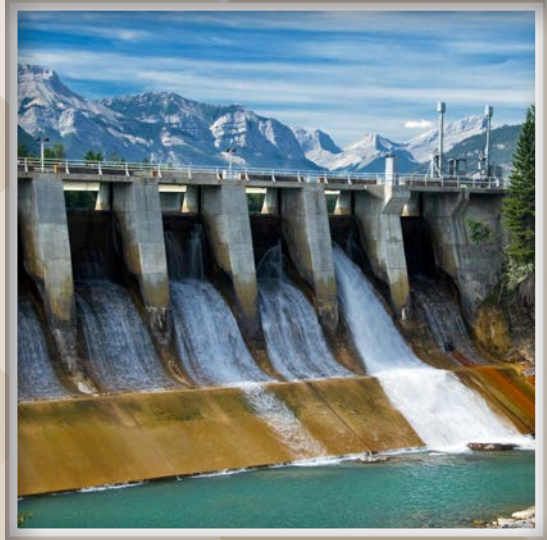




Facilitating Responsible Mineral and Energy Development – Compendium of Case Studies on Building Public Confidence in the Mineral and Energy Resource Sectors

Energy and Mines Ministers' Conference

Winnipeg, Manitoba

August 2016

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The *Compendium of Case Studies on Building Public Confidence in the Mineral and Energy Resource Sectors* was produced for the 2016 Energy and Mines Ministers' Conference by officials from the federal, provincial and territorial governments, through the Intergovernmental Working Group on the Mineral Industry. An external multi-stakeholder advisory committee composed of a number of representatives from academia, industry, and Aboriginal organizations was consulted.

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Introduction

This document was created following the 2015 Energy and Mines Ministers' Conference (EMMC) in response to a mandate from federal, provincial and territorial Ministers of energy and mines, who identified the need to develop a shared approach to improving public confidence in energy and mineral development. The purpose of this compendium is to highlight and share positive approaches to building public confidence. Developed by the federal, provincial and territorial governments, it identifies initiatives that address common themes related to public confidence in the mineral and energy sectors, as well as lessons for energy and mineral development.

It was developed for three principal objectives:

1. Identify and promote initiatives by governments, industry, and communities that support public confidence in energy and mineral development;
2. Disseminate good practices across federal, provincial and territorial governments to facilitate the steady, productive, inclusive and responsible development of resources; and
3. Identify success factors and lessons learned in initiatives that contribute to improving public confidence.

The report is organized in two sections:

Section I provides an overview of the concept of public confidence, its evolution in mineral and energy development projects, as well as a brief overview of the minerals and energy sectors in Canada.

Section II contains the collected case studies. Each case study provides an overview, describes the key results, and highlights good practices that can be drawn from its experience.

Finally, it is important to note that this compendium is not an exhaustive representation of good practices to strengthen public confidence in Canada's mineral and energy sectors. As well, it should be recognized that efforts to improve overall community and stakeholder confidence are unique to a project and community. The case studies contained in this report are therefore unique to their contexts, and as such, may be neither fully transferable nor directly replicable. Nevertheless, the good practices evidenced in these case studies can inform the design of tailored approaches for other projects in other communities.

I. Overview

Public confidence and why it matters

Canada is a global leader in the development of energy and mineral resources, as one of the world's top producers and exporters of a wide range of commodities. The resource sector forms the backbone of the Canadian economy, accounting for nearly 20 percent of national GDP, nearly 1.8 million jobs across the country, more than half of exports (\$259 billion), and almost half of Canada's non-residential capital investment (\$126 billion). However, for resources to continue to provide value for Canadians, they must be developed sustainably and make their way to markets.

In recent years, the acceptance of energy and mineral development across Canada has been challenged. These challenges stem from a lack of trust in governments and industry to mitigate or manage risks to the environment and communities associated with development. Increasingly, industry and governments recognize the need to build and maintain trust prior to and during any development project to ensure that it can move forward in a timely manner.

Terms such as “public confidence,” “social acceptance,” and “social license to operate” are used to describe the public's acceptance or opposition of development projects in the local, national and international sphere. These terms vary in their definition and use,¹ yet overall they all arrive at the same notion of concern regarding the effect that development may have on the environment and the quality of life for people who live and work in the area. For the purposes of this Compendium, the term public confidence is preferred.

Public confidence is achieved when communities and the public trust that resource development aligns with their interests and values, and impacts on health and the environment are mitigated. Canadians must be able to trust that governments at all levels (local, regional, municipal, provincial, territorial and federal) will engage in appropriate regulatory oversight, including credible environmental assessments, and that they will respect the rights of those most affected, such as Indigenous and local communities. It is the challenge of public authorities to ensure a balance exists with regard to economic growth and environmental and social protection.

The government's role in supporting public confidence

There has long been an emphasis on sustainable resource development, and major resource projects have often been subject to controversy as such consideration of issues affecting public confidence are not new. Thanks in part to this long history of constructive dialogue, the environmental and social performance of Canada's energy and mining industries are better than ever before. Nevertheless, some energy and mining projects confront increasing levels of opposition. Industry and governments are expected to achieve higher environmental standards, engage with affected parties earlier, and ensure that economic benefits extend to local and Indigenous communities.

The case studies presented in this report identified four themes or areas of activity where governments can act to support public confidence (Figure 1). These are explained in more detail below.

1 Colton et. al. (May 2016) Energy Projects, Social Licence, Public Acceptance and Regulatory Systems in Canada: A White Paper.



Figure 1: Scoping the role of federal, provincial and territorial governments

REGULATION AND THE ROLE OF REGULATORY BODIES IN BUILDING PUBLIC CONFIDENCE

The case studies in Section II illustrate how government rule-making can strengthen confidence in resource development overall. It is a core role of government to ensure a level playing field among industry, and legislation or regulations are a key mechanism to fulfil that role. Through such rules, governments establish minimum performance standards for all actors within a jurisdiction, balancing key imperatives such as economics, environment and safety/security. According to the Organization for Economic Cooperation and Development (OECD), the four necessary elements of better regulatory outcomes for resource development

are well-designed rules and regulations that are efficient and effective; appropriate institutional frameworks and related governance arrangements; effective, consistent and fair operational processes and practices; and high-quality and empowered institutional capacity and resources, especially in leadership.²

SCIENCE AND INNOVATION

Section II includes examples of scientific initiatives that have brought together various stakeholders to improve environment performance through science and innovation. In some cases government supports science and innovation in the resource sectors by partnering with industry, academia, and others, and by conducting primary research in government labs. In the context of public confidence, government-sponsored science must be unbiased and responsive to emerging public concerns. Collaborating to research, develop, and commercialize new and innovative technologies that strengthen environmental performance can enhance the public's perception of resource development.

EVIDENCE-BASED COMMUNICATION AND TRANSPARENCY

The case studies included in Section II highlight the importance of resource literacy and access to unbiased, science-based information as the foundation for public dialogue and engagement in decision-making processes. The emergence of modern systems of communication has increased the availability of information on Canada's natural resources, and created an expectation of transparency for governments and regulatory authorities. At the same time, the volume of information available has created challenges around data quality and independence. Public authorities have a responsibility to provide the best sources of accessible, unbiased information.³ Public opinion polling has confirmed that Canadians look to governments as a credible source for information on natural resource development.⁴

ENGAGEMENT AND COLLABORATION

The case studies included in Section II provide examples of collaboration among federal, provincial, and territorial governments as well as collaboration and engagement with stakeholders from academia, industry, civil society, and Indigenous organizations. Improving community readiness and ensuring that communities and interested parties are engaged early in project and policy development is another important element in building public confidence. Collaborative regional approaches involving representatives from governments, communities and industry can help provide a better understanding of the type and scale of issues that may result from energy and mineral development.

² OECD (2014) *Best Practice Principles for the Governance of Regulators*. Available at oecd.org/gov/regulatory-policy/governance-regulators.htm

³ Gattinger, M. (2016) *Public Confidence in Energy and Mining Development: Context, Opportunities/Challenges and Issues for Discussion*

⁴ Nanos N., Jenkins R (2015) *Positive Energy Conference – National Opinion Survey*.

II. Case Studies

	Regulation and Legislation	Science and Innovation	Communication and Transparency	Engagement and Collaboration
Strengthening Public Confidence in Pipeline Safety (Canada)	✓	✓		✓
An Inclusive Regulatory Process: The Mackenzie Valley Review Board (Northwest Territories)	✓			
Green paper in the area of social acceptance (Quebec)	✓			
Manitoba's Integrated Environmental Act Assessment (Manitoba)	✓			
Pacific Salmon Foundation Report (British Columbia)		✓		
National Orphaned/Abandoned Mines Initiative (NOAMI) (Canada)		✓		✓
Oil Spill Science (Canada)	✓	✓		
Mine Environment Neutral Drainage (MEND) Program (Canada)		✓		
Mining Sector Performance Report (Canada)			✓	✓
Mining Information Products for Indigenous Communities (Canada)			✓	✓
Delimitation of mining incompatible territories in Quebec (Quebec)			✓	
Aquistore: CO ₂ Storage in a Deep Saline Formation (Saskatchewan)			✓	
Wind Farm Eastern PEI (Prince Edward Island)		✓		✓
Aboriginal Review Group – Japan Oil Sands Limited (JACOS) (Alberta)				✓
John Hart Generating Station Replacement (British Columbia)				✓
Red Chris Mine (British Columbia)				✓
Halfmile Mine Development Project (New Brunswick)				✓
Teck Resources Limited – Duck Pond Mining Project Closure (Newfoundland and Labrador)	✓			✓
Engagement on Canada's Plan for the Management of Used Nuclear Fuel (Canada)				✓
Development of the Government of Nunavut's Uranium Policy (Nunavut)				✓
Nunavut's Socio-Economic Monitoring Committees (Nunavut)				✓
Aboriginal Participation Fund (Ontario)				✓
Mineral Development Strategy (Ontario)				✓
Ontario's Long term Energy Plan consultations (Ontario)				✓
First Nation and Metis LTEP Engagements (Ontario)				✓
Kaminak Gold Corporation/Coffee Gold Project (Yukon)				✓
Wuskwatim Generation Project (Manitoba)				✓
From Communication to Consultation: Building Public Confidence in Mining (Nova Scotia)	✓			✓

Strengthening Public Confidence in Pipeline Safety

Context

In recent years, a number of high-profile incidents have contributed to a decrease in public confidence in the safety and security of the oil and gas transportation sectors.

In the wake of these incidents, the Government of Canada has made a concerted effort to strengthen public confidence by enhancing its safety regime governing the transportation of oil and gas. For pipelines specifically, Canada's approach has included a renewed commitment to public engagement and transparency of regulatory processes, scientific studies to evaluate risks, and new regulations and legislation to protect people and the environment. These actions are intended to correct misinformation; reassure the public that pipelines can be designed, constructed, operated and decommissioned safely; and ensure an appropriate balance between economic benefits and environmental risks.

Description of Measures Implemented

ENGAGEMENT AND TRANSPARENCY

The National Energy Board (NEB) took a multi-pronged approach to addressing the crisis of public confidence through its *National Engagement Initiative: Engaging Canadians on Pipeline Safety*. The approach emphasized face-to-face interaction; relationship-building; regionally focused engagement; providing more and better information about pipeline company performance and the NEB's oversight role; and modernizing the NEB's internal governance and operating systems to be more transparent and responsive to the changing external context.

From November of 2014 to June of 2015, NEB Chair Peter Watson traveled across Canada and met with a variety of stakeholder groups and Indigenous representatives, including environmental groups, other regulators, First Nations Chiefs and band councils, business associations, landowners and farming associations, regional first responders, municipal leaders and university students. The focus of every meeting was to hear from a cross-section of Canadians about their views on pipelines, pipeline safety, the regulator, and any related concerns or questions. In total, the engagement tour included approximately 80 meetings in 34 cities across 9 provinces and 2 territories. It signalled a new and more intensive engagement model for the NEB.

To operationalize this new model, the NEB opened two new regional offices in Montréal and Vancouver (adding to the existing office in Yellowknife). It is planning for on-going working relationships and developing Memoranda of Understanding (MOUs) with municipal groups and first responders. It has also posted more transparent and in-depth information about pipeline safety and company performance (including a map of all pipeline incidents in Canada) on the NEB website. All of these activities support better information exchange and regionally focused engagement.

SCIENCE AND EVIDENCE-BASED RESEARCH

A key objective of Natural Resources Canada's (NRCan's) CanmetMATERIALS Pipelines Program is to provide unbiased scientific and technical information on pipeline-related risks and possible risk mitigation strategies, based on high quality research. One of the most common public misconceptions regarding pipeline safety has

been that diluted bitumen (dilbit) is heavily corrosive and thus riskier to transport via pipeline than conventional crude oils. Public concerns around dilbit corrosivity were tied to a lack of scientific evidence on this issue; there simply wasn't enough evidence to validate or discount such claims.

The CanmetMATERIALS research project evaluated the corrosivity of 21 crude oils (including 8 bitumen-derived oils) using a standard method. The results clearly indicated that diluted bitumen is no more corrosive than conventional crude oil under operating pipeline transmission conditions. The low corrosivity of all crude oils — including diluted bitumen in transmission pipelines — is due in part to the fact that corrosive (water) and erosive (mud, sand) constituents are almost entirely removed upstream of the pipelines. Canadian transmission pipelines have strict limits regarding the quantity of solids and water that may enter the pipeline, requiring less than 0.5% by volume, which significantly reduces the likelihood of corrosion. Furthermore, because transmission pipelines operate at temperatures below 70°C, naphthenic acid and sulphur compounds that can cause corrosion under refinery conditions (>200°C) do not cause corrosion in pipelines.

REGULATION AND LEGISLATION IN THE PUBLIC INTEREST

The Government of Canada made significant enhancements to its legal frameworks governing the safety and security of the energy infrastructure and transportation sectors based on the principles of prevention, preparedness and response, and liability and compensation. NRCan led on enhancements for the pipeline sector, particularly through the *Pipeline Safety Act*, developed in collaboration with the NEB. Highlights of the Act include:

- enshrining the “polluter pays” principle into law;
- introducing absolute liability so that pipeline companies will be liable for costs and damages irrespective of fault — \$1 billion for companies operating major oil pipelines (moving at least 250,000 barrels per day);
- introducing financial requirements so that pipeline companies are prepared to cover the liability and respond to a potential incident;
- enhancing damage prevention around pipelines;
- providing the NEB with the authority to order a reimbursement of clean-up costs incurred by municipalities, provinces and Indigenous communities; and
- enabling the NEB to take control of incident response if a company is unable or unwilling (i.e., in exceptional circumstances).

Prior to introducing legislative amendments specific to pipeline safety, NRCan examined the onshore pipeline safety systems of peer jurisdictions to identify or validate key elements that would be considered to comprise a strong safety regime. The Department also relied on general information received from numerous submissions made at NEB hearings, from various community engagement meetings on topics related to pipelines, and from general input from the public (e.g., letters, emails) on issues around pipeline safety.

Results

There is evidence that these related efforts have strengthened public confidence in federal oversight of pipelines. As expressed by the NEB Chair, the NEB Engagement Initiative began to demystify some of the complex regulatory processes within its mandate. This outreach helped to build confidence in the regulator's role of protecting Canadians and the environment from energy-related incidents. Similarly, the *Pipeline Safety*

Act, which came into force in June 2016 and enshrined the “polluter pays” principle into law, has served as evidence of the Government of Canada’s commitment to safety and effective oversight of the pipeline industry.

An important indicator of growing public confidence came from the willingness of key stakeholder groups, such as Montreal Metropolitan Community, to enter into working relationships and MOUs with the NEB, which will facilitate long-term engagement and information sharing. Groups and individuals who met with the NEB have continued to correspond with NEB staff, particularly in the regional offices and via correspondence with the Chair. Building relationships is an important first step in building trust, and the NEB has taken that step.

Efforts by CanmetMATERIALS to widely communicate its findings on the corrosivity of diluted bitumen – including through testimony to the Senate Standing Committee on Energy, the Environment and Natural Resources; plain language summaries and media engagements; and scientific publications and presentations – have nearly eliminated the corrosivity complaint from pipeline safety discussions. In fact, since the study was completed, concerns on this matter have not been raised by intervenors in new pipeline project reviews (e.g., Trans Mountain Expansion). The study was also cited as concrete scientific evidence by Penspen Integrity, a company headquartered in the United Kingdom that focuses on the integrity of pipeline infrastructure and provides a complete and independent integrity service to the international onshore and offshore pipeline community. This has reinforced the Government of Canada’s role as an authoritative source of scientific evidence.

Lessons Learned

The *National Engagement Initiative* was successful because the emphasis, from the NEB’s perspective, was on listening. There was genuine effort put into really hearing and understanding the concerns and questions of Canadians that the NEB met with, and not just supplying information about the NEB to them. All perspectives – even when critical – were noted, considered and valued.

Another important aspect of the Initiative was that the NEB tried as much as possible to take action on feedback quickly. The NEB opened the regional offices and launched more pipeline safety information in direct response to stakeholder feedback, signalling that it was serious about making the changes that it needed to make to be more responsive to the needs of Canadians.

The CanmetMATERIALS research initiative on pipeline corrosivity provided the government with the right science at the right time, and effectively communicated it through diverse venues. Key success factors included the following:

- Identifying knowledge gaps – including public misconceptions, which need to be recognized early and acted upon effectively using evidence-based assessments.
- Trust – government laboratories serve as a neutral and reputable source of information for regulators, industry and the public.
- Scientifically credible methods – in this case, it was important to use internationally acceptable test standards to ensure credibility of the investigations. Therefore, development of such testing standards is critical.

- Effective communication – it is important to understand when communication beyond peer-reviewed journals and scientific conferences is required. Communication advisors need to be aware and consulted to ensure effective communication to broader audiences.
- Stable, multi-year funding – in this particular case, the standard used for testing the crude oil corrosivity was ASTM G205, which was developed by CanmetMATERIALS over several years. This experience allowed the required testing to be performed without delay. The funding from the Program of Energy Research and Development helped CanmetMATERIALS to develop the background expertise and carry out the research.

Lastly, the federal government's initiative to develop new legislation through the *Pipeline Safety Act* to strengthen the safety of energy transportation via pipeline was made successful through:

- Collaborative work between multiple federal departments, agencies and relevant provincial organizations to ensure alignment between the safety regimes of various sectors (NRCan, NEB, Transport Canada, Environment Canada, provinces);
- Engagement with stakeholders throughout the development of the Act, and ongoing engagement in developing supporting regulations; and
- Reliance on general information received from numerous submissions made at NEB hearings, from various community engagement meetings on topics related to pipelines, and from general input from the public (e.g., letters, emails) on issues around pipeline safety.

For more information:

ENGAGEMENT – National Engagement Initiative: Engaging Canadians on Pipeline Safety

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SCIENCE – CanmetMATERIALS Research Debunked the Myth on Corrosivity of Diluted Bitumen in Pipelines

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LEGISLATION – Strengthening Safety of Energy Transportation via Pipeline

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Links to Additional Resources and Reference Materials

ENGAGEMENT

[National Engagement Initiative Report](#)

[NEB Website](#)

SCIENCE

onlinepubs.trb.org/onlinepubs/dilbit/Papavinasam013113.pdf

onlinepubs.trb.org/onlinepubs/Dilbit/Papavinasam072412.pdf

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1. J. Collier, S. Papavinasam, J. Li, C. Shi, P. Liu, M. Podlesny, "Comparison of corrosivity of crude oils using rotating cage method," NACE Northern Area Eastern Conference, Toronto, Canada, paper no. 2012-06 (Houston, TX: NACE International, 2012). nrcan.gc.ca/mining-materials/materials-technology/8246

LEGISLATION

Pipeline Safety Act

An Inclusive Regulatory Process: The Mackenzie Valley Review Board

Context

The *Mackenzie Valley Resource Management Act* (MVRMA) came into force on December 22, 1998 and established the Mackenzie Valley Review Board (MVEIRB) as the main agency to undertake environmental impact assessments and reviews, providing an integrated co-management structure for public and private lands in the Mackenzie Valley, Northwest Territories. The development of the MVRMA was born out of a unique process, as a provision set out in negotiated comprehensive land claim agreements (Gwich'in, Sahtu and Tłıch'ı final agreements). Under the current structure, land use planning is completed by regional land use planning boards as guided by their settled land claim processes.

The Mackenzie Valley regulatory regime is effectively a “negotiated” regime, making the “spirit and intent” of the land claims a fundamental underpinning of the system. It is unique in comparison to other regulatory regimes in Canada. This is understood and respected by the Land and Water Boards in the conduct of their duties.

The MVEIRB’s mission is to conduct fair and timely environmental assessments in the Mackenzie Valley that protect the environment, including the social, economic and cultural well-being of its residents.

Description of Measures Implemented

BOARD MEMBER PARTICIPATION

The members of the governing body are appointed for their varied knowledge and to support robust decision making. Indigenous land claim organizations nominate half of the board members, and the federal and territorial governments nominate the other half of the board members. The entire board nominates the Chairperson. As the federal minister responsible for the *Mackenzie Valley Resource Management Act*, the Minister of Indigenous Affairs and Northern Development appoints all the members to the Review Board.

INCORPORATING TRADITIONAL KNOWLEDGE INTO EIAs

The Review Board has a mandate to protect culture from adverse impacts, which originated from a request from the Indigenous organizations involved. Impacts on harvesting, access to land for traditional activities, sensitive burial sites and spiritual places, and the contributions of development to the loss of language and other valued components of Indigenous cultural maintenance have come up in many environmental impact assessments (EIA).

The main purpose for incorporating traditional knowledge into the EIA process is to provide participants in an environmental impact assessment greater knowledge and understanding of the environment in which a development is proposed, the potential impacts of that development and the significance of those impacts. The Review Board notes that it believes that traditional knowledge can provide the following benefits to the EIA process.

- Traditional knowledge information shared specifically about the environment and the use and management of the environment is important for establishing baseline conditions, predicting possible impacts and

determining appropriate mitigation and monitoring methods. This is particularly beneficial where there is no land use plan, where there are social or cultural concerns or when scientific data is inadequate;

- Early dialogue and relationships between the developer and traditional knowledge holders may result in a sharing of knowledge about environmental phenomena unavailable elsewhere. Such information may allow for necessary project design changes to take place even before the EIA process begins;
- Traditional knowledge can add to the understanding of the critical requirements of and potential threats to valued components;
- Traditional knowledge can assist a preliminary screener in deciding whether a proposed development might have a significant adverse impact or might be a cause for public concern; and
- Traditional knowledge is critical in the early stages of the process to help identify issues as part of EIA scoping, and later on at community and formal hearings (if any) to assist the Review Board in determining the significance of potential impacts.⁵

In 2005 the Review Board created the *Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment Process*, which outline what the Review Board expects from developers when working with traditional knowledge holders and how they can share their knowledge directly with the Review Board during the proposed development.

Results

By creating an independent and structurally separate regulatory body for non-renewable resource development in the Northwest Territories (NWT), establishing a regulatory structure at an arm's length from the political process, provides impartiality and objectivity.

The boards' decisions have a direct impact on particular interests of the regions in which they regulate, including the requirement to incorporate traditional knowledge systems in development applications, which enhance the relationships between the regions and the industry that will be working there.

Lessons Learned

The MVEIRB is a good practice in regulating in the public interest as it provides potential resources developers with a better understanding of the priorities of Indigenous organizations in the NWT. Additionally, the MVEIRB provides opportunities for a broad range of board participation, giving regional organizations the opportunity to participate in the environmental impact assessment process.

For more information:

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⁵ See Guidelines for Incorporating Traditional Knowledge in EIA (2005). reviewboard.ca/upload/ref_library/MVReviewBoard_Traditional_Knowledge_Guidelines_1247177561.pdf

Links to Additional Resources and Reference Materials

REFERENCES:

Gwich'in Land and Water Board:

glwb.com/sites/default/files/documents/Perspectives_on_Regulatory_Improvement_in_the_Mackenzie_Valley-MVLWB.pdf

Mackenzie Valley Review Board:

reviewboard.ca/upload/ref_library/History%20article_1305221780.pdf

Green Paper on the Guidelines of Quebec's Ministère de l'Énergie et des Ressources naturelles in the Area of Social Acceptability

Context

In November 2014, the Minister of Energy and Natural Resources and Minister responsible for the Plan Nord in Quebec announced the launching of a major workshop on the social acceptability of natural resource extraction projects. The review covered four main themes: the role played by decision-making authorities at the local, regional and provincial levels; participatory approaches; consideration for the social, environmental and economic repercussions of projects at the local, regional and provincial level; and benefit-sharing mechanisms.

Discussion panels were organized in various regions of Quebec. The following general observations can be made on the basis of these discussions:

- Social acceptability cannot be simply a public consultation process. There must be the possibility of saying “No” to a project. Social acceptability is not synonymous with unanimity.
- The responsibilities of the Ministère de l'Énergie et des Ressources naturelles (MERN) are not well known to the general public and are perceived as being contradictory.
- It is important to develop a clear vision for development prior to the project authorization process.
- The issue of social acceptability involves other government departments and bodies. Promoters, regional county municipalities and local municipalities must receive more support at each stage in the project approval process. In addition, there is a wish to see a public feedback exercise at the end of the government authorization process, to ensure that the conditions set by the government and the commitments made by the promoter are explained.

Description of The Measures Implemented

The green paper proposes five guidelines:

- Make the MERN's roles and responsibilities in the area of land use planning and land management better known.
- Make the mechanisms for land planning and land use harmonization contained in public land use plans (PATPs) more transparent, participatory and up-to-date.
- Establish predictable information and consultation processes at all project stages.
- Promote the sharing of benefits from energy and mining development projects with host communities.
- Enhance the MERN's ability to analyze the impacts, economic benefits and repercussions of projects by taking social acceptability factors into account.

The guidelines were examined at a parliamentary committee hearing in March and April 2016, when the views of 29 organizations were heard.

Results

The expected results of this reform are as follows:

- With respect to **information and consultation**: a consultation process placed early on in the project life cycle that ensures the representation of various players in the host community; information provided in an accessible, user-friendly format not only on the MERN website, but also to local authorities; the establishment, by the project promoter, of a committee to liaise with local officials and keep them informed about project progress; the organization of a feedback session to let citizens know the conditions on which governmental authorization is granted; the creation of a monitoring committee.
- With respect to the **sharing of benefits** from projects with the host communities: a formula for the sharing of financial benefits, agreed by the associations of municipalities; a commitment by the Quebec government to share income from royalties with Aboriginal communities; greater transparency in the mining and oil and gas industries through the filing of annual statements on the payments they make to the various levels of government, municipalities and Aboriginal communities.
- With respect to the **ability of the MERN to analyze** the impacts, economic benefits and repercussions of projects: the filing of information documents to provide input for participants in the consultation process and for local and regional elected officers; the creation of a major project office to ensure coordination with the various units responsible for issuing authorizations; better coordination with the government departments and bodies involved in a project; public dissemination of project files and analysis results.

Lessons Learned

It is too soon to assess the impacts of the implementation of the guidelines. However, it is possible to state that the reform will lead to more involvement by local players in the project assessment process, the release of more objective and more transparent information about projects, and a more effective sharing of project benefits.

For more information:

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Links To Additional Resources and Reference Materials

mern.gouv.qc.ca/territoire/acceptabilite.jsp

Manitoba's Integrated *Environmental Act* Assessment: Proactive Engagement

Context

Establishing a credible level of public confidence has become increasingly important for proponents and for governments as mineral projects advance through the various stages of permitting. Many historical mine sites remain today, providing visible examples of the environmental effects that resulted from past mining and mineral processing practices. Events such as the recent Mount Polley mine tailings storage facility breach in 2014 highlight the potential risks that can be associated with projects of this magnitude.

Public discourse related to these projects, and their potential risks, tends to remain general and sometimes superficial because of a general lack of broad-based knowledge related to the technical processes and specifications related to mining projects today. As a result, the public is often left with the perception that regulators are not being provided with sufficient information, time, and resources to adequately evaluate these mineral projects.

Description of Measures Implemented

Manitoba's *Environment Act* came into legislation in 1987. The intent of this Act is to develop an environmental protection and management system that ensures the environment is protected for this and future generations while encouraging economic activity that sustains a high quality of life with abundant recreation and leisure opportunities across all of Manitoba.

The fundamental goal of Manitoba's environmental assessment regime is to encourage proponents to include environmental planning in their business decision making from the outset so that they are able to demonstrate sound environmental planning when they seek regulatory approval. In the process, regulators have sufficient opportunity to develop an in-depth knowledge of the proposed project.

The structure of the Act is responsive to changing needs by providing for the exercise of discretion in cases that are unique or unusual. The Act accomplishes this by setting out basic requirements that apply to all developments while providing the Director/Minister with discretionary powers instead of proscribing procedural requirements. The approach allows for both the expert judgement embodied in the civil service and the Government's duty to consider the public interest for major decisions.

The public has an opportunity to comment at the outset of every development application. Manitoba's practice is to follow up at various stages of the approval process with interested members of the public. As well, there is ample provision for including the public in approval processes that involve public policy decisions or when there is genuine public concern about a proposal, including public hearings when there is a demonstrated need.

Results

For more than 25 years, the system of environmental assessment and licensing created by *The Environment Act* (the “Act”) has required virtually every new development with potential adverse effects to undergo an environmental approval process. The following outlines the principal positive benefits generated by the Act:

- The Act encourages proponents to involve the civil service early in their planning process, maximizing the time available for officials to become familiar with a project, allowing sufficient time to apply available resources, and providing multiple opportunities for meaningful input into the project. In the process, proponents and officials have the opportunity to develop strong working relationships that encourage collaborative solutions when unforeseen challenges arise.
- The Act ensures that proponents undertake environmental planning as an essential component of doing business. The Act is structured such that, a proponent who has failed to (adequately) consider environmental impacts, plan appropriate mitigation, or consider the interests of the community cannot meet the requirements of the Act or obtain the licence it needs to operate.
- The Act places the responsibility for environmental decision making on Manitoba officials who have been selected on the basis of relevant education and expertise. Reliance on a well-qualified, professional civil service is essential to public confidence in our system. While the Act provides a role for citizen participation and for a commission comprised of laypersons to be charged with gathering the views of the public, neither an appointed commission nor the public at large has the perspective, experience and professional responsibility for the achievement of environmental results as does the civil service.
- The Act leaves responsibility for environmental decisions that may affect the well-being of Manitoba as a whole with elected officials, whose job in the democratic system is to make social policy, balance potentially competing needs and values in the public interest.

Lessons Learned

Public confidence is strengthened when the public is aware that proponents are required to include environmental planning in their business decision making from the outset. This process ensures that environmental safeguards have been integrated into operational plans from the outset, as opposed to being force-fit or retro-fitted into the project design after a permit application has been made. This process also increases the certainty for proponents of permit approvals by addressing potential environmental issues as they arise during the planning process and allowing proponents to evaluate the costs of mitigating or avoiding those issues as early as possible in their feasibility analysis.

The Act fosters an environment that encourages mining operations designed to mitigate or avoid completely the widespread negative environmental affects that can be associated with historical mining operations, while maximizing the potential for proponents to advance their projects toward production.

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Links to Additional Resources and Reference Materials

The Environment Act: web2.gov.mb.ca/laws/statutes/ccsm/e125e.php

Potential Impact of Run-of-River (RoR) Projects on Salmonids

Context

RoR hydro is a clean and renewable form of energy that invests billions of dollars into the economy, creates thousands of construction jobs, empowers First Nations, has a minimal environmental footprint, and is helping British Columbia (B.C.) meet its climate change targets. However, there was significant public concern that RoR hydro projects were impacting fish.

Although the industry is heavily regulated, much of what the public knew about RoR facilities was based on media coverage noting incidences of fish kills, non-compliance, and destruction of natural habitats. Media headlines included “B.C.’s run-of-river sector in regulatory disarray,” “Run-of-river projects tied to fish kills,” and “BC’s private run-of-river power projects a horror show.” One environmental group stated that “run-of-river hydro projects are killing fish - and the problem is not isolated.” These negative headlines and comments impacted public opinion within communities with proposed/existing projects and the broader public in B.C.

Description of Measures Implemented

Clean Energy BC (CEBC) approached the Pacific Salmon Foundation about conducting an independent review of RoR projects from clean energy producers (CEP). The \$350,000 study prepared by ESSA Technologies Ltd. had a Science Panel and a Public Advisory Panel comprised of academics, First Nations, industry, and non-government organizations. It also included peer review committees and information previously unavailable on salmonids and RoR.

The report found that although there are risks to salmonids through water intakes, ramping, and habitat changes, the loss of individual fish and/or individual events are not evident in the effects on salmonid populations. Of 23 RoR facilities that provided monitoring data, the report found evidence of change in abundance attributable to the operation at only one facility (in the diversion reach) and evidence of change in species composition at only one facility (in the upstream reach). The report recommended increased monitoring, research, multi-project analyses, and centralized databases.

Results

This informative study resulted in an ongoing dialogue with the public, environmental groups, and industry. It generated media that corrected some of the misconceptions about RoR projects. One example was the CBC story on January 14, 2014. In it, Pacific Salmon Foundation CEO Brian Riddell states that while some older RoR sites lacked monitoring, “at this point in time, the information we have would say the harm [to salmon] is minimal.” CEBC’s Executive Director Paul Kariya was able to get the message out that the study was part of an effort to “make sure our industry is held to the highest standard possible.” Paul went on to say that this report is “critical to the credibility of the clean-energy sector” and that “protecting the environment is job one.”

There have been fewer negative stories about RoR projects and more positive media traction regarding the need for more clean energy projects. Environmental groups, through the Energy Forum (a collaboration between Clean Energy BC and various B.C. environmental groups), have publicly advocated for clean energy, which includes RoR projects.

Lessons Learned

Instead of backing away from a controversial issue, CEBC took the initiative to tackle the issue head on. Doing so in the future can help foster relationships and counter misinformation about an important industry to B.C.

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Links to Additional Resources and Reference Materials

Pacific Salmon Foundation. *Independent Review: Potential Impact of Run-of-river Projects on Salmonids*. January 30, 2014. cleanenergybc.org/wp-content/uploads/2015/12/Pacific-Salmon-Foundation-Report-RoR_Report_140129.pdf

Petrovich, Curtis. "Risk to B.C. salmon 'minimal' from run-of-river projects." *CBC News*, January 14, 2014. cbc.ca/news/canada/british-columbia/risk-to-b-c-salmon-minimal-from-run-of-river-projects-1.2516563.

National Orphaned/Abandoned Mines Initiative (NOAMI)

Context

Orphaned and abandoned mines pose serious environmental, health, safety and economic problems for local communities, the mining industry and governments. Approximately 10,000 orphaned and abandoned mines exist across Canada, although the degree of hazard and size varies considerably between sites.

Community support for new mine development is diminished when their concerns for a healthy and safe environment are not addressed, including possible mine abandonment. Without sufficient securities in place (i.e. financial assurances), the cost of clean-up, long-term monitoring and maintenance of an abandoned mine will be borne by taxpayers.

Description of Measures Implemented

In 2002, the National Orphaned/ Abandoned Mines Initiative (NOAMI) was created at the request of Canadian Mines Ministers to address funding, legislation, and community engagement issues related to orphaned and abandoned mines. NOAMI is guided by a multi-stakeholder Advisory Committee comprised of members representing the mining industry, non-governmental organizations, Indigenous peoples, as well as various levels of government. Members work together to assess issues and make recommendations for collaborative implementation of remediation programs and policies for abandoned mines across Canada.

NOAMI produces guidance documents, reports and newsletters and holds multi-stakeholder workshops to build capacity and share information with the public on the clean-up of abandoned sites and prevention of new abandonments. Input from the public was used to develop several NOAMI tools, such as the best practices for community involvement brochure, the roadmap for return of mining lands, and a strategy for risk management. Environmental non-government organizations and First Nations members involved in NOAMI actively contribute to the program and diligently circulate information throughout their networks. Jurisdictional programs and funding toward rehabilitation of existing abandoned properties are important elements of NOAMI communications. More than \$1 billion has been spent since 2002 by the jurisdictions on addressing issues of abandoned mines.

Results

The NOAMI workshops are highly regarded by all multi-stakeholder attendees as an excellent way to share information and ideas. NOAMI has hosted six multi-stakeholder workshops on various issues, with approximately 60 to 100 delegates at each workshop.

Many countries have reached out to Canada as a leading practitioner in addressing abandoned mine management through the NOAMI program.

Lessons Learned

Engaging communities early in the decision-making process for clean-up of the sites is critical to building public confidence.

NOAMI's multi-stakeholder partnership approach to a national problem is central to its success. This partnership provides a forum for sharing of information, discussion and debate among members. Transparency and communication are central to the NOAMI program, and these are achieved through NOAMI workshops and sharing of NOAMI publications to the public through our website.

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Links to Additional Resources and Reference Materials

NOAMI website: abandoned-mines.org

NOAMI Performance Update 2009-2015 (2015)

abandoned-mines.org/wp/wp-content/uploads/2015/08/NOAMI-2015-UPDATE-ENG-WEB.pdf

NOAMI 2002-2008 Performance Report (2009)

abandoned-mines.org/wp/wp-content/uploads/2015/06/NOAMIPerformance2002-2008-e.pdf

Oil Spill Science

Context

There is public concern around transportation of oil products, specifically diluted bitumen, and Canada's prevention and response regime. The safe transportation of Canada's oil and gas products through pipelines, rail, and tankers, has been of significant public focus under the Enbridge Northern Gateway review, Trans Mountain Pipeline Expansion, and Energy East.

The regulatory bodies (Transport Canada, National Energy Board) for marine, rail, and pipeline safety rely on oil spill research to support decision-making on regulations and environmental assessments. Working together, Environment and Climate Change Canada (ECCC), Fisheries and Oceans Canada (DFO), and Natural Resources Canada conduct oil spill research to support regulatory development and response regimes.

The Tanker Safety Expert Panel, which advises the Government of Canada on the ship-source oil spill preparedness and response regime indicated the need for investment, timely and accessible information, and coordination of oil spill research in Canada. As well, the Royal Society of Canada report highlights the need for coordinated multi-disciplinary research programs to further study the effects of oil spills on various marine and freshwater ecosystems. In addition, Aboriginal groups and municipalities have raised concerns regarding the fate and behaviour of diluted bitumen, environmental effect, and mitigation and response pertaining to oil spill emergency management plans.

Description of Measures Implemented

The Innovation and Energy Sector (IETS), in collaboration with ECCC, and DFO experts, conducts research that will help improve spill response by better understanding and predicting the fate and behaviour of diluted bitumen in a variety of conditions in the marine environment and improving traditional oil spill recovery techniques. Preliminary laboratory studies in marine environment concluded that diluted bitumen products can behave differently than other oils under certain environmental conditions, and conventional spill-treating agents may not be effective for spills of diluted bitumen.

Results of this integrated scientific research informs decision-making in the areas of spill-response technologies and countermeasures, enabling identification of best practices with regard to the selection of the best response tools in a given situation. Specifically, the science being conducted by IETS focuses on:

- **Increasing scientific knowledge of the behaviour of petroleum products** on a range of responses, recovery techniques, and processes;
 - o Identify components of oils involved in poor behaviours such as sinking and tar ball and emulsion formation
 - o Develop catalytic agents to promote photo-oxidation of oil components to increase biodegradability
 - o Develop pre-treatment options to remove components that cause poor oil behaviour before oil transportation

- **Helping inform the development/updating of regulations**, legislation, policies, and spill response protocols.

IETS also funds a **program to develop mechanical technology for improved oil spill recovery**.

Results

Public concerns on oil spill prevention and response have been raised in relation to transportation (pipeline, shipping) with a need for oil spill science experts to respond to concerns around ability to clean-up spills and the effectiveness of current techniques. IETS oil spill science experts, in consultation with DFO and ECCC, have been **mobilizing science** beyond the study of fate and behaviours through informing domestic and international **forums, organizations, and expert panels**. Scientific publications, presentations, and plain language summaries were provided to public servants, scientific communities, and public sites of:

- **AMOP conference organized by ECCC** – *international forum to share oil spill response research and experience*
- **Eastern Canada Response Corporation** – *spill response organization for the Great Lakes and Eastern Canada*
- **IETS** – *IETS-organized meeting to share research and response initiatives regarding the behaviour and clean-up of diluted bitumen products when spilled in water environments*
- **National Oceanic and Atmospheric Administration** – *United States (U.S.) Department of Commerce on science, service and stewardship of coastal and marine ecosystems and resources*
- **Portland, Maine** – *municipal public servants*
- **Royal Society of Canada** – *professional association that promotes learning research in arts, the humanities, and the natural and social sciences*
- **Tanker Safety Expert Panel** – *Transport Canada's ship-source spill preparedness and response team*
- **Trans Mountain Pipeline** – *engages landowners, Aboriginal groups, and communities on the Kinder Morgan Canada-proposed pipeline expansion between Edmonton and Burnaby, B.C.*
- **United States Coast Guard** – *military force that safeguards U.S. maritime interest*
- **U.S. National Academy of Sciences** – *provides advice on policies, informs public opinion, and advances the pursuit of science, engineering, and medicine*

Lessons Learned

Current efforts are focusing on increasing collaboration between end-users and researchers on oil spill science to improve mobilization of timely and cost-effective R&D that supports faster and smarter environmental emergency response.

Stakeholders have indicated the need for the following:

- **Prevention** - priority on oil spill prevention upfront
- **Trust** - address public perception regarding oil spill preparedness and its response regime by focusing on clear problems to solve
- **Mobilization** - mobilize science through targeted forums

- **Engagement** – interact with communities on a personal level (e.g., upfront consultation with Aboriginal communities in the design phases)

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Mine Environment Neutral Drainage Program

Context

Acidic drainage and metal leaching (AD/ML) are among the most serious environmental impacts generated by mining activities. AD/ML refers to effluent that is acidic and contains soluble elements, such as metals, that detrimentally affect the receiving environment. High levels of acid and metals can be harmful to vegetation and living organisms, and can be passed through the food chain. The environmental liability left by AD/ML negatively impacts the image of mining in Canada.

The magnitude of the environmental implications of AD/ML emerged in the late 1980's and increased public scrutiny of mining practices. Today, new mines must demonstrate that they will leave a positive environmental, economic and social legacy.

Description of Measures Implemented

The Mine Environment Neutral Drainage (MEND) program was launched in 1989 to address the issues of acidic drainage and metal leaching issues associated with mining. The program is directed by a multi-stakeholder committee consisting of representatives from all levels of government, the mining industry, and environmental non-governmental organizations. To date, more than \$21 million has been invested in the program to develop technologies to prevent and control AD/ML. The current program addresses priority issues identified by Canadian stakeholders, including emerging issues such as impacts of climate change, new regulatory standards for mining effluents, and best practices for tailings management.

In 2002, a renewed MEND initiative was created to focus on Canadian national and/or regional information needs. Strong emphasis was placed on the need for case studies, guidance documents and technology transfer activities. MEND now plays a role in transferring information on developed technologies and research to the partners and the public. A highly-regarded workshop focussing on best practices is held annually in Vancouver and attracts all members of the mining community. In addition, over 220 MEND publications are publicly available on the MEND website. A domestic and international network has been established, with contacts within academia, government agencies, industry, environmental groups and consultancies contributing to the effort to address AD/ML.

Results

MEND has made tremendous technical progress in the management of AD/ML. Progress in the areas of prediction, prevention and control, disposal technologies and treatment methods have dramatically reduced environmental liabilities. A 1996 study showed that in five mine sites alone, MEND reduced environmental liabilities by \$340 million (Young and Wiltshire 1996).

There has been a dramatic reduction in adverse environmental effects associated with mining activity. MEND-supported technologies have been demonstrated to be environmentally sustainable, which has increased trust for their use by regulators, the public and industry. Many MEND publications are used as guidance documents in environmental impact assessments and as educational tools. Technologies are in place to operate and decommission a mine property in an environmentally acceptable manner. A greater understanding of the issues is provided, and decisions on mine design and management are now made based on sound science.

The MEND multi-stakeholder approach is recognized as a model for national and international initiatives, such as the International Network for Acid Prevention and NOAMI. Benefits include enhanced technology transfer capabilities, additional resources and avoidance of research duplication.

Lessons Learned

A significant reason for MEND's success is the partnerships developed among different levels of government, and the mining industry and environmental non-governmental organizations working together to find solutions to a major environmental problem. The extensive peer review process for MEND publications has also enhanced the credibility of the results. The MEND program continues to effectively address public concerns regarding AD/ML by adapting its priorities and approach to address issues identified by Canadian stakeholders

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Links to Additional Resources and Reference Materials

For further information, visit the MEND website: mend-nedem.org

The Canadian MEND Program – The First Twenty-five Years (Tremblay and Hogan), In Proceedings of the 10th ICARD/INWA 2015, posted at mend-nedem.org/9th-icard/

Young and Wiltshire, 1996. Evaluation of the MEND Program. MEND Report 5.9

Mining Sector Performance Report

Context

At the Energy and Mines Ministers Conference (EMMC) 2008, Ministers discussed public concerns about uranium exploration and mining that had led to restrictions on activities in various jurisdictions. These discussions led to a broader dialogue regarding the impact of negative public perceptions on Canada's mineral sector. Accordingly, Ministers tasked officials with examining public perceptions of the mineral industry and how negative perceptions could be improved. This led to the development of a report, *Earning a Social License to Operate*, tabled at EMMC 2009, which advised Ministers to address negative public perceptions of the mineral industry by identifying areas where the performance of the sector needed to improve; developing recommendations and policies to improve the performance of both government and industry; and communicating, in a credible way, areas where had improved.

Description of Measures Implemented

The Mining Sector Performance Report (MSPR) (1998-2008), was developed in response to these recommendations and represented the first evidence-based, multi-stakeholder assessment of the performance of Canada's mineral sector. A second MSPR (1998-2012), tabled and approved at the EMMC 2013, built upon the previous report by incorporating an updated and refined set of indicators, based on a comprehensive literature review and extensive consultative process. Since then, EMMC Ministers have agreed to produce a performance report every three years.

The MSPR 2016 tracks 25 economic, social, and environmental variables, of which two are new. New indicators are suggested and added through a consultative process to remain relevant and when previously unknown data sources become available. An important component of the Report is the case studies/vignettes that highlight notable developments within the mineral sector over the last few years and fill quantitative data gaps with qualitative examples. They cover a broad spectrum of topics, with particular emphasis on industry's community engagement and collaboration efforts and the implementation of innovative technologies and practices.

The Report's development is guided by two advisory committees. One is comprised of representatives from the provinces and territories and an External Advisory Committee is comprised of individuals from academia, industry, industry associations, and civil society. Both Committees are involved in the Report's development, including the selection of indicators and review Report content.

Results

The objective of the MSPR is to track the performance of Canada's mineral sector across various economic, social, and environmental indicators to assess efforts to achieve defined **desired performance outcomes**. The Report is an important contributor to initiatives to strengthen public confidence in the mineral industry by articulating in a neutral, unbiased manner, the performance, positive and negative, of the mineral sector over a given time period.

Lessons Learned

One of the challenges in delivering the MSPR is ensuring balance between articulating areas where performance has improved and where it has lagged. This is achieved by focusing on evidence and tracking trends over time to demonstrate the industry track record over the reference period. It is also critical to collaborate with a diverse group of industry experts to develop the Report. The advisory committees provide valuable input into the Report, and such committees ensure all broad conclusions and findings are reviewed by an expert and varied group of officials and representatives.

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Links to Additional Resources and Reference Materials

Mining Sector Performance Report (1998-2012)

nrcan.gc.ca/sites/www.nrcan.gc.ca/files/mineralsmetals/files/pdf/MSP-report-eng.pdf

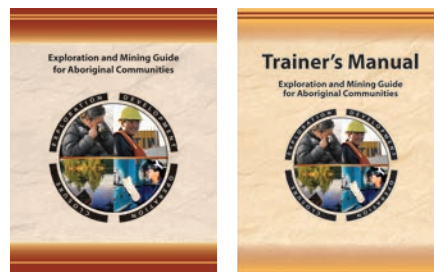
Mining Information Products for Indigenous Communities

Context

Development of natural resources, including mineral resources, constitutes the primary driver for socio-economic development and regional economic diversification for many communities, First Nation and Inuit. With good planning, a mine can generate benefits that outlive the mine itself and build the community's self-reliance. Today, Indigenous employment and participation in mining have reached unprecedented levels. Nonetheless, there is still room for more involvement of those communities: capacity building, meaningful participation throughout the mining cycle, and the potential for significant economic and business growth. To this end, the Minerals and Metals Sector of Natural Resources Canada (NRCan/MMS) has produced a set of information products to increase the ability of Indigenous peoples – First Nations, Inuit and Métis – to understand the mineral development cycle and participate in exploration and mining-related activities.

Description of Measures Implemented

Based on the recommendations from a national survey of Indigenous communities near mining projects, NRCan in partnership with Indigenous and Northern Affairs Canada (INAC), the Prospectors and Developers Association of Canada (PDAC), the Mining Association of Canada (MAC), and the Canadian Aboriginal Minerals Association (CAMA) developed the *Mining Information Kit for Aboriginal Communities*. First published in 2006, the objective of the kit was to strengthen Indigenous peoples' capacity to better understand mineral development and to take advantage of the opportunities that mining can bring to their communities. The Kit was designed to explain the mining cycle – from prospecting and exploration – through mining operations – to mine closure and reclamation, identify the main activities and players, and outline opportunities for Indigenous communities to get involved. Each module corresponds to a stage of the mining cycle and includes a case study to illustrate positive community experiences. In 2013, the Kit was reviewed and updated with user feedback and through a process involving a multi-stakeholder advisory committee and published under the new title *Exploration and Mining Guide for Aboriginal Communities*. The advisory committee included the original partners of the information kit and representatives of Indigenous organizations, mining industry, civil society, government, and academia.



In 2014, a trainer's manual for the *Exploration and Mining Guide for Aboriginal Communities* was published after the need for a more effective delivery of information to Indigenous peoples on the mineral development cycle and related economic opportunities was identified. The manual was designed to help a trainer deliver mining information sessions using the *Exploration and Mining Guide for Aboriginal Communities*. It was prepared in consultation with the original partners of the Exploration and Mining Guide and informed by the input and recommendations received during pilot workshops held in 2013 in partnership with the Council for the Advancement of Native Development Officers (Cando) in Quebec, Saskatchewan and B.C. Along with the information about the mineral development cycle, the workshops provided information and tools that economic development officers and other community members may use for developing a mining industry participation strategy.

As part of its suite of information products to help better inform Indigenous peoples about the mineral industry, NRCan/MMS also developed an informative video explaining the mining sequence (*Our Community ... Our Future: Mining and Aboriginal Communities*), a series of fact sheets on partnership agreements and an on-line interactive Map of Agreements between the mining industry and Indigenous communities and groups. These information products provide a wide range of stakeholders with ready access to information pertaining to the mining sequence, the exploration and mining projects, Indigenous communities and agreements.

Results

The tools developed by NRCan/MMS respond to the needs identified by Indigenous peoples and industry to prepare communities for new economic opportunities in minerals and metals activities. NRCan has built on existing partnerships with key organizations (e.g., PDAC, CAMA, Cando) and leveraged key national and regional events to enhance information access related to mining and Indigenous peoples to the target audience. Many trainers are making use of these tools in the delivery of information sessions on exploration and mining to Indigenous communities.

The publication has been well received both domestically and internationally. It has been used in its original form in a number of countries (the Philippines, New-Caledonia, Norway, Guatemala, Ecuador, Democratic Republic of Congo, Mali, Senegal, Burkina Faso), and it has been adapted for Peru, Mexico, Colombia, Mongolia, Guyana and Chile.

Lessons Learned

Partnerships between government, industry and Indigenous organizations are key to successful outcomes as they bring a better understanding of the issues related to mineral resource development opportunities especially in key areas. They also enable the establishment of networks for sharing expertise and information.

Information materials need to be tailored to the specific needs of the communities. The delivery of the mining information through workshops must encourage networking and reinforce participants' learning by the inclusion of interactive activities, enhancing the overall experience.

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Reference Materials

Exploration and mining guide for aboriginal communities: nrcan.gc.ca/sites/www.nrcan.gc.ca/files/mineralsmetals/files/pdf/abor-auto/mining-guide-eng.pdf

Trainers' Manual – Exploration and Mining Guide for Aboriginal Communities: nrcan.gc.ca/sites/www.nrcan.gc.ca/files/mineralsmetals/files/pdf/abor-auto/TrainersManual.pdf

Delimitation of Mining-incompatible Territories in Quebec

Context

Although most mining takes place in northern Quebec and other sparsely populated areas, several mineral exploration projects are located in urban regions or vacation areas. In such cases, there is more risk of conflicts of use, and the applicable legislative framework needs to be updated.

Description of Measures Implemented

In December 2013, the Quebec *Mining Act* was substantially amended to better reflect all the concerns expressed by citizens, municipalities, environmental groups and industry. One of the most important changes concerned land use planning. The legislation gave regional county municipalities (RCMs) the power to delimit mining-incompatible territories in their land use planning and development plans.

A mining-incompatible territory is a territory in which the viability of activities would be compromised by the impacts of mining. Once shown on the map of mining titles kept by the Ministère de l'Énergie et des Ressources naturelles (MERN), land in mining-incompatible territories is protected from mineral exploration and extraction.

Guidelines will be adopted by the government to circumscribe this new power of the RCMs and define exactly what types of territory or activity justify protection from mining activities. To promote the development of mineral resources and harmonize mining activities more effectively with other land uses, the guideline document will also ask the RCMs to define set-back distances to limit the establishment of sensitive land uses close to mine sites.

The document prepared by the Ministère des Affaires municipales et de l'Occupation du territoire and the MERN has been submitted for consultation to the various government departments and bodies involved in land use planning in Quebec, to mining associations in Quebec, and to associations of municipalities and interest groups (environmental groups and chambers of commerce).

Mining associations have expressed some concerns about the new power given to the RCMs, essentially because it could reduce the area potentially available for mineral exploration and extraction.

Results

The protection of incompatible territories has a range of effects on mineral resource development. It prevents the granting of any new mineral exploration right for mineral substances forming part of the domain of the State. However, if a claim has been granted and if all or part of the claim lies within a mining-incompatible territory, it may only be renewed if work is performed on the claim during any term occurring after the delimitation of that territory. As a result, a claim holder that completed the exploration phase and wishes to develop mineral resources could, by meeting the requirements set by law, obtain a right to extract minerals.

Lessons Learned

It is too soon to draw any lessons from this initiative. It is likely that, because the process used to adopt land use planning and development plans involves a public consultation phase, citizens will be better informed about mineral exploration issues and will be able to influence the choices made by RCMs.

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Aquistore: CO₂ Storage in a Deep Saline Formation Gaining Public Confidence for CCS

Context

The Aquistore Project is the carbon dioxide (CO₂) storage component of the Boundary Dam Carbon Capture Facility located near Estevan, Saskatchewan. CO₂ captured from Boundary Dam is both utilized for enhanced oil recovery at the Weyburn oil field and for permanent storage into a 3.4 km deep saline formation at the Aquistore site.

CO₂ storage in oil fields has been researched and well documented through two research projects managed by the Petroleum Technology Research Centre—the IEAGHG Weyburn-Midale CO₂ Monitoring and Storage Project and the Saskatchewan CO₂ Oilfield Use for Storage and EOR Research (SaskCO₂USER).

The Aquistore Project has utilized the learning from the Weyburn projects and developed a risk-based measurement, monitoring and verification (MMV) program evaluating the long-term storage of CO₂ in a deep saline geological formation. Aquistore aims to build public trust locally, and on a wider scale in Canada and internationally, that CO₂ storage from a coal-fired plant is a safe and effective means of reducing greenhouse gas emissions. The capture and utilization of CO₂ from Boundary Dam has allowed the coal-fired plant to meet the emissions standards set by the Government of Canada (which came into effect in July 2015).

Aquistore's world-leading MMV program is being utilized to provide scientific evidence to mitigate possible public concerns and inform federal and provincial policy makers and regulators about CO₂ storage. The creation of a public outreach and education program was developed to ensure local stakeholders were apprised of:

- the safe storage of the CO₂ and its containment in the reservoir
- monitoring of local groundwater and soil gas to assure the CO₂ remains in the intended storage complex
- information regarding day-to-day operations of the injection and observation wells and the operating of the MMV equipment – how these impact the local residents, landowners, and wider community.

The Aquistore Project developed a comprehensive communications plan that has kept all major stakeholder groups (local politicians and officials, residents, landowners directly adjacent to or near the operations) up-to-date with the latest research results and findings. Relationships were built directly with local stakeholders – ranchers, farmers, and authorities. Public outreach has been extremely successful, with the local community supportive of the project and its operations, particularly in light of the economic impact of the station in the Estevan area.

Description of Measures Implemented

The Petroleum Technology Research Centre (PTRC), as the manager of the Aquistore Project, developed a comprehensive risk-based MMV program that was utilized to ensure public assurance and confidence in the permanent storage of CO₂ from the Boundary Dam Capture Facility. That MMV program included a permanent seismic array and other advanced monitoring equipment to check for seismic activity; the demonstration

of no impacts to ground water and soil gas through sampling; InSar and GPS stations to measure for any ground uplift as a result of CO₂ injection; and a monitoring well to validate simulated predictions for injectivity, capacity and containment. The communications and outreach measures deployed to assure public confidence included:

- Development of a comprehensive communications and outreach plan, including a crisis communications strategy, to direct public consultation and assure local engagement in the project.
- Creation of easily understandable and publicly accessible materials describing the scientific research work. That material included providing
 - images and illustrations at scale to provide accurate representations of the true geological depth of the injection location (3,400 metres)
 - simple and clear use of language and vocabulary
 - hands-on tools such as rock samples and poster boards for open houses and one-on-one conversations.
- Three separate open houses in the City of Estevan presented research findings and explained the ongoing operations at the site to local stakeholders, including landowners near or adjacent to the Aquistore site.
 - Baseline water and soil gas results were related to local landowners, and over the course of the project continue to be provided and discussed.
- Personal “kitchen table” visits to local landowners/landusers kept those directly impacted by the Aquistore wells and MMV work apprised of all activities.
- Direct presentations and meetings were held with local officials, including MLAs, MPs, mayors, reeves of municipalities, chambers of commerce and other interested parties to explain the project’s goals and progress.
- A website, social media presence, and 1-800 number were established as means of communications between the project and members of the public.

Results

Public outreach and the established communications plan, which is still in progress, have resulted in positive support throughout Estevan and its surrounding area for CO₂ geological storage.

On a broader level – Canada-wide and Internationally – the PTRC continues to participate in national and international conferences reporting the latest research findings from Aquistore and has positively engaged with such environmental NGOs as the Pembina Institute, ZERO Emissions Platform (in Europe), the Global CCS Institute (Australia), International Energy Agency Greenhouse Gas Program (UK), and the Natural Resources Defence Council (NRDC) in the US, to disseminate research findings and increase public knowledge about CCS.

Lessons Learned

The Aquistore Project is still ongoing and full scientific findings/lessons learned will be developed as monitoring results are analyzed. The main lessons from this phase of the project from public engagement and garnering support include:

- Start public outreach and communications before the project officially begins and continue to keep stakeholders engaged throughout the life of the project through open houses, a public website, a presence on social media, and public releases.
- Assuring and building public confidence and transparency with stakeholders requires an information source that is, and is perceived to be, independent. The PTRC is a not-for-profit company that employs objective analyses and research sources to relate information impartially to the public.
- Deploy scientists with exceptional communications skills when speaking to non-scientific audiences. Good communicators of science are crucial for the general public and can make or break public acceptance.
- Establish a communications committee, when a project is a consortia made up of various sponsors, to assure the concerns of all stakeholders are included in planning public outreach activities.
- Develop a dedicated communications plan, including a crisis communications strategy should any possible issues arise. Keep this plan fluid and changeable, to meet the changing scientific results and changing audiences.

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Links to Additional Resources and Reference Materials

aquistore.ca

ptrc.ca

Wind Farm Eastern PEI

Context

In December 2011, the PEI Energy Corporation issued a request for proposals (RFP) seeking to expand wind production on Prince Edward Island (P.E.I.) by 30 MW. The RFP was issued to comply with the PEI Energy Accord, which called for the establishment of 30 MW of new publicly owned wind generation in the province. The intent was to locate the wind farm near to an existing 30-MW farm in Eastern Kings.

The Corporation had been evaluating several locations across the province in which to develop the additional capacity. The wind profiles at East Point would have provided the best returns. This site was in close proximity to the Corporation's existing 30 MW wind farm on the Elmira Road and would have been able to take advantage of the established infrastructure.

While a community vote found a majority of residents in favour of the development, it was overruled by the community council. The next most prospective site was in nearby Hermanville/Clear Springs, which is an unincorporated area. The majority of residents who attended a public meeting were in favour of the development, although there was some vocal opposition.

A lucrative compensation package was formulated for landowners, as well as a Community Trust Fund. An Environmental Impact Assessment (EIA) was completed and no unmitigated impacts were identified by the environmental consultant.

Easement agreements were executed with landowners to allow the EIA process to proceed and enable the development of a final design. The final design also established the primary (landowners with turbines), secondary (landowners within one height of a turbine) and tertiary (within five turbine heights or 1 Km from an established residence) compensation pools.

The Corporation sent letters to landowners with property in the development zone to let them know that the provincial surveyor would have crews in the area determining boundary lines. Letters were also sent to all property owners within 1.5 Km of the project area to provide an update and note the on-line posting of the Environmental Impact Statement (EIS).

In early 2013, the EIA meeting was held. Approval of the EIS was granted on April 16, 2013. Civil work for the \$60 million development was completed during the summer, and all of the turbine components have been delivered to site. Construction of the 10 turbines was completed in the summer and fall of 2013. The site was commissioned in early 2014.

Description Of Measures Implemented

The PEI Energy Corporation consulted with the local community to determine what issues needed to be addressed. Three primary issues were identified:

ISSUE 1: THE WHOLE EASTERN KINGS COMMUNITY SHOULD BE COMPENSATED.

- The P.E.I. government agreed. Community groups within communities that agree to wind farm developments should have access to a Community Trust Fund established by wind farm developers.
- The government agrees that the Eastern Kings community is entitled to additional compensation from the initial wind farm development as a result of a misunderstanding between government and the community. The government apologizes for this misunderstanding.
- The government proposes an Eastern Kings compensation package that exceeds most private sector compensation packages within Canada.
- The government has heard that while residents within the immediate area of the existing wind development are receiving compensation, the remaining residents of Eastern Kings do not receive any compensation. To address this situation, the government is prepared to offer the Eastern Kings community a total of \$200,000 per year until 2028 (coincides with the expiration of the existing power purchase agreement) in the form of compensation to both the Eastern Kings Community Council and a Community Trust Fund.
- The \$200,000 annual amount is based on government's estimate of the energy cost savings to Eastern Kings residents as a result of receiving energy at the wind farm selling price as opposed to MECL's retail energy price.
- The Eastern Kings Community Council currently receives approximately \$25,000 in municipal taxes from the government as result of the current development. A 30-MW expansion should result in an increase in community taxes of a further \$25,000 in revenue. This will result in total tax revenues of approximately \$50,000 a year for the next 15 years. In addition, the Corporation is prepared to offer an additional \$25,000 per year, commencing in 2013, to the Community Council for the misunderstandings between the Community and the Corporation with respect to compensation to the Community for the initial wind farm development. This total compensation amounts to \$75,000 per year from 2013 until 2028.
- The remaining \$125,000 per year for the same time period will be contributed to a Community Trust Fund, which may be accessed by community groups as per the 10 Point Plan. The guidelines for the disposition of these funds will be developed by the government after consultation with members of the Eastern Kings community.
- The industry standard for landowner compensation is 2 percent or less of gross revenue. Government's existing and proposed revenue scheme will pay out 2.5 percent of gross revenues to landowners, which is consistent with the 10 Point Plan's requirement to treat landowners fairly. Total compensation to landowners directly impacted by the existing and the proposed wind farm installation will amount to approximately \$400,000 per year.
- Total community compensation is in the order of \$600,000 per year or approximately \$9 million over the next 15 years.
- The government would be prepared to consider an up-front financial contribution in lieu of a reduced annual contribution if that is the wish of the Community Council.
- The proposed compensation plan will set the precedent for future wind developments within P.E.I. Increasing the compensation above what is stated may negatively impact the economic viability of future public or private wind projects.
- The government feels that the proposed wind development compensation plan is extremely generous and would hope that the Community Council is in agreement.

- The government has additional economic development plans for Eastern Kings.

ISSUE 2: ANY WIND FARM DEVELOPMENT SHOULD BE AWAY FROM URBAN AREAS, SHORELINES, MAIN ROADS AND VISTAS.

- The government has re-evaluated the economics of relocating the location of the proposed wind development west of the Elmira Road within the Eastern Kings Municipality and has concluded that other development areas outside of the Eastern Kings area would be more economically attractive. Government wind data suggests that the extreme eastern part of P.E.I. provides one of the most favorable locations for wind development in the province. This is the government's preferred location.
- The government, however, feels that an expansion of the existing wind farm can be done in a manner that will not have negative impacts on the community and the environment and at the same time provide significant financial benefits to the region.
- Turbines will be located at least 600 m, more than a half of a kilometre, from the nearest residence. The proposed development will be within a forested area away from shorelines and vista areas.
- Wind farm development within the community provides tourism development opportunities as well as economic development opportunities for both companies and individuals within the community.

ISSUE 3: THERE IS A NEED FOR A GENUINE COMMUNICATION PLAN WITH THE COMMUNITY.

- In the event that the Eastern Kings community is willing to agree to a further 30-MW wind development within its community, the government will communicate/consult with the community on construction and operating procedures.
- Regular wind farm activity information could possibly be provided on the Community's website.

Results

The proposed wind farm expansion was rejected by the Eastern Kings Community Council. The PEI Energy Corporation then approached the next most suitable community to determine the potential of siting the new wind farm in the Hermanville/Clearsprings community.

The Corporation used the compensation package that had been negotiated with Eastern Kings for the Hermanville/Clearsprings project. As stated above, the project was commissioned in early 2014.

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Aboriginal Review Group – Japan Canada Oil Sands Limited

Context

On May 21, 2014, Japan Canada Oil Sands Limited (JACOS), a subsidiary of Japan Petroleum Exploration Co., Ltd. (JAPEX), was presented with the 2014 Canadian Association of Petroleum Producers' (CAPP) Responsible Energy Award in the Social Responsibility category. This award recognizes JACOS' efforts in developing public confidence with local First Nations and Metis affected by current and future operations in the Hangingstone area through consultation and collaboration.

The Aboriginal Review Group (ARG) established by JACOS addresses public confidence issues by meaningfully engaging Indigenous communities in resource development and environmental assessment. This group exemplifies Alberta's commitment to the United Nations Declaration on Indigenous Rights to work alongside Canada's Indigenous populations to ensure all those affected by development decisions are participating in the process.

Description of Measures Implemented

Taking a unique approach to stakeholder relations from the outset of their project, the ARG is comprised of potentially impacted First Nations, Metis and Aboriginal trappers. Members worked together with JACOS to develop the environmental impact assessment for the Hangingstone Expansion Project, integrating traditional knowledge as part of the assessment.

Results

Even after receiving regulatory approval, the ARG continues to meet on a quarterly basis to provide input into JACOS' environmental monitoring operations and other initiatives. The vision for the ARG is it will continue to provide valuable input to JACOS for the life of the Hangingstone Expansion Project and is a critical part of the company's commitment to social responsibility in oil sands development.

Lessons Learned

While this initiative was spearheaded by industry, it provides an example of a best practice that could be used by governments in approaching public confidence and resource development projects. Success was supported by JACOS' commitment to include the ARG in its development processes and to continue this commitment past regulatory approval to construction, operation and planning for reclamation. The ARG showcased a commitment to government requirements to understand concerns, substantially meet them and establish positive working relationship with Indigenous peoples. The ARG meets the spirit of the Crown's duty to consult.

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John Hart Generating Station Replacement Project Campbell River

Context

BC Hydro's Campbell River hydroelectric system is one of the most complex and closely monitored generation facilities in the province. With a rich and diverse history of local and First Nations activity, the system spans from the headwaters at Strathcona Provincial Park to the city of Campbell River. Many groups live and recreate throughout the system, including Indigenous groups, stakeholders, and the general public. As such, public awareness and engagement have been critical to successfully advance the project.

As a heritage asset built in the 1940s, the John Hart facility faced significant challenges related to seismic risk, reliability and downstream environmental impacts. In 2007, the John Hart Generating Station Replacement Project was initiated to address these issues. The project scope includes a new tunnel to an underground powerhouse, as well as a water bypass facility to protect downstream fish habitat. By moving the facilities underground and remediating the previous site, the innovative design benefits the Elk Falls Provincial Park by minimizing the visual impact of the site. The project design required three key approvals:

- 1) Regulatory approval with the BC Utilities Commission
- 2) Legislative approval of a BC Parks Boundary Adjustment
- 3) Screening through the *Canadian Environmental Assessment Act, 2012*⁶

Construction of the John Hart Generating Station Replacement Project started in spring 2014, with commissioning of the new facilities planned by the end of 2018. InPower BC leads the main project construction work.

Description of Measures Implemented

Given the strategic importance of public communication and engagement to support this project, stakeholder and First Nations engagement for the John Hart Generating Station Replacement Project has been carried out in a way to demonstrate project need and to provide the ability for all parties to provide early input. Fortunately, BC Hydro benefitted from a history of positive and transparent communications with the community.

For the John Hart project, BC Hydro primarily engaged the community through the:

- Campbell River System Hydroelectric Facilities Liaison Committee
 - o Three meetings per year (24 to date)
 - o Approximately 30 attendees
- Annual open house
 - o Six to date
 - o Approximately 75 attendees

⁶ Because of federal changes to the *Canadian Environmental Assessment Act, 2012*, this screening was discontinued late in the project

- City of Campbell River Mayor and Council
 - o Monthly coordination meeting
 - o Numerous presentations and direct engagement with city staff
- Regional and local business leaders - informed and involved as needed to maintain awareness and help them prepare for economic opportunities.

BC Hydro primarily engaged First Nations through:

- Meeting impact benefit commitments
- Ongoing meetings and project updates
- Participation in environmental monitoring activities

Results

As a result of extensive First Nations and community stakeholder engagement efforts, BC Hydro implemented a number of changes that benefitted multiple parties. Three examples of win-wins are:

1. **Canyon View Trail:** This popular 6-km trail hosts about 75,000 recreational enthusiasts per year. Since a section of the trail goes through the John Hart project site, we worked with the community to identify an alternate route during project construction. The bypass trail will keep people safe and away from the construction area, provide new viewing opportunities, and maintain trail access along the Campbell River until project completion.
2. **Tourism Improvements (access upgrades; Elk Falls Suspension Bridge; Interpretive Centre):** To address public access challenges, BC Hydro worked with BC Parks and the Campbell River Rotary Club on a legacy project. BC Hydro funded a new entrance, expanded parking lot and trail to the falls. We also made a funding contribution to the Elk Falls Suspension Bridge, which has been extremely popular since opening in May 2015. The John Hart Project Interpretive Centre opened in fall 2013 and provides project updates and information including videos on a touchscreen TV. In the last 12 months to March 2016, over 19,000 local and international visitors have gone through the centre.
3. **Local Procurement:** Since the John Hart project creates hundreds of jobs annually over the five years of construction work, BC Hydro wanted to ensure that First Nations and local communities were given opportunities to benefit economically from the project. In early 2011, BC Hydro started discussions about the procurement process with key First Nations, community and business stakeholders. This proactive, collaborative engagement led to the development of a major projects web portal site (cr.majorprojects.ca/). One of the first of its kind, the website was developed by the Campbell River & District Chamber of Commerce, with involvement and support from BC Hydro, the Vancouver Island Economic Alliance, and the Vancouver Island Construction Association.

In 2012, BC Hydro announced the three shortlisted bidding teams for the John Hart Generating Station Replacement Project. To demonstrate our commitment to local procurement, we provided an opportunity for businesses and suppliers to meet the shortlisted teams a year in advance of the project contract award. We also coordinated individual meetings for the three area First Nations to discuss their interest, capacity and resources to participate in the John Hart project. Following the project contract award to InPower BC, we held a two-day business “speed dating” event in Campbell River. The success of our approach led to similar events being used for the Site C project in Northern B.C.

BC Hydro was also proud to develop impact benefit agreements in 2012 with the three area First Nations: We Wai Kai Nation, Campbell River Indian Band and K'omoks First Nation. The impact benefit agreements resulted in a number of opportunities, including procurement, environmental stewardship partnerships, and employment (as of March 2016, nearly 10% of the site's construction workers were First Nations).

To help quantify our success, BC Hydro held a telephone survey⁷ in 2015 and found that:

- Nearly three quarters agreed that BC Hydro provided good community engagement on its projects and operations in the Campbell River area
- Nearly 90% indicate strong support for the John Hart Generating Station Replacement Project

Lessons Learned

Given the scope and uniqueness of this project, BC Hydro recognized that First Nations and community engagement would be critical. Maintaining transparency with stakeholders about the project challenges and drivers created a platform for open and collaborative communication, and our willingness to find unique and creative solutions led to great results that could not have been anticipated at the project outset. Over the course of our seven-year engagement, the project design and scope changed various times which helped provide clarity as to the optimal outcome. By including others in our project journey, we achieved a result that BC Hydro, local First Nations and the community can all be proud of.

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⁷ Results based on 220 random telephone calls

Red Chris Mine

Context

Red Chris Mine (Red Chris) is a copper-gold project operated by Red Chris Development Company Ltd. (RCDC) and located 80 Km south of Dease Lake and 18 Km east of the village of Iskut in north-western B.C. The provincial Environmental Assessment Certificate #M05-02 (EAC) was issued July 21, 2005 and a Mines Act (MA) permit #M-240 and other required construction permits were issued May 4, 2012.

On June 12, 2015, Imperial Metals received an amended permit under the B.C. *Environmental Management Act* (EMA), which replaced the previously issued short-term authorization. This permit allows the Red Chris to discharge tailings into the tailings storage facility (TSF) and discharge water from the TSF subject to water quality guidelines. RCDC worked closely with the Tahltan Central Government and the Ministries of Environment and Energy and Mines in regard to the terms and conditions of the permit.

On June 19, 2015, Red Chris received an amendment to its MA permit, allowing the mine to go into production. Red Chris is owned by Imperial Metals – the same company that owns Mount Polley. Concerns regarding the facility at Red Chris were broad, including the local First Nations to the trans-boundary and regional watersheds that drain into Alaska, sparking a cross-border debate.

Description of Measures Implemented (e.g. approaches, tools)

The Red Chris TSF has been the subject of three independent reviews done to assess seepage and design considerations. The Province has been assured that Red Chris and its consultants have done an extensive review of the site's subsurface hydrogeology and have made adjustments as per third-party review recommendations:

- The most recent review was completed in 2014 by Kohn Crippen Berger (KCB) and funded by Imperial Metals as per an agreement with the Tahltan Central Council. KCB is a third-party engineering firm and was chosen by the Tahltan to review the Red Chris TSF design.
- The Red Chris has an Independent Tailings Review Board that meets regularly to discuss the tailings facility and whose members were chosen by both the Tahltan and the RCDC.

Results

- On April 19, 2015, the Tahltan Nation announced that its members had agreed to a co-management agreement with Imperial Metals and Red Chris. The agreement was supported by 86.9% of Tahltan voters. The unique agreement ensures Tahltan oversight of environmental issues surrounding the mine. It also guarantees training and careers for Tahltan members and a revenue-sharing agreement.
- Red Chris was built at a capital cost of \$680 million and has 300 full-time employees working on-site during its anticipated 28-year mine life.

Lessons Learned

- Since early in the environmental assessment review, and through permitting and now during operations, the Tahltan, the Province and RCDC have been working on several joint management strategies to gain a better understanding of the wildlife, hydrology, water quality and overall use of the area to develop better management plans to take care of this resource for future generations.

- Bringing Tahltan into the process during all phases of the mine has created a partnership between the Tahltan, the company and government. It has been able to create a balance between sustainable development and the ability to ensure opportunity in the form of jobs and training opportunities.

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Links to Additional Resources and Reference Materials

Tahltan – Red Chris Agreement - tahltn.org/category/red-chris/

Red Chris Mine - imperialmetals.com/our-operations-and-projects/operations/red-chris-mine/overview

The Halfmile Mine Development Project

Context

The Halfmile Mine, owned by Trevali Mining, is a volcanogenic massive sulphide deposit explored since the 1960s. The project is located 70 km northwest of the City of Miramichi and 60 km southwest of Bathurst, New Brunswick, and about 20 Km west of the closed Heath Steele mine.

The mine location is within a highly sensitive environment straddling two major watersheds, including the renowned salmon waters of the Northwest Miramichi River. The company's approach to the project development was to minimize surface impact with a small underground operation and involved input from Indigenous groups, stakeholders and government. The plans included no ore processing on site, no permanent storage of waste rock on the surface and limited surface storage of ore, directing all runoff to the less sensitive watershed. All site discharge was controlled, and there was commitment to meet strict CCME guidelines using state of the art Veolia water treatment. All waste rock underwent rigorous and systematic sampling and sorting for environmentally safe surface management with the ultimate goal of replacing it underground as fill. Ore was trucked off-site for milling.

Construction began in 2011 after receiving all approvals and mining and trucking of ore began in January 2012. As a condition of approval the company funded a government environmental inspector whose primary function was to monitor site operations and offer guidance on environmental issues; this greatly enhanced communication with regulatory agencies. Ore was trucked to the Brunswick Mine concentrator (Xstrata) for several months but ore production was put on hold in August 2012 as Trevali Mining considered other milling options. The limited term mining campaign was deemed a success, and the company maintains the site for future production.

Description of Measures Implemented

Project approval in 2011 was preceded by active consultation with Indigenous Mi'kmaq communities resulting in an MOU with 9 bands to include employment opportunities with a target of at least 20 percent of the workforce (including any contracting), financial benefits, hiring of a Mi'kmaq Benefits Administrator to identify and promote First Nations opportunities, a student summer employment program, and educational scholarships. The company also worked with government and the New Brunswick Community College (Miramichi) to develop a common-core mining program for First Nations whose graduates were then hired by Trevali. The company opened an office in Miramichi and was active in positive engagement with government regulators, politicians, community organizations and charities.

Results

The development approach for this small underground mine development project, even though in a highly sensitive location, was successful as a result of achieving an excellent working relationship with First Nations government and the local community. The clean and safe operation of the project to date is a good model for future mining operations and serves the company's reputation well for its other projects in the province.

Lessons Learned

Resource companies that engage with First Nations communities early in the development process and that arrive at an agreement prior to government permitting processes avoid possible delays in the review process. Obtaining social licence through meaningful Indigenous-to-industry consultation greatly assists the Crown's duty to consult as well. In a jurisdiction where the issue of First Nations asserting rights in relation to mineral extraction is in its infancy and the roadmap to consultation and agreement either unclear or untested, it's important that companies be proactive in their goal to achieve buy in and mutual respect.

The conscientious and proactive approach to environmental management, underpinned by harmonious collaboration with the government inspector, established trust between the company, government regulators and regional NGOs.

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Teck Resources Limited – Duck Pond Mining Project Closure

Context

Teck Resources Limited's Duck Pond copper-zinc mining project, located 30 km southeast of Millertown, Newfoundland and Labrador, officially closed on June 30, 2015. The mine started producing copper and zinc concentrates in 2007 and exhausted the mineral reserves over an eight year mine life as originally planned. At its peak, the mine employed 400 people from all over the province, with the bulk from the Exploits region, including the communities of Badger, Buchans, Buchans Junction, Millertown and Grand Falls-Windsor.

The project consisted of two small open pits, an underground mine, a 1,900 tonnes per day concentrator (mill), tailings facilities and a 100-person operations camp. Concentrates from the mine were trucked to a storage and shipping facility in St. George's and sold to smelters in North America and overseas.

Rehabilitation of the mine site started in 2015 and will be completed by 2018 followed by a period of monitoring.

The mine was a major contributor to the local and provincial economy, and there were concerns regarding the impact of the closure on local communities and individuals. Furthermore, as with any mining project, rehabilitation of the site is necessary to remediate any areas of potential environmental concern and to mitigate any future environmental effects or safety issues. Therefore, mitigation of adverse environmental and community impacts is Teck's goal as it works toward successful implementation of the mine rehabilitation and closure plan.

Teck operated in a safe and socially responsible manner during the life of the mine, and this has facilitated a degree of public trust that has been extended to the closure and rehabilitation of the site.

Local, provincial, national and international communities monitor mining companies to assess not only the individual company's social licence but that of the industry as a whole. As such, mine closures are evaluated for safety, as well as environmental, social and economic impacts. Failure by a company to meet an acceptable level in any of these areas will negatively affect public confidence and trust.

Positive mine closure and rehabilitation events help mining companies secure the public trust and confidence necessary to obtain the social licence required for resource development within local communities and across the province. Teck's closure activities demonstrate a good model for future mine closures that increase credibility with stakeholders.

Description of Measures Implemented

REGULATORY COMPLIANCE:

In accordance with the *Mining Act*, Teck provided the Department of Natural Resources with a rehabilitation and closure plan in 2006 that described the process of rehabilitating the site following closure of the mine. A process to update the plan took place between 2012 and 2014, well in advance of the mine closure, and was reviewed and approved by the Department of Natural Resources and other applicable government regulatory departments, boards and agencies. Furthermore, in accordance with the legislation, Teck provided financial assurance for the full amount of the estimated cost of rehabilitation of the Duck Pond mine site.

Teck also completed a Closure Social Impact Assessment in October 2013 that was designed to identify key social impacts and risks to communities of interest (COIs). The assessment outlined that Teck would work with COIs (employees, communities, suppliers other organizations) to plan and mitigate negative impacts of the mine closure and also committed to work with COIs for period of time post-closure.

JOINT CLOSURE COMMITTEE:

In Spring 2015, prior to the mine closure, the Duck Pond Joint Closure Committee (JCC) was formed to provide a formalized framework to cooperatively progress the approved rehabilitation and closure plan to completion in a timely, efficient and thorough manner. The purpose of the JCC is to provide oversight on the closure of the Duck Pond mine by reviewing the designs and plans for each aspect of the closure process; ensuring appropriate criteria have been established; and providing the appropriate review personnel and input.

The committee is made up of representatives of Teck, the provincial departments of Natural Resources and Environment and Conservation, as well as Environment Canada. The provincial departments of Advanced Education and Skills and Occupational Health and Safety, as well as the federal Department of Fisheries and Oceans and Transport Canada are invited to participate by attending meetings and can monitor the committee's activities through receiving committee documents.

EMPLOYEE ENGAGEMENT:

Regular meetings were held quarterly for all employees to ensure everyone understood the closure process, timing and schedule as well as the work that would be required leading up to and after actual mine closure. These meetings provided a means for employees to express their concerns and ask questions as well as provide input to the closure process.

PUBLIC ENGAGEMENT:

The JCC, led by Teck and the Department of Natural Resources, has held a series of presentations to inform local communities and stakeholders of planned closure activities at the Duck Pond mine site. This community engagement provides an opportunity for an open dialogue between interested parties and the company and will continue while rehabilitation activities progress.

Stakeholders have been invited to the sessions through direct correspondence, advertisements and notices to the local communities. Affected community town councils, local business associations and known affected businesses were invited via direct correspondence.

EMPLOYMENT SUPPORTS:

Reductions to employment at the mine were phased over an eight week period from June 30, 2015, to August 31, 2015. Teck has undertaken a number of measures to provide employment supports to those affected by the mine closure including assisting employees to become certified under the nationally recognized Canadian Mining Certification Program to help achieve employment at other mines; working with the Department of Advanced Education and Skills to implement a workforce adjustment response to assist impacted workers find new employment and retraining; identifying potential employment opportunities in other Teck operations; and working with other mining companies (local and national) to identify opportunities for displaced workers.

Results

The public meetings ensured that communities affected by the mine closure were kept apprised of planned rehabilitation activities at the site, provided information regarding the future of the mine site and associated assets, the reasons behind specific closure and rehabilitation activity, and the future status of company supports for community programs.

In public meetings some community representatives expressed gratitude for the support received from the mining operation.

A communication survey was given to the Municipal governments and service providers in affected communities. Results showed a high approval rate of Teck's communication during its years of operation.

Demonstration of proper oversight of the mine rehabilitation and keeping local stakeholders informed has allowed the company to garner support for their plans.

Lessons Learned

In order to obtain a social licence to operate, a key corporate goal should be to build and maintain strong community relationships throughout the entire mine life cycle.

To secure public confidence and trust, public engagement is necessary as stakeholders want to be informed regarding not only the proponent's plans for development through to closure but also the work and activities completed.

Stakeholders will extend confidence to those companies that are perceived as operating not only within the standard set by regulation but are also moving forward with proactive measures to protect all environments (physical, social, economic) and improve our communities and the lives of those people within them.

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Nuclear Waste Management Organization's (NWMO) Engagement on Canada's Plan for the Long-term Management of Used Nuclear Fuel

Context

Canada's plan for the long-term management of used nuclear fuel was challenged when, following decades of technical work and an Environmental Assessment in the 1990s, the Seaborn Panel concluded that:

"The AECL concept for deep geological disposal has not been demonstrated to have broad public support. The concept in its current form does not have the required level of acceptability to be adopted as Canada's approach for managing nuclear fuel wastes."

In 2002 the Government of Canada introduced the *Nuclear Fuel Waste Act* as the foundation for a renewed approach. Nuclear Waste Management Organization (NWMO) was established with the mandate of engaging Canadians and Indigenous people on the most appropriate method for the long-term management of used nuclear fuel. NWMO has since been mandated to implement the Adaptive Phased Management (APM) plan selected by the Government in 2007, including site selection for the deep geological repository for used fuel.

Earning the trust and confidence of Indigenous peoples and other Canadians has been a central focus of NWMO's work since 2002. It will be key to enabling progress with Canada's plan for the safe management of the back end of the nuclear fuel cycle.

Description of Measures Implemented

During the 2002-2005 study of options for managing used nuclear fuel, NWMO engaged every province and territory. A three-year dialogue was designed to invite input at each stage: the questions to be asked and answered; priority objectives; technical options to be studied; and assessment of options. NWMO's engagement was wide-ranging: a National Citizen Dialogue on Values; Roundtable on Ethics; Aboriginal Dialogues; multi-stakeholder dialogues; public discussions; e-dialogues and workshops.

In 2008-09 NWMO led engagement to collaboratively develop the siting process. Dialogue began by seeking input on principles and priorities for a fair siting process. It included review of a draft siting process. Engagement was broad, with citizen panels, opinion leader dialogues, Aboriginal dialogues and public information sessions.

Engagement remains the foundation of the site selection process. In 2010 NWMO launched the voluntary siting process. In each siting area, NWMO now engages with communities that entered the process to learn more, as well as municipal, First Nation and Metis communities in the broader area and region. Capacity-building funds and support are provided to communities to learn about the project and take informed decisions on involvement. Open houses, meetings with Elders, third-party experts and other learning opportunities are provided. NWMO has a local presence and communities play active roles in shaping and participating in community dialogues and field work plans. NWMO has committed that the project will only be sited at a

safe site with a willing host, and with the involvement of the interested community, First Nation and Metis communities in the area working in partnership to implement it.

From its establishment in 2002, NWMO has engaged First Nation and Metis people to be part of the dialogue, shaping studies and plans for Canada's program. NWMO established a Council of Elders and Youth to provide guidance on the application of Indigenous Knowledge systems in NWMO's work and to advise on the development of good relations with Indigenous communities. In addition to community engagement, NWMO's agreements with national, provincial and regional Indigenous organizations support broad involvement, capacity-building and information-sharing.

Results

NWMO's 2002-2005 engagement led to the preferred plan for long-term management of used nuclear fuel: The Adaptive Phased Management plan reflects common ground expressed by Indigenous people and other Canadians – both in the technical method and, importantly, the terms and conditions for socially acceptable implementation.

The outcome of the 2008-2009 dialogues was a process accepted as a fair, socially acceptable basis for siting the used fuel repository. The process reflected input from municipal and Indigenous organizations, industry, government and a range of interests.

The 2010 launch of the voluntary siting process led to a strong response: by 2012, 22 communities in Ontario and Saskatchewan had entered the process. Study areas have been narrowed through assessments, with studies now focused in nine areas in Ontario. Communities remain interested and engaged. There is active and growing participation of First Nation and Metis communities and participation of Treaty, provincial and national Indigenous organizations. NWMO continues to be guided by Elders in its work.

Canada remains one of few countries with success in leading a voluntary siting process for a used nuclear fuel repository and is the subject of much international interest.

Lessons Learned: What Supported Progress

- A firm commitment to collaboration in design of plans and processes, to keep the program aligned with evolving societal expectations. Input is regularly sought and programs adapted.
- Transparency and engagement are key to establishing trust.
- NWMO has committed to adapt plans in response to new learning or social priorities. Provide a holistic approach to assessment involving communities in field work and community well-being studies and inviting guidance from Indigenous Knowledge.
- Canadian Nuclear Safety Commission's early briefings with communities on safety. Empowering communities to learn and take informed decisions on their involvement.
- Treating communities as partners; recognizing their contributions to an important national initiative.

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Links to Additional Resources and Reference Materials

See nwmo.ca for reports submitted to the Minister of Natural Resources:

The *2005 Final Study Report*; and *Triennial Reports* issued for 2008-2010 and 2011-2013.

Development of the Government of Nunavut's Uranium Policy

Context

Uranium was discovered in the Thelon Basin (Kivalliq region) of Nunavut in the 1970s and the potential for development has been explored intermittently since the 1980s. In 2006, AREVA Resources reopened the suspended Kiggavik project and submitted a project proposal to the Nunavut Impact Review Board (NIRB) in 2008. In February 2010, the project was referred by the Minister of Indian and Northern Affairs Canada (INAC) for a Part 5 review under Section 12 of the Nunavut Land Claims Agreement.

As the assessment of the Kiggavik project moved toward project scoping and guideline development, two petitions calling for a public inquiry on uranium development were brought forward to the Government of Nunavut from concerned communities. Recognizing that Nunavut hosts significant uranium deposits, public confidence in uranium and uranium mining methods would play a critical role in the development, or rejection, of that industry. In response, Premier Eva Aariak committed to holding a public forum on uranium development in Nunavut.

Description of Measures Implemented

The Government of Nunavut undertook efforts on two fronts to address public confidence in uranium mining. First, it commissioned a formal report to provide factual information for Nunavummiut to better understand what uranium is and how it is typically managed. The report, *Uranium in Nunavut Review* was issued in February 2011. Following the report, the government sought opinions from Nunavummiut. Public forums were developed by a steering committee made up of representatives from multiple Nunavut government departments. The forums were held in Cambridge Bay, Baker Lake, and Iqaluit. Each forum was a two-day event and included an open house, a panel presentation, and an opportunity for the public to express their views and ask questions to panelists. People across the territory were also encouraged to send in questions and comments via phone, fax, e-mail, website submission, or by mail. The results of the public forums were summarized in a report, *Public Forum on Uranium Summary Report*, released September 2011.

One hundred and seven members of the public participated in the consultation process by speaking at the public forums and/or by providing comments in drop boxes or through submissions by e-mail, on the website, or by telephone. The consultation process was not intended to act as an opinion poll to measure public support or opposition to uranium mining. Rather, it was a forum for Nunavummiut to make informed expressions of their concerns so that their government could develop a policy that may directly address those concerns and thus restore public confidence on the matter.

Results

In 2011 the Government of Nunavut released its Uranium Policy, which identified five principles that must be met in order for the exploration and mining of uranium to receive government support:

1. Uranium mined in Nunavut shall be used only for peaceful and environmentally responsible purposes.
2. Nunavummiut must be the major beneficiaries of uranium exploration and mining activities.
3. The health and safety of workers involved in uranium exploration and mining and all Nunavummiut shall be protected to national standards.

4. Environmental standards must be assured for uranium exploration and mining, especially for the land, water, and wildlife.
5. Uranium exploration and mining must have the support of Nunavummiut, with particular emphasis on communities close to uranium development.

The principles contained within the policy are a direct result of the concerns raised during the public consultation process and identified through the reports.

Lessons Learned

The NIRB held the Final Hearing for AREVA Resources' proposed Kiggavik Uranium Mine in Baker Lake in March 2015. The hearing lasted two weeks; the first week focused on the technical components of the project, and the second allowed Kivalliq community representatives to question the company, regulators, and other interveners.

The majority of Kivalliq communities ultimately chose not to support the project, and at the end of the review, the NIRB recommended that the project not proceed at the present time. However, the opposition did not centre on any of the principles outlined in the Uranium Policy, but rather an uncertain start date for the project, arguably a technical issue. To some degree this is validation that the efforts put forward to understand public concern and integrate into public policy did have a measurable effect. And it must be noted that the input from the communities greatly affected the outcome of the NIRB decision. Moving forward, the Nunavut government believes that the Uranium Policy Statement remains effective, but that public confidence is a dynamic issue that needs to be addressed at multiple levels and on an ongoing basis.

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Nunavut's Regional Socio-Economic Monitoring Committees

Context

Resource development projects in Nunavut have potential to cause significant effects on the socio-economic environment in nearby communities. A project provides access to employment and training opportunities that are otherwise limited in many communities, while simultaneous undesired social impacts may also occur. A project certificate issued for an approved project by the Nunavut Impact Review Board (NIRB) may include a set of terms and conditions intended to enhance the benefits and minimize the impacts of the project. Terms and conditions may also provide for the establishment of a monitoring program with specified responsibilities for different stakeholders. Monitoring is necessary to identify whether predicted changes are taking place, to determine if unpredicted impacts are occurring, and to ensure that companies are mitigating any negative effects as required.

One factor that can influence public confidence and the perception of resource development projects in Nunavut is the involvement of surrounding communities in the monitoring process. Communities absorb the direct and induced changes to the socio-economic environment caused by a project, and it is therefore crucial they be meaningfully involved in monitoring. By meaningfully incorporating communities in the monitoring process, their concerns can be alleviated through regular updates on benefit generation and impact management. Prior to 2007, however, there was no formal venue for stakeholders and community representatives to discuss resource development and the subsequent socio-economic benefits and impacts.

Industry investment and the number of exploration projects increased annually from 2002 to 2007. In anticipation of numerous projects operating in the same region, each with overlapping socio-economic terms and conditions, the Government of Nunavut in collaboration with the Government of Canada improved the delivery of socio-economic monitoring in the territory. The new approach emphasized community involvement, which has strengthened public confidence in resource development projects in Nunavut.

Description of Measures Implemented

In 2007, the Nunavut and federal governments created Socio-Economic Monitoring Committees (SEMCs), which provide a regional approach to socio-economic monitoring for major resource developments in Nunavut. SEMCs are made up of community representatives from each regional hamlet as well as other major impacted stakeholders, including government agencies, industry proponents, and Regional Inuit Associations. Also invited to participate at each SEMC meeting are an Elder and Youth representative from the host community, which allows participants of the SEMC to hear the perspectives of different generations. The Nunavut Department of Economic Development and Transportation coordinates and chairs the SEMC meetings and pays for one delegate from each community, typically the mayor, to attend the meetings.

Results

The SEMCs have created an efficient and responsible process for socio-economic monitoring by bringing communities together with industry representatives to collaborate on fulfilling project certificate terms and conditions. Annual meetings allow for communities to receive regular project updates and monitor changes to the socio-economic environment throughout the life of resource development projects.

A regional approach to socio-economic monitoring provides an opportunity for each of the three SEMCs to focus on regional concerns and priorities. The Government of Nunavut led engagement exercises with each SEMC to determine priority areas and develop a monitoring approach specific to each region. Statistical socio-economic data collected by government and industry is shared with the SEMC and validated by community representatives to better understand if the data is accurately reflecting the socio-economic environment in each community. The outcome of this strategy has been positive. Communities are able to provide guidance to socio-economic monitoring and oversee the proponent's fulfillment of project certificate terms and conditions.

Lessons Learned

The opportunity for communities to meet directly with industry officials and government agencies is important. Public confidence is strengthened when communities can engage in open and honest dialogue with industry and government, and oversee regional socio-economic monitoring in an active capacity.

There is no single organization or group that can tell the full story on community health. The collaboration between communities, government, and industry enable the collection and sharing of both quantitative and qualitative data at SEMC meetings, which provide a comprehensive understanding of community health. The active involvement of Nunavut communities in the socio-economic monitoring process is a major step towards responsible resource development and has enhanced public confidence in the minerals industry.

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Aboriginal Participation Fund

Context

The public may not have confidence in Government to make decisions with regard to resources in the best interests of Aboriginal peoples.

The program was developed to help Aboriginal communities and other groups enhance their knowledge of mineral exploration and development processes, as well as to provide them with capacity to facilitate their participation in mineral development-related consultation and other economic opportunities.

Providing capacity to communities to participate demonstrates Ontario's commitment to enabling Aboriginal communities to become active participants in mineral exploration development processes.

The program will illustrate to the broader public that Ontario recognizes the interests and desires of Aboriginal communities to participate in the benefits derived from mineral development opportunities with government and industry proponents.

Lack of capacity within the Aboriginal community has previously hindered their willingness to support mineral exploration projects. Capacity building funding enables relationship building and creates synergies between industry, government and Aboriginal communities.

Description of Measures Implemented

The Ontario ministry of Northern Development and Mines launched the Aboriginal Participation Fund to help Aboriginal communities and organizations participate more fully in the various stages of mineral exploration and development, help them better understand the mining sector and realize greater benefits from mining activities in or near their communities.

In 2016, Mines and Minerals Division launched a new program that brought structure and rigour to the allocation of public funds to Aboriginal Communities in support of exploration and mining in Ontario. This process will help the Ministry better assess the outcomes of the funding and identify a number of opportunities for improvement.

Results

The Aboriginal Participation Fund demonstrates Ontario's commitment to providing capacity to Aboriginal Communities to benefit from exploration and mining in the Province.

A one year review will take place to identify gaps and revisions required to further streamline the program.

Unofficial feedback received from both the Aboriginal communities and industry has been generally positive. Further analysis is to be conducted at one year review.

Lessons Learned

Lessons learned will be determined after the one year program review has been completed.

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Links to Additional Resources and Reference Materials

mndm.gov.on.ca/en/mines-and-minerals/aboriginal-participation-fund

Mineral Development Strategy for Ontario

Context

The strategy is to demonstrate to Ontarians and to the global mineral exploration industry that Ontario has a blueprint for the sector's growth over the next 10 years that will keep the province's mineral development sector:

- Competitive and innovative
- Safe and environmentally responsible
- Efficiently and effectively regulated
- Growing and prosperous by enhancing Aboriginal voices and meaningful participation, and building a highly skilled workforce

With the economic downturn industry questioned the commitment of Ontario to support exploration and mining. The Mineral Development Strategy confirms that mining continues to be an important sector in Ontario's economy and is a key government priority that will help position Ontario as a leader in mining exploration and development. The strategy maps out a path forward over the next 10 years to engage industry and other stakeholders in addressing challenges and improving confidence.

Innovation under the strategy demonstrates how mining can use clean technology in developing future mines. The strategy supports industry while also providing greater benefits from mining activities to Aboriginal communities.

Establishing a Junior Exploration Assistance Program illustrated Ontario's commitment to the foundational work of the mining sector.

Resource development is impacted by a number of ongoing or emerging social/environmental imperatives identified in the strategy, including protecting the environment, reducing the impacts of exploration and mining and addressing the climate change challenge, as well as enhancing Aboriginal voices and meaningful participation in economic development.

Description of Measures Implemented

A discussion paper was issued in winter 2014/15, supported by an Environmental Registry posting, and followed by broad public/industry consultation and Aboriginal engagement program undertaken in spring 2015 across Ontario.

Ontario reached out to the Canadian mineral exploration community (including the Prospectors and Developers Association of Canada), mining companies active in Ontario, the Ontario Mining Association, the Ontario Prospectors Association and its regional sub-associations, academia, Northern Ontario municipalities, economic development organization, environmental NGOs at public forums in a number of locations across the province at which input into the discussion's key drivers was sought.

- Ontario also invited Aboriginal participation in the renewal of the Mineral Development Strategy by holding dedicated workshops in several locations across the province, including outreach focused on the Metis Nation of Ontario as well as the Algonquins of Ontario.
- Public input was also sought and received from the public and other submitters at large through the Ministry's own website feedback structure.

Results

Ontario's renewed Mineral Development Strategy was successfully announced and launched in December 2015 with strong support from the Ontario Prospectors Association, Ontario Mining Association and PDAC.

The extensive consultation and engagement process was well received by those who participated and many elements of the stakeholder, and public input was captured and integrated into the final strategy.

Lessons Learned

A progress report (report card) was issued demonstrating accomplishments of the initial Mineral Development Strategy which increased public confidence that the Ministry of Northern Development and Mines (MNDM) delivered on its commitments.

In developing the renewed strategy, MNDM reached out to industry, First Nations, municipalities, Environmental Non-Government Organizations (ENGO) and other stakeholders for their input into the framework. MNDM also posted the proposal on Ontario's environmental registry for further public input.

The MDS addresses issues identified by industry and stakeholder during initial public consultation and engagement sessions. MNDM continues to work with other ministries to pursue and implement initiatives under the MDS that will benefit both Aboriginal communities as well as industry in the mining sector. The MDS has been well received by industry, stakeholders and Aboriginal communities.

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Links to Additional Resources and Reference Materials

Ontario's Mineral Development Strategy: mndm.gov.on.ca/en/mines-and-minerals/mineral-development-strategy

Ontario Long-Term Energy Plan Consultations

In the summer of 2013, Ontario held consultations as part of the development of an updated Long-Term Energy Plan (LTEP). These consultations were intended to engage with the general public and stakeholders about key issues and topics for inclusion in the update to the LTEP, which had a mandate to ensure Ontario has a supply of clean, reliable and affordable power.

Context

Energy and electricity are pocketbook issues for many people in 2013. The sector had undergone significant change in a short period as the Province began closing its coal-fired generating stations and integrating thousands of megawatts of renewable energy and natural gas. Nuclear refurbishment plans were still in development, creating uncertainty around the province's largest source of electricity and the province was developing a new Conservation and Demand Management framework. Electricity rates were forecast to rise in coming years. Decisions made on the energy file affected every Ontarian, from the individual ratepayer to some of the province's largest businesses.

Consultations for the previous LTEP had been brief, and many stakeholders felt that their views were not represented in the resulting plan. In 2013, the Ontario Ministry of Energy had to build the credibility of the consultation process itself to strengthen the legitimacy of the resulting plan.

In this context, the Ministry of Energy toured the province in the summer of 2013, visiting almost a dozen communities and hosting both private and public sessions to determine the right mix of energy sources to meet the province's needs for many years to come.

Description of Measures Implemented

The primary business objective was to engage stakeholders, communities, First Nations and Aboriginal groups, as well as individual Ontarians, in an open, transparent and meaningful discussion about the province's energy needs. Beyond that, Ontario wanted to use this input to draft a plan that would reflect the breadth of advice it received through this process. There was also a strong desire to ensure that those who attended the sessions could see a direct connection between their own input and the final product.

To achieve these outcomes, the Government of Ontario made significant efforts to adopt a model that focused on true engagement and dialogue, rather than confrontation. By shifting the paradigm in this way, both the ministry and its agencies – who also participated – believed that they could help Ontarians feel a greater sense of ownership of the plan that would eventually emerge.

The target audiences were:

- Ontario ratepayers and businesses;
- Community groups;
- Municipalities (large and small, urban and rural);
- Local utilities;
- Supporters and opponents of various options (e.g., renewable energy, nuclear power);

- Suppliers, contractors and power-generating companies; and
- The public at large, whose primary point of contact is through their monthly hydro bill.

Results

- 12 regional sessions
- 673 invited stakeholders participated in roundtable discussions
- 300+ members of the public came to evening open houses
- 10 Aboriginal sessions and meetings
- 250 participants from close to 100 First Nation and Metis communities and organizations
- 1,000+ submissions via the Environmental Registry and received by the Ministry of Energy
- 2,000+ emails through letter-writing campaigns
- 7,800 people took part in an online survey

Lessons Learned

Ontario is proud of the positive influence of its consultation and engagement strategy. By giving the public, stakeholders and First Nation and Métis communities the opportunity to have their voices heard, Ontario has blazed a trail for future dialogue on the province's energy supply mix and system.

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Links to Additional Resources and Reference Materials

[Ontario's 2013 Long-Term Energy Plan](#)

[Press release on the release of the Long-Term Plan](#)

First Nation and Metis LTEP Engagements (2013)

Ontario held engagements on the 2013 Long-Term Energy Plan (LTEP), with a mandate to ensure Ontario has a supply of clean, reliable and affordable power. The 2013 LTEP was the most comprehensive engagement process the Ministry of Energy has undertaken to-date and an important part of that process was ensuring that First Nation and Métis communities were engaged and that their feedback was incorporated.

Context

“Achieving Balance”, Ontario’s updated LTEP, is the province’s blueprint for a safe, clean, reliable and affordable energy future.

The 2010 LTEP provided a foundation for the 2013 LTEP planning process. Thousands of Ontarians participated in the process that helped shape the plan. The 2013 LTEP engagements focused on ensuring feedback from First Nation and Metis communities was heard and incorporated.

- The Ontario government has recognized that Aboriginal participation in the energy sector is one of the keys to the economic development of First Nation and Metis communities. Ontario also understands that these communities need opportunities to engage and participate in ways that align with their unique community needs and interests;
- Ontario has brought in a range of policies over the past number of years to increase the involvement of Indigenous communities in the sector; and
- It is important for Indigenous communities to be engaged in the long term energy planning process for many reasons. One key reason is because energy developments may have impacts on their Aboriginal and treaty rights. Ontario takes its duty to consult First Nation and Metis communities very seriously. The government is committed to ensuring that First Nation and Metis communities are consulted on any energy activity that could potentially affect their Aboriginal or treaty rights.

Ontario plans to build upon the successes of the 2013 LTEP engagements for the next LTEP process.

Description of Measures Implemented

The Ministry of Energy, with the support of the former Ontario Power Authority (OPA), held 10 Indigenous engagement sessions and meetings from July to October 2013 to seek input and perspectives on the 2013 LTEP review. The topics for discussion included supply mix, conservation, transmission, regional needs and Aboriginal participation in the electricity sector.

Approximately 250 people from close to 100 First Nation and Metis communities and organizations attended these sessions, which were the primary source of feedback collected from Aboriginal leaders and groups.

An independent facilitator was retained for all of the First Nation and Metis community sessions. This facilitator also provided an impartial and unbiased report summarizing the feedback heard from each session.

The Ministry of Energy also posted an LTEP Discussion Document on the Environmental Registry. Fifteen direct submissions from First Nation and Metis communities and organizations were received.

In order to support the participation of First Nation and Metis communities in the LTEP engagements, travel and accommodation costs of up to two people per community were provided.

A wrap-up session was held in order for the Ministry to share the learnings from the regional engagement sessions and to ensure that the Ministry accurately captured the input from communities.

Results

First Nation and Métis representatives shared a wide range of comments and suggestions, including a desire for Ontario to continue encouraging both First Nation and Métis community participation in generation and transmission projects through incentives, continued support for capacity building, education and funding programs, concerns about high electricity prices for on-reserve First Nation members, as well as support for broader conservation programming.

Feedback was gathered from the sessions, from submissions directly to the Ministry as well as through the Environmental Registry. The information was compiled and analyzed by ministry staff and carefully considered as a part of the LTEP review.

As a result of the feedback received, the updated LTEP includes a section especially relating to First Nation and Métis communities with the following key commitments:

- Continue to encourage and support Aboriginal participation in the energy sector through procurements and programs, and in particular, support for partnerships in major transmission projects;
- Prioritize the connection of remote First Nation communities and support for innovative solutions for supplying electricity in communities where transmission connection is not economically feasible; and
- Ensure an ongoing and regular dialogue between the Ontario government and First Nation and Metis communities.

Lessons Learned

The level of participation at the 2013 LTEP sessions clearly showed that First Nations in Ontario are interested and engaged in the sector.

Given the unique position that First Nations have, there is an increasing amount of energy opportunities that can result in long-term economic and social benefits for First Nation and Metis communities.

For the upcoming LTEP engagements, Ontario plans to build off the successes of the 2013 LTEP process and ensure that feedback received on the previous process is incorporated. This includes conducting earlier engagement, providing more tools and resources (including materials translated into appropriate Indigenous languages), as well as showcasing First Nation and Metis successes in the energy sector. The upcoming process will also focus on ensuring that youth and Elders are also able to meaningfully participate in the engagement process.

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Links to Additional Resources and Reference Materials

ieso.ca/Pages/Participate/Regional-Planning/default.aspx

Ontario's Long Term Energy Plan: energy.gov.on.ca/en/ltep/achieving-balance-ontarios-long-term-energy-plan/

Kaminak Gold Corporation/Coffee Gold Project

Context

Kaminak Gold Corporation (Kaminak) is a Canadian mineral exploration company that is currently developing their Coffee Gold Project (Project) located in the White Gold district of Yukon. The proposed Project consists of an open pit gold mine using a cyanide heap leach process to extract gold. An access road from Dawson City to the Project site is included in the proposed Project. Kaminak plans to submit an environmental assessment under the *Yukon Environmental and Socio-economic Assessment Act* (YESAA) in 2016.

The proposed Project is located within several First Nation Traditional Territories, including:

- Entirely within the Traditional Territory of the Tr’ondëk Hwëch’in;
- Sections in Traditional Territory of Selkirk First Nation and First Nation of Na-Cho Nyäk Dun; and
- Within an area of asserted aboriginal rights and title from the White River First Nation.

Early engagement with First Nations during exploration is an essential phase of a project’s development. This engagement often sets the stage for long-lasting relationships; however, the importance of the engagement during exploration is often overlooked. Often, companies conducting exploration simply don’t have the capacity to conduct meaningful engagement activities, and this can create apprehension in the later stages of a mining project.

Kaminak has taken exemplary effort toward early and meaningful engagement with local First Nations. The collaboration between Kaminak and First Nations has resulted in mutually beneficial working relationships that embrace First Nation knowledge in the Project design.

Description of Measures Implemented

Early and meaningful engagement activities conducted by Kaminak include, but are not limited to, the following:

- Funding and participation in the identification and documentation of heritage sites and traditional knowledge for the Project area;
- Ongoing workshops concerning all phases of the Project;
- Ongoing training and employment of First Nations personnel to conduct Environmental Monitoring activities at the Project site;
- Ongoing research with First Nations into the traditional uses and First Nation values in the Project area. The results will be utilized to design the project baseline and operational monitoring programs;
- Sponsoring and participating in several Yukon events, including the Tr’ondëk Hwëch’in Moosehide Gathering; and
- Partnering with Tr’ondëk Hwëch’in and Yukon College to deliver two environmental educational “modules”, which include a research program at the Project site.

Results

Evidence that Kaminak has developed a strong working relationship with First Nations includes, but is not limited to, the following agreements:

- In 2013, Tr’ondëk Hwëch’in and Kaminak entered into an Exploration Cooperation Agreement (ECA) relating to the Project. The ECA set out a framework in which Kaminak and Tr’ondëk Hwëch’in agreed to work together to build a positive and mutually beneficial working relationship with respect to Kaminak’s exploration activities.
- In 2014, the White River First Nation and Kaminak signed an Exploration Communication and Cooperation Agreement (Agreement) for the Project. The Agreement provides a clear engagement process for activities such as licensing; commitments to employment and business opportunities; and, establishes a framework that enables White River First Nation to provide support to Kaminak’s exploration activities.

Lessons Learned

Kaminak’s transparency and respect towards First Nations has encouraged strong working relationships between the company and First Nations. The demonstrated support of First Nations for the Project will be beneficial for future Project phases. The established relationships between Kaminak and First Nations will likely be beneficial for local First Nation economies. Additionally, Kaminak has been the recipient of the Yukon Chambers of Mines Community Award (2014) and Robert E. Leckie Award for Excellence in Environmental Stewardship (2015) for their proactive approaches to environmental and social responsibility.

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Links to Additional Resources and Reference Materials

Kaminak Gold Corporation. kaminak.com/responsible-exploration/

Wuskwatim Generation Project

Context

This case study focuses on the period of project planning and assessment for the Wuskwatim Generation Project (from 1997 to about 2006). The perspectives presented only represent those of Manitoba Hydro; it is possible that additional and alternative perspectives may be expressed by Nisichawayasihk Cree Nation (NCN), regulators and/or other interested stakeholders.

Overarching concerns raised by the public regarding the Wuskwatim Generation Project included:

- **Legacy Issues:** As a result of a 1966 agreement between the Province of Manitoba and the Government of Canada, Manitoba Hydro undertook to develop the hydroelectric potential of the Nelson River. The hydroelectric projects had substantial effects on certain northern First Nations living on and using the affected waterways, and occurred during a period of time when consultation and environmental assessment standards were quite different than today. While substantial efforts have been made by Manitoba Hydro, Manitoba and Canada to address past effects, including the negotiation of settlement agreements with affected parties, these projects have resulted in a legacy of distrust and animosity.
- **Distribution of Costs and Benefits:** Concerns were also expressed by northern communities regarding the distribution of project costs and benefits. This included the perspective that the environmental and social costs of the Wuskwatim Generation Project would be borne by residents of Northern Manitoba, while the benefits (low electricity costs, income, training, employment and business opportunities) would be distributed in large measure to southern Manitoba, outside of Manitoba or even outside of Canada.
- **Financial Impacts on the Province:** public confidence issues were also expressed regarding the overall cost of the project and the related impacts on rate payers.

Description of Measures Implemented

PROPONENT MEASURES

Partnership: Wuskwatim Power Limited Partnership (WPLP), a legal entity involving Manitoba Hydro and NCN, developed the Wuskwatim Generation Project on the Burntwood River in northern Manitoba. This is the first time in Manitoba and Canada that a First Nation and an electric utility have entered into a formal equity partnership to develop a hydroelectric project. NCN and Manitoba Hydro signed a Project Development Agreement in 2006.

Discussions between Manitoba Hydro and NCN were ongoing for nearly nine years and involved consultation with Manitoba Hydro, NCN Citizens, the wider community and other interested parties, as well as government regulators. A community ratification process, including a referendum, was held prior to the signing of the agreement, and Manitoba Hydro committed that it would not proceed with the Project if the results of the referendum were negative.

Engagement: The project planning process involved early and extensive engagement with people and communities in the vicinity of the proposed project, particularly Indigenous peoples and communities. The environmental assessment process included five rounds of public involvement designed to both share and

receive information regarding project impacts. Information was also made available via Manitoba Hydro's website.

NCN was engaged in all stages of project planning and design. This included jointly undertaking all environmental studies for the project, and combining traditional knowledge with scientific knowledge during the environmental assessment. Resources were made available to NCN to communicate with its members about the Project (including through regular newsletters, a website and a future development office staffed with community employees). Community costs for project planning, studies and negotiations eventually formed part of the project's capital cost and became a partnership cost. However, in the interim, Manitoba Hydro provided NCN with the funding required to ensure it had the resources needed to undertake the due diligence appropriate for this type of business arrangement. NCN has continued to be engaged through numerous committees and the WPLP Board, and traditional knowledge has continued to play an important role in monitoring the construction and operation of the project from an environmental perspective.

Advanced Mitigation of Impacts: A concerted effort was made to prevent and reduce, as much as possible, potential impacts through improved project design, and the implementation of project mitigation and community-based programming. An Adverse Effects Agreement was negotiated with NCN in advance of project construction. A decision was also made to forego a high-head development option that would have resulted in 140 Km² of flooding to instead pursue a low-head, 200 MW design for the Project that resulted in less than 0.5 Km² of flooding; all of this flooding is contained within the immediate forebay area.

Enhancement of Project Benefits: Efforts were made to enhance project benefits as much as possible, especially for local communities, through measures like income opportunities and training (pre-project and on-the-job training), employment and business opportunities (including the identification and direct negotiation of several contracts with NCN Joint Ventures). The costs of all of these activities were estimated and incorporated into long-term capital cost estimates so that the financial assessment of the Project included consideration of environmental and social implications.

Numerous measures were in effect during the construction of the Project to support the retention of northern and Indigenous employees at the job site and to ensure that sensitivity and respect for local culture was demonstrated throughout construction of the Project. These measures included on-site cultural awareness training for employees, voluntary counseling services and cultural ceremonies prior to many key construction activities. NCN was responsible for providing cultural and retention support programming on-site under contract with WPLP.

Commitment to ensuring benefits for NCN: Unforeseen at the time the Project Development Agreement was signed, future major changes in the global economy affected the financial performance of the Wuskwatim Project, including the viability of NCN's investment. To address this, an agreement review process started in 2009 and culminated in a supplementary agreement to 1) provide an additional loan option for NCN, and 2) extend the deadline for NCN's payment for its 33 percent ownership in the Project.

GOVERNMENT MEASURES

The Wuskwatim Project was subject to rigorous regulatory review at both the provincial and federal government levels. The generation project required licenses under the *Environment Act* of Manitoba, as well as an interim licence under the *Water Power Act*. The generation project also required federal authorizations under the *Fisheries Act* and a permit under the *Navigable Waters Protection Act*.

Under the Canada-Manitoba Agreement for Environmental Assessment Cooperation (CMAEAC), projects that require environmental assessment by both Canada and Manitoba are to undergo a single cooperative environmental assessment, administered by both governments (with one government taking on a lead role). In the case of the Wuskwatim Project, the Government of Manitoba played the lead role.

In April 2003, the Government of Manitoba requested the Manitoba Clean Environment Commission review the Wuskwatim Generation Project and the Wuskwatim Transmission Line Project with a mandate to consider, the justification, need for and alternatives to the Project, as well as the potential environmental, socioeconomic and cultural effects of the construction and operation of the Project.

In addition to hearing proceedings, the Commission coordinated two rounds of written questions to MH/NCN, one round of written questions to the participants, and one round of written questions to the Project Advisory Team. Substantive documentation and witness lists were also submitted prior to the commencement of the hearing. Members of the public also had the opportunity to submit feedback on the draft guidelines for the preparation of the environmental assessment of the Project.

Licensing decisions by Manitoba's Minister of Water Stewardship and Canada's Minister of Fisheries and Oceans also took into account the report on consultations with potentially affected First Nations conducted by Manitoba and Canada under *Section 35 of the Constitution Act*.

Results

NCN Members voted to ratify the Project Development Agreement (PDA) in June 2006. The PDA was signed on June 26, 2006 by representatives of Manitoba Hydro and NCN Chief and Council in a community ceremony.

Lessons Learned

Specific aspects that contributed to success of the partnership included the following:

- **Acknowledging the Past:** Acknowledging the legacy of past hydroelectric development was key to building trust. Overcoming the legacy of distrust took a considerable amount of time and effort by both Manitoba Hydro and NCN. Taking the time to build trust and to foster a positive relationship was critical to creating an environment where Manitoba Hydro and NCN could work together to negotiate an acceptable partnership arrangement.
- **Investing the Time, Energy and Resources Required:** The complexity and novelty of the partnership arrangements meant that time and resources were needed for Manitoba Hydro and NCN to appropriately review the agreement and to consult internally before making decisions.

NCN hired a combination of internal and external advisors to help them participate effectively in the process. There were instances where the amount of time required to review and analyze complex partnership arrangements or environmental analyses took longer than anticipated.

Community communication also took a considerable amount of time, as community leaders sought to ensure that their members were fully informed about the project before ratifying any agreements.

- **Need for a Culture Shift:** This type of arrangement was new for Manitoba Hydro and working as partners with an Indigenous community did require a major culture shift in the organization. Company practice had always been to work independently on project development and to allow for public participation at key

stages in the planning and licencing process. The leadership and commitment demonstrated by senior Executive and the Manitoba Hydro Board were critical to the success of this approach.

- **Alignment of Interests:** In order for the partnership to be successful, arrangements were needed to align the long-term interests of both Manitoba Hydro and NCN. Manitoba Hydro came to the table with an interest in the creation of new, clean hydro-electric generation. NCN came to the table wanting opportunities that went beyond a strict financial stake in the project. They were interested in employment and business opportunities, pre-project training for Members, capacity building, public acknowledgement of the effects of past projects, fair and equitable compensation for negative project effects, an ongoing role in project decision-making processes, and long-term project benefits.
- **Allowing for Capacity Building:** Time was required to establish a strong and workable relationship with NCN. Time was also needed to allow the community to build its own internal capacity to negotiate the business arrangements and to participate in project planning. While NCN had a team of advisors, it was important to develop the capacity of community members involved in the negotiations to analyze and assess what was being proposed. Ultimately, the community had to fully understand the partnership arrangements if they were to feel comfortable recommending the partnership agreements to their communities.
- **Regular Interaction:** Throughout the negotiations process, and the planning and licencing phases of project development, there were regular opportunities for interaction between NCN and Manitoba Hydro. These included both formal and informal interactions - both of which were instrumental to encouraging and maintaining a strong and healthy relationship.

For more information:

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Links to Additional Resources and Reference Materials

wuskwatim.ca/

hydro.mb.ca/corporate/facilities/gs_wuskwatim.shtml

ncncree.com/ncn/wuskwatimoffice.html

From Communication to Consultation: Building Public Confidence in Mining in Nova Scotia

Context

Inadequate community engagement during the early stages of a mineral exploration project often leads to a decline in community readiness for mineral resource development. Sometimes exploration companies are perceived to “fly below the radar,” leading to public concern. Alternatively, exploration companies begin to make promises about potential economic benefits far in advance of the project becoming viable. In both cases this leads to public mistrust of the mineral industry.

Approximately 25 percent of Nova Scotia is designated as Crown land. Therefore, the majority of lands that are potentially available for mineral exploration are privately held. The Nova Scotia Government recognizes that industry needs to improve its efforts related to community engagement if it wishes to continue to access private land for mineral exploration.

Description of Measures Implemented

To strengthen community engagement leading to improved public readiness for mineral exploration and mining, the Nova Scotia Government has undertaken the following:

1. Created community engagement guidelines for mineral exploration companies to follow when working in Nova Scotia. The guidelines were developed, and unanimously agreed to, by a committee comprising representatives from the Mining Association of Nova Scotia, the Nova Scotia Prospectors Association, the Sierra Club Atlantic, the Ecology Action Centre and the Nova Scotia Government.
2. Worked with Environmental NGOs to host a two day forum for industry, ENGOs, government and communities to identify new pathways for positive engagement.
3. Worked with Geoscientists Nova Scotia to provide community engagement training for professional geologist and engineers working in mineral exploration.
4. Included a requirement under the recently revised *Mineral Resources Act* that any individual or company that undertakes mineral exploration in Nova Scotia must have a community engagement plan. The Minister can request a copy of the engagement plan at any time. Also included under the revised act is a requirement to have written permission from landowners prior to accessing land for mineral exploration.
5. Created a guidebook to help individuals and communities better understand how to engage with government and industry on mineral resource exploration and development.

Results

The initiatives described above have set the course for improving public trust in mineral resource development. The most important short term benefit is that ENGOs, the public and the mineral industry more clearly understand how to effectively engage with each other. In the long term, clearer expectations and increased education in effective engagement practices will increase the level of trust between the public and the mineral industry.

Lessons Learned

The most valuable lesson learned is that to build trust for mineral resource exploration and development government sometimes needs to encourage communities and individuals to communicate directly with industry about mineral resource development. Events, such as the Exploring Common Ground Forum, provide a highly effective opportunity to build mutual trust between the mineral resource industry and communities.

For more information:

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Links to Additional Resources and Reference Materials

Community Consultation: A Guide for Prospectors and Mineral Exploration Companies Working in Nova Scotia. novascotia.ca/natr/meb/community-consultation/consultation-reports.asp

Exploring Common Ground: Creating a Framework for Better Dialogue Around Mine and Quarry Issues in Nova Scotia, Workshop Summary Report. novascotia.ca/natr/meb/community-consultation/consultation-reports.asp

