the United Kingdom, in practice licences are granted in a competitive process rather than by auction as this method does not "divert significant sums of money away from exploration work."<sup>70</sup> Thus it appears that the intent of the United Kingdom's selection method is similar to that of the Petroleum and Minerals program's goal of facilitating exploration. However, *the Hydrocarbons Licensing Directive Regulations 1995*, which govern licensing regulations for petroleum in the United Kingdom, allow the Government to take into account "the technical and financial capability of the applicant...the way in which the applicant proposes to carry out the activities that would be permitted by the licence," in addition to the value of the bid.<sup>71</sup>

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<sup>66</sup> Paul Mayer, *Mayer Report on Nunavut Devolution*, 38.

<sup>67</sup> Government of Norway, *Act 29 Nov. 1996 No. 72 Relating to Petroleum Activities*, June 2011, <http://www.npd.no/en/Regulations/Acts/Petroleum-activities-act/>

<sup>68</sup> Ministry of Supply and Services Canada, *Canada's Energy Frontiers: A Framework for Investment and Jobs*, 8 – 9.

<sup>69</sup> Government of the United States Department of the Interior – Bureau of Land Management, *Q&As About Oil and Gas Leasing*, 2012.

<sup>70</sup> Government of the United Kingdom, *Oil and gas: petroleum licensing guidance*, September 2015, <https://www.gov.uk/guidance/oil-and-gas-petroleum-licensing-guidance>.

<sup>71</sup> Government of the United Kingdom, *The Hydrocarbon Licensing Directive Regulations 1995*, section 3.

While the first two systems have their merits – flexibility of terms and conditions and direct revenue, and thus provide alternatives to consider, the evaluation has found no rationale based on alternative designs to significantly alter the rights issuance system. According to the Fraser Institute Annual Surveys for both mining and petroleum, companies’ perceptions of the regulatory regimes in the Northwest Territories and Nunavut have improved. Over the evaluation period, responses suggesting the regulatory climate is a ‘strong deterrent to investment’ have declined significantly. As noted by many interviewees, the current system works well for facilitating exploration, although slight modifications could be made to further facilitate exploration.

## 4.5 Factors affecting the achievement of outcomes

**Exploration and development for petroleum and minerals are limited by factors such as remoteness, climate, commodity prices, regulatory regime, unsettled land claims and infrastructure availability**

The performance of the Petroleum and Minerals program was found to be heavily influenced by a number of external factors. As such, these economic, social and environmental factors are outlined below to situate the program’s performance in this crucial context.

### 4.5.1 *Economic Factors*

*Commodity prices have a heavy influence over whether industry is incentivized to undertake exploration and development.*

Commodity prices were identified by interviewees as being very influential over the engagement of industry in resource development in the North. The program’s performance in encouraging exploration, granting licenses, and collecting royalties depends on the strength of the economy yet is an area where the program cannot exert control. A scan of media from 2015 demonstrates how low oil and mineral prices impact development, with the low oil prices experienced this year reducing exploration in areas of the Northwest Territories. However, low oil prices meant that costs of fuel were also reduced,<sup>72</sup> demonstrating that commodity prices can have a variety of impacts on resource development.

*A lack of infrastructure is a significant barrier to northern resource development and was identified as an area where the federal government could play a greater role.*

The literature review, key informant interviews, and case studies found that a lack of infrastructure in the North, particularly in Nunavut, is a barrier to resource development. This finding supports those of the 2012 *Evaluation of Northern Regulation, Resources and Environmental Management Programs*, which also found that insufficient infrastructure could discourage industry from investing in the North due to the high cost associated with developing that infrastructure.<sup>73</sup> Compared to other resource development operations globally and within Canada, the costs to develop resources in the North are much higher due to the remoteness of sites, harsh weather conditions, cold climate, slow

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<sup>72</sup> CBC News, *Oil in the Sabtu a Different Ball Game*, 2015.

<sup>73</sup> INAC, *Evaluation of the Northern Regulation, Resources and Environmental Management Programs*.

broadband service, lack of transportation infrastructure, and lack of energy infrastructure.<sup>74</sup> These higher costs may negatively impact the economic viability of northern resource projects under certain market conditions. For example, the Mining Association of Canada estimates that the costs for northern mine development include particularly high capital costs that are twice as expensive for gold mines, 2.5 times higher for base metal mines, and 15-20 percent higher for diamond mines. At the same time, operating costs are 30-60 percent higher.

Specifically, transportation infrastructure is one of the primary inhibitors of mining development in the North.<sup>75</sup> The lack of roads to connect communities forces companies to rely on air and marine travel to reach their mine sites, which impacts the cost of transporting staff and materials needed for operation and construction.<sup>76</sup> Companies operating in the North adopt large upfront capital expenditures to build all-weather access roads, airstrips and ports, in addition to other infrastructure costs such as flying staff and material to the sites.<sup>77</sup> Furthermore, energy infrastructure is also a major constraint on resource development in the North. Remote northern communities may be dependent on fossil fuel for their electricity. This is the case in Nunavut where the Qulliq Energy Corporation lacks local energy resources and the capacity to transmit regional electricity.<sup>78</sup> Consequently, there are independent diesel fueled electricity generators and distribution systems in each community and no back-up if they fail to work. Energy costs for mining companies in the North account for over a third of their operating costs, due to their reliance on diesel generators.<sup>79</sup>

In addition to costs associated with inadequate transportation and energy infrastructure, companies must bear the costs of heating, specialized design and construction, navigation of sea ice, and lower efficiency of construction and operations due to the remoteness of sites and cold, harsh climate.<sup>80</sup> Industry also needs to be able to operate independently for at least a year at a time, due to short shipping seasons and a lack of local suppliers in more remote areas of the North.<sup>81</sup> The remoteness of sites adds an additional cost due to the two-week-on, two-week-off staffing system, which requires them to fly staff to the site and home again.<sup>82</sup>

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<sup>74</sup> Prospectors and Developers Association, *Briefing Note Northern Infrastructure*, 2014; *ConLeveling the Play Field: Supporting Mineral Exploration and Mining in Remote and Northern Canada*, April 2015

<sup>75</sup> Prospectors and Developers Association, *Briefing Note Northern Infrastructure*, 2014

<sup>76</sup> Nishi-Khon and SNC Lavalin, *The Case for the Nunavut-Manitoba Highway*, 2010.

<sup>77</sup> Nishi-Khon and SNC Lavalin, *Wind power for Nunavut? Don't Hold Your Breath, QEC Boss Says*, (Nunatsiaq Online), 2012,

[http://www.nunatsiaqonline.ca/stories/article/65674wind\\_power\\_for\\_nunavut\\_dont\\_hold\\_your\\_breath\\_qec\\_boss\\_says/](http://www.nunatsiaqonline.ca/stories/article/65674wind_power_for_nunavut_dont_hold_your_breath_qec_boss_says/)

<sup>78</sup> George, J., *Wind power for Nunavut? Don't Hold Your Breath, QEC Boss Says*

[http://www.nunatsiaqonline.ca/stories/article/65674wind\\_power\\_for\\_nunavut\\_dont\\_hold\\_your\\_breath\\_qec\\_boss\\_says/](http://www.nunatsiaqonline.ca/stories/article/65674wind_power_for_nunavut_dont_hold_your_breath_qec_boss_says/)

<sup>79</sup> Advanced Explorations Inc., *Roche Bay Iron Project - High Quality, Accessible, Near-Term Iron Ore Supply*, 2013.

<sup>80</sup> Stratos, *Mineral Resource Development Profile: Kivalliq Region, Nunavut*, 2014.

<sup>81</sup> Julien, M, *Developing mining Projects responsibly in the Canadian sub-Arctic environment - some of the challenges and opportunities*.

<sup>82</sup> Julien, M, *Developing mining Projects responsibly in the Canadian sub-Arctic environment - some of the challenges and opportunities*.

Costs are not only borne by the companies, but also by communities who may not have the municipal infrastructure or social services to accommodate new residents. An influx of new residents could cause a strain on community services and infrastructure such as waste and sewage removal, which needs to be transported by trucks from individual homes and shipped to an external sewage plant.<sup>83</sup> Due to the limited capacity of community services and infrastructure, municipalities may be unable to support a transient resource development population.

Legacy infrastructure, such as hospitals or residences, was highlighted by case study participants as a direct benefit to communities from resource development, suggesting that legacy infrastructure could be used to meet municipal infrastructure needs. Interviewees indicated that the federal government could play a role in funding strategic infrastructure to further incentivize exploration. The federal government has a number of opportunities for territorial and local governments to access funding to support the development of adequate infrastructure across Canada, such as the *New Building Canada Fund* and the *Gas Tax Fund*, which provide annual funding over a 10-year period to support territorial and local government priorities. Additionally, the *National Infrastructure Component* of the *New Building Canada Plan* and the *Public Private Partnerships Canada Fund* provide funding for nationally significant projects and to support the use of public private partnerships.

*Tax incentives currently in place are deemed to make the North a competitive jurisdiction for mining to offset barriers such as climate, remoteness and lack of infrastructure.*

The Yukon, Northwest Territories and Nunavut account for approximately 40 percent of Canada's land mass, yet with only 0.3 percent of the population residing across the three territories taxes are unable to support the demand for better infrastructure. In Nunavut, 90 percent of the Government's budget comes from federal government funding and the remaining 10 percent is sourced from local taxation.<sup>84</sup> Following personal income taxes and payroll taxes, corporate income tax is the third largest tax source for the Government of Nunavut and the revenue from corporate tax rates is expected to grow in the long term as more resource development projects are established.<sup>85</sup> The evaluation found that current tax incentives for industry encourage development and make the North competitive, generating federal and territorial tax revenue. Royalties and taxes in parts of the Northwest Territories and Nunavut under the *Northwest Territories and Nunavut Mining Regulations* were in the mid-range of royalty and tax rates in a comparison between 10 mining jurisdictions in eight countries,<sup>86</sup> making them competitive internationally. The taxation regime in the Northwest Territories and Nunavut was found to not be a deterrent to investors during the evaluation period.

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<sup>83</sup> Stratos, *Mineral Resource Development Profile: Kivalliq Region, Nunavut*.

<sup>84</sup> Impact Economics, *2013 Nunavut Economic Outlook*.

<sup>85</sup> PricewaterhouseCoopers (PwC), *Canadian Mining Taxation: Guidance on the complexities, 2013*, from [http://www.pwc.com/en\\_CA/ca/mining/publications/pwc-canadian-mining-taxation-2013-12-en.pdf](http://www.pwc.com/en_CA/ca/mining/publications/pwc-canadian-mining-taxation-2013-12-en.pdf)

<sup>86</sup> INAC, *Evaluation of the Northern Regulation, Resources and Environmental Management Programs*.

#### 4.5.2 Social Factors

*Addressing community concerns is necessary to ensure projects advance properly. This includes, at a minimum, ensuring proper consultation procedures are followed and that environmental concerns are addressed in project planning.*

The traditional lifestyles and cultures of northern people are intimately connected to the land, and conserving the environment required to support these cultures and lifestyles is important for enabling communities to leverage benefits from resource development and to garner community support for projects. Community opinions and concerns regarding resource development are helpful in determining areas where shared action and collaboration can take place. At the same time, community concerns may create challenges to resource development when the communities are hesitant to support development projects because of the legacy of abandoned mines or if they feel it not feel it will benefit them.<sup>87</sup>

Communities are also sometimes concerned about the motives of regulators, and whether terms and conditions placed on companies by environmental assessment processes will be enforced.<sup>88</sup> This concern is due in part to the fact that federal regulators are not locally based and conduct regulations from Ottawa.<sup>89</sup> Additional concerns are related to the negative health impacts associated with extracting petroleum and minerals. Concerns about the health impacts of certain minerals, such as uranium, are exacerbated by the difficulty in translating explanations of technical extraction processes to people who are not familiar with the technical terms or who speak a language where those terms and concepts are not easily translated.<sup>90</sup> Improved communication was indicated by northern Aboriginal peoples interviewed in the 2012 evaluation as an area of improvement for industry and government, as they felt that if their communities had known in advance that resource development projects were going to become operational they could have more easily leveraged benefits from those activities.

Case study interviews noted that while consultation is crucial to ensuring project advancement, it is important to understand that Aboriginal groups and representative organizations may suffer from consultation and engagement fatigue. The 2012 evaluation suggests that this may in part be because northern communities had found that the quality of engagement varied across industry, with some companies engaging in informative and genuinely collaborative consultations and others seeming to just be covering off a responsibility. During the previous evaluation industry representatives commented that there was some uncertainty about the respective responsibilities of the Government and industry for community engagement. Additionally, it must be acknowledged that there is no singular voice for Aboriginal groups, indicating that there is value in consultations including a variety of Aboriginal stakeholder groups in order to fully understand the context of development.

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<sup>87</sup> CBC News, *Oil in the North a Different Ball Game*.

<sup>88</sup> AREVA, *Kiggavik Project Final Environmental Impact Statement*.

<sup>89</sup> Stratos, *Mineral Resource Development Profile: Kivalliq Region, Nunavut*.

<sup>90</sup> Government of Nunavut, *Public Forum on Uranium: Summary Report*.

### 4.5.3 Environmental Factors

#### *Climate Change*

The reliance of Aboriginal communities on nature for their livelihoods and sustenance leaves them particularly vulnerable to impacts of climate change and requires extensive adaptation plans to be developed.<sup>91</sup> These impacts are further exacerbated by inadequate infrastructure, remoteness, inaccessibility, reliance on diesel fuel systems and melting permafrost.<sup>92</sup>

Resource development both impacts and is impacted by climate change. The greenhouse gas emissions from resource development accelerate the effects of climate change while changes in the already hostile environment, including melting permafrost, extreme weather events and increasing run offs impact the efficiency of resource development operations and the ability to attract industry to the area.<sup>93</sup> Resource development can also be benefited by climate change, as melting permafrost and ice results in exposing areas of resource potential and increasing access to the Arctic.<sup>94</sup>

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<sup>91</sup> Inuit Tapiriit Kanatami, Nasivvik Centre for Inuit Health and Changing Environments at Université Laval and the Ajunnginiq Centre at the National Aboriginal Health Organization, *Unikkaaqatigiit: Perspectives from Inuit in Canada*, 2005.

<sup>92</sup> Indigenous and Northern Affairs Canada (INAC), *Climate Change*, 2012, <http://www.aadnc-INAC.gc.ca/eng/1100100034249/1100100034253>

<sup>93</sup> AREVA. (2014). *Kiggavik Project Final Environmental Impact Statement*.

<sup>94</sup> AREVA. (2014). *Kiggavik Project Final Environmental Impact Statement*.

## 5. Efficiency and Economy

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The following sections examine factors affecting efficiency and economy, including:

- The impact of internal restructuring and policies such as the Deficit Reduction Action Plan;
- Information management and information technology;
- The impact of the Devolution on Northwest Territories; and
- Regulatory regime changes.

### 5.1 Deficit Reduction and Information Technology

#### 5.1.1 *Deficit Reduction and Recruitment and Retention Challenges*

**Deficit Reduction has exacerbated Human Resources-related issues by creating capacity gaps and reducing the ability for northern staff to foster crucial face-to-face relationships.**

A common theme to emerge from case studies was the importance of personal relationships for facilitating petroleum and minerals work in the North. A number of interviewees stated that in the northern context, face-to-face relationships are key to developing rapport and to conducting business efficiently, particularly as the number of stakeholders involved can make the process confusing and because stakeholders can be as diverse as Aboriginal groups, industry, and various territorial and federal departments. One interviewee explained that while it may seem far more costly in the short term to pay for travel that facilitates these relationships, through face-to-face contact stakeholders learn how to deal with one another more effectively, thus saving time and energy in the long run.

As such, a number of interviewees expressed concern about the new travel directive that was implemented as a cost-saving measure in the Deficit Reduction Action Plan. The Treasury Board Travel Directive was updated during the evaluation period and places limits on the cost of travel and the number of employees who can travel, particularly for conferences. Several representatives spoke of the importance of attending conferences, noting that the Travel Directive is a barrier. By attending the Roundup and Prospectors' and Developers' Association Conference, for example, INAC staff can answer a number of questions at once and in detail about minerals development, the regulatory process and the stakeholders involved. Industry has the opportunity to ask questions on important files, and generally relationships are built for the purposes of petroleum and minerals development. As such, the Travel Directive has had a negative impact on the program's ability to conduct its work in an efficient manner.

In addition to restrictions on travel, interviewees at headquarters and in both Nunavut and the Northwest Territories stated that there is a lack of staff and expertise in the areas of policy, environmental assessment, operational minerals work and allowable expenditures and royalty assessment. At Headquarters, this was generally in the context of staffing reductions as a result of the Deficit Reduction Action Plan. In the Northwest Territories, it was noted that employees with science backgrounds are in heavy demand in the petroleum and minerals industries, and so in some cases recruiting new staff is difficult. In Nunavut, it was noted that the cost of living in Iqaluit and difficulties such as obtaining health care in the territory results in high turnover. In a context where face-to-face relationships are crucial to conducting work, this compounds program challenges.

### ***5.1.2 Information Technology and Information Management***

**Improving information technology and information management were stressed as a means of maintaining program efficiency, particularly in light of the recently reduced staff and travel abilities discussed above.**

Generally, program staff were of the opinion that they are collecting the information they need. However, one key informant noted that it is often challenging to get the information they do have online, as there are language and privacy restrictions. Corroborating what others said about the importance of geoscience, this key informant stated that putting more of the program's information online for the public would be beneficial, but that there are privacy restrictions and translation costs that make doing so unfeasible.

Interviewees suggested practical changes are required to INAC's Information Technology to make the program operate more efficiently. Interviewees noted that while from a policy standpoint Lands, Water and Field Operations may seem completely separate, in practice on the ground in the territory the regulatory community needs to work very closely together and share information. In Nunavut, there are currently separate databases for lands, water and field operations, when in reality they are often working on the same parcel of land; lands, water or field officers may require important information from each other's databases to which they do not have access. In addition to integrating Water and Fields Operations information into the Lands database (known as LIMS), specific improvements that could be made include a reminder function to let clients know about required compliance work, as well as a risk assessment tool, which would help to reduce the Crown's liability.

Furthermore, the mining recorder's database for Nunavut is currently housed at Headquarters and the LIMS is housed in Yellowknife. In some cases, information has to be uploaded by satellite and as this method is slow, it can cause delays in work on time-sensitive files.

As such, there is an opportunity to examine the program's information technology systems. While improvements could be costly upfront, interviewees suggest they could save money in the medium- and long-term future by avoiding delays or potential errors that enhance the Crown's liability.

Interviewees in Nunavut stated that they feel it is their duty to provide a well-organized database for the purposes of information management to a resource management group within a future Government of Nunavut where resource responsibilities have been developed. As such, they envisioned the possibility of INAC preparing a comprehensive 'Nunavut Resources Database' to organize the growing body of land, environmental management and resource claim information in the territory for maximum utility.



## 5.2 Devolution

**Northwest Territories Devolution is likely to increase efficiency and effectiveness of decision making going forward. However, implementation and capacity-building necessary for Petroleum and Minerals work is still ongoing in the first two years following devolution.**

Literature suggests that devolution was effective in the Yukon as more local decision makers have higher accountability, faster response time and more local knowledge with which to make decisions.<sup>95</sup> This was confirmed by interviewees in the Yukon, who said that a smaller government with stronger ties to the population, better local knowledge, legislation that is more targeted to the territory's needs and greater capacity for enforcement of terms and conditions functions more effectively than when the work was done out of Ottawa.

Interviewees in the Northwest Territories said that, similarly, devolution means that people who have a strong understanding of local context are now in charge of Petroleum and Minerals, resulting in strong relationships and adequate information for decision making. It was also noted that devolution was positive because of the delegated authority to territorial ministers to make decisions.

Interviewees also noted, however, that implementation of devolution was a challenge and there is still work to be done. Specifically, the Deficit Reduction Action Plan in the pre-devolution INAC context meant that staffing and contracting required for devolution were difficult to achieve, and that Government of Northwest Territories and INAC were both left with a legacy of a lack of capacity from the Deficit Reduction Action Plan.

Additionally, northern regulatory reforms were ongoing immediately prior to devolution, which interviewees noted caused difficulty for implementing their new legislation. In particular, there were changes made to the *Mackenzie Valley Resource Management Act* close to April 1, 2014, that interviewees noted required significant work in a short period of time to implement properly. Going forward, one interviewee noted the Government of the Northwest Territories will be looking to amend legislation and regulations to better suit the territory's needs.

Key informants also noted that significant capacity-building work was required to assist the Government of the Northwest Territories in preparing for new responsibilities, particularly for diamond valuation and royalty collection. It is expected that some ongoing capacity work is required.

Finally, as discussed in Section 3.3, there is an opportunity for INAC and the Government of the Northwest Territories to clarify relative roles and responsibilities going forward.

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<sup>95</sup> Alcantara, Christopher, Kirk Cameron and Steven Kennedy, *Assessing Devolution in the Canadian North: A Case Study of the Yukon Territory*, (Arctic 65 no. 3), 2012, 328-338.

## 5.3 Regulatory Efficiency

**Northern regulatory reforms are ongoing and are intended to increase efficiency. As implementation is ongoing, it is important to monitor whether these intended efficiencies occur.**

As discussed in Section 1.2, there are various regulatory regimes for resource development across Canada's north. Furthermore, as noted in Section 3.2, a key government priority throughout the evaluation period has been the ongoing work on northern regulatory improvements. Evaluators had the opportunity during case studies to obtain the views of various stakeholders on the extent to which these improvements were contributing to regulatory efficiency, a lack of which has been identified by some as a barrier to resource development.

### *Nunavut*

The Nunavut Impact Review Board is the primary institution responsible for screening and reviewing projects, as well as conducting environmental assessments and monitoring project activities. Consequently the workload is heavy and constantly increasing, placing great strain on the limited capacity of the Nunavut Impact Review Board.<sup>96</sup> Public regulatory boards were indicated in the 2012 evaluation to be short-staffed and INAC regional staff members also found keeping up with existing demands to be a challenge, as they have resources substantially below what is available in the Northwest Territories, despite considerable exploration activity.

Interviewees for this evaluation generally noted that having one single land claim makes the regulatory process simpler.

Several specific comments were made about Northern regulatory reforms in Nunavut:

- Several interviewees stated that the *Nunavut Planning and Projects Assessment Act* is intended to simplify the regulatory process. Among other components of the legislation, part 5 of the Act clarifies the roles and responsibilities of public government institutions in major projects and planning.<sup>97</sup> However, interviewees also expressed caution about the legislation, noting that post-implementation, industry has had concerns about the extent to which it functions as intended.
- There are some challenges with licensing, permits and regulations. Specifically: coal legislation is out of date; new interpretations of water license rules have placed prohibitive restrictions on water use for companies; and concern was expressed that the Nunavut Planning Commission lacks clarity on its permit approval processes.
- New monetary penalty enforcement legislation has recently been established that will allow the Government to charge fines when proponents do not follow environmental requirements, which is anticipated to protect the environment and decrease future liability to the Crown.
- Online map-staking and an increase in the duration of permits are both anticipated to be valuable changes as they will provide easier access to exploration for industry.

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<sup>96</sup> The Conference Board of Canada (CBoC), *Future of Mining in Canada's North*.

<sup>97</sup> *Nunavut Planning and Project Assessment Act* <http://laws-lois.justice.gc.ca/eng/acts/N-28.75/>

## *Northwest Territories*

Interviewees noted that improvements to legislation during the evaluation period, such as *The Surface Rights Act* and *the Navigable Waters Act*, have been positive. They felt that changes will help with compliance and certainty, and that current steps to establish timeframes for project proposal review are beneficial. However, interviewees also noted that some changes, such as those made to the *Mackenzie Valley Resource Management Act*, were made so close to devolution that their implementation was challenging.

Interviewees stated that the following work can be done to make the regulatory regime simpler:

- Establishing stronger timelines on project approvals and more robust regulatory boards.
- Ensuring environmental review is consistent with level of impact (this requires looking as the issue of ‘public concern.’).
- Ensuring INAC appoints board members within reasonable timeframes.
- Giving the Government of the Northwest Territories full authority over the land and water boards to make more effective regulatory reforms.

During the evaluation period, the Beaufort Regional Environmental Assessment facilitated research into environmental baseline data so as to study potential environmental impacts of resource development in the Beaufort Sea. This was done with the expectation that it would contribute to more informed and efficient regulatory decisions.<sup>98</sup> While the review was only recently completed and no new regulatory decisions have been made over the area, study of the Beaufort Regional Environmental Assessment website indicates that reports are already being used for purposes such as the Tanker Safety Expert Panel, and the National Energy Board and Environmental Impact Review Board have both expressed interest in using the research.<sup>99</sup>

Finally, it was noted that simplifying the regulatory regime will contribute to certainty, thus making investment in Northwest Territories more stable and smoothing boom and bust cycles.

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<sup>98</sup> *Beaufort Regional Environmental Assessment – Program Review*. Prepared for Indigenous and Northern Affairs Canada, Nov. 2014. Pg. 13.

<sup>99</sup> *Beaufort Regional Environmental Assessment – Program Review*. Prepared for Indigenous and Northern Affairs Canada, Nov. 2014. Pgs. 13, 21,

## 6. Evaluation Findings – ‘Other Issues’

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The following sections examine other evaluation issues, including:

- Unintended impacts
- Best practices and lessons learned

### 6.1 Unintended Impacts

**Wage-based labour and other resource project effects such as outmigration can have an effect on the local economy and community life.**

The traditional economy in the North is significant to the identity, economic, cultural and social well-being of Aboriginal communities. Foods sourced through traditional hunting, fishing and gathering cost approximately half of the total food cost they would be at the grocery store.<sup>100</sup> The wage based economy can have both positive and negative ramifications for communities and the traditional lifestyles they rely on. Wage based labour, particularly in the mining sector, was suggested by interviewees to lead to issues of identity, family conflict, and family rejection in part due to the two-week-on two-week-off scheduling that is very new to some communities previously unfamiliar with mining. These issues make retaining and recruiting local northern workers difficult, and lead to high rates of absenteeism.<sup>101</sup> Although there is a desire in northern communities to be able to benefit from these employment opportunities, the tension between the wage economy and traditional lifestyles often impedes their inclusion. Additionally, the transition to a wage economy is not always accompanied by increased accessibility to education or training in work related skills development, core competencies related to wage earning or to banking services.

Financially, the benefit to companies of hiring local northern workers over southern workers is not apparent and instead the importance of hiring local northern workers remains a social issue and a determinant of community acceptance of a mining project.<sup>102</sup> Interviewees indicated that in the Northwest Territories, outmigration and commuting from different provinces and countries impacts the local economy and community life. As people are commuting to the Northwest Territories and then returning home, money is not always being reinvested back into communities. Additionally, the outmigration may foster less of a sense of community as the employees are transient. Interviewees noted that resource development staff are most easily found in Alberta, and that multiple federal departments compete for a limited number of graduates with appropriate training and skills. It was suggested that increased training for Northerners could help build a local labour force and reduce experiences of outmigration and diversify the resource development labour market beyond Alberta.

**A sudden influx of capital from resource development can indirectly exacerbate pre-existing community health challenges.**

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<sup>100</sup> AREVA, *Kiggavik project environmental impact statement*.

<sup>101</sup> Bell, J., *Meadowbank a reality check for Nunavut mining*. (Nunatsiaq Online), 2012, [http://www.nunatsiaqonline.ca/stories/article/65674meadowbank\\_a\\_reality\\_check\\_for\\_nunavut\\_mining\\_aem\\_executive/](http://www.nunatsiaqonline.ca/stories/article/65674meadowbank_a_reality_check_for_nunavut_mining_aem_executive/)

<sup>102</sup> Bell, J., *Meadowbank a reality check for Nunavut Mining*

Northern communities experience the lowest health outcomes in Canada, with high birth rates, shorter life expectancy, higher suicide rates, higher incidents of infant mortality, greater number of mental health and substance abuse issues, higher frequency of food insecurity and a higher rate of poverty.<sup>103</sup> Food insecurity is particularly dire in Nunavut, where 70 percent of Inuit households experience moderate to high food insecurity.<sup>104</sup> This high level of food insecurity is driven by high food prices, which are the result of the shipping costs associated with importing food from other parts of Canada and the world.

Issues of mental health or substance abuse are often perpetuated by a lack of services to support people in maintaining healthy lifestyles. Some interviewees indicated that these issues are exacerbated by sudden inflows of capital from resource development, which enables some residents to access food and health services but excludes those not involved in resource development industries from accessing those services. Consequently, interviewees believed a hierarchical system can be created within the community and even within families where one parent is able to access wage labour while the other cannot. Additionally, interviewees indicated that an influx of capital in these communities may lead to increased substance abuse.

**Interviewees stressed the value that access to banking, financial services and financial literacy training can provide in these services. Such resources can help to mitigate the challenges that come with a sudden influx of money and support communities in financially and socially sustainable practices. As such, this unintended impact supports the need for increased community readiness support as highlighted in Section 4.3.**

**Without proper planning and mitigation work, resource development can have a negative unintended impact on various aspects of the northern environment.**

Northern Canada contains a variety of ecosystems and wildlife, and while regulatory processes have the benefit of providing increased data and monitoring about these environments there are a number of concerns raised by increasing resource development near these vulnerable habitats.<sup>105</sup>

### *Land and Water*

Resource development can lead to the degradation of water and soil quality, degradation of the permafrost, and disruption of landform and vegetation.<sup>106</sup> A variety of mitigation measures have been standardized to reduce impacts of resource development on the environment, including increasing the distance of resource development activities from water and vulnerable environments, ensuring capacity and resources are available to manage waste appropriately and reduce risk of contamination, and establishing emergency plans.<sup>107</sup> Yet, due to the remoteness of these sites and the hostility of the Arctic environment there are still challenges to ensuring protection of land and water resources.

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<sup>103</sup> Impact Economics, 2013 *Nunavut Economic Outlook*.

<sup>104</sup> Canada: eight percent

<sup>105</sup> Stratos, *Mineral Resource Development Profile: Kivalliq Region, Nunavut*.

<sup>106</sup> Agnico Eagle Mines Ltd., *Some of the challenges involved in the development of a project in sub-Arctic environment: Meliadine project*, 2012.

<sup>107</sup> Agnico Eagle Mines. *Some of the challenges involved in the development of a project in sub-Arctic environment: Meliadine project*.

## *Wildlife and Caribou*

Northern Canada is home to a diversity of wildlife including caribou, polar bears, a range of whale and seal species, walrus, migratory birds, waterfowl, large fish population, muskox, wolves, wolverines, grizzly bears, arctic foxes, and other small mammals.<sup>108</sup> The ecosystems these animals inhabit are often adversely impacted by resource development. Whales can be impacted by expanding shipping routes,<sup>109</sup> migratory paths can be disrupted by roads, areas of reproduction can be disturbed, habitat can be encroached upon by sites, behaviours can be changed due to sensory disturbance caused by new sounds and smells, and large mammals who would typically avoid resource development sites are sometimes drawn in by garbage.<sup>110</sup>

Caribou are particularly important for northern cultures, as they are not only a source of food, clothing, and handicrafts but are also spiritually connected to those communities and the identity of harvesters.<sup>111</sup> Herds of caribou have large ranges, spanning many kilometres, territories and provinces, leaving them particularly vulnerable to migratory pattern disruption due to roads and sites.<sup>112</sup> Caribou management takes place at both a regional and project level, through aerial surveys, and the establishment of speed limits and road closures during migration.<sup>113</sup>

Implementation of the *Nunavut Land Claim Agreement* through the *Nunavut Planning Commission*, *Nunavut Impact Review Board*, *Nunavut Water Board*, and the *Nunavut General Monitoring Program*, is intended to promote and protect Inuit interests in resource development, which include protections for wildlife.<sup>114</sup> Nunavut's Draft Land Use Plan designates land as protected areas, special management areas, and mixed use areas to limit disturbances to rich ecosystems, but the boundaries created by this system are artificial and cannot be communicated to the wildlife that move between the designated areas.<sup>115</sup> The inclusion of Inuit Qauajimajatuqangit and traditional knowledge into monitoring and training for personnel, the impact assessment processes, and in the identification of priorities for protection and development has been suggested as a way of further reducing the negative repercussions of resource development in these vulnerable environments.<sup>116</sup> The 2012 *Evaluation of the Northern Regulation, Resources and Environmental Management Programs* reflected this suggestion, as Aboriginal groups felt there needed to be more done to incorporate Traditional Knowledge into development decisions.

**In light of these unintended impacts, INAC's work on environmental and socio-economic baseline data should be encouraged.**

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<sup>108</sup> Nunavut Planning Commission (NPC), *Keewatin Regional Land Use Plan*, 2000, <http://www.nunavut.ca/files/Keewatin%20Regional%20Land%20Use%20Plan.pdf>

<sup>109</sup> AREVA, *Kiggavik Project Final Environmental Impact Statement*.

<sup>110</sup> Cumberland Resources, *Meadowbank Gold Project Environmental Impact Statement*, 2005.

<sup>111</sup> Beverly and Qamanirjuaq Caribou Management Board (BQCMB), *Beverly and Qamanirjuaq Caribou Management Plan 2013-2022 Summary*, 2014.

<sup>112</sup> BQCMB, *Beverly and Qamanirjuaq Caribou Management Plan 2013-2022 Summary*.

<sup>113</sup> NPC, *Keewatin Regional Land Use Plan*.

<sup>114</sup> Stratos, *Mineral Resource Development Profile: Kivalliq Region, Nunavut*.

<sup>115</sup> NPC, *Keewatin Regional Land Use Plan*.

<sup>116</sup> NPC, *Keewatin Regional Land Use Plan*.

INAC is a key partner and financial contributor in several valuable environmental and socio-economic research initiatives that can help to mitigate the unintended impacts discussed above.

#### *Beaufort Regional Environmental Assessment*

Beaufort Regional Environmental Assessment supported research on recurring issues with project specific regulatory applications. The issues include cumulative effects assessment and monitoring, information management, regional waste management, oil spill preparedness and response, socio-economic indicators, and climate change.

A total of \$21.8 million was invested in Beaufort Regional Environmental Assessment from 2011 to 2015, an average of \$4.36 million per year over this time period.

#### *Environmental Studies Research Fund*

The Environmental Studies Research Fund is established under a provision of the *Canada Petroleum Resources Act*. The Environmental Studies Research Fund finances environmental and social studies related to the exploration, development and production of oil and gas resources on frontier lands. The Environmental Studies Research Fund is funded through levies applied to oil and gas lands held by companies under license.

The number of new Environmental Studies Research Fund research projects in the North, and the amount of funding, which the Minister approved based on recommendations of the Environmental Studies Research Fund Management Board are as follows.

**Table 17 - Number and funding for the Environmental Studies Research Fund research projects in the North**

<b>Year</b>	<b>Number new of research projects</b>	<b>Funding level approved</b>
2014	6	\$323,916
2013	5	\$1,995,000
2012	2	\$920,000
2011	2	\$883,397
2010	2	\$1,201,537
Totals	11	\$4,999,934

*Source: Northern Oil and Gas Annual Reports 2010 – 2014.*

The Environmental Studies Research Fund levies collected from companies operating in the North (including levies and back levies collected):

2014 – \$112,094

2013 - \$3,224,121

2012 - \$977,543

2011 - \$895,053

2010 - \$1,389,012

*(Source: The Environmental Studies Research Fund Annual Reports)*

### *Other research*

The Petroleum and Minerals Resources Management Directorate contributes to setting the direction of federally-funded science research for frontier oil and gas activities by representing INAC on the Frontier Oil and Gas Portfolio Committee that includes Natural Resources Canada and other federal departments and agencies.

The Petroleum and Minerals Resources Management Directorate also works in partnership with the private sector, academia, Aboriginal communities and other federal government departments to initiate scientific research needed to support northern resources management and regulatory decision making. For example, the Branch participated in a Joint Industry Project to compile data on ice characteristics to improve knowledge of engineering needs and requirements in Beaufort Sea oil and gas operations.

### *Petroleum and Environmental Management Tool*

INAC introduced the Petroleum and Environmental Management Tool in 2009 to support its consultations leading up to the Call for Nominations. The Petroleum and Environmental Management Tool is an online, interactive geographic information system based on inputs from expert sources. Petroleum and Environmental Management Tool generates maps on environmental and socio-economic sensitivity for a selection of valued ecosystem components and maps summarizing geological potential. The Petroleum and Environmental Management Tool was introduced first for the southern Beaufort Sea. The larger pan-Arctic roll-out occurred in 2011.

The objectives of the Petroleum and Environmental Management Tool are to improve rights issuance planning and decision making, to foster information exchange with northern Aboriginal groups and other stakeholders, and to alert companies considering acquiring Exploration Licences of potential sensitivities which may require special mitigation efforts. Mapped environmental themes currently include polar bears, bowhead whales, beluga whales, migratory birds, ringed seals and Peary caribou. Socio-economic sensitivity is developed from traditional hunting information. These maps have been further refined and developed in consultation with resource management partners.

### *Environmental Protection*

A number of federal acts are also used for environmental protection in Nunavut, such as: *Territorial Lands Act*, *Nunavut Surface Rights Tribunal and Nunavut Waters Act*, *Navigable Waters Protection Act*, *Transportation of Dangerous Goods Act*, *Explosives Act*, *Fisheries Act*, *Species at Risk Act*, and *Migratory Birds Convention Act*.<sup>117</sup> However, evidence suggests that the federal government requires a stronger presence in Nunavut for proper implementation of these acts. Interviewees and document review suggest there are issues of enforcement which could lead both to a lack of environmental compliance and to inefficiencies in regulatory processes.<sup>118</sup> Additionally, it was noted that small and new resource development companies find it difficult to meet environmental regulation

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<sup>117</sup> Stratos, *Mineral Resource Development Profile: Kivalliq Region, Nunavut*.

<sup>118</sup> Stratos, *Mineral Resource Development Profile: Kivalliq Region, Nunavut*.



requirements due to their own limited capacity, which can lead to sites being abandoned and becoming contaminated.<sup>119</sup> As such it is important to monitor these challenges going forward.

**It is important that INAC always ensure a balanced approach to its multiple roles of encouraging resource development and maintaining environmental stewardship.**

Industry has come under increasing public scrutiny over environmental and social practices, with greater pressure from environmental and regulatory policies to approach resource development sustainably.<sup>120</sup> The balance between environmental stewardship, traditional harvesting, and economic development in the North is delicate due to the intimate relationship northern communities have with the environment. Resource development in the North has been linked with positive benefits, such as infrastructure growth and business opportunities. However, as discussed above, there are impacts on the environment and on the traditional values of communities whose culture, spirituality and livelihood depend on that environment. Interviewees indicated that INAC's role in promoting resource development should be reassessed, as they are also responsible for the wellbeing of Aboriginal peoples and environmental safety. One interviewee indicated that priorities should be questioned, as they suggested economic development was often given higher priority over the well-being of Northerners and Aboriginal peoples and ecosystem health. Other interviewees indicated that the Department's roles as both promoter and protector are often contradictory and that the Department may need to reassess who the beneficiaries of the program should be. This finding was echoed in the 2012 *Evaluation of the Northern Regulation, Resources and Environmental Management Programs*, which found INAC was seen as both the land owner and the developer in the North, which created confusion in terms of roles and responsibilities.

## 6.2 Best Practices and Lessons Learned

Key informants, interviewees, document review and literature review provided the following best practices for consideration:

- Coordination and sharing of scientific research – interviewees noted that publicly available geoscience information, environmental baseline data and cumulative impact monitoring are all useful for industry and communities. Efforts to coordinate this research and put it online were cited as best practices numerous times. In particular, the Beaufort Regional Environmental Assessment and the geoscience sharing on the Nova Scotia Offshore Board's website were listed as best practices. The Beaufort Regional Environmental Assessment in particular was found to have filled key regional information gaps. Furthermore, their governance model was found to be inclusive and communities were regularly informed and engaged through workshops and information sessions.
- Land use planning – interviewees noted that land use planning is a helpful tool for the purposes of coming to agreement amongst all stakeholders on the intended use of given parcels of land and therefore has the potential to make approvals processes in petroleum and minerals development much simpler. However, interviewees also cautioned that land use

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<sup>119</sup> CBC News, *Shear Diamonds seeks a buyer as Jericho mine languishes.*, 2013, <http://www.cbc.ca/news/canada/north/shear-diamonds-seeks-a-buyer-as-jericho-mine-languishes-1.2471484>

<sup>120</sup> Literature review

plans must be done properly to ensure zoning does not conflict with pre-established regulations.

- Mine Training Society – the Mine Training Society in Yellowknife was started by industry and jointly-funded by government. The Society works with both industry and Aboriginal groups to identify and train candidates for mining positions. Interviewees noted that it is important to have industry's insight in a training program such as this in order to ensure that the training being conducted is in relevant positions. The Mine Training Society has managed to train over 3300 people and facilitate employment for 1100 (five percent of the workforce in the Northwest Territories); however, interviewees noted that cost-sharing by government is required for organizations like this to be sustainable.
- Client Services and Community Liaison group – the Client Services and Community Liaison group in the Northwest Territories was created as a lesson learned from Yukon devolution. The group was formerly housed in INAC and has since been transferred through devolution to the Government of the Northwest Territories. The group acts as a 'traffic director,' guiding Aboriginal groups, industry and any other stakeholders to the appropriate contacts within government. This helps mitigate some of the confusion of regulatory regimes where many stakeholders are involved. It was noted that the group is known so well that it is often called for information on other matters, such as health and housing. The group demonstrates the effectiveness of having a dedicated team to help navigate government structures.
- Communicating companies' best practices – it was noted that given INAC's relationships with both Aboriginal governments and industry, the Department has a unique opportunity to learn in what contexts local hiring, training, and Impact Benefit Agreements have worked well so as to pass these suggestions on to other companies. This was discussed in the context that facilitating situations in which industry and Aboriginal groups all feel comfortable leads to a more efficient project approval process.
- Centralized regulatory process – interviewees in the Yukon and Nunavut noted that their regulatory regimes are often viewed favourably by industry. In the Yukon, this is due to the Yukon Environmental and Socioeconomic Assessment Board, which is the central regulatory body for resource development projects. Conversely, interviewees in the Northwest Territories noted significant challenges navigating a number of different regulatory bodies and approaches depending on in which part of the territory resource development occurs.
- Settling land claims – Interviewees and document review noted that unsettled land claims make the regulatory process difficult. In a similar manner to land use planning, having settled land claims provides certainty to Aboriginal groups and therefore makes seeking approval for projects much clearer for industry as well based on the provisions for resource development articulated in the land claim.

- Community readiness support – A number of interviewees noted that providing communities with support well in advance of resource projects supports their ability to make informed decisions and leverage benefits. The funding is used for a variety of useful functions, including community meetings to provide information on the various stages of resource development, community coordinators, and advanced planning. Many key informants stressed the importance of community readiness enabling communities to maximize the benefits of resource development.

## 7. Conclusions and Recommendations

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The following sections summarize the conclusions of the evaluation findings and the rationale for the recommendations.

### 7.1 Conclusions

This evaluation examined the relevance, performance and design and delivery of the *Petroleum and Minerals* sub-program from 2010-2011 to 2013-14 as per the Treasury Board's *Policy on Evaluation* requirement to evaluate program spending every five years. Devolution in the Northwest Territories was studied as part of the sub-program activities in the past five years as well, primarily to inform best practices, lessons learned and recommendations for the continued jurisdiction of the *Petroleum and Minerals* sub-program in Nunavut, the arctic offshore and select areas of the Northwest Territories.

#### ***Relevance***

The evaluation has found that there is a need for government involvement generally speaking if resources are to be developed in the Canadian North. This is important for the purposes of securing title for industry, facilitating exploration, and leveraging royalties and benefits for communities. The evaluation has confirmed that INAC is legislated to carry out these duties, and that ensuring this is done effectively and efficiently is a stated government priority.

However, it is also clear that INAC's role is changing as a result of Devolution in the Northwest Territories and the growing involvement of partners such as CanNor. INAC currently has a variety of roles beyond its core duties outlined above, and given this changing environment there is an opportunity to clarify roles and responsibilities with partners going forward.

**Recommendation: It is recommended that the Northern Affairs Organization clarify and communicate their role in the context of petroleum and minerals development.**

#### ***Performance***

The sub-program is generally meeting its performance targets in each of these core activities. However, these targets are strongly influenced by external factors such as commodity prices and availability of infrastructure. Given that these factors are beyond the program's control, any additional efforts the program can undertake to compensate should be encouraged. As such, effective coordination and dissemination of geoscience research was stressed throughout the evaluation as a means of continuing to facilitate exploration in the current high-cost and low commodity price environment.

**Recommendation: It is recommended that INAC continue to work with partners to support geoscience research, while maximizing the value of other northern scientific research through coordination and dissemination.**

Evaluators found few concerns regarding the royalty regime, which is long-standing and accepted by industry. However, several sources did suggest an opportunity for more strategic use of royalties and as the program considers ongoing improvements the options outlined in the evaluation should be considered.

The evaluation also revealed that the sub-program provides the opportunity for substantial benefits to communities in terms of employment, business opportunities, and legacy infrastructure, among others. However, there is concern that communities are not able to fully leverage the potential of these benefits due to factors such as a lack of training or literacy. As such, coordinating use of capacity-building resources with CanNor is recommended in order to continue working toward the Strategic Outcome of *self-reliance, prosperity and well-being for the people and communities of the North*.

**Recommendation: It is recommended that Northern Affairs Organization clarify roles between CanNor and INAC to further engage capacity development partners, ensuring a coordinated approach to leveraging opportunities.**

### ***Efficiency and Economy***

Significant changes were made during the period under evaluation to the structure of the Petroleum and Minerals sub-program; for example, a number of northern regulatory reforms have been made. While these reforms are intended to enhance efficiency, it will be important to monitor their effectiveness from the standpoint of all stakeholders going forward.

Furthermore, Deficit Reduction made staffing an issue and restricted the face-to-face relationship-building that is necessary for northern work. Given this reality going forward, it is important to ensure the sub-program has the means necessary to properly manage its information. As such, program staff should take the opportunity to re-examine current Information Technology and information management practices to ensure they have the most effective tools for managing information and relationships at a distance.

**Recommendation: It is recommended that Northern Affairs Organization consider options for integrated information management and decision making regarding land, environmental management and resource claims.**

Devolution in the Northwest Territories was viewed as a positive step for facilitating petroleum and minerals work in the territory, given that it draws local knowledge into the decision-making process. However, it was stressed during the evaluation that capacity-building work in the Government of Northwest Territories is ongoing and that significant work must still be done to modify legislation, regulations and staffing to ensure this work is conducted effectively and efficiently. On a similar note, several interviewees stated that in conducting their daily work on petroleum and minerals in Nunavut they must be cognisant of the preparations required for eventually transferring this portfolio to the Government of Nunavut.

### ***Other Evaluation Issues***

Finally, the evaluation has outlined a number of unintended impacts that can occur as a result of resource development. While these impacts are outside of the program's control, it is important to understand them and ensure all possible precautions are taken. As such, best practices such as INAC's funding of environmental research, organizations like the Mine Training Society that help communities to leverage benefits, and continued clarification of consultation requirements, can help to smooth these impacts going forward.

Notwithstanding the challenges outlined above, the *Petroleum and Minerals* sub-program facilitates significant opportunities. Given the challenge of INAC's multiple mandates of resource development, environmental stewardship and well-being for communities, it is crucial that INAC continually work toward the themes outlined in this evaluation: clear roles and responsibilities amongst partners; thorough information-sharing for all parties; a regulatory system that works for all involved; and a sub-program that provides for the needs of all stakeholders.

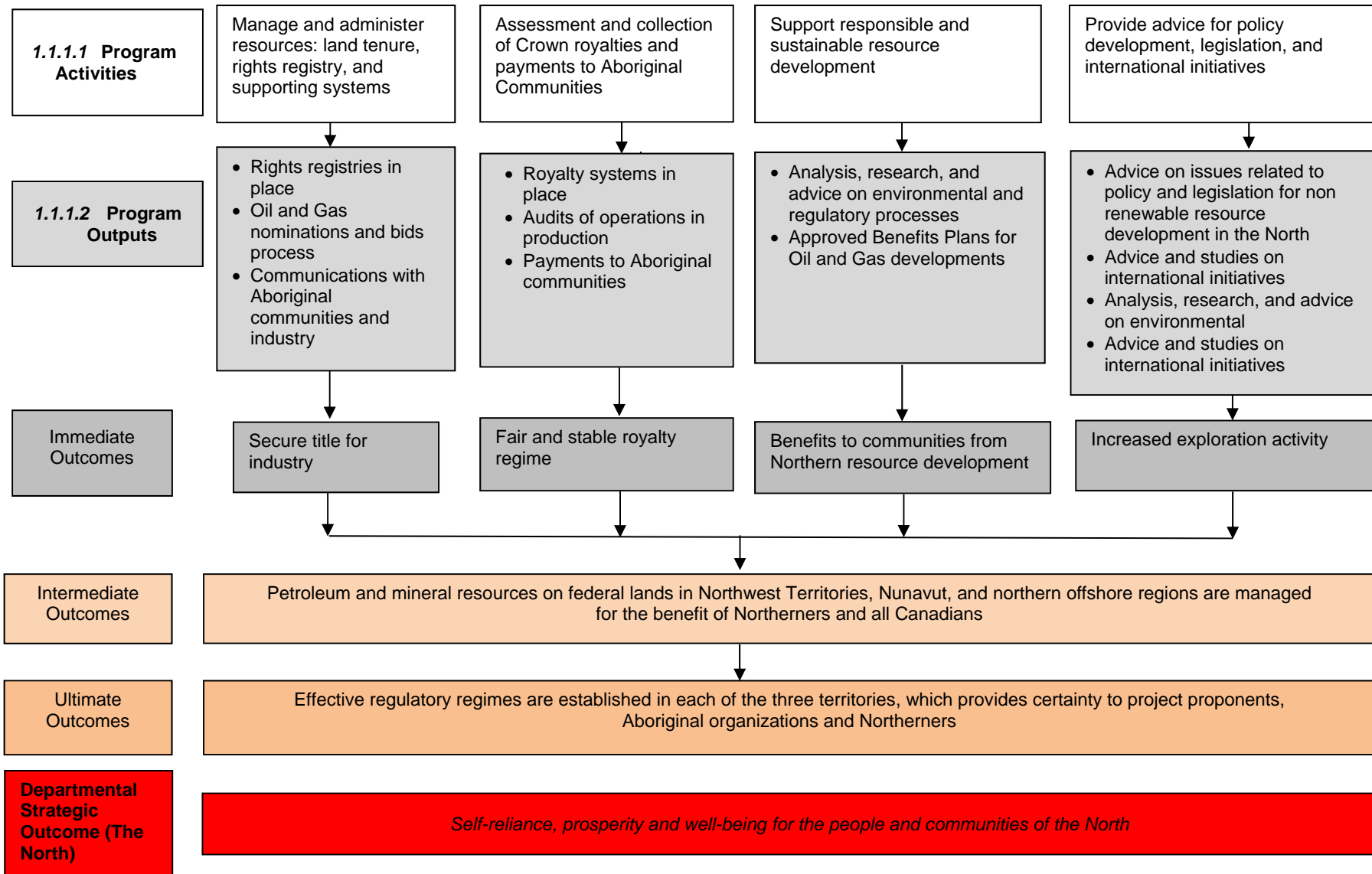
## **7.2 Recommendations**

### **It is recommended that:**

1. The Northern Affairs Organization clarify and communicate their role in the context of petroleum and mineral development.
2. The Northern Affairs Organization clarify roles between CanNor and INAC to further engage capacity development partners, ensuring a coordinated approach to leveraging opportunities.
3. The Northern Affairs Organization consider options for integrated information management and decision making regarding land, environmental management and resource claims.
4. The Northern Affairs Organization continue to work with partners to support geoscience research, while maximizing the value of other northern scientific research through coordination and dissemination.

# Appendix A – Petroleum and Minerals Logic Model

## LOGIC MODEL



## ***Appendix B – Description of Regulatory Regimes***

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There are four regulatory regimes in the North that govern environmental assessment and permitting processes: Yukon Region, Northwest Territories – Mackenzie Valley Region, Northwest Territories – Inuvialuit Settlement Region, and Nunavut Region.<sup>121</sup>

The *Yukon Environmental and Socio-Economic Assessment Board*, established by the *Yukon Environmental and Socio-Economic Assessment Act*, is responsible for screening potential development projects in the Yukon Region during the environmental assessment process.<sup>122</sup> Decision bodies, made of federal, territorial or First Nations governments or organizations with responsibilities related to the project, can accept, reject or vary *Yukon Environmental and Socio-Economic Assessment Board's* recommendation for whether the project is allowed to proceed with or without review.

The *Mackenzie Valley Resource Management Act* is responsible for the environmental impact assessment process in the Northwest Territories – Mackenzie Valley Region.<sup>123</sup> The *Mackenzie Valley Resource Management Act* begins this process by legislating land use permit and water license issuance on lands in unsettled land claim areas, as well as in transboundary land and water use applications. The *Mackenzie Valley Environmental Impact Review Board* then conducts an environmental assessment to determine whether the project will cause public concern or have negative environmental impacts. If the environmental assessment is inconclusive or predicts large repercussions on the environment, the *Mackenzie Valley Environmental Impact Review Board* will appoint a Review Board to conduct an environmental impact review that examines impacts more closely.

Two pieces of legislation govern environmental assessment processes in the Inuvialuit Settlement Region, the Northwest Territories: the *Inuvialuit Final Agreement* and the *Canadian Environmental Assessment Act*.<sup>124</sup> For projects proposed in the offshore Beaufort Sea, environmental assessments may require consideration under both the *Inuvialuit Final Agreement* and *Canadian Environmental Assessment Act* enabling coordination to create an environmental assessment that can meet both legislative requirements. The *Inuvialuit Final Agreement* led to the establishment of the *Environmental Impact Screening Committee*, which is responsible for preliminary assessments to determine possible negative environmental repercussions of a project, and the *Environmental Impact Review Board*, which is responsible for conducting environmental impact assessments and public reviews of projects.

Article 12 of the *Nunavut Land Claims Agreement*, through the establishment of the *Nunavut Impact Review Board* is responsible for environmental impact assessment processes in the Nunavut Region.<sup>125</sup> The *Nunavut Impact Review Board* first screens projects to determine whether a more comprehensive analysis is needed, and based on this screening process will issue one of four possible screening decisions: (1) approval with terms and conditions; (2) need for environment and socio-economic review; (3) return proposal to proponent for clarification; and (4) modify or abandon the proposal. If a proposal is to undergo it review, it will be done either as a Part 5 review conducted by *Nunavut Impact Review Board* or as a Part 6 review conducted by the Federal Environmental Assessment Panel.

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<sup>121</sup> CANNOR, *Northern Regulatory Systems*, November 2013, <http://www.cannor.gc.ca/eng/1384969897397/1384969918857>

<sup>122</sup> CANNOR, *Northern Regulatory Systems*.

<sup>123</sup> CANNOR, *Northern Regulatory Systems*.

<sup>124</sup> CANNOR, *Northern Regulatory Systems*.

<sup>125</sup> CANNOR, *Northern Regulatory Systems*.



When a project review is approved by the Responsible Minister, the project must then begin the regulatory permitting process governed by the *Nunavut Water Board* under Article 13 of the *Nunavut Land Claims Agreement*.

- Panel 5 review: *Nunavut Impact Review Board* conducts environmental and socio-economic impact assessment to determine whether the project should continue and what terms and conditions should be placed on the project. From here, the Responsible Minister can accept, send back, or reject the review.<sup>126</sup>
- Panel 6 review: the Federal Environmental Assessment Panel, appointed by the Minister of the Environment, conduct an environment and socio-economic impact assessment to determine whether the project should continue and what terms and conditions should be placed on the project. The review is then submitted to the Responsible Minister who can accept, send back, or reject the review.<sup>127</sup>

Additional domestic documents reviewed referred to the responsibility of INAC in the management and regulation of Petroleum and Minerals in the North:

- The *Expropriation Act* enables the federal government to expropriate title to areas where there are oil and gas operations.
- The *Yukon and Nunavut Regulatory Improvement Act* amended the *Yukon Environmental and Socio-Economic Assessment Act* and the *Nunavut Waters and Nunavut Surface Rights Tribunal* to improve regulatory processes across the North. Improvements were made to improve the efficiency of the *Yukon Environmental and Socio-Economic Assessment Act*'s environmental assessment process and to streamline water licensing and provide enforcement tools under the *Nunavut Waters and Nunavut Surface Rights Tribunal*.
- The *Northern Jobs and Growth Act* legislates land use planning and environmental assessment processes in Nunavut to improve regulatory certainty, increase investor confidence and strengthen Northern independence.
- The *Nunavut Planning and Project Assessment Act* legislates land use planning and environmental impact assessments, in an effort to improve the efficiency and predictability of the regulatory regime.
- The *Northwest Territories Surface Rights Board Act* legislates a clear, consistent and reliable dispute resolution mechanism.

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<sup>126</sup> CANNOR, *Northern Regulatory Systems*.

<sup>127</sup> CANNOR, *Northern Regulatory Systems*.

## Appendix C – Relevant Organizations

Institutions	Description of Role and Responsibilities
<i>National Institutions</i>	
Indigenous and Northern Affairs Canada - formerly Aboriginal Affairs and Northern Development Canada - (AANDC)	Through the <i>Territorial Lands Act</i> (including its regulations such as <i>Nunavut Mining Regulations</i> ) INAC has responsibility for surface and subsurface rights administration on Crown Land in Nunavut. Grandfathered rights, mineral rights from before the <i>Nunavut Land Claims Agreement</i> was created, are held by INAC until the holder transfers them to Nunavut Tunngavik Inc. INAC also administers land and water rights, issues water licenses, land use permits and land leases, and ensures the enforcement of terms and conditions related to the <i>Territorial Lands Act</i> and the <i>Nunavut Waters and Surface Rights Tribunal</i> .
Natural Resources Canada	NRC provides geoscience research and mapping information for Northern resource development. Works with INAC, Canada-Nunavut Geoscience Office, CanNor.
Environment Canada	Environment Canada supports the review of projects in the North by providing technical and scientific expertise. It is obligated to provide expertise to the Northern Boards under legislation and land claims agreements. It also meets with proponents, communities, and other stakeholders to ensure environmental assessment outcomes are optimal.
Transport Canada	Transport Canada is responsible for the management and regulation of navigational coastal and inland waters, as well as aviation, marine safety and security, the transportation of dangerous goods, road safety, and rail safety.
The Canadian Northern Economic Development Agency (CanNor)	CanNor is responsible for the coordination of federal departments in the North and delivers funding for economic development and training. The Northern Projects Management Office of CanNor supports industry and communities by providing regulatory process advice.
National Energy Board	The National Energy Board is an independent federal regulatory agency, mandated to regulate the energy industry under federal jurisdiction. The <i>Canada Oil and Gas Operations Act</i> and the <i>Canada Petroleum Resources Act</i> outline the board's regulatory responsibilities for petroleum and minerals on Canada Lands not regulated by federal or provincial accords. Federal legislation, such as the <i>Mackenzie Valley Resource Management Act</i> , the Inuvialuit Final Agreement, and the Nunavut Land Claims Agreement require the National Energy Board to conduct an environmental assessment
Geological Survey of Canada	Under Natural Resources Canada's Earth Sciences Sector, the Geological Survey of Canada is the national organization for geoscientific information and research, and establishes a general geological base for mineral industry to plan detailed investigations.
<i>Yukon Institutions</i>	
Yukon Environmental and Socio-Economic Assessment Board	The board was created under the Umbrella Final Agreement to ensure mandatory screenings and reviews of projects are conducted and to make recommendations regarding adverse environmental or socio-

	economic impacts of the project.
Yukon Surface Rights Board	Established under the Umbrella Final Agreement, <i>Yukon Surface Rights Board Act</i> and <i>Yukon First Nations Land Claims Settlement Act</i> to resolves disputes on matters related to surface and sub-surface interests after parties have undergone negotiations.
Yukon Administrator and Commissioner	This position was created under the <i>Yukon Act</i> , and acts in accordance with instructions from Governor in Council or INAC Minister. Due to devolution, the Commissioner acts more as a provincial lieutenant-governor.
Yukon Dispute Resolution Board	Created under the Umbrella Final Agreement and <i>Yukon First Nations Land Claims Settlement Act</i> to resolves disputes in accordance with settlement agreements or legislation on matters concerning the interpretation or application of the agreements or on matters stipulated by the agreements.
Yukon Training Policy Committee	Created under the Umbrella Final Agreement and <i>Yukon First Nations Land Claims Settlement Act</i> to assist Yukon First Nations in obtaining training to implement agreements and leverage economic opportunities from implementation of those agreements.
Porcupine Caribou Management Board	Established by the Order in Council to provide advice and recommendations to governments and traditional caribou uses to ensure the conservation and management of the Porcupine herd.
<i>Northwest Territories Institutions</i>	
Gwich'in Institutions of Governance Land and Water Board Arbitration Panel Land Use Planning Board Renewable Resources Board	<p>The Gwich'in Institutions of Governance were established under the Gwich'in Comprehensive Land Claim Agreement and all of the institutions except for the Arbitration Panel were also established under the <i>Mackenzie Valley Resource Management Act</i>.</p> <p>The Land and Water Board regulates land and water usage throughout the Gwich'in Settlement Area through licensing, permitting, public hearings, and compliance monitoring.</p> <p>The Arbitration Panel resolves disputes in accordance with the Gwich'in Comprehensive Land Claim Agreement. Surface rights disputes in the Gwich'in Settlement Area can be referred to the Arbitration Panel when Surface Rights Board is absent.</p> <p>The Gwich'in Land Use Planning Board is responsible for all land and water use planning within the Gwich'in Settlement Area.</p> <p>The Gwich'in Renewable Resources Board manages wildlife in the Gwich'in Settlement Area through establishing policies and proposing regulations regarding harvesting and commercial activities related to harvesting, guiding and outfitting, approves plans for wildlife management and protection, designates areas, approves management guidelines, and more.</p>
Inuvialuit Institutions of	The Inuvialuit Institutions of Governance were established under the

<p>Governance</p> <p>Arbitration Board</p> <p>Environmental Impact Review Board</p> <p>Environmental Impact Screening Committee</p>	<p>1984 <i>Western Arctic (Inuvialuit) Claims Settlement Act</i>.</p> <p>The Arbitration Board has the jurisdiction to any differences in meaning, interpretation, application or implementation of the final agreement by the Inuvialuit, industry or Canada.</p> <p>The Environmental Impact Review Board publically reviews development projects referred by the environmental Impact Screening Committee, and makes recommendations for remedial or mitigative measures if necessary.</p> <p>The Environmental Impact Screening Committee screens development proposals to determine whether they could have a negative impact on environment or wildlife harvesting in the Inuvialuit Settlement Region.</p>
<p>Mackenzie River Basin Board</p>	<p>The Board was established by the Mackenzie River Basin Transboundary Water Master Agreement to oversee the implementation of the agreement.</p>
<p>Mackenzie Valley Institutions of Governance</p> <p>Environmental Impact Review Board</p> <p>Land and Water Board</p>	<p>The Mackenzie Valley Institutions of Governance were established by the <i>Mackenzie Valley Management Resource Act</i>.</p> <p>The Environmental Impact Review Board is the main instrument for environmental impact assessments and environmental impact reviews of development projects in the Mackenzie Valley. It ensures the perspectives of Aboriginal peoples and impacts on the environment are considered prior to development beginning.</p> <p>The Land and Water Board processes transboundary land and water usage applications, issues permits and licenses outside settled land claim areas, and provides insight on policy and matters concerning land use, water use, and waste deposits.</p>
<p>Sahtu Institutions of Governance</p> <p>Arbitration Panel</p> <p>Land and water Board</p> <p>Land Use Planning Board</p> <p>Renewable Resources Board</p>	<p>The Sahtu Institutions of Governance were established under the 1994 <i>Sahtu Dene and Metis Land Claim Settlement Act</i>.</p> <p>The Arbitration Panel resolves disputes in accordance with Comprehensive Land Claim Agreement on matters concerning the interpretation or application of the agreement or on matters stipulated by the Agreement.</p> <p>The Land and Water Board regulate land and water usage in the Sahtu Settlement Area through licensing, permitting, conducting public hearings, and compliance monitoring.</p> <p>The Land Use Planning Board is responsible for land and water use planning in the Sahtu Settlement Area, and proposes amendments and monitors compliance of plans.</p>

	The Renewable Resources Board establishes policies and proposes regulations regarding harvesting and commercial activities related to harvesting, guiding and outfitting, approves plans for wildlife management and protection, designates areas, approves management guidelines, and more.
Tlicho Institutions of Governance Dispute Resolution Administrator	The Tlicho Institutions of Governance were created under the Tlicho Agreement. Under this Agreement the Dispute Resolution Administrator is responsible for resolving disputes and mediating discussion on matters concerning the interpretation or application of the Agreement or on matters stipulated by the Agreement.
Wek'eezhii Institutions of Governance Land and Water Board Renewable Resources Board	<p>The Wek'eezhii Institutions of Governance were created under the Tlicho Agreement. The Land and Water Board was also created as part of the <i>Mackenzie Valley Resource Management Act</i>.</p> <p>The Land and Water Board regulate land and water usage, as well as waste deposits in the Wek'eezhii settlement area, except in sites administered by Parks Canada. It does so through licensing, permitting, conducting public hearings, and compliance monitoring.</p> <p>The Renewable Resources Board establishes policies and proposes regulations regarding harvesting and commercial activities related to harvesting, guiding and outfitting, approves plans for wildlife management and protection, designates areas, approves management guidelines, and more.</p>
Cumulative Impact Monitoring Program	The program was established under the <i>Mackenzie Valley Resource Management Act</i> and as a requirement of the Gwich'in and Sahtu Land Claim Agreements and the Tlicho Agreement. The program aims to promote environmental management and stewardship through monitoring and impact assessment through the guidance and coordination of monitoring and research initiatives, and by ensuring regulatory, scientific and traditional knowledge is collected, managed, analyzed and reported effectively and efficiently.
<i>Nunavut Institutions</i>	
Nunavut Tunngavik Inc.	Nunavut Tunngavik Inc. legally represents Inuit through the <i>Nunavut Land Claims Agreement</i> , which ensures their economic, social and cultural well-being. Nunavut Tunngavik Inc. holds subsurface title to Inuit-Owned Land through their Lands and Resources Department. Nunavut Tunngavik Inc. is responsible for rights issuance for exploration, administration of revenue from mineral titles on Inuit-Owned Land, and receives royalties, whose usage is determined by Regional, or Designated, Inuit Organizations.
Kivalliq Inuit Association	The Kivalliq Inuit Association is the Regional, or Designated, Inuit Organization responsible for the representation of Inuit of the Kivalliq region's interests. The Kivalliq Inuit Association administers surface rights usage through its Lands Department, an obligation outlined in the <i>Nunavut Land Claims Agreement</i> .
Kitikmeot Inuit	The Kitikmeot Inuit Association is the Regional, or Designated, Inuit

Association	Organization under Article 19 of the <i>Nunavut Land Claims Agreement</i> responsible for the Kitikmeot region. Kitikmeot Inuit Association's Department of Lands, Environment and Resource Development grants land access for both surface and subsurface rights through land use licenses. The Kitikmeot Inuit Association is also responsible for environmental monitoring on Inuit Owned Land and ensures appropriate benefits are received for impacts through Inuit Impact and Benefit Agreements and Water and Wildlife Compensation Agreements. Additionally, when decisions are made regarding Crown Land Kitikmeot Inuit Association is responsible for representing Inuit interests in those discussions.
Qikiqtani Inuit Association	The Qikiqtani Inuit Association is the Regional, or Designated, Inuit Organization under Article 39 of the <i>Nunavut Land Claims Agreement</i> responsible for the Qikiqtani region. The Land and Resources Department of the Qikiqtani Inuit Association is responsible for the efficiency of applications and consultation processes, developing an Inuit Owned Lands' Land Use Plan and identifying and analyzing issues related to natural resource exploration and development in the Qikiqtani region. Additionally, the Major Projects Department is responsible for representing the Inuit issues regarding Baffinland's Mary River Iron Mine and is responsible for the National Marine Conservation Area.
Nunavut Arbitration Board	The Board was created under the Nunavut Land Claims Agreement to resolve disputes arising from the <i>Nunavut Land Claims Agreement</i> .
Nunavut Implementation Panel	The panel was established under the <i>Nunavut Land Claims Agreement</i> to oversee and direct the implementation of the <i>Nunavut Land Claims Agreement</i> .
Nunavut Surface Rights Tribunal	The Nunavut Surface Rights Tribunal is an independent panel that regulates access to lands; this includes being able to terminate orders when land usage is changed without authorization and the ability to determine surface rights holders' compensation.
Nunavut Impact Review Board	The Nunavut Impact Review Board is responsible for environmental and socio-economic impact assessments, monitoring terms and conditions of certification and providing recommendations.
Nunavut Planning Commission	The Nunavut Planning Commission develops and implements land use plans and reviews project applications to ensure they are aligned with implemented land use plans. The land use plans exist for Qikiqtani and Kivalliq, drafted for West Kitikmeot.
Nunavut Water Board	The Nunavut Water Board is co-responsible for the regulation of water usage in the Nunavut Settlement Area. This includes reviewing applications and supporting Nunavut Planning Commission in their land use plans that impact water.
Nunavut Wildlife Management Board	The Board was created under the <i>Nunavut Land Claims Agreement</i> to regulate wildlife harvesting and other associated activities under the <i>Nunavut Land Claims Agreement</i> , as well as directs wildlife and wildlife harvesting research in the Nunavut Settlement Area.
Government of Nunavut	The Department of Economic Development and Transportation is responsible for strengthening the minerals industry, through the

	development of strategies and programs that take into account sustainable development practices. Government of Nunavut also has a Mineral Strategy, used to develop a coherent framework for mineral exploration.
Socio-Economic Monitoring Committees	Regionally based Socio-Economic Monitoring Committees monitor impacts of resource projects on the socio-economic wellbeing of Nunavut's three regions. The Socio-Economic Monitoring Committees assists in the development of project monitoring programs, prepares reports and publishes information about socio-economic and health impacts on communities. The Socio-Economic Monitoring Committees include representatives from INAC, the Government of Nunavut, project proponents, municipal corporations, Designated Inuit Organizations, and community elders and youth.
Canada-Nunavut Geoscience Office	The Canada-Nunavut Geoscience Office provides technical expertise, geoscience data, training opportunities and geoscience education.

## ***Appendix D - Mining in Nunavut***

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The North Rankin Nickel Mine serves as an example of why there is a continued need for the federal government to regulate expanding Northern resource development, in order to ensure the sustainability of the environment and the socio-economic well-being of communities. The North Rankin Nickel Mine operated in Kivalliq from 1957 until 1962, closing due to low nickel prices.<sup>128</sup> When the mine closed it abandoned infrastructure, leaving environmental, health and safety hazards for communities to overcome. INAC was able to complete site remediation in 2009, and continues to monitor the site.<sup>129</sup> Resource development is a volatile industry, with a variety of external variables impacting the success of a project. As the number of exploration and resource development projects expands it is increasingly important for the federal government to regulate and monitor resource development, to ensure negative impacts on the environment and on northern are reduced. Agnico Eagle Mines' Meadowbank Gold Mine, located on Inuit Owned Land near Baker Lake in Kivalliq Region, was until recently the only active mine in Nunavut and has been in operation since 2010<sup>130</sup>; the Mary River Iron Mine is now currently in operation as well. The Meadowbank mine is expected to produce gold until 2018. Meadowbank has continued exploration in the area and if new gold deposits are found it is likely that the mine life will be extended beyond 2018. Probable gold reserves are 2.3 million ounces from 25 million tonnes of ore, and production to date averages 11,000 tonnes of ore per day from three deposits.

Two projects in Kivalliq are in the exploratory stages of becoming operational. Agnico Eagle Mines' Meliadine Gold Advanced Exploration Project and AREVA's Kiggavik Uranium Advanced Exploration Project are expected to begin production in the near future. The Meliadine Gold Advanced Exploration Project, connected to Rankin Inlet, is comprised of crown mineral claims and leases, and Inuit Owned Land. The mine is anticipated to become operational in 2018, following environmental review and regulatory processes, and is expected to have 2.8 million ounces of gold reserve from 12 million tonnes of ore. The Kiggavik Uranium Advanced Exploration Project, near Baker Lake, is pending approval but may become operational in 2020 and run for 14 years. The mine is expected to be able to exploit an estimated 44,000 tonnes of uranium ore and employ 600 people.

In West Kitikmeot region, there are seven mining and development projects in various stages of the mine life cycle. Two, the Jericho Mine and Lupin Mine, are in the process of closure and moving towards remediation. Jericho Mine was closed only two years after start up partially because of the costs associated with sending key materials to the site for construction. As the mine relied on a winter road there was a very short window for transporting construction materials, forcing the company to rely on flying material in. Hope Bay Mining limited, responsible for the Hope Bay gold projects and Doris North deposit, conducted regional exploration on deposits in the region in 2011. The Hope Bay project has been operational since 2013.

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<sup>128</sup> *ibid*

<sup>129</sup> *ibid*

<sup>130</sup> *ibid*



Industry has also focused on building infrastructure in the West Kitikmeot region. The BIPAR project, currently on hold, would include the construction of a port and road, was purchased by Sabina Gold and Silver Corporation in 2011. In partnership with Xstrata, Sabina is intending to develop this infrastructure, stating that it will not only benefit industry but will also benefit the whole region. Sabina has also signed a Memorandum of Understanding with Nunavut Resource Corporation that it will support the evaluation, financing and development of regional infrastructure related to the non-renewable resource sector in the region. As part of their project proposal for the Izok Corridor project, MMG would build a 350 kilometre all season road to link deposits with a port they intend to build in Grays Bay. Additionally, in 2009 Nunavut implemented a Transportation strategy that aims to develop a transportation system in the region that allows communities to access economic opportunities that were previously inaccessible.

Qikiqtani region does not have as many advanced mining sites as West Kitikmeot or Kiggavik. Advanced Exploration Incorporated's Roche Bay project is in advanced stages of exploration and its location close to Hall Beach and a harbour make it the most easily accessible project in the region. The largest diamond exploration project, Peregrine Diamond's Chidliak project, is located in Qikiqtani near Iqaluit. This project has been undergoing exploration activities in 2014 and 2015.

Baffinland's Mary River mine is the most advanced project in the Qikiqtani region and is also one of the "largest and richest undeveloped iron ore."<sup>131</sup> projects in the world. Once completed the project will produce and ship iron ore twelve months per year. Initially the project had only one larger scale development plan, but this has since been developed into an "Early Revenue Phase" and long term plan. The "Early Revenue Phase" of the project would see shipments of 3.5 million tonnes of iron ore per year starting in 2015, involves only 20 percent of the originally planned development, and is expected to create 750 jobs during construction and 420 during operations. The longer term plan is dependent on global commodity prices for iron ore and the ability of the company to collect greater investment capital. This expansion would create 2700 jobs, with 950 jobs continuing during operations.

With continued growth in Northern resource exploration and development, as evidenced from the aforementioned projects in Nunavut, there is a continued need for INAC to take regulatory action over industry and ensure environmental sustainability and socio-economic well-being of impacted Inuit communities.

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<sup>131</sup> Stratos Qikiqtani

## ***Appendix E - Mining in the Northwest Territories***

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Three diamond mines are operational in the Northwest Territories, Ekati Diamond Mine, Diavik Diamond Mine, and Snap Lake Diamond mine. A fourth, the Cantung Tungsten Mine, has suspended its operations. The Northwest Territories has experienced economic growth as a result of mining, 5.2 percent growth in 2014-2015 and 3.7 percent growth in 2015-2016. In order to maintain this level of growth, the territorial government will need to invest in infrastructure and cost of living using royalties obtained as part of the devolution agreement. While the Government of the Northwest Territories anticipates mineral exploration expenditures to decline, they are expected a resurgence of metal mining with the potential for five new mines to enter the market by the end of the decade. Three land claims agreements exist in the Northwest Territories, which contain agreements to share royalty revenues from mining with the Tlicho, Sahtu Dene and Métis, and the Gwich'in peoples.

### **Active or Suspended Minerals Projects**

Canada's first underground and surface diamond mine, Ekati, began exploration in 1981 and started production in 1998. In 2011, the mine produced 50 million carats, however, carat production in 2015 was anticipated to be lower than previous years. The Ekati Jay Project Pipe has the potential to extend the mine's life by 10 to 11 years, from 2020 to 2030, if it were to be developed.<sup>132</sup> Dominion Diamond Corporation, who owns and operates Ekati, hope to have the pipe producing in 2016 but if it were to not be developed it would close in 2020<sup>133</sup> and lead to 1400 employees being let go. Ekati Diamond Mine had 105.8 million carats of total probably reserves in January 2015.<sup>134</sup>

Diavik Diamond Mine, located on Lac de Gras approximately 300 kilometers from Yellowknife, is operated and 60 percent owned by Rio Tinto and 40 percent owned by Dominion Diamond Corporation. The mine commenced production in 2003 and annually produces six to seven millions carats of diamonds,<sup>135</sup> making it Canada's largest diamond mine based on carat production.<sup>136</sup> The mine had reserves of 39.6 million carats as of 2014 and potential reserves of 13.7 million carats.<sup>137</sup> The Diavik Diamond Mine is anticipated to operate until 2023<sup>138</sup> and currently employs approximately 1000 people.

De Beer's Snap Lake Mine was the company's first mine to operate outside of Africa and is Canada's first completely underground diamond mine, built on the shore of Snap Lake 220 kilometers northeast of Yellowknife. Construction of the project took careful planning due to the mine's remote location, and building began in 2005 with the development of a winter road. The mine is accessible by plane year round, but is only accessible by road for six to eight weeks a year when a seasonal ice road is used to transport materials and equipment to the site. Commercial production commenced in 2008 and is anticipated to continue operations until 2028. Snap Lake Mine has signed

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<sup>132</sup> <http://www.ddcorp.ca/operations/ekati-mine>

<sup>133</sup> <http://www.ddcorp.ca/operations/ekati-mine>

<sup>134</sup> <http://www.ddcorp.ca/operations/ekati-mine>

<sup>135</sup> <http://www.riotinto.com/diamondsandminerals/diavik-2232.aspx>

<sup>136</sup> <http://www.ddcorp.ca/operations/diavik-mine>

<sup>137</sup> <http://www.ddcorp.ca/operations/diavik-mine>

<sup>138</sup> <http://www.ddcorp.ca/operations/diavik-mine>

four impact benefit agreements with the Yellowknives Dene First Nation, Tlicho Government, North Slave Métis Alliance and the Lutsel K'e and Kache Dene First Nation.

North American Tungsten Corporation Limited's Cantung Tungsten Mine is, outside of China, one of the largest operational tungsten mines.<sup>139</sup> Located in the Nahanni region of western Northwest Territories, the mine has two pits used for production, a seasonally operated open pit and continuously operating underground pit. Per day the mine produces 1350 dry short tons, with mineral reserves able to support the mine until 2017.<sup>140</sup> Production at the mine began in 1962 and experienced periodic suspension of operations, most recently from 2009 to 2010.<sup>141</sup>

### **Potential Minerals Projects**

Fortune Minerals Limited's NICO gold, cobalt, bismuth and copper mine will be located 150 kilometers northwest of Yellowknife in the Tlicho territory. The proposed project has been recommended to be approved by the Wek'ezhii Land and Water Board, and it is pending final approval from the Northwest Territories Environment and Natural Resources. Currently the company is directing their investment to a mine in the United States of America as they wait for the Government of the Northwest Territories to build a highway to Whati so they can build a spur road from the highway to their future mine site. Pending final approvals, finalization of impact and benefit agreements and financing the project is anticipated to become a producing mine in two to three years.

Canadian Zinc Corporation's proposed Prairie Creek Mine will be a zinc, lead and silver mine surrounded by the Nahanni National Park Reserve. The Nahanni National Park Reserve was expanded in 2009 to surround the site, and Canadian Zinc Corporation was granted legislative assurance that they would have rights to operate and access their mine. Canadian Zinc Corporation has received all necessary approvals to build their mine, but due to financial challenges they are unable to begin construction. In the meantime the company is seeking environmental approval for a proposed all-weather road to its mine. Two Impact Benefit Agreements exist between Canadian Zinc Corporation and the Nahanni Butte Band and the Liidlii Kue First Nation of Fort Simpson. Additionally, they signed a socio-economic agreements with the Government of the Northwest Territories in 2011 which ensures that residents of the region will have access to economic benefits and opportunities related to the operation of the mine.

Avalon Rare Metals' Nechalacho Rare Earth Elements projects, located 10 kilometers southeast of Yellowknife at Thor Lake, is the most advanced large heavy rare earth development project in the world outside of China. Their environmental assessment was approved by the federal government in 2013 and they were granted their land and water use permits by the Mackenzie Valley Land and Water Board in 2014. Ongoing discussions with the Dene First Nation and North Slave Métis Alliance are taking place due to their expression of opposition to the mine due to the company's failure to adequately consult with communities and address their concerns. Commercial production is anticipated to begin in 2018, subject to successful discussion and negotiations with Aboriginal groups, securing operating permits, and acquiring necessary financing to build the \$1.5 billion mine.

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<sup>139</sup> <http://www.natungsten.com/s/cantung.asp>

<sup>140</sup> <http://www.natungsten.com/s/cantung.asp>

<sup>141</sup> <http://www.natungsten.com/s/cantung.asp>

De Beers Canada's \$859 million Gahcho Kué diamond mine project is expected to become operational in 2016 and to have a twelve year life span. It is anticipated that the project, based in the North Slave Region at Kennedy Lake, will employ 400 people. A socio-economic agreement was signed by De Beers Canada and the Government of the Northwest Territories, and formalizes commitments made by De Beers in regards to employment, training, business opportunities and other benefits for residents. This agreement includes measures that will be used to monitor the socio-economic impacts of the project, includes incentives for assisting employees residing in the Northwest Territories, plans for financial management and literacy training, and commits the company to establishing a trades, apprenticeship and professional training sponsorship program with at least thirty positions open for residents of the Northwest Territories.

Three other mines, Seabridge gold project, Tyhee gold project and Pine Point base metals project are in various stages of development. Seabridge is currently directing its attention to its KSM mining project in British Columbia rather than the Northwest Territories; while both the Tyhee gold project and Pine Point base metals project were unable to find financing for their operations and have currently halted operations.

## **Appendix F - Petroleum in Nunavut and the Northwest Territories**

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As of 2014, there are no petroleum production fields in Nunavut or the Arctic offshore, but applications for offshore drilling are anticipated as industry expresses interest in establishing exploratory wells.<sup>142</sup><sup>143</sup><sup>144</sup> An estimated 37 percent of Canada's light crude oil and 35 percent of Canada's natural gas can be found in the Northwest Territories.<sup>145</sup> There are five areas in the Northwest Territories that used to produce oil or natural gas, four of which are in Fort Liard and one is in Pointed Mountain.<sup>146</sup> Three regions in the Northwest Territories continue produce oil or natural gas: Norman Wells, Ikhil, and Cameron Hills.<sup>147</sup> Oil and Gas exploration began in the Northwest Territories in the 1920s.<sup>148</sup>

Out of the three operational regions, only Norman Wells is producing due to its market and pipeline access.<sup>149</sup> Imperial Oil's Norman Wells site, situated alongside the Mackenzie River, producing oil since the 1930s.<sup>150</sup> Production from this site has led to a number of infrastructure projects being built, such as the Norman Wells pipeline that links the region with the south and the Mackenzie Valley highway being built between Wrigley and Norman Wells.<sup>151</sup> The Government of the Northwest Territories perceives this site to be underutilized and believe it to be the territory's single potential economic opportunity.<sup>152</sup> This site was not included in the Northwest Territories Devolution as it is one-third owned by the Government of Canada.<sup>153</sup>

Gas exploration began in the southwest region of the Northwest Territories – Cameron Hills and southwest of Great Slave Lake – in the 1950s.<sup>154</sup> The first commercial discovery was at Pointed Mountain near Fort Liard in 1966, followed by the production and export of natural gas to the south via pipelines from the Cameron Hills and Liard Plateau regions in the 1990s.<sup>155</sup> Paramount

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<sup>142</sup> <http://www.cbc.ca/news/canada/arctic-offshore-drilling-closer-to-reality-as-projects-enter-regulatory-review-1.2583487>

<sup>143</sup> <https://www.neb-one.gc.ca/nrth/rctc/shrdrlngvrw/2011fnlprtr/index-eng.html>

<sup>144</sup> [http://www.wwf.ca/conservation/arctic/oil\\_exploration/](http://www.wwf.ca/conservation/arctic/oil_exploration/)

<sup>145</sup> Industry, Tourism and Investment. "Pathways to Petroleum Development: Public Engagement Report for the Northwest Territories Oil and Gas Strategy." *Government of the Northwest Territories*.

<sup>146</sup> Industry, Tourism and Investment. "Pathways to Petroleum Development: Public Engagement Report for the Northwest Territories Oil and Gas Strategy." *Government of the Northwest Territories*.

<sup>147</sup> Industry, Tourism and Investment. "Pathways to Petroleum Development: Public Engagement Report for the Northwest Territories Oil and Gas Strategy." *Government of the Northwest Territories*.

<sup>148</sup> INAC. "Evaluation of the Northern Land, Resource and Environmental Management Programs of NAO: Case Study: Paramount Resources Ltd. Cameron Hills, Oil and Gas Project." 4026527

<sup>149</sup> Industry, Tourism and Investment. "Pathways to Petroleum Development: Public Engagement Report for the Northwest Territories Oil and Gas Strategy." *Government of the Northwest Territories*.

<sup>150</sup> Babiy, R. "Norman Wells Field – A Long History of Oil Production in the Central Mackenzie Valley." *Integration GeoConvention 2013*. [http://www.geoconvention.com/archives/2013/460\\_GC2013\\_Norman\\_Wells\\_Field.pdf](http://www.geoconvention.com/archives/2013/460_GC2013_Norman_Wells_Field.pdf)

<sup>151</sup> Ibid.

<sup>152</sup> Industry, Tourism and Investment. "Pathways to Petroleum Development: Public Engagement Report for the Northwest Territories Oil and Gas Strategy." *Government of the Northwest Territories*.

<sup>153</sup> "Norman Wells Type A Water License: Status Tracking Document." 7878229

<sup>154</sup> INAC. "Evaluation of the Northern Land, Resource and Environmental Management Programs of NAO: Case Study: Paramount Resources Ltd. Cameron Hills, Oil and Gas Project." 4026527

<sup>155</sup> INAC. "Evaluation of the Northern Land, Resource and Environmental Management Programs of NAO: Case Study: Paramount Resources Ltd. Cameron Hills, Oil and Gas Project." 4026527

Resource Limited, a Calgary based company, has significant land holdings in Cameron Hills and has been developing oil and gas in the region since 1979.<sup>156</sup> The economic viability of the Cameron Hills region for Paramount Resource Limited has declined in recent years, leading to production currently being halted due to low commodity prices.<sup>157</sup>

The Ikhil gas field, located in Inuvik, has been in operation since 1999 and expected to continue production until 2021. Ikhil resides on Inuvialuit private lands, but production rights, licensing, royalty collection, and remittance of amounts are the responsibility of INAC under the *Canada Petroleum Resources Act*.<sup>158</sup> The gas field is operated and one-third owned by Altagas, one-third owned by Inuvialuit Petroleum Corporation and one-third owned by Inuvialuit companies.<sup>159</sup> Altagas has paid royalties since production began in 1999, totaling \$600,000 collected and remitted by 2008.<sup>160</sup> The Crown has indicated that Altagas may have been underpaying in royalties. This gas field is the main source of heating and power for Inuvik, and its gas resources are almost depleted.

Oil and gas development in the Sahtu is an area of potential growth and diversification of the Northwest Territories economy, identified by the Government of the Northwest Territories.<sup>161</sup> One to two billion barrels of petroleum in the Canol shale formation in Sahtu is estimated to be found, with industry committing to invest \$534 million in testing 11 parcels of land in the area in the 2011 Call for Bids.

The Mackenzie Gas Project is another area of potential growth in the Northwest Territories. This project proposes constructing a 1196 kilometer natural gas pipeline system along the Mackenzie Valley to connect northern onshore gas fields with markets throughout North America,<sup>162</sup> running from the Mackenzie Delta to beyond Fort Simpson.<sup>163</sup> The project hopes to begin transporting gas via this pipeline system four to seven years after regulatory approval.<sup>164</sup>

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<sup>156</sup> INAC. "Evaluation of the Northern Land, Resource and Environmental Management Programs of NAO: Case Study: Paramount Resources Ltd. Cameron Hills, Oil and Gas Project." 4026527

<sup>157</sup> Industry, Tourism and Investment. "Pathways to Petroleum Development: Public Engagement Report for the Northwest Territories Oil and Gas Strategy." *Government of the Northwest Territories*.

<sup>158</sup> NAO. "Inuvialuit Royalty Liability". 1459206

<sup>159</sup> Ibid.

<sup>160</sup> NAO.

<sup>161</sup> Government of the Northwest Territories. "Sahtu (Profile)". <http://www.itl.gov.nt.ca/en/sahtu>

<sup>162</sup> Mackenzie Gas Project. "The Mackenzie Gas Project." <http://www.mackenziegasproject.com/>

<sup>163</sup> Mackenzie Gas Project. "The Project." <http://www.mackenziegasproject.com/theProject/index.html>

<sup>164</sup> Mackenzie Gas Project. "The Project." <http://www.mackenziegasproject.com/theProject/index.html>