

# Canada's Contribution to Global Critical Minerals & Materials Supply Chains

Ian M London PEng MBA  
Innovate UK Expert Mission  
October 24<sup>th</sup>, 2022

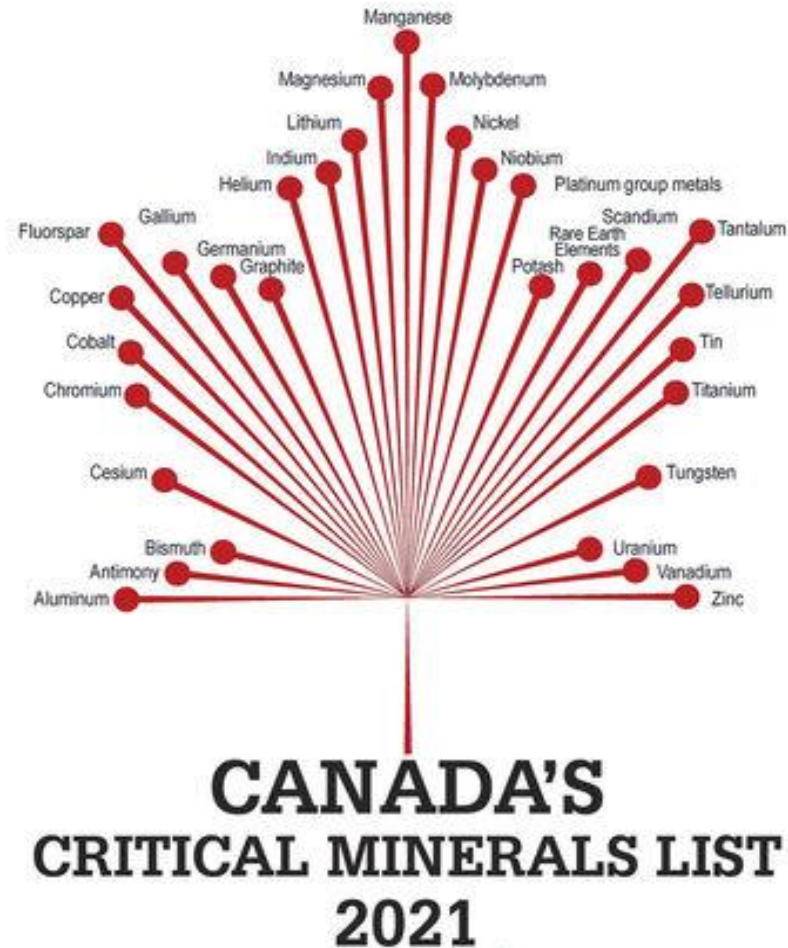


# C2M2A Members



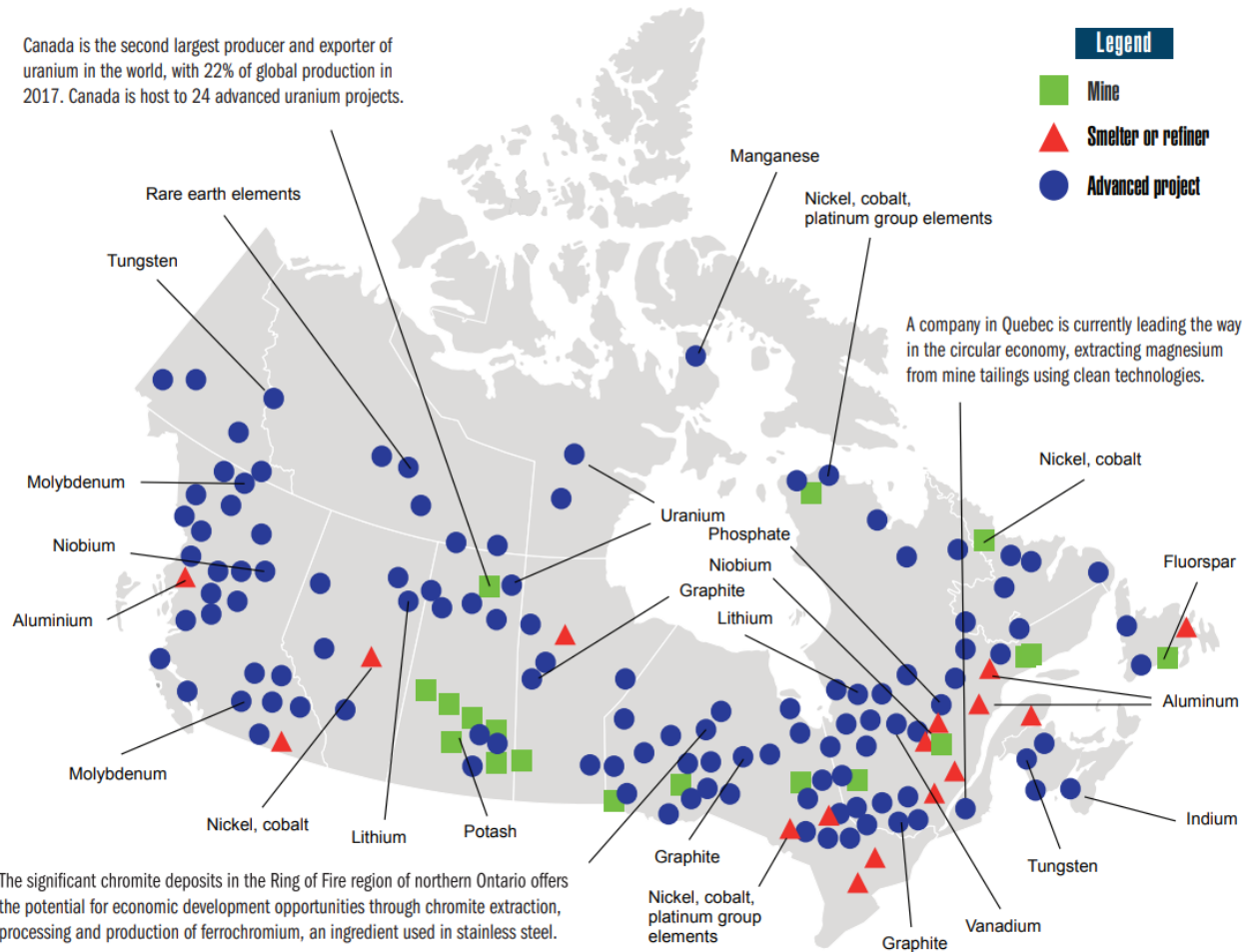
# Canada's Critical Minerals List

List of 31 minerals critical for the sustainable economic success of Canada and our allies and to position Canada as the leading mining nation.

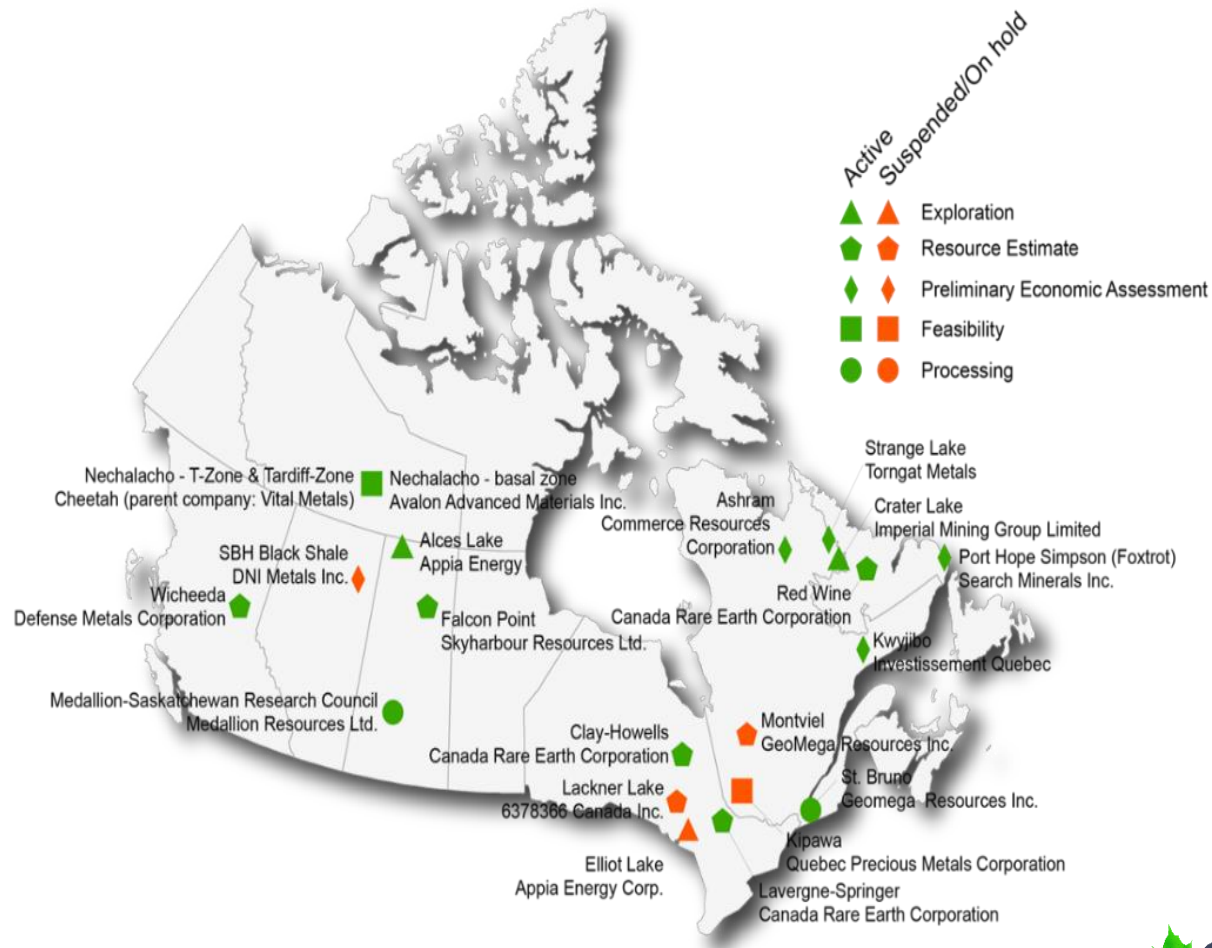


# Critical Minerals in Canada (NRCan 2020)

Canada is the second largest producer and exporter of uranium in the world, with 22% of global production in 2017. Canada is host to 24 advanced uranium projects.



# Advanced Canadian REE Projects (NRCanada)



# Policy Influencers

- Industry Strategy Council -- [Restart, Recover and Reimagine Prosperity for all Canadians: An Ambitious Growth Plan for Building a Digital, Sustainable and Innovative Economy](#). January 2021
- Parliamentary Committee on Natural Resources -- <https://www.ourcommons.ca/Content/Committee/432/RNNR/Reports/RP11412677/rnnrrp06/rnnrrp06-e.pdf> June 2021
- C2M2A Submissions – [www.c2m2a.org](http://www.c2m2a.org)

# Federal Budget - June 2021

*Global demand for critical minerals is expected to significantly increase over the coming decades and Canada is a secure and responsible source to competitive supply of the minerals and metals essential to the low carbon and digitalized economy.*

## OBJECTIVES

- Build **critical mineral value chains**, including midstream processing, products and technologies
- Leverage Canada's world leading ESG credentials and clean mining practices to position Canada as a **supplier of choice** with international allies
- Work with global partners to support investment attraction and build diversified supply chains for the **low carbon and digitized economy**

### \$9.6 Million over three years

To establish a **Critical Minerals Centre of Excellence** to coordinate and stimulate the development of Canadian critical mineral value chains.

### \$47.7 Million over three years

For targeted **research and development** for upstream critical minerals processing and battery precursors and related materials engineering **from primary and secondary sources**.

Source: NRCanada

# Critical Materials R&D Program

## Critical Minerals R&D Programming 2021-2024

Targeted research and development for upstream critical minerals processing and battery precursors and related materials engineering

Battery minerals (lithium, nickel, cobalt, graphite, vanadium ...)	Mineralogical transformation into battery chemicals, achieve battery grade specifications at lower cost/energy, impurity removal/control, metallurgical optimization of yield; primary sourcing; internal and external R&D, pilots
Mining Value from Waste	Inventory of critical minerals from waste sources, process development for recovery, repurpose and recycling of critical minerals; mineral and post consumer waste sourcing; internal and external R&D, pilots and prize challenge(s)
Clean tech and other value chains (REE, niobium)	Magnet value chain R&D for cost-competitive production of REE. Alternative processing and separation options, piloting and demonstration of successful technologies; primary sourcing; internal and external R&D, pilots and demos

Source: NRCanada



# Strategic Innovation Fund (SIF) Net Zero Accelerator Program

- To help build & secure Canada's clean industrial advantage by spurring Canada's shift to innovative net-zero technologies & attract large-scale investments needed to meet Canada's net-zero goals.
- Budget proposes to provide \$5 billion over seven years to the Net Zero Accelerator in support for projects that will help reduce domestic greenhouse gas emissions across the Canadian economy.
- **Challenge:** Securing an allocation to critical material supply chains

# International Collaboration

– just a taste



International  
Organization for  
Standardization

- ISO/TC 298 – Rare Earths
- ISO/TC 333 – Lithium
- Strategic Advisory Group – Critical Materials



- An international non-profit organization representing the global REE industry. Founded in June 2019, under the auspices of EIT Raw Materials Internationalization project.
- Active members worldwide representing all major countries.
- Canada holds a Board seat and C2M2A sits on its Advisory Committee

# C2M2A – UK's CMA



- Facilitates collaborative awareness raising, education and industry player discussions
- Delivered two-day Webinar followed up with 35 page report (Dec'21 & Mar'22)
- Under the leadership of Innovative UK, full day of presentations & panel discussions in Ottawa (May '22)
- Facilitated full day of meetings with advanced rare earth project & process developers (Oct'22)

# Canada's Accelerate Alliance

- The Accelerate Alliance is a national initiative bringing together key players from across Canada, from mining to mobility, R&D to commercialization, and from vehicle assembly to infrastructure
- The Alliance's mission is to support the accelerated development of a Zero Emission Vehicle Supply Chain in Canada



# **Bold, Confident, Innovative & Collaborative Actions Needed...**

... along critical material supply chains to  
secure our collective economic and  
climate futures

Ian M London PEng, MBA

Executive Director, C2M2A

[executive.director@c2m2a.org](mailto:executive.director@c2m2a.org)

[ianlondon@rogers.com](mailto:ianlondon@rogers.com)

[www.c2m2a.org](http://www.c2m2a.org)

1 647 242 1872