

Mining for Consent: An Examination of Canada's Critical Minerals Strategy and Consultation Guidelines

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Abstract

In 2022, Canada announced its first Critical Minerals Strategy to extract minerals needed to meet Canada's net-zero emissions goal by 2050. Since announcing this strategy, Canada and the province of Ontario have faced criticism from Indigenous Nations and communities regarding the environmental consultation process for resource extraction projects on Indigenous peoples' lands. Many of the mines are located in remote areas, mainly impacting Indigenous peoples, who will disproportionately bear any environmental and social disruption. This study includes a literature review, a jurisdictional scan, and a multi-criteria analysis to determine how the consultation process can be amended. Three policy options are then proposed and analyzed, followed by the recommendation of a policy bundle: creating a social consultation process and modifying the current Impact Assessment Act.

Keywords: Critical Minerals Strategy; Canada; Ontario; Impact Assessment Act; Consultation; Mineral Claims

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List of Acronyms

| | |
|--------|--|
| BC | British Columbia |
| CEAA | Canadian Environmental Assessment Act |
| CSR | Corporate Social Responsibility |
| EA | Environmental assessment |
| EIA | Environmental Impact Assessment |
| EU | European Union |
| EV | Electric vehicle |
| FPIC | Free, Prior and Informed Consent |
| GPA+ | Gender-based Analysis Plus |
| IAA | Impact Assessment Act |
| IAIA | International Association of Impact Assessment |
| IBA | Impact Benefit Agreement |
| IEA | International Energy Agency |
| MOU | Memorandum of understanding |
| NATO | North Atlantic Treaty Organization |
| NGO | Non-governmental organization |
| NWT | Northwest Territories |
| REE | Rare earth element(s) |
| SFU | Simon Fraser University |
| SIA | Social Impact Assessment |
| SLO | Social Licence to Operate |
| UNDRIP | United Nations Declaration on the Rights of Indigenous Peoples |
| US | United States of America |
| ZEV | Zero-emissions vehicles |

Land Acknowledgement

I want to acknowledge that I am a settler living and studying on the unceded territories of the Skwxwú7mesh Úxwumixw (Squamish), Səlilwətał (Tseil-Waututh), xʷməθkʷəy̓əm (Musqueam), and kʷikʷəłəm (Kwikwetlem) Nations who have lived on this land since time immemorial and who continue to live on and care for the land. This project concerns historical treaties, current land disputes, and a lack of willingness from all levels of government to honour the true spirit of treaties and recognize full sovereignty over the land. Indigenous peoples are more likely to suffer environmental and social harm due to colonialism and colonial land projects such as mining. We are all responsible for ensuring that Indigenous peoples and their rights are respected and upheld.

Executive Summary

Policy Problem

Canada's 2022 Critical Minerals Strategy aims to increase the supply of critical minerals sourced from Canada and support the development of a supply chain for green technology. This strategy has five core objectives; to support economic growth, promote climate action, advance reconciliation, foster diverse workplaces and communities, and enhance global security. There are concerns that Canada's current consultation practices will be insufficient to handle the development of new rare earth elements (REE) mines. Indigenous peoples have historically been sidelined in the development of the mining sector, suffering disproportionately negative impacts while receiving few benefits. Canada currently has the opportunity to reshape the processes of consultation and reconciliation.

Research Findings

By reviewing the literature on consultation, Canada, and critical minerals, and how it affects women, gender inequity, and the environment, this study determines how the process of REE mining may occur and what is currently lacking in Canada. The literature demonstrated that mining in remote communities disproportionately affects Indigenous women, with mining companies and all government levels favouring profit and rapidity over community needs.

Recommendations

A policy bundle of two options is recommended to target both the federal and provincial levels. Additionally, both policies complement each other with their strengths and weaknesses. The government should amend the Impact Assessment Act (IAA) to ensure governments can understand how to incorporate Indigenous Knowledge (IK) into consultation processes meaningfully.

Additionally, due to the varied effects of mining on Indigenous communities, social consultation should be separated from environmental consultation processes to ensure that the consequences on both are considered equally and that the effects on communities and Indigenous women specifically are considered. A third, longer-term

policy option is for the government to amend the mineral claims process to respect Indigenous sovereignty and give a veto in mineral exploration. Although considered necessary by communities, it is the most administratively tricky and will likely face the most stakeholder opposition. Canada has a unique opportunity to fix systemic problems with consultation and reconciliation before REE mining becomes more common in the country. Although there are signs that this process will fail to be smooth, Indigenous communities deserve better and are legally entitled to better consultation.

Chapter 1.

Introduction

Following the results of the 2015 federal election, Canada claimed to be back on the world stage as a climate leader (Abedi, 2019). The federal government has since fallen short of this promise, with policies centring on oil and gas projects and pipeline expansion. Canada hopes to get back on track with its 2030 Emissions Reduction Plan, which aims to cut national emissions by at least 40-45% below 2005 levels by 2030 (Climate Action Tracker, 2022). One of the critical pillars of the plan is to “build Canada’s clean industrial advantage” by providing Canadian-made low-carbon products, services, and technologies (Environment and Natural Resources, 2021). Key to Canada’s net-zero plan is to become a global leader in zero-emissions vehicles (ZEVs) with the aim of 100% of light-duty vehicles sold being ZEVs by 2035 (Transport Canada, 2022). There is currently a lack of sufficient inventory of ZEVs, and the government of Canada is hoping to have a Canadian supply chain (Prime Minister of Canada, 2023). Key to that is investing in Canadian minerals, specifically critical mineral processes. Canada currently has one operating rare earth mine in the Northwest Territories, and the hope is to increase that to nine regions across the country (Government of Canada, 2022). This transition must consider its impact on the environment and Indigenous communities across Canada. Current consultation processes have been deemed unsustainable by Indigenous nations across Canada. In Ontario, Indigenous nations have stated that should the government not engage in proper consultation, it is setting itself up for court action (Schlote, 2023).

Canada is at a crossroads. It has decided that ZEVs and green technology are required to achieve emissions targets and therefore more rare earth elements. Given that this is the country's chosen path forward, Canada must improve its consultation practices and ensure that the transition to clean technology is done equitably and that Indigenous peoples are included. To tackle this issue, this paper addresses the following problem statement: Canada's current consultation processes are not sufficiently equipped to handle the demands of the Critical Minerals Strategy.

This paper uses a qualitative approach consisting of a jurisdictional scan and multi-criteria analysis to gather information for analysis and policy recommendations. Chapter 2 provides background information on critical minerals in Canada, REE mining, climate change, and environmental racism, and describes what is currently occurring with consultation in Ontario and Canada. Chapter 3 describes challenges in creating change in the space of consultation. Chapter 4 describes the methodologies used. Chapter 5 provides information and key findings from case studies. Chapter 6 describes the policy criteria and measures. Chapter 7 describes the policy options as derived from the research. Finally, chapter 8 analyzes the policy options, and chapter 9 provides information on recommendations and considerations for implementation.

Chapter 2.

Background: Critical Minerals, Canada, and Indigenous Peoples

2.1. Canada and Critical Minerals

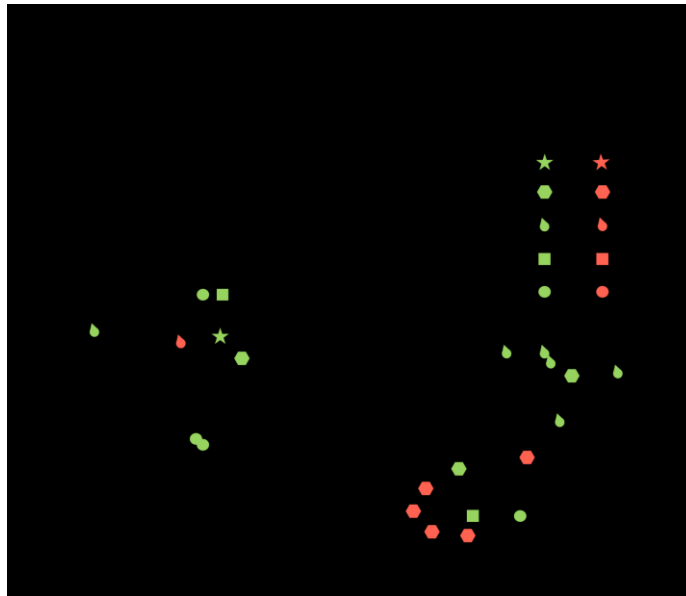
Canada's 2030 Emissions Reduction Plan represents the roadmap to net-zero emissions by 2050. To achieve that, two highly emitting sectors, transportation, and energy, must reduce emissions from 247 megatons of CO₂ in 2019 to 157 megatons of CO₂ by 2030 (Environment and Natural Resources, 2022). That reduction requires renewable energy and electric vehicles (EVs) (Hammond & Brady, 2022). There are several challenges with this to do with consumer affordability, regulation, infrastructure, and much more, but a pressing concern is that current supply chains are insufficient (Hammond & Brady, 2022). Both renewable energy sources and EVs require vast quantities of critical minerals (Hammond & Brady, 2022). A typical electric car requires six times the mineral components of a gas car, and a wind plant requires nine times more mineral components than a gas-fired plant (IEA, 2021). The International Energy Agency (IEA) has assessed that the world is on track to need twice the current supply of minerals by 2040 to meet clean energy demand. To meet the goals of the Paris Agreement of a global temperature increase of well below two degrees Celsius, the number of minerals mined would need to be quadrupled by 2040. For net zero globally by 2050, six times more mineral inputs are required (IEA, 2021). This rapid rise in demand for critical minerals poses questions about the availability and reliability of critical minerals (IEA, 2021).

Canada has seen this as an opportunity to get involved and has decided to invest heavily in critical mineral mining (Government of Canada, 2022). Canada has some of the largest known reserves and resources of rare earth in the world however has never had the ability or will to extract these resources (Climenhaga, 2022).

Budget 2022 announced that the federal government intends to provide up to \$3.8 billion in support over eight years to implement Canada's first Critical Minerals Strategy (Department of Finance Canada, 2022). The country is seeing the critical

mineral industry as one that will become profitable due to the expected increase in demand. The World Bank forecasts a 500 percent increase in production needed by 2050 to ensure that there can be enough batteries for a clean energy transition (Government of Canada, 2022). Other minerals have a projected 4,000 percent increase in demand (Government of Canada, 2022). There is a risk that there will not be enough production of minerals to enable this switch. As a result, in August of 2022, there were 21 rare earth mining projects in various stages of development ranging from exploration to processing (Climenhaga, 2022; Natural Resources Canada, 2022). Canada has listed several opportunities and objectives for REE mining, including:

- Supporting economic growth and competitiveness
- Promoting climate action and environmental protection
- Enhancing global security and partnership with allies
- Advancing Indigenous reconciliation
- Foster diverse and inclusive workforces and communities (Government of Canada, 2022).



(Natural Resources Canada, 2022)

Figure 1: Map of Canadian Planned REE Mines

In May 2022, Canada had 13 active rare earth projects (CBC News, 2022) and only one that is currently operational (Nechalacho near Yellowknife), with ore only being mined as recently as June 2021 (CBC News, 2021). However, the hope is that soon there will be many more to supply the ever-growing demand.

2.2. Critical Minerals

Canada has defined *critical minerals* as ones with few or no substitutes, are strategic and somewhat limited commodities, and are increasingly concentrated in extraction and processing locations (Government of Canada, 2022). If a vital sector of the economy requires a mineral to function, that mineral would be deemed critical (American Geosciences Institute, 2018). Rare earth elements differ from critical minerals as the former are a group of 17 elements on the periodic table (MIT, n.d.) whose classification does not change depending on need. They are also not truly rare; however, they tend to be dispersed and mixed with other elements making them more difficult to extract (Earth.Org Ltd, 2020).

The Government of Canada has identified 31 minerals that are, according to National Resources Canada, "essential to Canada's economic security, required for Canada's transition to a low-carbon economy, and a sustainable source of critical minerals for our partners (Critical Minerals Centre of Excellence, 2022)."

These critical minerals are used in renewable energy, clean technology, defence and security technologies, consumer electronics, agriculture, medical applications, and critical infrastructure (Critical Minerals Centre of Excellence, 2022). They have a diverse range of uses, leading to higher demand. The Canadian government has identified this increased demand as an opportunity for Canada's economy to benefit from the global shortage (Critical Minerals Centre of Excellence, 2022).

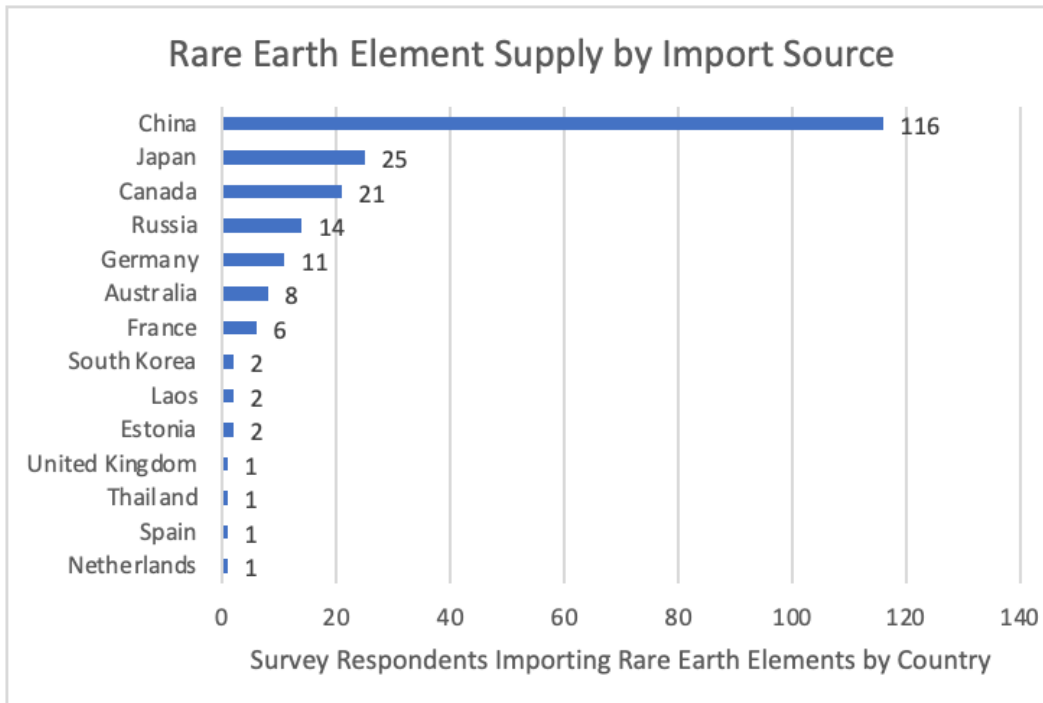


(Government of Canada, 2022)

Figure 2: Canadian Critical Minerals

2.3. REE Mining

REE entered the market in the late 19th century. Until the early 1980s, the United States (US) was the dominant global producer of REEs (Long, 2013). In the 1980s, the world's largest REE deposit was found in China (Long, 2013). The combination of that discovery, mountain environmental pressure in the US, and their inability to compete with the cheaper labour costs (Long, 2013) led to China being dominant in producing REEs. The US Department of Defence has also partially blamed this change on China flooding the global market with REE, offering lower prices, driving out competition and deterring market entrance (United States Department of Defense, 2018). These factors combined have made China the dominant producer of REEs, accounting for 90% of the world's production in 2000 (Long, 2013) and almost 60% in 2020 (Natural Resources Canada, 2022).



(United States Department of Defense, 2018)

Figure 3: REE Supply by Country

According to Natural Resources Canada, the issue is that although many countries have rare earth resources producing REEs requires complex separation and refining processes (Natural Resources Canada, 2022). The process is fraught with difficulty and environmental risk. There are two primary methods of REE mining extraction, both of which currently involve utilizing chemicals. The primary method involves removing the topsoil, transporting it to a leaching pond, and adding chemicals to separate the metals. The second consists in drilling holes into the ground, inserting PVC pipes and rubber hoses and then pumping chemicals to flush out the earth. That resulting combination is put into leaching ponds to separate the rare-earth metal (Earth.Org Ltd, 2020). Manufacturing and smelting then occur to produce a final product.



(Saskatchewan Research Council, 2022)

Figure 4: REE Production Process Saskatchewan

2.4. Climate change and environmental concerns

There are many concerns with the process and the chemicals typically used. The production of REE and disposal of waste can be very environmentally destructive.

REE mining can affect the surrounding water, air, and soil. Construction of mines and any potential leakage of draining fluids can impact local streams and lakes. Increased sediments also have the potential to alter water chemistry, and acid leakage can harm the local aquatic environment. Mining activity can also impact water deep in the ground, often supplying wells or other water systems (Moher, Palmer & Setton, n.d.). Without a proper wastewater system, radioactive materials can contaminate water sources and become hazardous (Moher, Palmer & Setton, n.d.).

Air can be affected much like in traditional mining, as mines can release dust and chemicals into the air through drilling, blasting and transportation. Traditional risks with mining are amplified with REE mining as there is a risk of releasing radioactive minerals into the air during mining (Moher, Palmer & Setton, n.d.). Finally, waste rock and dust can contaminate local soils, impacting wildlife and vegetation (Moher, Palmer & Setton, n.d.). Waste rock also must be protected from the weather to prevent potential acid drainage (Moher, Palmer & Setton, n.d.).

Although Canada has experience with mine waste management and environmental protection, REE mines will be in environmentally sensitive areas. There must be sensitivity in mining processes to ensure that local ecosystems are as minimally impacted as possible (Climenhaga, 2022). The ore containing the REE can also contain radioactive materials that can have half-lives of more than one billion years

(Radioactivity EU, n.d.). Long-term storage is needed so that there is the appropriate management of waste. Climate change and unstable weather events must be accounted for to ensure that no future patterns disrupt the storage systems and cause contaminants to affect the water systems (Climenhaga, 2022).

2.5. Environmental racism

Environmental justice emerged in the US due to individuals, primarily those of colour, looking to address the inequity in environmental protection (Environmental Protection Agency, 2022). It aims to raise the interconnectedness of the environment, socio-economic conditions, and discrimination based on race (Mitchell & D’Onofrio, 2016, p. 308). In Canada, environmental justice refers to the concept that environmental harms and benefits should be equally distributed without discrimination based on socio-economic status, race, ethnic origin, or residence on a First Nations reserve (Mitchell & D’Onofrio, 2016, p. 308). In mining and consultation, affected racialized, poor, and Indigenous communities must be meaningfully involved in environmental policy development and decision-making (Mitchell & D’Onofrio, 2016, p. 308). Currently, Canada does not have equal outcomes depending on identity. Evidence has demonstrated that socially and economically marginalized communities bear a disproportionate burden of environmental harm and are less likely to access environmental goods and services (Mitchell & D’Onofrio, 2016, p. 308).

Additionally, socially, and economically marginalized communities are less likely to have the capability of mobilizing opposition to new pollution facilities and to have their interests and opinions considered in a meaningful way when it comes to environmental decision-making processes. Indigenous peoples have a long history of trying to have their voices heard and being systematically shut down by governments (Simmons, 2022).

Any attempt to stop environmental harm is impeded by the polluting industries bringing jobs and financial resources (Mitchell & D’Onofrio, 2016, p. 309). According to the Rural Ontario Institute, “from 2006 to 2016, the non-metro sector with the largest increase in employment was mining and oil and gas extraction” has increased by 55% (Simpson, 2019). On a proportional basis, the Mining Association of Canada claims to be the largest private-sector industrial employer of Indigenous peoples in Canada (The

Mining Association of Canada, n.d.). The sector helps with training, business development, employment, social investments, and procurement (The Mining Association of Canada, n.d.). This investment makes it difficult for communities to advocate for fewer polluting industries and to disentangle themselves from extractive industries as they bring financial benefits and infrastructure such as power plants, roads, and ports (The Mining Association of Canada, 2015).

2.6. Indigenous Peoples and REE Mining

REE mining will impact the lives of Indigenous peoples in Canada. Critical mineral reserves are found primarily near remote and Indigenous communities. Even though there have been successful partnerships between communities and mining companies, there have been many examples where mining companies have excluded Indigenous peoples from consultation and participation while polluting their lands, all with the legal ability to do so (Forman, 2022).

The mining sector should engage with Indigenous communities, share information, and collaborate with the nations on environmental effects, monitoring, and cultural protection (The Mining Association of Canada, n.d.). However, that consultation is only sometimes respected. Since the 1970s, Indigenous communities such as the Yellowknives Dene peoples have been calling on the federal government to acknowledge the toll toxicity resulting from a local mine was taking on them (Paulson, 2021). It was not until 2021 that the community began an apology discussion with the federal government. The mine closed in 2004, but in the 70 years it was in operation, it produced over 237,000 tons of arsenic trioxide and released poisonous dust into the area and water (Paulson, 2021). The mine operation infringed on the Yellowknives Dene peoples' treaty rights and led to economic devastation and displacement (Paulson, 2021). Examples such as this are not rare, which has led to an uneasy relationship between Indigenous peoples and the Federal government (Podlasly, 2022). To succeed, the mining sector and the federal government must rethink mining and consultation. Recent global examples have shown that consumer activism can harm companies that do not disclose their practices (Imai & Colgrove, 2022).

As Indigenous reconciliation is an identified area of focus for the Canadian government, Canada's critical minerals strategy identifies advancing Indigenous

reconciliation as a strategic focus area (Government of Canada, 2022). There are three factors in which it is measured.

- Economic reconciliation: Ensuring jobs are created and implementing the Truth and Reconciliation Commission's Calls to Action.
- Protecting Indigenous rights: implementing United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)
- Meaningful engagement with governments and key organizations.

How the federal government will proceed is unclear. UNDRIP received Royal Assent on July 21st, 2021. Since then, a consultation, cooperation, and engagement process has been launched (Department of Justice, 2023). As the Critical Minerals Strategy has yet to be fully implemented, there is hope that it will lead to equitable partnerships between industry, governments, investors, and Indigenous peoples for this mining to be successful (Podlasly, 2022).

There are some signs that this may be possible such as the Nechalacho REE Mine in the Northwest Territories that will be discussed further as a jurisdictional scan. However, in other parts of the country, there are already some causes for concern. In 2021, the Gitxaala First Nation launched a court challenge over the BC government granting mineral mining claims without consulting them (Charlebois, 2021). Furthermore, although REE mining is new, with only one mine currently in production (CBC News, 2021), tensions between Indigenous communities, governments, and corporations have already emerged. In October 2022, a partnership between Vital Metals, an Australian rare earth producer that is currently operating the mine in Nechalacho REE mine in Yellowknife, and Quebec Precious Metals Corp (QPM), who owns a significant amount of land in that province (Junior Mining Network, 2022), fell apart after Vital Metals walked away from a deal they had signed to purchase a 68% interest in the Kipawa exploration and 100% interest in the Zeus exploration project, two potential REE mines (Mining Data Online, n.d.; Karim, 2022). Vital Metals noted their dissatisfaction with QPM's due diligence process on the projects, especially concerning its understanding of the Kebaowek First Nation's Position (Jamasmie, 2022). Their dissatisfaction indicates that there is an issue somewhere in Quebec's agreement and understanding with Indigenous nations.

Kebaowek First Nation's economic development officer Justin Roy stated that the issues between the Nation and the Quebec government lie in the fact that the two mines, Zeus and Kipawa, are situated near Brennan Lake, which has been described as the heart of the community and ancestral territory (Karim, 2022). Roy stated:

"We understand the need for rare earths in today's world, and also understand the technology to extract these materials has ... become less impactful," said Roy. "(But) for Kebaowek to get behind a mining project that would largely impact the location of where our community came from is just a non-starting point (Karim, 2022)."

The sites of the Zeus and Kipawa mines are located on the Kipawa river, which is the feeding source for Lake Kipawa, the waterbody that the Kebaowek community and Wolf Lake First Nations depend on for drinking water. The concern is mainly over the potential for water contamination (Karim, 2022).

Ontario is facing similar challenges. Ontario's Ring of Fire, or the Wawangajing region of Northern Ontario, contains many critical minerals. As of January 2022, 15 companies and individuals held 26,167 active mining claims in the province (Ministry of Mines Ontario, 2022). Later, in March 2022, Ontario released its new critical minerals strategy to position Ontario as a leading producer of critical minerals (Ministry of Northern Development, Mines, Natural Resources and Forestry, n.d., p. 6). Key to this is the Ring of Fire, a "transformative opportunity for unlocking multi-generational development of critical minerals (Ministry of Northern Development, Mines, Natural Resources and Forestry, n.d., p. 13). In December 2022, Ring of Fire Metals and the Webequie First Nations signed a memorandum of understanding (MOU) outlining a framework for collaboration on the proposed development of the Ring of Fire (Papineau, 2022). This agreement details how the two parties will collaborate to progress ongoing exploration and negotiate a partnership agreement for a proposed mine (Papineau, 2022). In addition to this MOU, in April 2022, the Webequie completed terms of reference with Martin Falls First Nation on the proposed Northern Road Link environmental assessment (EA) (Papineau, 2022). This project will provide all-season access to the Ring of Fire region (Ministry of Northern Development, Mines, Natural Resources and Forestry, n.d., p. 14).

Despite this successful consultation, there is much concern about Ontario's critical minerals plan from other First Nations. Although the province has signed several revenue-sharing agreements with the First Nations communities that make up Grand Council Treaty #3 (Kitching, 2022), there are concerns about how these processes will occur with the development of the Ring of Fire. Should the government fail to engage communities properly, it could force First Nations peoples into legal action. An Osgoode Hall Law School professor, Dayna Scott, expressed concern that Ontario is not doing enough to bring all affected First Nations on board. She stated: "...today, it looks a little bit more like an admission that Ontario is proceeding in the face of widespread concern based on the agreements they have with just the two First Nation proponents (Kitching, 2022)" referring to the terms of reference with the Webequie and Martin Falls First Nations. This scenario has already played out. In 2021, three First Nations in the region declared a moratorium on all development in the Ring of Fire. Since then, the Attawapiskat First Nation won a case stating that the Ontario government fell short of its duty to consult and accommodate (Ross, 2022). The other two nations, the Neskantaga and Fort Albany, continue to oppose the construction and have asked for a clearer picture of the impacts of mining on the region's environment before the project progresses (Karim, 2022). The concern is that the James Bay Lowlands, in the Ring of Fire, contains the second-largest intact peatland complex in the world, which is vital to carbon storage (McIntosh, 2022). In Ontario's North alone, peatlands store around 35 billion tonnes of carbon, equal to annual emissions from over 39 billion cars (McIntosh, 2022). They additionally help with water retention and can hold as much water as the Great Lakes (Gamble, 2017). Building a mine in the wetlands necessitates a different design to protect that environment (Gamble, 2017). The three nations have stated that no projects should proceed until proper environmental scrutiny exists and First Nations are equal partners (McIntosh, 2022).

2.7. Current Consultation in Ontario

Provinces in Canada have legal obligations to consult with Indigenous peoples when their actions impact asserted or established Aboriginal or treaty rights (Ministry of Indigenous Affairs, 2021a). The consultation process is impacted by the nature and scope of the asserted right, the strength of the claim to land rights, and the project's impact on rights. All parties are expected to participate in the consultation process if the

duty to consult is triggered (Ministry of Indigenous Affairs, 2021a). The Ontario government has four leading roles in consultation. These are:

- Provide timely and accessible information to the Indigenous community.
- Obtain information on any potentially affected rights.
- Listen to concerns raised by Indigenous communities.
- Determine how to address these concerns and avoid, minimize, and/or mitigate adverse impacts on Aboriginal or treaty rights (Ministry of Indigenous Affairs, 2021a).

When the duty to consult is triggered, the government delegates some activities of consultation to the proponent who in the case of mining is often the company seeking to build a mine on Indigenous land. This company must discuss with each identified and potentially affected First Nation and Métis community on how to prevent or mitigate the potential adverse effects of projects (Ministry of Indigenous Affairs, 2021a).

The Ontario government may be required to take steps to accommodate a treaty right when a government decision will adversely impact Aboriginal treaty rights, or a strong case exists for an assessed right that will be adversely affected in a significant way by proposed government action (Ministry of Indigenous Affairs, 2021b). The accommodation process may involve a ministry taking steps to avoid irreparable harm or minimize the adverse effects of a government decision. This process does not generally give the affected Indigenous community a veto over a proposed decision. However, in some circumstances, a community's consent may be required (Ministry of Indigenous Affairs, 2021b).

The ability of the Ontario government to delegate consultation to proponents of projects has led to Indigenous nations questioning the sincerity of consultation. In 2022, the government of Ontario failed to consult with nations prior to passing Bill 23, a housing bill aimed at developing a significant number of new residences. After the bill passed, the Minister of Municipal Affairs and Housing Steve Clark confirmed that the province had not engaged with Indigenous nations and claimed that the fault lay with municipalities as the province considered them to be the proponents of the bill (Syed,

2022). However, the government of Ontario has a history of avoiding consultation or shifting the blame to municipalities. In a letter to the government, the Chiefs of Ontario wrote, “The government of Ontario can no longer avoid its duty to consult with First Nations by delegating responsibilities and obligations to municipalities, developers, and project proponents (Syed, 2022).”

Current EA processes predict and evaluate proposed developments' ecological, social, health, and economic impacts. However, these processes are criticized for their inability to incorporate Indigenous environmental knowledge and the needs of the specific cultures and communities that will be impacted (Eckert et al., 2020).

2.8. Challenges

The main area of challenge is the jurisdictional overlap. As a federal state, the distribution of legislative powers is split between the federal and the provincial governments (Intergovernmental Affairs, 2021).

Table 1: Jurisdictional Split Between Provincial and Federal Governments

| | Provincial Government of Ontario | Federal Government of Canada |
|---------------------|--|---|
| Indigenous Peoples | | Jurisdiction over Indigenous peoples and Indigenous receive lands |
| Mine Permitting | | Requires Crown consultation with the public, applicable stakeholders, and Indigenous groups |
| Resource Extraction | <p>Ownership, administration and control of public lands and minerals, as well as legislative jurisdiction over natural resources. Regulates the exploration and extraction of mineral resources in their province. They handle:</p> <ul style="list-style-type: none"> • The exploration of minerals and the claiming of mineral titles • Mine development and operation • Environmental protection and reclamation <p>Ministry of Northern Development and the Ministry of Mines is responsible for the mining sector.</p> <ul style="list-style-type: none"> • Mining Act • Mining Lands Administration System | |

| | | |
|------------------------------------|---|---|
| | <p>Ministry of Environment, Conservation and Parks provides environmental regulation.</p> <ul style="list-style-type: none"> • Public Lands Act • Environmental Protection Act • Environmental Assessment Act • Water Resources Act | |
| Laws Regarding Resource Extraction | Enact laws concerning mineral taxes and the transport of minerals within the province. | Enacts laws concerning minerals and mining on federal land |
| Impact Assessment | The province of Ontario conducts an EA through the Environmental Assessment Act | <p>Most mine applications generally result in a federal EA.</p> <p>Impact Assessment Agency of Canada</p> <ul style="list-style-type: none"> • Impact assessments that look at both positive and negative environmental, economic, social, and health impacts of potential projects • Leads and manages impact assessment process for federally designated major projects. • Leads Crown engagement and serves as the point of contact for consultation and engagement with Indigenous peoples during impact assessments. • Provides opportunities and funding to support public participation in impact assessments. • Works in collaboration with provinces and territories, Indigenous jurisdictions, environmental organizations, and industry (Impact Assessment Agency of Canada, 2020). |
| Taxation | Tax is paid on an operator's annual profit. Non-remote mines pay a 10% tax. New mines are exempt on up to \$10 million of profit and last for three years. | |
| The Environment and Climate Change | | <p>Responsible for advancing climate change adaptation and building resilience to climate impacts.</p> <ul style="list-style-type: none"> • Federal Adaptation Policy Framework • Arctic Policy Framework • Federal Sustainable Development Strategy <ul style="list-style-type: none"> ○ Commitment to protecting 25% of its land and 25% of its oceans by 2025. ○ Reaching net-zero greenhouse gas emissions by 2050. • Emergency Management Strategy for Canada |

| | | |
|-------------------|--|---|
| | | Jurisdiction over fisheries and the discharge of waste into fish-bearing waters |
| Health and Safety | Is covered under the Ministry of Labour, Immigration, Training, and Skills Development | |

Sources: Dominique, Podowski, Matson & White (2022) and Environment and Climate Change (2022).

This distribution of legislative powers poses a significant challenge to policy creation. Mining and impacts on Indigenous peoples and the environment fall under the jurisdiction of both the provincial government of Ontario and the federal government of Canada. As a result, both parties must work together without overstepping their powers. Decisions made by the federal government regarding impact assessments impact provincial governments and change how their processes function. This challenge of federalism and overreach has recently reached the Supreme Court, where the 2019 Impact Assessment Act (IAA) will be debated. Alberta argues that the Act is an overreach into provincial jurisdiction. They argue that the Act covers all areas of the province's economy. The Act allows Ottawa to regulate projects based on whether they have environmental impacts that fall into federal jurisdiction, including climate change, the effects on Indigenous territory, and the effects on ecosystems. This case could affect the federal government's ability to create country-wide environmental and social impact assessment and consultation guidelines.

Chapter 3.

Literature Review

Mining on Indigenous land carries several externalities with it. The ones I will discuss in the following sections include its effects on gender, inequality, and climate.

3.1. Women in Mining Negotiations

The mining industry is primarily male-dominated. However, literature has indicated that women are more adversely impacted by mining than men as they are often excluded from negotiations and access to benefits such as employment opportunities (Parmenter & Drummond, 2022, p. 1).

Negotiations are critical to the mining process as they allow the Indigenous nations to provide their input on revenue sharing, access to employment, protection of cultural heritage, and participation in environmental management (O'Faircheallaigh, 2012, p. 1793). Studies have shown that when put in positions of power, Indigenous women's goals differ from those of Indigenous men (O'Faircheallaigh, 2012, p. 1793). When given a significant role in setting the agenda for negotiations in northern Labrador, women pushed to include gender-equality provisions in the mining agreement. There was also a greater emphasis on recognition and respect, giving the Indigenous group recognition of land ownership and cross-cultural awareness training for mining companies and renaming places near the mine with their correct Indigenous name (O'Faircheallaigh, 2012, p. 1798).

Unfortunately, there is a gendered divide in who is involved in negotiations. According to O'Faircheallaigh in 2012, "the dominant view in the academic and activist literature is that women are bypassed in agreement negotiations, and as a result are often excluded from the benefits of mining while continuing to experience its economic, social and environmental costs" (O'Faircheallaigh, 2012, p. 1790). Hipwell et al. stated in 2002 that male-dominated band councils established under the Indian Act usurped women's traditional power and marginalized their voices in negotiations. However, O'Faircheallaigh (2012) finds that whether women are included in negotiations depends on how negotiations are defined. Women are often excluded if *negotiations* are defined

as solely formal discussions between the parties' representatives and terminate when an agreement is reached. However, negotiations encompass setting agendas, playing the role of negotiator, and participating in the negotiations themselves. Setting the agenda is crucial even when not at the negotiating table. It confers considerable power and the ability to prioritize and discuss specific topics (O'Faircheallaigh, 2012, p. 1797). In Canada, Indigenous women have played a central role in setting the negotiation agenda (O'Faircheallaigh, 2012, p. 1796-97). For Indigenous women to play a role in negotiations, mining companies must have policies to ensure their participation. Many have noted that companies often focus their negotiations on communicating with Indigenous men and do not take it upon themselves to include Indigenous women (O'Faircheallaigh, 2012, p. 1803). Some companies have developed explicit policies and procedures to facilitate the participation of women, and these have provided opportunities for substantial community participation (O'Faircheallaigh, 2012, p. 1803).

3.2. Gender Inequity

In addition to women being sometimes excluded from negotiations, mining and other extractive industries often create or exacerbate gender inequalities for women, especially Indigenous women (Parmenter & Drummond, 2022, p. 1).

A 2022 report by the Responsible Mining Foundation found weak evidence of gender-aware practices at the mine-site level. There is limited progress on gender equity issues within their workforce or in the context of mining-affected communities. There is little evidence that companies are acting on gender and protecting women from sexual harassment and gender-based violence (Responsible Mining Foundation, 2022). Recent research in Canada has shown that Indigenous women experience sexual harassment, male backlash, and a lack of childcare in the mining industry (Parmenter & Drummond, 2022, p. 2). A 2017 study on the impacts of resource extraction on Inuit women found that they only comprised 6.5 percent of the permanent workforce while comprising 25.1 percent of the temporary workforce in predominantly unskilled positions such as housekeepers and kitchen staff (Nightingale et al., 2017, p. 371; (Pauktuutit Inuit Women of Canada, 2016)

Nightingale et al. (2017) argue that these temporary positions place them at greater risk of sexual harassment and assault. A secondary study on racialized women's

experiences working in Yukon and Northern British Columbia found that “women are undervalued and have limited opportunities for advancement, scholarship and training” (Parmenter & Drummond, 2022, p. 2).

Additionally, women felt unsafe reporting incidents and were often perceived by co-workers as token hires (Parmenter & Drummond, 2022, p. 2). In Qamani'tuaq in Nunavut, RCMP incidents increased from 540 in 2008 before the mine's operation to 800 in 2011. Many of these involve domestic disputes, including incidents of domestic violence (Pauktuutit Inuit Women of Canada, 2016). Inuit women noted that the work schedule contributed to partner jealousy and suspicion (Pauktuutit Inuit Women of Canada, 2016), with some partners not wanting them to work in a male-dominated industry due to concerns about infidelity (Parmenter & Drummond, 2022, p. 2).

While women face challenges in mining and other extractive industries, there has been a lack of an intersectional approach resulting in missed opportunities to increase participation and outcomes for Indigenous women. Very few Indigenous employment strategies incorporate a gender lens, and strategies aimed at women do not account for the different lived experiences of Indigenous women (Parmenter & Drummond, 2022, p. 8). Opportunities for 'women' and 'Indigenous peoples' privilege non-Indigenous women and Indigenous men may be unintentionally forgetting about the Indigenous women who straddle these terms (Parmenter & Drummond, 2022, p. 8).

Indigenous women noted that some key policies could help increase safety. They advocated for a better shelter for women and men, increased mental health support, more stable contracts, and less staff turnover to make the services more effective (Pauktuutit Inuit Women of Canada, 2016). A priority for the women was that these services must be in place before the mine opened. Retroactively adding services is inadequate, with a lack of overall support for employees dealing with substance abuse issues (Pauktuutit Inuit Women of Canada, 2016).

Additionally, ensuring there are culturally safe reporting mechanisms for sexual harassment, racism, gender-based discrimination, violence, and bullying was seen as a critical priority (Parmenter & Drummond, 2022, p. 8). Indigenous women must be aware of these mechanisms and should be involved in their design, implementation, and regular review. Mining company St Barbara initiated a 'Warrior Program' to address

family sexual violence to increase worker awareness of and compliance with safety protocols (Parmenter & Drummond, 2022, p. 8). Additional policy suggestions include:

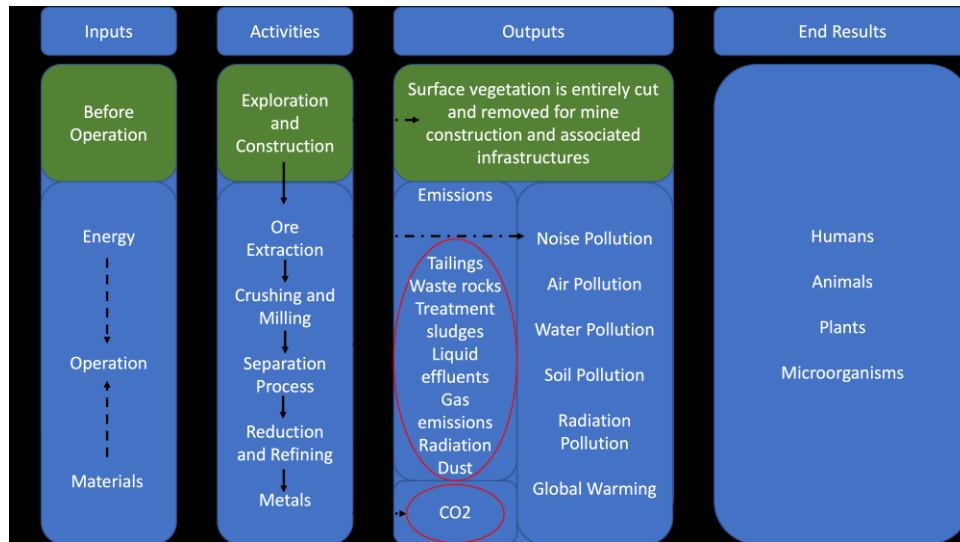
“Making shifts available to match school schedules; providing clear information to local communities on the range of roles available; recruiting women in groups; providing a safe meeting place for Indigenous women on site, implementing career development plans and providing leadership programs (Parmenter & Drummond, 2022, p. 8).”

Additionally, more data is needed on employment data moving forward to understand why Indigenous women leave the industry. While some companies conduct exit interviews, they are often not done in a culturally safe way or fail to demonstrate why the employee leaves the company (Parmenter & Drummond, 2022, p. 8).

3.3. Environmental Concerns

Environmental concerns are also of critical significance. REE production and processing are characterized by high energy and resource consumption, high levels of pollution, and a complicated separation process compared to other metals (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 355). REE ores can contain radioactive elements such as uranium and thorium (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 361). Extracting REE minerals will be more complicated than non-REE minerals. Canada must limit environmental risks and potential costs (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 361).

The production of REEs in Canada will increase REE concentration in the environment in the coming decades, harming the surrounding population and environment (Yin, Martineau, Demers, Basiliko & Fenton, 2021, 355). REEs left alone in the environment pose a low health risk (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 361), but mineral extraction can cause environmental issues.



(Yin, Martineau, Demers, Basiliko & Fenton, 2021, 356)

Figure 5: Consequences of REE Exploration and Mining

The two main areas of concern are radioactive pollution and REE toxicity, unique risks compared to other kinds of mines currently active in Canada (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 365). There are a few proven mitigation strategies that Canada can use to reduce or minimize any negative impacts. However, in 2020 there was a draft of federal water quality guidelines for certain minerals (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 365).

REE mining can harm the local environment, human health, and those who live near the mines. The most significant risk is to those who do work associated with REE production. There is a risk of radiation exposure for those working in the mine. Although Canada has experience with radiation protection and waste management, these new and increased exposure sources must be properly and safely managed (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 365).

In addition to those working directly in the production of REEs, it will affect the communities living near it. The primary conduit for this is inhaling REE dust and ingesting food and water with higher REE content (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 365). Risks to the public are limited as the sites are far from large population centers; however, remote communities and Indigenous Nations could face an

elevated risk. Hazardous substances can disperse and leach into surrounding soil and water accumulating in vegetables grown and any animals or aquatic life that live nearby (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 365-66). Snowfall can also pose a risk as studies have shown that they may accumulate more REE dust which increases the risk to workers and those who live nearby (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 365).

The Kipawa project (a proposed REE mine site put on hold in October 2022 due to a failure to agree with the Kebaowek First Nations (Jamasmie, 2022)) posed two significant risks to the two Anishinabek First Nations on whose land the project lies. The two risks identified are traditional food from REE-rich areas and traditional medicines. The concerns are that REE content in both could increase and further harm those who eat and use them (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 366).

Risk reduction can occur through laws, regulations, rules, and strategies. If strictly enforced, health risks from drinking water and inhalation can be low for Indigenous peoples. Having strict guidelines on where food and medicine can be collected can also ensure that the Indigenous Nations are protected (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 366). However, it is unclear whether this strict enforcement can occur. Canada has struggled with getting clean water to First Nations communities (Black & McBean, 2017, p. 248). In September 2020, there remained 58 long-term drinking water advisories (Environment and Climate Change Canada, 2022). If this enforcement can occur, regulations must pre-emptively consult with Indigenous stakeholders to ensure the extraction and processing of REEs occurs in the least environmentally damaging way possible. There are signs that this could happen. In Nunavik, Quebec, a community-based environmental monitoring program was initiated before the start of an REE mining project to be able to:

“Understand the diverse impacts of REE projects on socio-ecological systems and to protect the health, well-being, and quality of life of Indigenous peoples as future REE projects arise near other northern communities (Yin, Martineau, Demers, Basiliko & Fenton, 2021, p. 366).”

Chapter 4.

Methodology

A mix-methodology approach was used for this study, as will be outlined in this chapter. This methodology includes a jurisdictional scan informed by a literature review and a multi-criteria analysis. This research aims to identify the main challenges present in implementing Canada's Critical Minerals Strategy, how consultation can be improved, and potential policy options for different levels of government to consider.

4.1. Jurisdictional Scan

The jurisdictions examined were selected based on their similarity to Canada's political system and history. Two Canadian jurisdictions were chosen to supplement the jurisdictional scan due to the diversity of policies from province to province and within the territories. Information regarding programs was gathered through government websites, Google scholar, and SFU's online library.

4.2. Multi-Criteria Analysis

A multi-criteria analysis assessed the criteria and measures concerning the three options. Results from the multi-criteria analysis were used to inform the analysis of policy options and recommendations (chapters 8 & 9). Information for the multi-criteria analysis was gathered from the background, literature review, jurisdictional scan, government websites, Google scholar, and SFU's online library.

4.3. Limitations

The main limitation of this study is that no formal expert interviews were conducted. This research would ideally include engagement with affected parties. Notably missing is information and relationship-building with Indigenous peoples. In its place, literature, and information from affected Indigenous nations were sourced. However, I acknowledge that this cannot replace a formal consultation process. Were this considered by any level of government or official policymaker, the first step would be

to create a team from different Indigenous nations to ensure their individual needs are met. The Government of Canada must consult Indigenous groups and affirm that Indigenous peoples control their destiny and make decisions about their communities. The government must ensure the federal government is living up to the spirit and intent of treaties and agreements made with Indigenous peoples. This study intends to identify a starting point in conversations intended to be built upon and not be an end.

Chapter 5.

Jurisdictional Scan

While no country or region has particularly distinguished itself as a leader in Indigenous consultation, especially in rare earth element mining, some regions have made progress in consultation and collaboration. However, two international jurisdictions that relate to the Canadian context are Greenland and New Zealand. Additionally, two Canadian jurisdictions, British Columbia and the Northwest Territories are considered.

5.1. Canada

Although Canada has a contentious history with Indigenous peoples that continues to this day, Canada and some provinces and territories have instituted promising institutional and legislative changes (Allard & Curran, 2021, p. 1; Podowski et al., 2020). The current process for the development of mines involves an EA from both the federal and provincial/territorial governments (Podowski et al., 2020). An EA will evaluate the environmental impact of the mine as well as will set out certain conditions under which the mine can be developed (Podowski et al., 2020). Permits are required for a mine to be developed, which requires Crown consultation with the public, stakeholders, and Indigenous groups (Podowski et al., 2020). By law, the Crown must consult with Indigenous groups whenever their rights to self-determination or any treaty rights may be affected (Department of Justice, 2021; Podowski et al., 2020). Federal consultation may include:

- Providing Indigenous communities with detailed technical information
- Providing funding so that Indigenous groups can contract their own experts.
- Considering in good faith the rights, interests, and concerns of the Indigenous groups
- Identifying opportunities to accommodate Indigenous concerns and/or mitigate adverse impacts (where appropriate) (Podowski et al., 2020)

Indigenous groups are often included throughout the regulatory review process and can make submissions and ask questions. This permitting process also includes financial security that is left with the government and a mine closure plan which details the reclamation of the mine site, which should be sufficient to cover the complete reclamation of the mine site (Podowski et al., 2020).

The federal EA follows the rules of the IAA (Podowski et al., 2020). The IAA was given an overhaul in 2019 following the 2012 Canadian Environmental Assessment Act (CEAA) (Cherwick, 2021). This new Act revises the activities that trigger an impact assessment and includes more details about how the assessment process works (Cherwick, 2021). Unfortunately, there are still issues that remain with the new Act. It lacks an enforceable mechanism to ensure the project continues to be sustainable after it is built (Cherwick, 2021). Additionally, it is still vulnerable to misinterpretations that can allow companies and the government not to involve Indigenous peoples to a legally mandated level. The Act allows the federal government to co-lead assessments with Indigenous governing bodies; however, as of 2022, the federal government has yet to consider co-governance agreements with First Nations peoples (Cherwick, 2021).

Currently, the federal government is facing a legal challenge from the government of Alberta about the future of the IAA. The government of Alberta is arguing that the law is an unconstitutional intrusion into provincial jurisdiction (Fine, 2023). Although climate change and treaties with Indigenous peoples fall within the jurisdiction of the federal government, natural resources fall under the jurisdiction of the provincial governments (Fine, 2023). This jurisdictional overlap poses problems for environmental and social assessment processes and the prevention of environmental consequences for Indigenous peoples as competing priorities exist. Historical and current treaties were signed as a nation-to-nation relationship with the Crown, not the provinces. The placement of natural resources within the hands of the provinces poses a direct threat to Indigenous peoples as these governments now have a vested interest in Indigenous land dispossession to gain control of valuable resources (Borrows, 2017, p. 32). Depending on the province, the consultation process may be vastly different. Legal challenges such as this may continue to weaken the federal government's ability to set a country-wide standard.

Some provinces and territories are working to adopt and get recommendations for a better consultation process. Two of these are British Columbia and the Northwest Territories.

5.1.1. British Columbia: UNDRIP in Provincial Law

British Columbia has been used as a case study for how other countries, such as Sweden and Norway, can improve their Indigenous engagement (Allard & Curran, 2021, p. 1). BC is the first jurisdiction in Canada and one of the first in the world to establish a legal framework for implementing UNDRIP (Allard & Curran, 2021, p. 4). BC's Declaration on the Rights of Indigenous Peoples Act (DRIPA) enables agreements and the delegation of decision-making between the provincial government and Indigenous governing bodies (Allard & Curran, 2021, p. 5-6). Although DRIPA is promising, it is still very new, and this shared decision-making has yet to be applied (Allard & Curran, 2021, p. 5).

The current process is as follows. Developing a mineral claim requires an EA for any significant mine construction or modification of an existing mine (Allard & Curran, 2021, p. 8). BC law requires an EA for any new mine that will produce 75,000 tonnes annually of mineral ore. This threshold means that many mining activities are not subject to comprehensive review but only to the various permitting processes (Allard & Curran, 2021, p. 8). If subject to an EA, an independent office in the provincial government is responsible for administering it and integrating Indigenous knowledge. It does this by supporting the implementation of UNDRIP, recognizing the jurisdiction of Indigenous nations and their right to participate in decision-making, collaborating with Indigenous nations, and acknowledging Indigenous peoples' rights (Allard & Curran, 2021, p. 8). Under this new EA Act, each assessment must address the project's effects on Indigenous nations and their enshrined treaty rights (Allard & Curran, 2021, p. 9). Chief executive assessment officers must seek consensus on decisions with Indigenous nations, and there is a provision for Indigenous-led assessments (Allard & Curran, 2021, p. 8-9). This provision has yet to be used; however, this would allow an Indigenous nation to undertake the entire EA process and for the EA office to pay all associated costs (Allard & Curran, 2021, p. 9).

There remain some issues. The first is that EA processes are not based on Indigenous knowledge, laws, and customs. EA processes do not consider whether a mine should be in a specific location but focus on the conditions under which mines can be operated in a proposed location. Secondly, engagement with Indigenous peoples only occurs after mineral claims and some exploration (Allard & Curran, 2021, p. 5). This exploration can entitle mineral operations up to a stipulated production value. The engagement process was challenged in 2019 by the Tsilhqot'in Nation when they argued that the community stood to suffer more significant harm than the company (Allard & Curran, 2021, p. 7).

Additionally, the duty to consult is only required for the duration of the EA, and there is no ongoing duty to consult (Allard & Curran, 2021, p. 5 - 9). If issues arise with operating, closed, or abandoned mines, there are no simple avenues through which concerns can be brought up (Allard & Curran, 2021, p. 9). Even when the duty to consult is required, a 2016 Auditor General's report noted a lack of compliance and enforcement with the EA. It criticized the absence of a compliance and enforcement program (Allard & Curran, 2021, p. 9). A final current issue is that despite the enactment of DRIPA, the BC provincial government has not yet reformed mining laws to respond to Indigenous authority and the calls for consent-based processes (Allard & Curran, 2021, p. 6). The EA Act does not yet meet the minimum UNDRIP standard of free, prior, and informed consent because projects can still go ahead even when opposed by Indigenous communities. Ultimately, the Minister and other provincial authorities can make decisions regardless of consensus from Indigenous nations (Allard & Curran, 2021, p. 10).

Despite this, BC remains an example for the rest of the world and Canada in integrating UNDRIP into provincial law. There are shortcomings, but many of these have been addressed by the BC First Nations Energy and Mining Council in *Indigenous Sovereignty: Consent for Mining on Indigenous Lands*. The document contains tools to enable Indigenous peoples to approve and regulate mining activity and how to apply the concept of free, prior, and informed consent (BC First Nations Energy and Mining Council, 2022). This list of 25 recommendations covers all stages of the mining process, from claim staking to closure and reclamation. It addresses many issues in the updated BC EA Act (BC First Nations Energy and Mining Council, 2022) and would ensure a tighter adherence to UNDRIP standards. This document and BC's EA Act show examples of how to transform the mining sector, what other provinces can learn from

BC, how consultation processes can be improved, and a proper framework that can be built upon before REE mine construction truly begins in Canada.

As BC is the first Canadian province to integrate UNDRIP into provincial law, it can provide significant lessons to Ontario. It has a clear EA process and the provision for an Indigenous-led assessment which can change the way that Indigenous-governmental relations are conducted.

5.1.2. Northwest Territories: Indigenous-Run Mining

In 2021, Nechalacho, Canada's first rare earth mine, opened in the Northwest Territories. It is owned by an Australian company, Vital Metals and developed by Cheetah Resources, a Canadian subsidiary (Nechalacho Rare Earth Mining Project, n.d.). It is only the second REE mine in North America. In April 2022, it shipped its first load of mixed rare earth concentrate to a processing facility in Saskatchewan (McBride, 2022). Once Vital Minerals proves this first attempt has been successful, there will be a much larger mining campaign in 2024 (Jamasmie, 2021). The opening and operation of the first mine in the NWT are essential for Canada to produce batteries and tackle climate change, according to Canada's Minister of Transport, Omar Alghabra. The NWT Minister of Industry, Tourism and Investment, Caroline Wawzonek, stated that she is pleased with the process of Nechalacho:

“It sends a signal that Canada is indeed a serious player in the international drive toward a sustainable, reliable, responsibly mined source of critical rare earth elements independent of China and also of Russia (Government of the Northwest Territories, 2022).”

In addition to the mining site in the NWT, Vital Metals has invested 20 million dollars into a rare earth processing facility in Saskatoon, where the earth concentrate will be converted into a mixed rare earth carbonate. The carbonate will then be sold to REEtec, a Norwegian firm, where this will be separated into individual rare earth oxides. In April 2022, the first shipment of rare-earth concentrate left the NWT and made its way to Saskatoon (Ulrich, 2022). David Connelly, Vice President of Strategy and Corporate Affairs for Cheetah Resources Ltd., has claimed that:

“Cheetah and Vital have demonstrated a strong commitment to Environmental, Social and Corporate Governance values and strive to make this a key measurement of our ongoing success in the NWT and the rest of Canada (Government of the Northwest Territories, 2022).”

As of yet, it is too early to see if this holds for the lifespan of the mine, but there are several indicators that this may remain the case and that they may be setting an example for other projects in Canada and the rest of the world.

Indigenous Engagement

Connelly has spoken highly of their Indigenous consultation and engagement process:

“This is the first project we know of in Canada where an Indigenous company, the Yellowknives Dene’s Det’on Cho Corporation, is contracted to do mining operations on its own traditional territory. (Government of the Northwest Territories, 2022)”

Seventy-five percent of the workforce is of Indigenous heritage (Canadian, 2021); 162 NWT businesses supported Cheetah’s first year of operations, with 85 percent of their purchasing sourced from Indigenous suppliers (Government of the Northwest Territories, 2022).

“Avalon recognized the importance of engaging with local communities and stakeholders at the earliest stages of exploration. This has resulted in positive community relationships and constructive dialogue that has identified key community concerns so that these could be accommodated in the development plan. Respect and collaboration represent core values in terms of how the Company works with its community neighbours.”

The Report of Environmental Assessment and Reasons for Decision highlighted these critical concerns. The Mackenzie Valley Environmental Impact Review Board heard concerns about how Avalon Rare Metals Inc, which is developing the mine, will ensure that Indigenous peoples and NWT residents benefit from the project. As a result, Avalon entered into a socio-economic agreement with the Government of the Northwest

Territories (Mackenzie Valley Review Board, 2013) and committed to employing as many people as possible from the local communities and training and on-site support (Cumming, 2013).

Environmental Impact

Nechalacho mine is considered to be more environmentally friendly when compared to other rare earth mineral mines globally. The process will use a sensor-based ore sorter (Lamberink, 2021). This process concentrates minerals after crushing without water or chemical reagents (Bubar, 2022). As a result, no tailing ponds are required (Lamberink, 2021).

The EA consisted of hosting scoping sessions over three months and requesting comments on the scope from affected parties (Mackenzie Valley Review Board, 2013, p. 42). The Mackenzie Valley Resource Management Act requires that the Review Board consider traditional knowledge. This knowledge was requested in 2012 and led to several specific project design modifications, including the re-locations of a tailings management outflow, underground mining, and other infrastructure located underground to reduce the surface footprint (Mackenzie Valley Review Board, 2013, p. 141). The assessment and consultation process has been ongoing since 2010. With the community and local governments on board, this mine shows promise and could be an example of thorough consultation processes that other companies can follow. It does also demonstrate the importance of having legal requirements placed on companies. The government of the Northwest Territories and the Mackenzie Valley Land and Water Board's requirements resulted in the inclusion of Indigenous knowledge and more of a focus on the importance of consultation and concession.

5.2. Greenland: Traditional Indigenous Knowledge through EIA

Greenland is currently in a very similar position to Canada. Abundant rare earth elements have been found under the ground leading to a rush on the island with mining companies staking claims in a quest to control these essential resources (Ewing, 2021). The hope is that rare earth can supply the European Union (EU) and the US (Northam, 2019). Although not a member of the EU, Greenland has a unique association and is still a member of the Kingdom of Denmark and NATO. The hope is that Greenland, like

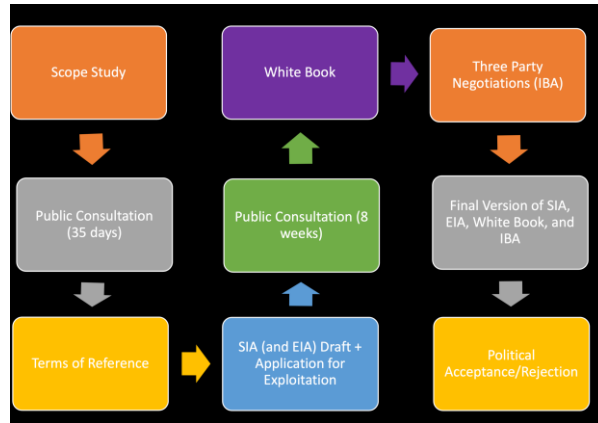
Canada, can help break the Western dependency on China for rare earth (Northam, 2019).

The Greenland government is resisting these strides. In 2021, the Inuit Ataqatiggit party won after campaigning to halt a massive mining operation in southern Greenland (Farzan, 2021). The Kvanefjeld mine, if allowed, will increase Greenland's carbon dioxide emissions by a projected 45 percent. Of key concern to the local population is the uranium extracted as part of the mining process and what will happen with the radioactive runoff and waste (Farzan, 2021). In 2022, the company filed an objection against the government's draft decision which stated that the exploitation licence fails to comply with the Uranium Act (Greenland Minerals' Kvanefjeld Rare-Earths project hits roadblock, 2022). This back and forth will likely continue for a few years while the dispute over the mine is sorted.

Inuit Ataqatigiit has noted that they are not opposed to mining altogether but want assurances that the economic development brought on by the mines does not lead to the destruction of the environment (Farzan, 2021).

Greenland, or Kalaallit Nunaat, is a former colony much like Canada. Greenland was a Danish colony until 1953 when it was redefined as a district of Denmark. In 1979, Greenland began to govern itself, and in 2009, Greenland approved the Self-Government Act in a referendum (Kingdom of Denmark, n.d.). Greenland now controls most of its services with foreign, defence, and security policies still controlled by Denmark (Kingdom of Denmark, n.d.). 88% of the population is Greenlandic Inuit (Indigenous Peoples in Greenland, n.d.). Although Denmark has adopted UNDRIP, Greenland faces problems exacerbated by climate change and this new demand for rare earth elements (Ewing, 2021).

Since 2009, Greenland has had the right to use their natural resources as they see fit (Ackrén, 2016, p. 6). Greenland's Mineral Resources Act regulates all onshore and subsoil activities and states that these should consider social, environmental, and sustainability considerations (Ackrén, 2016, p. 6). To that end, public participation is ensured through Environmental Impact Assessments (EIAs) and Social Impact Assessments (SIAs). However, there are no legal guidelines for conducting these two assessments (Ackrén, 2016, p. 8).



(Ackrén, 2016)

Figure 6: EIA and SIA Consultation Process in Greenland

Although these rules are in place, they can be exploited as the timeline for public consultation is only a suggestion and can be shorter. In 2012, London Mining only conducted a 4-week public consultation period and decided to what extent public consultation was carried out (Ackrén, 2016, p. 10-11). In comparison, Tanbreez actively involved locals from the beginning and held multiple public hearings, building community trust. These two examples highlight the necessity for precise wording for consultation processes.

In addition to this uncertainty, Greenland's consultation process has other criticisms. The largest is that the public is often brought in too late after making significant decisions. Additionally, the documents that are publicly released are challenging to read and interpret (Ackrén, 2016, p. 4), sometimes only made available in English and not translated into the local language (Ackrén, 2016, p. 8). Another vital issue is that Greenland does not have a consultation process where actors and stakeholders are involved from the beginning to the end, as countries like Canada already have (Ackrén, 2016, p. 4).

As a comprehensive consultation process is new globally not only in Canada, Greenland has considered amending their consultation guidelines to include traditional Indigenous knowledge through the EIA. The International Association of Impact Assessment (IAIA) has developed international best practice principles to promote meaningful integration of traditional knowledge and Indigenous peoples into impact

assessments (Egede Dahl & Hansen, 2019, p. 167). These include that it should be up to Indigenous peoples to identify who the knowledge holders are and that they must be involved in determining the research questions and methodologies (Egede Dahl & Hansen, 2019, p. 167). There is substantial literature on the levels of participation and meaningful engagement of Indigenous peoples in impact assessment processes in the Arctic, with studies finding that the practice is moving towards the co-production of impact assessments and political recognition of material rights to land and resources. However, this does not mean that the results are ones that Indigenous participants desire. For example, including Indigenous knowledge has rarely led to the rejection of unwanted projects (Egede Dahl & Hansen, 2019, p. 167).

5.3. New Zealand: Qualitative Measurement of Social Licence to Operate

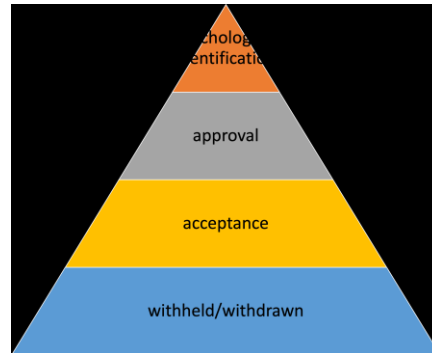
Social licence to operate (SLO) refers to the mining industry's need to cover its reputation after highly publicized environmental disasters and conflicts with the communities. It is based on corporate social responsibility (CSR). CSR is a business model with the aim of giving back and engaging in being environmentally, ethically, or financially responsible while engaging in philanthropy (Fernando, 2022). Companies attempt to operate in ways that enhance rather than degrade society and the environment to both improve society and promote a positive brand image (Fernando, 2022).

Unlike CSR, SLO is a bottom-up approach where communities and stakeholders identify issues (Edwards & Trafford, 2016, p. 166). Rather than a specific outcome, SLO is when a project has ongoing approval from the local community and other stakeholders (Quigley & Baines, 2014). Notably, the community grants SLO, which is intangible, dynamic, and non-permanent. It is that the community understands what the company is doing, what the project's effects will be, how it will be managed, and the effects mitigated and accept what the company is doing (Quigley & Baines, 2014).

It is allowed to change as time passes and new information emerges (Quigley & Baines, 2014). In New Zealand, it supplements the Treaty of Waitangi, signed by the British Crown and many Māori chiefs in 1840 (Ministry of Justice, 2020), similar to Canada's original treaties. Today, the Treaty of Waitangi is accepted to be a

constitutional document that establishes and guides the relationship between the Crown and Māori peoples (Ministry of Justice, 2020).

The social licence to operate is based on a hierarchy of outcomes.



(Quigley & Baines, 2014, p. 9)

Figure 7: SLO Process in New Zealand

Companies' ability to move from layer to layer is based on the achievement of various factors and was developed by Thomas and Boutilier for the New Zealand government.

| Movement between layers | Boundary | If these factors are achieved, the SLO is more likely to move up the hierarchy |
|-----------------------------|-------------|--|
| Withheld ↓ Acceptance | Legitimacy | Legal: has permits and permissions. Socio-political: has engaged with stakeholders in a fulsome manner. The project company is perceived to contribute to the region's well-being, respects the local way of life, meets expectations about its role in society, and acts according to stakeholders' views of fairness. Economic: the project/company offers a benefit to the perceiver. |
| Acceptance ↓ Approval | Credibility | The perception is that the company listens, responds, makes realistic promises, keeps them, provides reliable information, engages in mutual dialogue and is reciprocal in its actions. Not just technical credibility but social credibility as well. |
| Approval ↓ Trust | Trust | The perception is that relations between the stakeholder's institutions and the project/ company are based on an enduring regard for each other's interests. Creates a common/shared experience to work together. It builds collaborative and transformational opportunities. Goodwill is the basis for the relationship. |

Quigley & Baines, 2014, p. 9

Table 2: SLO Layers of Acceptance

In 2011, a tool was developed by Thomas and Boutilier to quantify the SLO score and determine the level of trust and acceptance the community and the company share. This practice requires that knowledge be openly shared and build long-term relationships with the Indigenous nations (Quigley & Baines, 2014, p. 17). Something that SLO brings that is unique is that it requires consent to be continuous and ongoing. Companies such as Meridian Energy have said, "You can reinvest in our communities now and develop real relationships with stakeholders, so we know what to expect in the future, and we have a better run at the consent. We have chosen the second option. We want to be good neighbours; our people live in those communities, we employ people, and we change environments (e.g., affect rivers and landscapes). We think it is good commercial sense to put something back into local communities, and we have funds to do this around all of our assets in New Zealand (Quigley & Baines, 2014, p. 23)."

Chapter 6.

Policy Criteria and Measures

Table 3: Criteria and Measures

| Criteria | Definition | Measure | Coding |
|------------------------|--------------------------------|---|--------------|
| Equity | Impact on equity (x2) | Whether this policy option supports Canada in achieving its goals in an equitable manner | Good (3) |
| | | | Moderate (2) |
| | | | Poor (1) |
| Administrative Ease | Complexity of implementation | Whether this policy will require that new government infrastructure be set up. | Good (3) |
| | | | Moderate (2) |
| | | | Poor (1) |
| | Coordination with Stakeholders | Extent to which the policy requires coordination amongst stakeholders to implement and administer | Good (3) |
| | | | Moderate (2) |
| | | | Poor (1) |
| Stakeholder Acceptance | Stakeholder opposition | Likelihood of facing stakeholder opposition | Good (3) |
| | | | Moderate (2) |
| | | | Poor (1) |
| Cost | Cost to government | Cost to the federal or provincial government to establish and administer policy per year | Good (3) |
| | | | Moderate (2) |
| | | | Poor (1) |

6.1. Equity

The main objective of this research is to support Canada in equitably achieving its critical minerals strategy. It assesses whether equity-seeking groups face unequal negative consequences due to Canada pursuing its strategy. A policy ensuring this unequal impact does not occur will receive a 'good' score. The score of this policy is doubled as it is the goal that the policy problem is trying to address.

6.2. Administrative Ease

Administrative ease measures how complex the policy would be to implement. Policies requiring new governmental infrastructure to be set up are rated as 'poor' while those that departments and current employees can run are rated as 'good.' Coordination with stakeholders measures the extent to which the policy will require stakeholder coordination to implement and administer. Policies that require less coordination between stakeholders and therefore are easier administratively to operate will receive a 'good' score.

6.3. Stakeholder Acceptance

Stakeholder acceptance measures the extent to which the policy will require stakeholder coordination to implement and administer. Stakeholders are identified as the Canadian federal government and the provincial government of Ontario, mining companies, and Indigenous nations. Policies that require less coordination between stakeholders will receive a 'good' score. Policies less likely to face stakeholder opposition will receive a 'good' score.

6.4. Cost

The government's cost includes fixed costs to establish the program and any annual costs needed to operate and administer the policy. A policy with a low total cost receives a 'good' score.

Chapter 7.

Policy Options

Three policy options were derived from the background, literature review, and case studies. All three aim to ensure that consultation is improved as rare earth mineral mining becomes more common and begins to be developed. Given that mining and consultation fall within the jurisdictions of both provincial and federal governments. The first two policy options are for the provincial government of Ontario, while the third is for the federal government.

7.1. Policy Option 1: Mineral Claims Process Amendment

This option would amend Ontario's current mineral exploration process of prospecting and claim-staking. Under this process, prospectors can register land claims to collect rock and soil samples as they search for potential mineral sites (Ontario Mining Association, n.d.). If there are favourable signs of mineral levels, basic and intermediate exploration will begin following consultation and submitting an exploration plan to the Minister of Northern Development, Mines, Natural Resources and Forestry (Ontario Mining Association, n.d.).

Although consultation is written as required, this differs from the reality of what is occurring in communities. Four First Nations in northern Ontario are calling on the province to change this system, stating that they would like the provincial government to seek their communities' informed consent before allowing companies to explore lands (Alhmidi, 2023). The current system does not tell prospectors whether the land is on Indigenous territory before they stake a claim. This pattern is not new, as between 2018 and 2021, permits for drilling and exploratory activity were given without consent or any form of consultation with the Grassy Narrows First Nation (Alhmidi, 2023). This issue is additionally not unique to Ontario, with the BC First Nations Energy and Mining Council identifying it as a critical barrier to Indigenous sovereignty (BC First Nations Energy and Mining Council, 2022). The claim staking process must be amended to respect self-determination and ensure Indigenous sovereignty can be upheld fully.

Indigenous Governing Bodies could establish an Indigenous equivalent to the commissioner who can issue land claims, cancel claims, or address any conflicts related to claims (BC First Nations Energy and Mining Council, 2022). An Indigenous commissioner would ensure that Indigenous groups can veto exploration and have a say in where mineral exploration occurs, one of the prominent issues with current mining.

7.2. Policy Option 2: Social Consultation

The following two policy options involve changing and expanding current consultation processes.

The second option is to split consultation into two parts, environmental and social. Although consultation covers environmental and social risks, REE mines pose more serious environmental concerns. The number of proposed mines in remote areas poses risks to Indigenous people, specifically Indigenous women. Mines have a cumulative effect on Indigenous lands and communities. Assessments should adopt a broader scope and address issues beyond the project level if long-term sustainability can be achieved (Thomson, 2015). It would allow space for examining the socio-economic and cultural effects to ensure the project has a positive long-term effect (Thomson, 2015).

This policy is based on the jurisdictional scan of New Zealand and their use of qualitative measurement of social licence to operate. It is based on relationship building and community needs. It would add to the current consultation framework and allow communities to address the social impacts of projects specifically. Allowing more space for social consultation would allow communities to ensure equity is at the forefront. Fundamental to social considerations is ensuring that Indigenous women are placed at the forefront of negotiations and that a gender lens and intersectionality are fully considered. It allows for more attention to be placed on ensuring increased mental health support and reporting mechanisms for sexual harassment and discrimination.

As communities have different social needs, social consultation would be less focused on achieving concrete goals but would be focused on relationship building and community engagement. It would aim to consider intersectionality in consultation and the different effects of mining on sub-groups.

7.3. Policy Option 3: Modification of the Impact Assessment Act

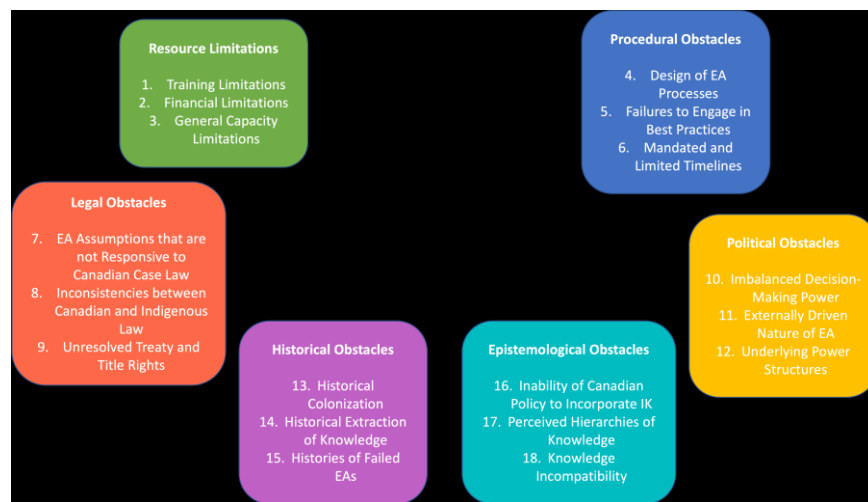
Canada's 2019 IAA developed a framework to support the consistent application of Indigenous knowledge in project reviews and regulatory decisions (Impact Assessment Agency of Canada, 2022). Although the Act improves integration into EA processes, it fails to legislate this into a legal rule. It keeps it at the Minister's and future politicians' discretion (Eckert et al., 2020, p. 83). As a result, the current EA framework in Canada misses the opportunity to have Indigenous peoples help inform environmental decisions with the best available knowledge and fully support Indigenous rights, sovereignty, and well-being (Eckert et al., 2020, p. 83). Given Canada's mandate to fully implement UNDRIP and engage in reconciliation, including Indigenous knowledge is an essential step in the process. Indigenous knowledge offers an alternative source of knowledge and allows space for sharing management and conservation strategies from stewards of local environments (Eckert et al., 2020, p. 68). Several fundamental changes to Canada's IAA would ensure that Indigenous knowledge practices are guaranteed regardless of politics and that information collected is considered equally and complementarity with current EA processes. Current processes are top-down, do not recognize Indigenous decision-making, and do not allow Indigenous Nations to impact decision-making (Eckert et al., 2020, p. 76). Indigenous knowledge and its ability to impact decision-making have been a critical concern in Canada and abroad, even when Indigenous Knowledge is sought out. It has rarely led to the recognition of unwanted projects (Egede, Dahl & Hansen, 2019, p. 167). Several suggestions exist for modernizing EA processes; however, initial steps include integrating best practices into current EA policy frameworks. This policy would address some of the fundamental issues with the IAA that have obstacles that are likely surmountable within the constraints of Canada's current federal political system (Eckert et al., 2020, p. 82). This policy proposes two short-term objectives with one longer-term policy.

The two shorter-term policies require the Impact Assessment Agency of Canada to establish and fund a cross-cultural training program and allow for suspended consultation timelines when an Indigenous authority requests to incorporate Indigenous knowledge and meaningful consultation appropriately. Cross-cultural training has been identified as a vital issue. A lack of government understanding of Indigenous knowledge and how to facilitate Indigenous engagement in an EA and a lack of technical training

available to Indigenous participants posed issues in having improved relationships. Additionally, consultation timelines should be suspended to ensure proper consultation. Scholars have contended that having limitations on EA process timelines makes it difficult for Indigenous Nations to participate fully and share their knowledge (Eckert et al., 2020, p. 78).

The longer-term policy would provide capacity-building funding for Indigenous groups to allow them to engage with the government in decision-making proactively. Community capacity has prevented a meaningful role for Indigenous knowledge in federal EAs. These barriers affect the ability of Nations to engage meaningfully in EA processes.

These policy changes would be a first step to improving the relationship between Indigenous knowledge and EA and is a stopgap before some of the systemic issues present in the current EA process are addressed.



(Eckert, Claxton, Owens, Johnston, Ban, Moola & Darimont, 2020, p. 72)

Figure 8: Identified Issues Related to Consultation in BC

Chapter 8.

Analysis of Policy Options

Table 4: Policy Scoring

| Objective | Measure | Mineral Claims Process Amendment | Social Consultation | Traditional Indigenous Knowledge Incorporation |
|-------------------------------|--------------------------------|----------------------------------|---------------------|--|
| Equity | Impact on equity (x2) | 2 (4) | 3 (6) | 2 (4) |
| Administrative Ease | Complexity of implementation | 1 | 1.5 | 3 |
| | Coordination with Stakeholders | 1 | 1 | 3 |
| Stakeholder Acceptance | Stakeholder opposition | 1 | 2 | 2 |
| Cost | Cost to government | 2.5 | 2 | 1.5 |
| Total | | 9.5 | 12.5 | 13.5 |

8.1. Analysis of Policy Option 1: Mineral Claims Process Amendment

8.1.1. Equity

The claim staking process conflicts with the notion of self-determination for Indigenous peoples. Once a claim is registered, there is the presumption that a mining project will proceed on that land. Notification and the ability to veto mining sites have been identified as key concerns in ensuring equity. REE mining sites carry environmental and social risks. Having an Indigenous-led claims staking process would help prevent conflict further into development and address concerns with the current process. It would assist in having mines explored and built in less environmentally fragile environments. This policy option is scored as 'moderate' as it would ensure equity in getting the province of Ontario closer to adherence to UNDRIP. However, it is unlikely to fix all current problems in consultation.

8.1.2. Administrative Ease

This policy requires the government to set up a new department in the Ministry of Mines. This new department would require legal and administrative changes. It is based on the Chief Gold Commissioner, who is responsible in BC for establishing and maintaining the online mining registry, issuing the mineral claims, cancelling claims, and settling disputes over them (Courthouse Libraries BC, 2020; Bill 29). Due to the amount of administrative work required to establish and support this new position, this policy is rated as 'poor' for complexity.

This policy would additionally require 'moderate' coordination between stakeholders. It requires coordination amongst Indigenous nations and with the government of Ontario. It is subject to political whim for implementation and is unlikely to occur under the current administration. For that reason, it is rated as 'poor' for coordination with stakeholders.

8.1.3. Stakeholder Acceptance

Mining companies are likely to demonstrate opposition and the Ontario government's willingness to only collaborate with nations who agree with proposed projects. As such it is rated as 'poor' for stakeholder opposition.

8.1.4. Cost

This program is more administratively complex and would require developing a new sub-department and hiring for an oversight position and appropriate support. Additionally, there is a cost for the annual salaries for all created positions. As the policy would require the creation of new positions and salaries for all hired but would be an amendment to current departments rather than a whole overhaul, the policy is rated as 'moderate-good.'

8.2. Analysis of Policy Option 2: Social Consultation

8.2.1. Equity

This policy would improve equity due to its focus on relationship building and a personalized, nation-to-nation relationship while centering intersectionality. As highlighted in the literature review, mining policy disproportionately affects Indigenous women. Its purpose is to address the unequal, negative consequences that equity-seeking groups face. As a result, the policy will receive a ‘good’ score.

8.2.2. Administrative Ease

This policy would be complex to implement. It would require new government infrastructure and a significant amount of administrative work. Companies in Ontario currently utilize SLO processes in mining consultation. However, they operate outside of the EA process and government. This process could be based on the SLO process and Canada’s GBA+ policy which could reduce the amount of administrative work starting from scratch. It is rated as ‘poor-moderate.’

This policy would require substantial coordination between stakeholders as assessments and consultation require buy-ins from the government, mining companies, and Indigenous nations. When the IAA process changed in 2019, there was substantial consultation with jurisdictions and affected parties. That process would be replicated with any change to EA processes. As such, this policy is rated as ‘low’ for coordination with stakeholders.

8.2.3. Stakeholder Acceptance

Stakeholder opposition is likely to be an issue in implementing this policy. Mining companies are likely to oppose increasing the scope of the consultation. On the other hand, Indigenous nations are likely to support this policy as it would increase consultation and ensure that social effects are considered. Despite potential company opposition, SLO processes have been popular worldwide. In Australia, where SLO is in use, Ernst & Young, an assurance and consulting firm, warned mining companies who fail to invest in a social licence to operate.

“Last year our view was that the stakeholder landscape was shifting, and a narrow, legacy focus on social license to operate may be the strategy that puts you out of business. As mining and metals companies adopt new ways of mining and seek out ever more remote locations to find the next big resource, it’s going to be essential to pay greater attention to social-license-to-operate concerns. Greater communication and discussion with key stakeholders will be vital (Dupont, 2019).”

This incentive will ensure companies get on board. However, there are still obstacles to overcome regarding companies not opposing it. As such, it is rated as ‘moderate.’

8.2.4. Cost

Separating social consultation would increase costs to the government and is rated as ‘moderate.’ Dividing the EA process into two would require finances to set up the program, with a need for yearly financing to pay staff to administer the program and consult with Indigenous nations. Many costs could be passed on to mining companies, and as SLO processes already take place, albeit differently, the financing needed would be similar to what is already expected.

8.3. Analysis of Policy Option 3: Modification of the Impact Assessment Act

8.3.1. Equity

Cross-cultural training and increased consultation timelines are a step in Canada equitably achieving its Critical Minerals Strategy. This policy would help ensure Indigenous knowledge is understood and properly applied, giving it more time if needed. Indigenous knowledge allows Indigenous equity-seeking groups to ensure that their perspective is acknowledged and that their cultures, languages, values, histories, governance, and legal system are adequately included in the consultation process.

Although it is unlikely to change the power structure of the IAA, it can make a profound change and is therefore rated as 'moderate.'

8.3.2. Administrative Ease

This policy is an improvement of current IAA processes, so it would be run by those who currently administer the IAA. As such, it is rated as 'good.'

This policy is additionally rated as 'good' as it requires little coordination between stakeholders not already present in the IAA process.

8.3.3. Stakeholder Acceptance

This policy is likely to face opposition from provincial governments and be viewed as an attempt at federal overreach. This opposition is unlikely to halt the policy as it will most likely be struck down in court; however, it could damage the relationship between the federal and provincial governments. An analysis of potential improvements by Eckert, Claxton, Owens, Johnston, Ban, Moola & Darimont found that although there are stakeholder obstacles, these are surmountable within the constraints of current Canadian processes (2020, p. 82). For these reasons, it is rated as 'moderate.'

8.3.4. Cost

This policy is unlikely to change governmental costs severely but would increase them. The government would be required to create training programs and fund them. Additionally, allowing for longer consultation timelines would increase employee workload, more staff may be required to administer it. In 2023-2023, the Canadian government spent \$69,422,791 on Impact Assessments, with 370 full-time employees focused on the assessments (Wilkinson, (n.d.)). Estimating that the cost per employee is split evenly at \$187,629, should an additional quarter of employees (90) be required, an additional cost of \$16,886,610 would be required for this option. Additionally, this program would need to be set up, and the government would incur costs to develop a new consultation strategy and set it up.

The longer-term option for this policy is more funding for Indigenous groups, which would be a further cost to the government. That cost would be assessed based on

the success of the training programs and timeline policies. The policy is rated as 'poor-moderate.'

Chapter 9.

Recommendations and Implementation

This study recommends a policy bundle of policy options 2 and 3 with the option to pursue policy 1 should stakeholder acceptance improve.

9.1. Primary Recommendations

Policy options 2 and 3 are complementary and part of an initial policy bundle as they rate high for equity while ensuring they are acceptable to stakeholders. They are both targeted at different levels of government so that they would ensure a focus on both the federal and provincial levels. This policy problem is highly complex and will require multiple and ongoing policy changes to achieve any change. Targeting this policy problem at two levels of jurisdiction will ensure it has a higher chance of success. Options 2 and 3 complement each other and have different strengths and weaknesses, as identified in chapter 8. Option 3 is strong in administrative ease and stakeholder acceptance and moderate in equity. In contrast, option 2 is very strong in promoting equity but needs to improve administrative ease and stakeholder acceptance.

9.2. Secondary Recommendation

Policy option 1 shows great potential at improving equity but lacks administrative ease and stakeholder acceptance. However, Indigenous nations across Canada have requested it for years. It would help fix problems that occur later in the development process with consent and mining by providing a de facto veto before companies invest large amounts of finances. It would be helpful but challenging to do now, and is considered a secondary, long-term recommendation.

9.3. Implementation Considerations

As highlighted in chapters 3 and 7, the success of these three policy options relies on long-term government financing and commitment to these policies and the concept of reconciliation, UNDRIP, and FPIC. The success is predicated on the

government's ability to sell the policies as needed for Canada's Critical Minerals Strategy, and that is not only for the benefit of Indigenous peoples but also for the benefit of companies. Evidence has proven that Canada's Critical Minerals Strategy cannot succeed without acceptance by Indigenous peoples and respect of sovereignty and risks of environmental damage.

Chapter 10.

Conclusion

Should Canada decide to continue with its Critical Minerals Strategy and its plans for rare earth mineral extraction, the practice of consultation with Indigenous peoples will need to be improved. Despite recent successful mineral consultation in the Northwest Territories, there are worrying signs across Ontario and Canada that current consultation practices will not be sufficient for Canada to adopt its strategy equitably. Indigenous communities have to benefit from the mines and not suffer disproportionately. As indicated throughout the research, there are significant gaps in the current consultation process especially surrounding the effects on Indigenous women, the utilization of Indigenous knowledge, and the claim staking process of the mineral claims process.

Future Research

This research is a starting point in a relatively new area of policy. Canada is only now beginning to consider how to make itself a hub for REE production and what steps will be needed to pursue this goal. As such, this policy area is constantly evolving. There are ongoing current events, such as the Supreme Court case regarding the IAA and battles that Indigenous peoples are raging against the government in the Ring of Fire. These will change how mining and consultation progress in Ontario and the country. Provided longer timelines, financial resources, and the ability to affect real change, consultation with both groups must be included in further research.

Additionally, as mentioned in the limitations chapter, this research lacks expert interviews and Indigenous consultation. Quantitative data would be of value to this study. Future research should include it as it makes for a strong case for consultation reform. More information about economic returns from REE mining is needed and would be of value to consider.

Finally, this study does not address whether Canada should be pursuing its Critical Minerals Strategy and whether it will be able to achieve its intended goals.

There are concerns that as China produces the most critical minerals in the world and does so cheaply, Canada will be unable to set up their own supply chain in a timely and cheap manner.

Even though mining may contribute to economic prosperity, mining activities such as exploration, construction, operation, maintenance, and decommissioning can impact and even permanently alter environmental systems. Before directing further investments to this sector of the economy, adequate remediation and mitigation systems should be developed for REE mining in socially and environmentally sensitive regions which are typically affected by multiple stressors including climate change.

If there is uncertainty about the economic returns of REE mining and the environment might be destroyed to meet Canada's goals as outlined in the Critical Minerals Strategy. Although Canada can provide a greener alternative to traditional REE mining, the reliance on mining will prohibit Canada from achieving net-zero emissions by 2050 and adhering to UNDRIP. To move forward, it should be examined whether Canada can shift away from current consumption patterns and focus on recycling and net-neutral practices.

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