

January 26, 2024

Selina Tribe, PhD
Senior Policy Analyst
Industry and Economic Analysis Division | Lands and Minerals Sector
Natural Resources Canada | Government of Canada
selina.tribe@nrcan-rnca.gc.ca | Tel: 343-598-4860

Canadian Critical Minerals List Consultation 2024

Hi Selina... Thank you for the opportunity to share our thoughts in support of updating and shaping Canada's Critical Minerals List. For your consideration:

- Critical Materials (CM) present more than a 'mining' story as they are essential and fundamental to Canada's re-industrialization and economic, sustainable & national security. You will note that I refer to CMs as 'Materials' of which 'minerals' reflect only the upstream component of material supply chains. In most applications, advanced manufacturers and new technology applications created by end-users demand ("demand pull") don't procure minerals but rather processed materials and components.
- In light of the above, strategies & plans need to consider, and in many cases focus on, the nearer to mid-term opportunities for Canada by recognizing that while important, new mineral resources require longer-term considerations. Established 'demand-pull' from the mid-stream will encourage upstream supply via mine development. 'Supply-push', essentially raw material development without domestic mid- and downstream capability & capacity will only drive economic benefits to non-Canadian value-adding entities.
- In presenting Canada's updated CM list, traditional CM commodities (e.g., Cu, Ni, Al) are distinctly different from smaller volume, non-commoditized materials (e.g., Nd, Dy, Ga, Ge....) with distinct players (majors, juniors, SMEs). As such, C2M2A recommends non-commoditized minerals & materials should be distinguished as such.
- In updating our Critical Materials list, consideration should also be given to identifying & profiling key substances needed for processing and producing energy transition materials and components even though these substances may not end up in the final product. For example, there is a potential significant shortfall in sulphuric acid (H₂SO₄) supply that would limit the solvent extraction of rare earths elements from its mineral form. Many critical mineral extraction processes depend on Sulphuric Acid. Another example, is the demand for helium in semiconductors manufacturing.

- In updating Canada's CM list, it is important to have an eye on future applications, such as what materials will end-users demand for next generation energy storage/battery technologies, their material requirements (form & composition) & volume demands. These next generation applications are evolving at quite the pace, something which may make today's battery formats obsolete tomorrow.
- As regard Criteria #5 that 'the mineral has a reasonable likelihood of being produced in Canada', there are several clear cases where Canadian companies own mineral rights outside of Canada for minerals not presently found or not readily produced in Canada but do or can value-add critical 'material' midstream process. Furthermore and along the comments above, Canada has and is aggressively developing advanced re-cycling technologies and capacity. Their success will most likely be dependent upon their importing feedstocks and not necessarily originally produced from Canadian minerals.

Thank you again for the invitation to contribute to the discussion. Please feel free to contact me should you wish further clarification and elaboration.

Respectfully,

Ian M London PEng MBA
Executive Director
Canadian Critical Minerals & Materials Alliance (C2M2A)
executive.director@c2m2a.org
1 647 242 1872
www.c2m2a.org

[Let's Talk Canada's Critical Minerals list & methodology](#)