



September 15, 2022

Natural Resources Canada

Critical Minerals Centre of Excellence
cmce-cemc@nrcan-rncan.gc.ca

Response To Natural Resources Canada's Discussion Paper on Canada's Critical Minerals Strategy

To the Critical Minerals Centre of Excellence:

The Canadian Chamber of Commerce welcomes the opportunity to participate in Natural Resources Canada's [ongoing consultation on Canada's Critical Minerals Strategy](#). As Canada's largest business organization, representing companies of all sizes in all sectors and regions of the country, we believe that executing an effective critical minerals strategy is vital to reinforcing Canada's global brand as a secure and sustainable supplier for domestic and international markets as well as facilitating investments required to expand national critical minerals supply chains.

To support this, the Canadian Chamber of Commerce launched its [Critical Minerals Council](#) in January 2022. Our group brings together private sector leaders from all segments of critical minerals supply chains, from mineral exploration to closed loop recycling to advance business leadership on resource extraction, processing, usage, and export.

We trust the following responses to the Discussion Paper on Critical Minerals will support the development of a robust and successful Critical Minerals Strategy that enhances touch points between upstream and downstream organizations, economic and environmental ambitions, and industry and Indigenous communities.

+ + +

PRIORITIZATION AND AREAS OF FOCUS

1. Do you concur that the value chains identified and their associated minerals offer Canada the greatest opportunities for economic growth?

The discussion paper proposed early prioritization of the following six minerals: lithium, graphite, nickel, cobalt, copper, and rare-earth elements. These minerals are vital for the advancement of renewable energy, battery, and electric vehicle technologies. The Chamber agrees that the identified value chains provide investment-ready opportunities to spur economic growth and employment across Canada.

However, the Chamber encourages the Government of Canada to consider the impact of such prioritization. We caution that a comprehensive, pan-Canadian critical minerals strategy should not be narrowly scoped. The Government of Canada must facilitate and promote both new and existing projects aligned with provincial and territorial strategic investments and priorities to ensure the sustainable development of minerals vital for developing a broad spectrum of supply chains. This should be inclusive of advanced materials with a focus on those needed for development of low carbon technologies, fertilizers, telecommunications technology, green steel making, clean energy production, and medical equipment to ensure that Canada is not thinking of energy in a silo as we have competing uses for critical materials.



To that end, the Chamber encourages the Government of Canada to expand the list of focus areas to include potash and uranium production as Canada is the top global producer of potash and the second largest producer of uranium. These materials are vital for food and energy security, respectively. Consideration should also be given to DR-grade iron ore, as it is an essential input into making green steel.

2. Are the six areas of focus and their associated objectives the right ones to help Canada achieve its vision on critical minerals for domestic and global value chains?

The discussion paper highlights six areas of focus for Canada's critical minerals strategy: drive research, innovation, and exploration; accelerate project development; build sustainable infrastructure; advance indigenous reconciliation; grow a diverse workforce and prosperous communities; strengthen global leadership and security. While the Chamber supports these areas of focus and associated objectives, we believe Canada's Critical Minerals Strategy needs to also focus on supporting critical minerals production and processing in Canada – and marketing these clean resources to global markets. This will help Canada to truly capitalize on opportunities along the full critical mineral supply and value chains.

Note that in order to achieve these objectives, the Government of Canada needs to create and maintain a regulatory environment that supports investment, innovation, development, and economic and social prosperity. There is intense competition to attract investment, so Canada needs to build an environment that has a competitive cost of business relative to other jurisdictions.

DRIVE RESEARCH, INNOVATION, AND EXPLORATION

3. What are priority areas for research programs (academia, industry, governments)?

The Canadian Chamber's Critical Minerals Council has commissioned a third party to work with our Critical Minerals Council to develop a research report focused on enhancing domestic critical minerals supply chains. This report, which will be completed in November 2022, will seek to understand Canadian capacities in various stages of critical mineral supply chains—from the exploration and mining stages (including refining and processing), manufacturing, and disposal of end-of-life products stages—to identify gaps in Canada's upstream and downstream infrastructure.

More specifically, our research will provide insights on:

- Four value chains—renewable energy, zero emission vehicles, fertilizers, and advanced materials—containing critical minerals that have strategic value for Canada, both domestically and as a part of our crucial role in strengthening global supply chains;
- Canada's existing capacities and limitations within each value chain; and,
- Financial/investment, infrastructure and regulatory measures required to support domestic extraction, intermediary processing, and recycling capabilities.

The Chamber will share the results of this research initiative with Natural Resources Canada once completed.



Our membership has also indicated the need for research programs focused on the following areas:

- Environmentally friendly processing of critical minerals concentrate into battery grade materials as this has been exclusively controlled in China and focused on where Canada has a competitive resource advantage (e.g., graphite and rare earths);
- Building an overall knowledge base on how to manufacture battery components including anode, cathode and full battery facilities;
- Fully contained tailings facilities and centralized hub and spoke production models;
- Transforming big open pit mining equipment to be battery operated or electric or hybrid;
- Noise reduction for all large equipment and drilling equipment; and,
- Modular plant builds and demonstration plants to ensure scalable business models and consumer friendly industrial sites.

4. What more should be done to drive critical mineral exploration and innovation?

To match domestic critical mineral production with increasing global demand, it is important to focus attention on facilitating resource development within Canada – where it takes an average of over 15 years to move mining projects from discovery to first production. These lead times will negatively impact investments in both exploration and innovation. For many value chains, there will only be economic opportunities for projects that are early to market.

Accordingly, the Government of Canada must work to responsibly expedite development timelines, inclusive of securing venture capital for: early-stage project, establishing pre-feasibility funding, equity financing for junior mining companies, and projects that have already made a significant effort towards research, development, and commercial implementation (i.e., ready-to-market plans with higher technology readiness levels).

To further develop early stage critical minerals companies who are conducting greenfield exploration and Preliminary Economic Analysis to Pre-Feasibility Studies, the Chamber encourages the Government of Canada to:

- Engage with pension funds to create Venture Capital funds where institutional capital is pooled and distributed to ESG certified public companies so that smaller companies can get access to large funding pools, and institutional investors are supporting the upstream supply chain while mitigating risks;
- Offer grants that can support environmental baseline data collection and testing for the early-stage projects to advance into permitting stages;
- Create Canada Savings Bonds for critical minerals exploration that is responsible and ECOLOGO or TSM certified;
- Expand use of flow through into applications like management team salaries, ESG certification, training, consultation, baseline studies, infrastructure and geotechnical studies; and,
- Ensure that First Nations communities across Canada have access to funding for: direct equity investment into projects; educational awareness programs and campaigns; and, cost reimbursement for independent advice throughout the permitting processes.

Further, Canada's Critical Minerals Strategy must recognize that many critical minerals require specialized processing prior to being market-ready. This necessitates the development of capital-



intensive midstream processing facilities. The Chamber believes that the Government of Canada can have a significant impact in creating financial partnerships focused on midstream value chains. Lastly, the Chamber encourages the Government of Canada to create funding vehicles to secure a broader suite of investments in critical minerals, as well as in digital technologies. To spur investments in a variety of critical minerals, Canada should match investment funding for creating and refurbishing supporting infrastructure, provide bank guarantees and soft loans, and mitigate barriers to securing BDC and EDC loans. The Government of Canada should also continue to develop its [Critical Minerals Research, Development and Demonstration Program](#) by:

- Renewing and expanding the program’s funding, with a commitment to review and subsequently renew funding ongoing based on need and potential;
- Increasing the availability of funding per-project to \$10 million dollars to better represent the cost of pilot-scale demonstrations of mineral processing technologies, and include in scope projects that decarbonize current critical mineral processing assets operating in Canada;
- Streamlining program administration by committing to evaluating and deciding on project approvals within 90 days of receipt of the application; and,
- Transitioning from a fixed call for applications to an open and rolling call for applications that maximizes flexibility for proponents, and the real time nature of scientific research.

ACCELERATE PROJECT DEVELOPMENT

5. How can we streamline the regulatory processes to better facilitate project development?

A lengthy and complicated approval process does not automatically lead to better environmental decisions —and creates delays in getting domestic minerals to markets and uncertainty for investors. Further, mining investment is very mobile, especially given growing global competition.

Most new mining projects are subject to both provincial and federal approval processes, the federal process being primarily represented by the Impact Assessment Act, as direct regulatory authority and responsibility is a provincial jurisdiction. Provinces are regulating from the time a mineral claim is staked, whereas the federal processes start much later.

To maintain effective environmental stewardship while decreasing timelines and reducing uncertainty and costs, the Government of Canada should:

- Place more emphasis on Tailored Impact Statement Guidelines that focus each impact assessment to important project issues;
- Benchmark regulatory processes with international jurisdictions;
- Clearly articulate Indigenous Engagement and Partnership Plans that recognize directly affected Indigenous communities;
- Coordinate between IAAC, ECCC, DFO, and NRCAN to streamline legislation and regulation, as well as ensure Federal alignment on priorities and processes, and avoid duplication;
- Work with the provinces to support education and transparency around new mining projects;
- Develop awareness campaigns to facilitate social acceptance of critical mineral uses, extraction processes, opportunities, and the need for processing facilities; and,



- Create tax incentives that encourage companies to invest in productivity-enhancing machinery, equipment, software, and technology;
- Improve coordination with provincial processes and between federal government departments (which should be agreed processes that cover all projects, not project specific negotiations that lengthen timelines and uncertainties).

In effect, the Government of Canada should seek to establish a single, clear, predictable regulatory process with fixed timelines that is designed to responsibly accelerate project approvals, incentivize investment and innovation, and ensure Canada delivers the highest ESG standards in the world while extracting minerals safely and economically.

BUILD SUSTAINABLE INFRASTRUCTURE

6. What regional infrastructure gaps must be addressed (e.g., transportation and clean energy) to enable the sustainable development of Canada's critical mineral resources?

Many of Canada's mineral deposits are in remote northern regions of the country that lack roads, rail, power lines, potable water, housing, social infrastructure such as childcare, and access to grid power. To sustainably develop critical mineral deposits, the Government of Canada must adopt a significant and long-term investment commitment and vision to build an efficient and effective infrastructure network. This will have a positive trickle-effect on employment. The federal government should work together with provincial governments to meet requisite infrastructure needs and develop extraction and trade-enabling infrastructure across Canada, including improvements to existing rail and port infrastructure that are often inadequate in moving Canada's abundant natural resources, particularly during peak seasons and adverse weather events.

Electricity grid decarbonization is another a key issue of concern for many of the Chamber's members. The need to decarbonize the grid while balancing the cost-of-service delivery for customers is particularly important in regions of the country that have less ability to produce hydroelectric or nuclear power due to geography and/or the cost of building new baseload power.

To ameliorate infrastructure deficits impeding new investments, the Government of Canada should work with the provinces to provide guarantees of infrastructure access at the pre-feasibility stage of a project to ensure the development of enabling infrastructure (e.g., road, rail, and/or port access).

ADVANCE INDIGENOUS RECONCILIATION

7. How can Indigenous governments and organizations, communities, and individuals partner and participate in critical mineral value chains (including regulatory processes)? How can government and non-Indigenous industry proponents support this effort?

Canada's mining industry has built successful partnerships with Indigenous communities across the country as critical mineral reserves are predominantly found near remote and Indigenous communities. The expansion of critical mineral supply chains will present continued and new opportunities to continue to prioritize Indigenous partnerships that can mutually advance community



and economic development. The Chamber believes that the Government of Canada's recent commitment to develop a National Benefit-Sharing Framework, in conjunction with a national Critical Minerals Strategy, can create transformative economic opportunities that facilitates Indigenous partnerships, reconciliation, and self-determination. The Framework should reduce uncertainty in the development of critical mineral value chains and facilitate meaningful Indigenous participation in the burgeoning critical minerals sector by enabling equity participation and access to capital, establishing training and business development opportunities, and supporting early and ongoing partnerships in the development of resources projects.

Enhanced participation of Indigenous peoples in mining also requires that foundational conditions such as adequate infrastructure, education, housing, drinking water, high-speed internet access, health services, etc. are in place and that Indigenous peoples—on their own terms—are supported in working to address long-standing issues related to land, territorial boundaries, and governance. This will also require programming and investments to support Indigenous peoples in strengthening internal capacities to participate in the development of new mines more fully, which needs to be done in the broader context of reconciliation and not only on a project specific basis.

GROW A DIVERSE WORKFORCE AND PROSPEROUS COMMUNITIES

8. How do we leverage critical minerals investment into more diverse skills training, employment, and regional outcomes, including for local, rural and Indigenous communities?

Executing an effective critical minerals strategy requires a skills plan that includes a comprehensive set of employment and skill projections to identify gaps across the country. However, we are already facing a significant skills shortage. As part of the Chamber's review of the Canadian Survey on Business Conditions, which surveyed nearly 18,000 businesses, we found that businesses report they continue to struggle with recruiting and retaining staff.

To surpass existing labour challenges, the Chamber believes that developing a culture of lifelong learning can create talent pipelines through targeted matchmaking programs. This approach will help build resilient employees and businesses alike, reduce risks for all groups, and create a more diverse workforce. To that end, we encourage the Government of Canada to collaborate with industry to demonstrate the career opportunities within the natural resources sector, as well as to incentivize growth, participation and retention of skilled workers. This includes:

- Promoting access research grants focused on critical minerals;
- Appealing to young Canadians by branding critical minerals as an essential input to combating climate change and building a green economy; and,
- Creating additional employment benefits for workers placed in remote mine sites.

Canada should also work towards optimizing current Employment Insurance programs as well as establishing strategies that incentivize both employer and employee investments in ongoing learning, both on-the-job and with increasing educational or technological qualification levels.



STRENGTHEN GLOBAL LEADERSHIP AND SECURITY

9. How might the Government work with its partners and stakeholders so that greater value is placed on high ESG standards throughout the value chain?

Globally, Canadian-managed companies are leading global producers of precious and base metals, and along with Canada's related ecosystem of mining technology and service providers are important enablers of responsible mineral production around the world. To that end, Canada is well positioned to be a global leader in mineral exploration and extraction—and is already a top-five global producer of many critical minerals, such as aluminum, cesium, copper, metallurgical coal, niobium, potash, titanium, uranium, and zinc.

With established and emerging capacity resource development, the Chamber believes Canada's Critical Minerals Strategy should leverage Canada's opportunity to be a leader in the recycling and recovery of critical minerals. Canada's critical minerals strategy should incorporate the following recycling and recovery elements:

- **Valuation mine waste.** Tailings produced by mining operations often contain critical minerals capable of being recovered. Doing so would reduce the quantity of tailings (and associated environmental risks) as well as costs of management and restoration. Opportunities to recover other forms of mine waste such as slag, coal ash, and waste rock, should be investigated.
- **Recycling of minerals contained in components and various consumer products.** Canada's Critical Minerals Strategy should aim to establish circular economies through the recovery of critical minerals within consumer products. The recovery of minerals contained in electronics products, alloys, and batteries can be complex – necessitating the need for cost competitive and innovative solutions.
- **Recycling of scrap industrial alloys of products containing critical minerals.** For metal industrial products with a high production volume, it may become conceivable to establish a closed loop system allowing the recycling of alloy products. In a mature and optimized value chain, we could see the redirection of these scrap alloy products to the initial producer so the alloy metal is reintroduced into primary production. The customer could thus make better use of this scrap, while the producer could reduce their footprint by reintroducing the metal into the production process.

Outside of establishing closed loop systems, the Government of Canada should recognize increasing investor and customer expectations for ESG life cycle audits, as well as Canada's already excellent performance in this area. Just as in the energy industry, Canadian mining companies are taking steps to decarbonize through a combination of solutions. For example, independent research has shown Canadian potash creates approximately 50% less greenhouse gas emissions than other international competitors. To mitigate energy intensity of mineral extraction and processing, the Government of Canada must continue to work with provincial leadership to decarbonize regional energy production. To do so, an assortment of clean technologies (e.g., CCUS, SMR, hydrogen, etc.) supported by federal and provincial governments must be deployed to power critical minerals extraction, processing, and recovery across Canada.

+++



Executing an effective critical minerals strategy is key to reinforcing Canada's global brand as a secure and sustainable supplier as well as supporting domestic and international low carbon transitions and food security. Moving forward, the Chamber welcomes continued engagement with Natural Resources Canada on this important topic.

Members of the Chamber's Critical Minerals Council and wider network are keen to support effective and sustainable natural resources, environment, and sustainability policies within Canada. Together, we can advance the sustainable development of critical mineral supply chains in Canada and provide global markets with the resources required to transition to a low carbon future.

—

For more information, please contact:

David Billedeau

Canadian Chamber of Commerce

Senior Director, Natural Resources, Environment, and Sustainability

dbilledeau@chamber.ca