

CRITICAL MINERALS

Discussion Document for Developing
a Critical Minerals Strategy



Newfoundland and Labrador Critical Minerals Strategy

Overview

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2. Why do we need a Critical Minerals Strategy?
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5. Maximizing the value of our Critical Mineral Resources
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What are Critical Minerals?

Critical minerals:

- Are essential for economic security
- Have the potential for supply disruptions
- Are essential to transition to a green and digital economy



Lithium
Nickel
Cobalt
Manganese



Rare Earth Elements
Cobalt



Cobalt
Graphite
Lithium
Manganese



Copper
Molybdenum
Rare Earth Elements
Zinc



Copper
Manganese
Tungsten

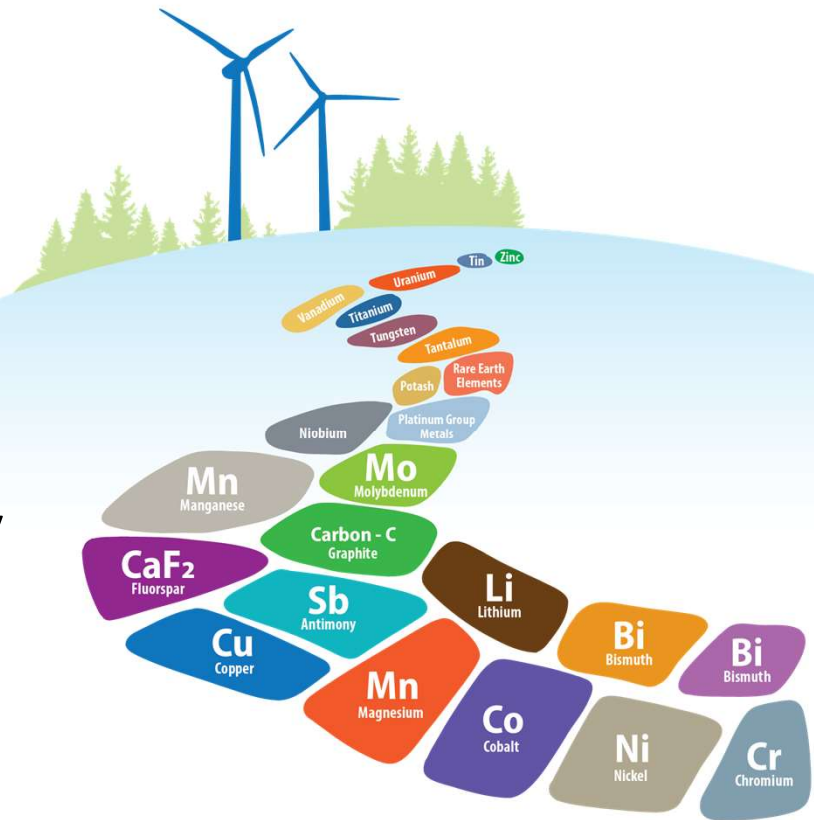
Why do we need a Critical Minerals Strategy?

To reduce emissions and be more sustainable, countries are transitioning to green and digital economies.

This transition is projected to increase the demand for critical minerals.

There will be opportunities for critical mineral mining and throughout the supply chain.

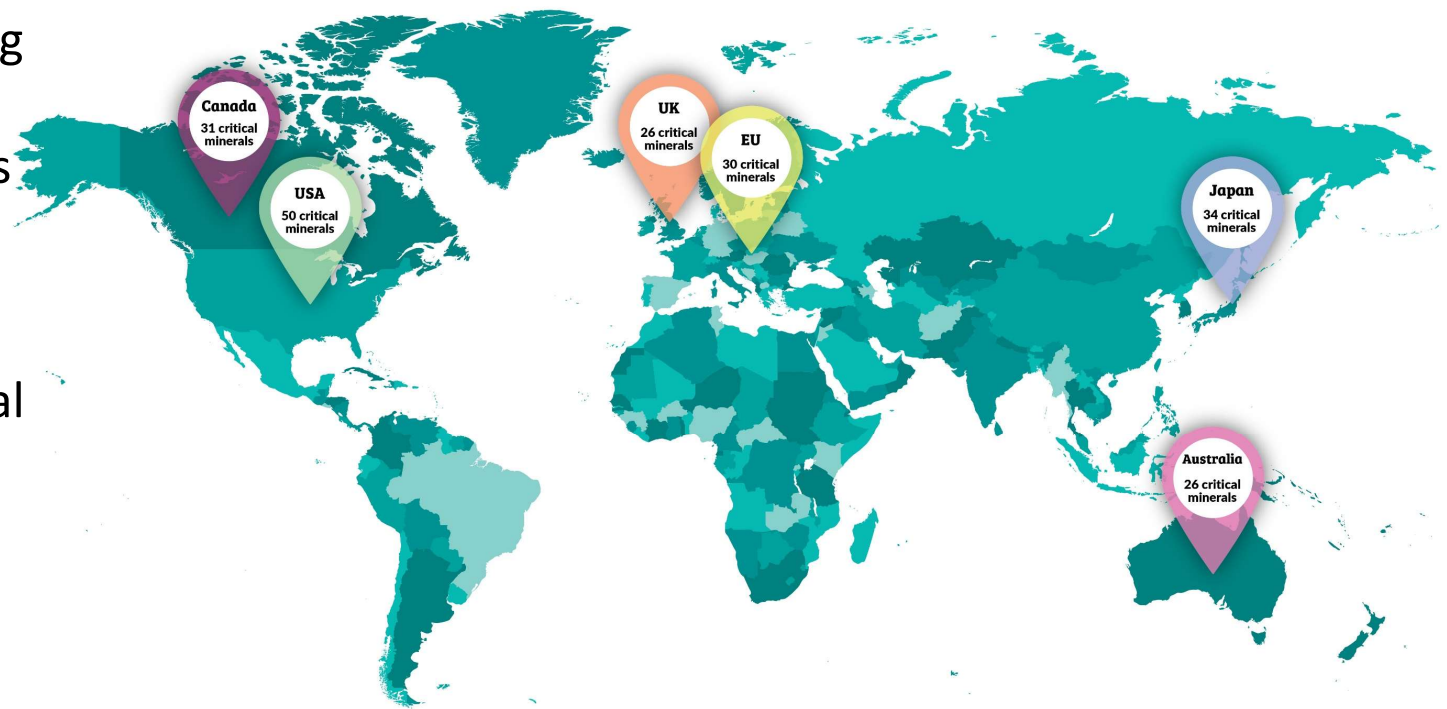
Mining of critical minerals may advantage provincial based processing and manufacturing.



Why do we need a Critical Minerals Strategy?

Countries are developing their own critical minerals list and policies to secure supply.

Newfoundland and Labrador has the mineral potential to be a stable, responsible supplier of many of these critical minerals.

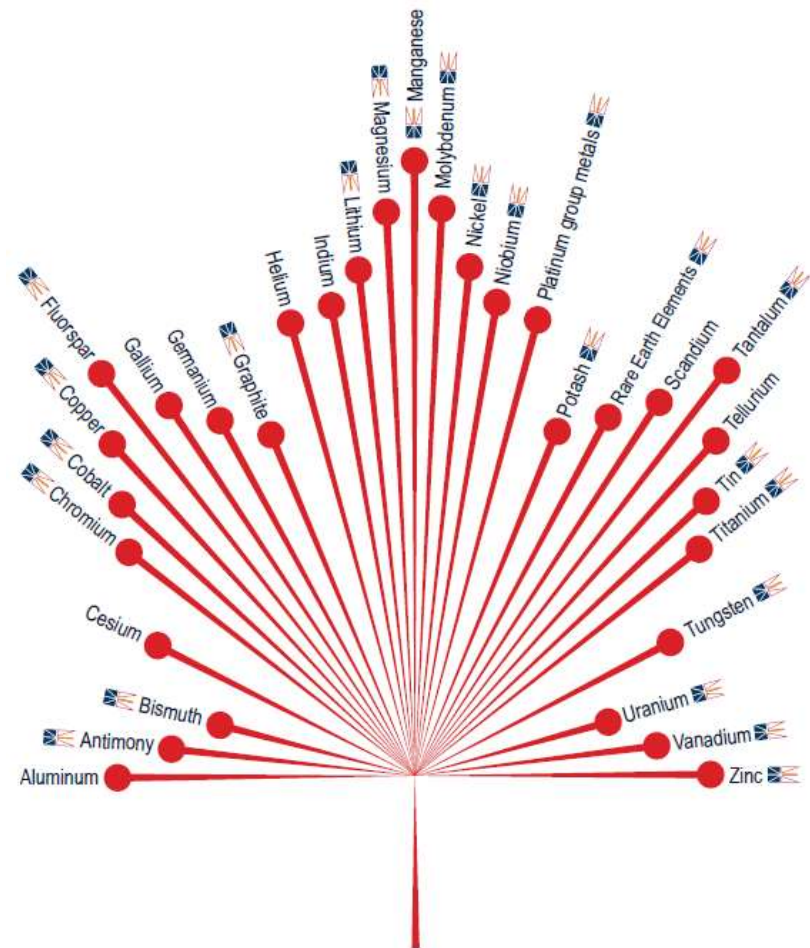


Why do we need a Critical Minerals Strategy?

Canada has identified 31 critical minerals, Newfoundland and Labrador is home to at least 23.

Canada has a Critical Minerals Strategy and dedicated federal funding for critical mineral development.

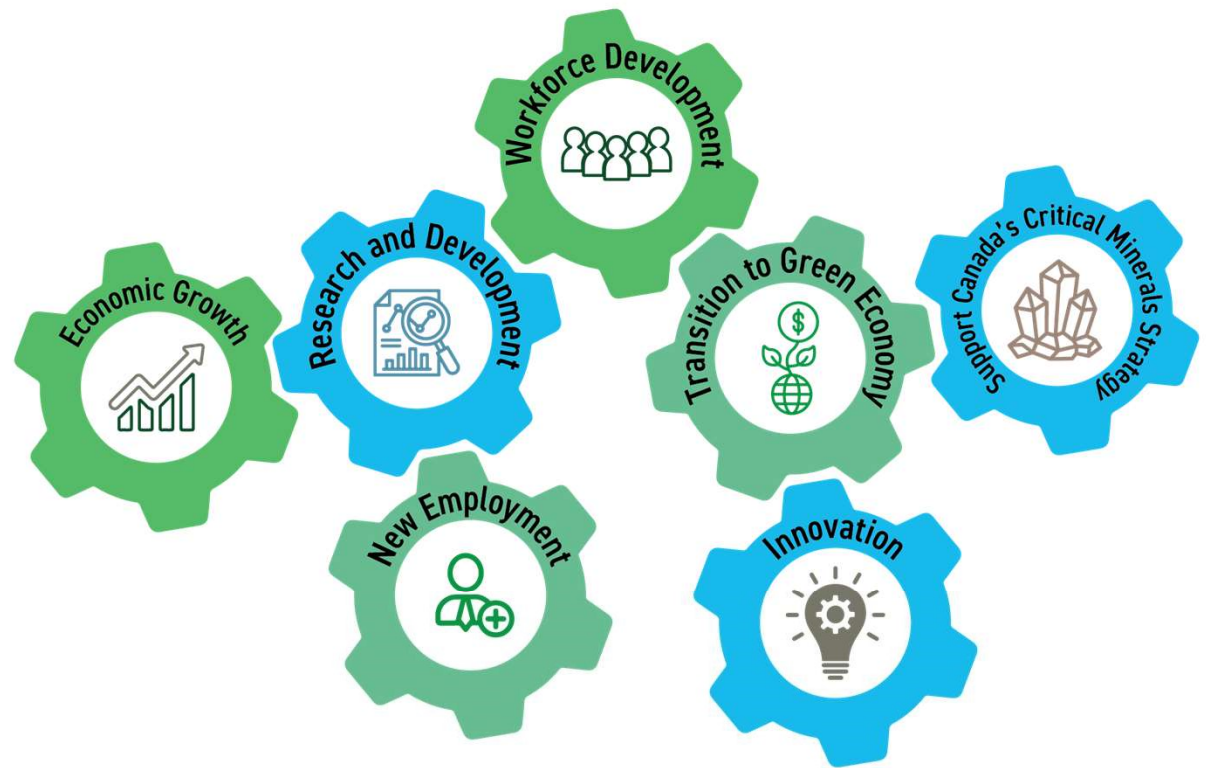
Provincially, there are prospecting, exploration, business development and innovation programs available.



Why do we need a Critical Minerals Strategy?

Developing our critical mineral potential will contribute to the long-term sustainability of the province.

A strategy will guide the development of new resources, potential mineral processing facilities, and new manufacturing opportunities.



Newfoundland and Labrador's Strategic Assets

Newfoundland and Labrador's strategic assets and advantages can be used to realize benefits for the people of the province.

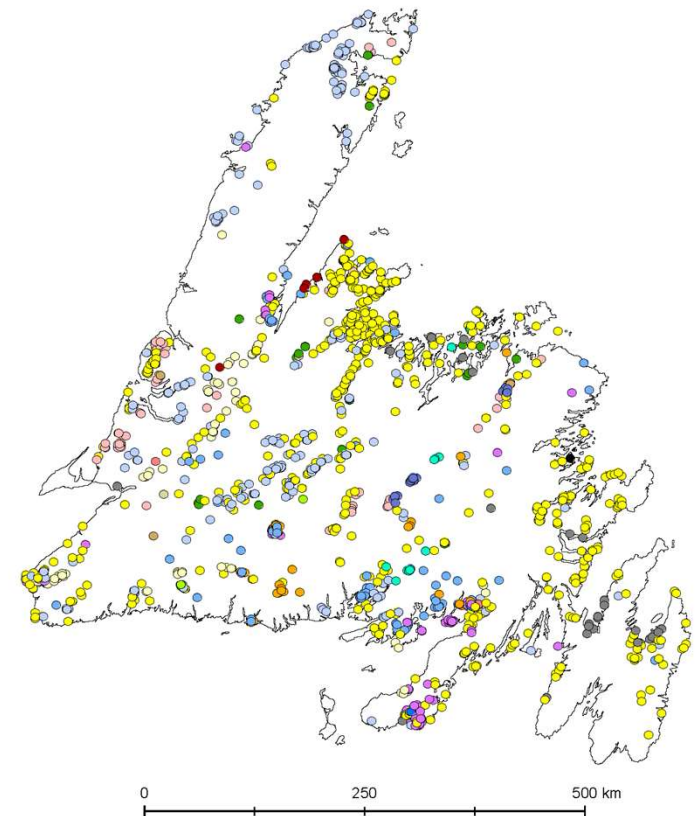
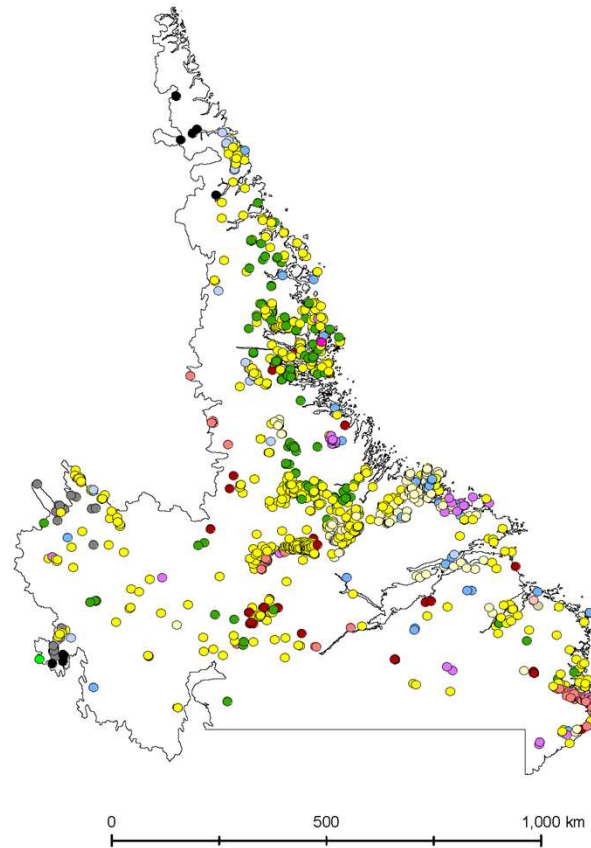


Newfoundland and Labrador's Strategic Assets

Newfoundland and Labrador has significant undeveloped critical mineral potential.

Maps include critical mineral occurrences from indications through to developed deposits.

Note that some of these are found in Indigenous settled or asserted claim areas in Labrador.



Newfoundland and Labrador's Strategic Assets

Newfoundland and Labrador's mining industry continues to deliver employment, minerals and other economic and social benefits.

Newfoundland and Labrador has over

**9,000
EMPLOYED**

in our highly-skilled
mining workforce

\$5.2 Billion
in mineral
shipments

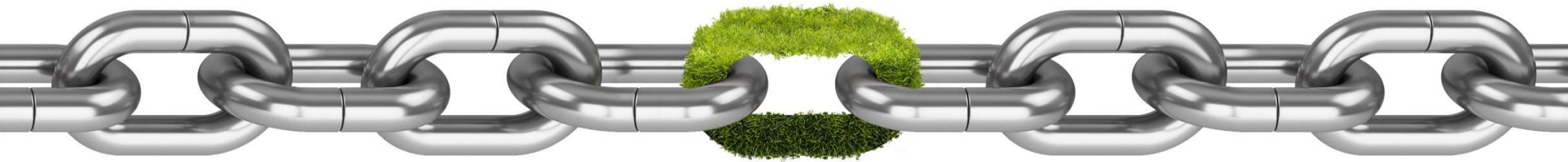
**\$238
Million** in exploration
expenditures

Newfoundland and Labrador's Strategic Assets

There are other minerals not designated as critical, but are needed for the green transition and could be considered strategic.

For example, the Labrador Trough (LT) high-quality low-impurity iron ore is known to reduce greenhouse gas emissions in steel production.

The LT is competitively positioned, hosts reserves of iron ore to support mining for generations, and holds significant potential for new development.



Newfoundland and Labrador's Strategic Assets



- Targeted critical mineral exploration assistance.
- Two year critical mineral focused Airborne Geophysical Survey Program.
- Memorandum of Understanding between Memorial University (MUN) and College of the North Atlantic (CNA) to carry out collaborative activities in support of critical minerals.
- Provincial/Federal collaboration through Regional Energy and Resource Tables on critical minerals.

Potential Focus Areas

Unlocking Our Critical Mineral Potential

Geoscience

Prospecting and Exploration

Maximizing the Value of Our Critical Mineral Potential

Supply Chain

Innovation and Research & Development

Workforce Development

Supporting Project Development

Regulatory Framework

Strategic Infrastructure



How do we unlock our Critical Mineral Potential?

Expand and Promote Geoscience

Public geoscience in areas with critical mineral potential can drive exploration and de-risk investment.

Possible Actions

- Make existing geoscience data more available.
- Identify and fully utilize available funding for baseline geoscience such as airborne surveys and field programs.
- Use advanced technology such as artificial intelligence (AI), machine learning and remote sensing to identify critical mineral targets.

How do we unlock our Critical Mineral Potential?

Prospecting and Exploration

Prospecting and exploration are the first industry steps for critical mineral development and come with significant technical and financial risk.

Trained people and access to funding are required to prospect and explore.

Possible Actions

- Support prospector development initiatives.
- Review existing prospector and junior exploration programming to identify opportunities for potential enhancements.

How do we maximize the value of our Critical Mineral Potential?

Supply Chain Opportunities

Processing and manufacturing linked to critical mineral deposits can have a competitive advantage.

Not all critical minerals present the same opportunities due to technical, environmental and economic factors that contribute to project viability.

Securing positions in the next generation supply chain can generate significant positive economic impacts.

Possible Actions

- Undertake technical, environmental and/or economic analysis to determine what is viable.
- Promote provincial supports, supplier development and identify possible opportunities.

How do we maximize the value of our Critical Mineral Potential?

Innovation and Research & Development

Provincial academic institutions have a history of working with industry to deliver innovative solutions.

MUN's Core Research Equipment and Instrument Training (CREAIT) Program and CNA's hyperspectral scanning program are examples of supports in research and development and applied sciences.

Possible Actions

- Support MUN/CNA joint collaboration in the area of critical minerals.
- Enhance in-province research and development institutional capacity in critical minerals.

How do we maximize the value of our Critical Mineral Potential?

Access to a Skilled Workforce

Maximizing the potential of our critical minerals will require developing and attracting a highly skilled workforce.

Possible Actions

- Leverage work in research and development for training and workforce development.
- Work with stakeholders to include a mining focus through immigration efforts.
- Support education-based initiatives to help develop the pipeline of future talent.

How do we support project development?

Enhance Regulatory Framework

A clear and efficient regulatory pathway is needed to attract investment and ensure projects are developed in a reasonable time and with necessary oversight.

Possible Actions

- Map Mining and Mineral Development Branch regulatory requirements for critical mineral projects.
- Assess regulatory gaps specific to critical minerals and identify opportunities for improvements.
- Develop an approach to optimize opportunities for Exempt Mineral Lands, specific to critical minerals.

How do we support project development?

Strategic Infrastructure

Roads, rail, air and port infrastructure can unlock mineral potential.

With the transition to a green economy, the availability of renewable energy to a critical mineral project is a significant advantage.

An efficient and effective infrastructure network is critical to our mining industry's competitiveness.

Possible Actions

- Examine strategic infrastructure needs to enable development in regions of high critical mineral potential.
- Work with partners to leverage our renewable energy resources.

Next Steps

To guide the development of a provincial Critical Minerals Strategy, input from Indigenous Governments and Organizations, industry, stakeholders and the public is required.



You can provide your input through the engageNL.ca website:

- Online questionnaire
- Participation in virtual engagement sessions
- Submit a written submission