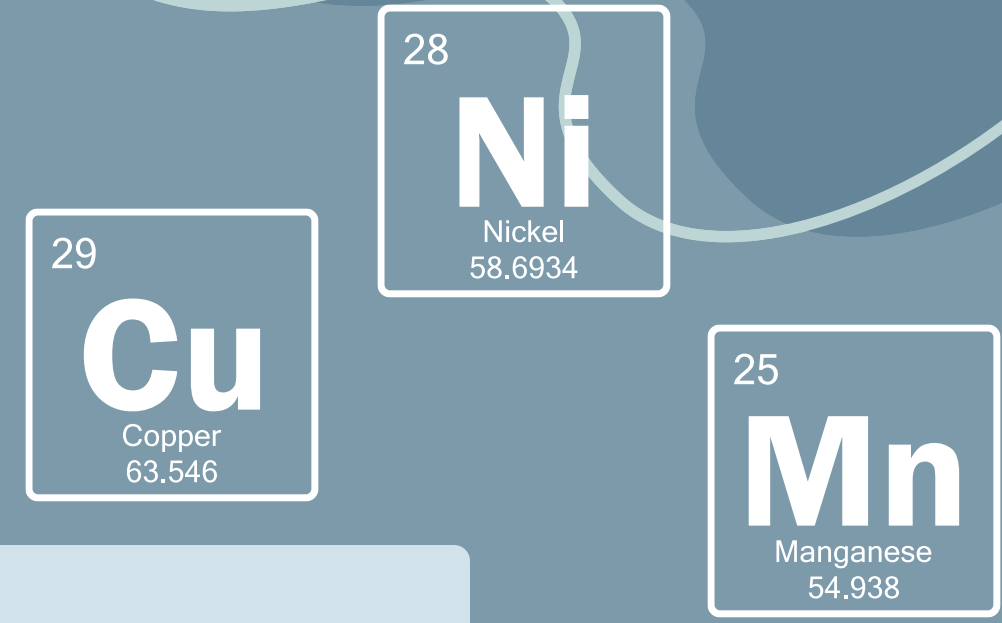
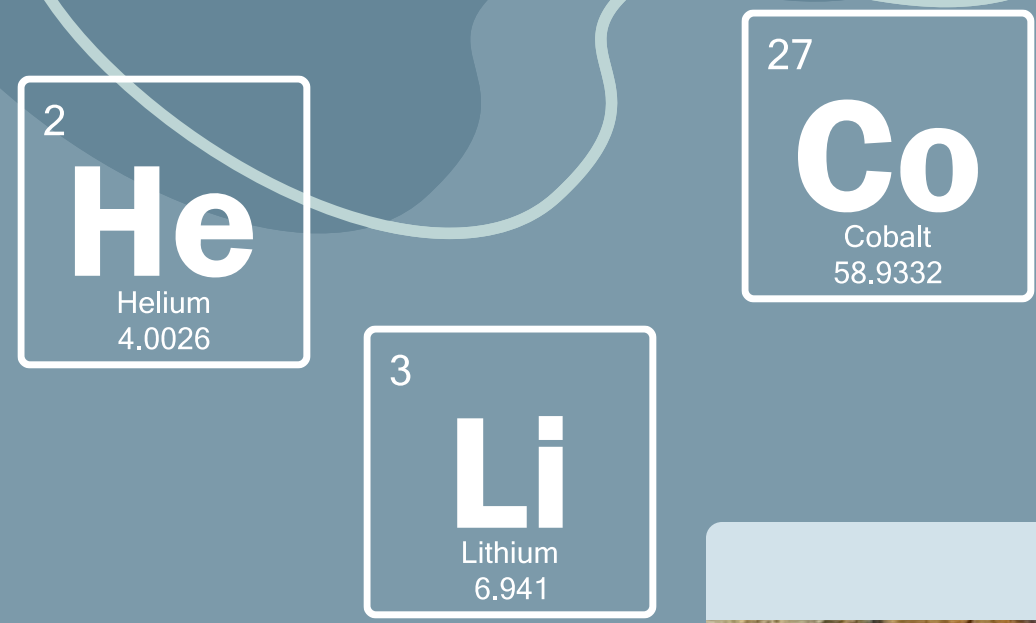




A CIRCULAR ECONOMY STRATEGY FOR CANADA'S CRITICAL MINERALS

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Problem Definition

Critical minerals have a wide range of uses and represent a fast-growing global industry for their applications in net-zero goals. Current projections show demand will outpace supply, in part due to the industry operating in a linear 'make-take-waste' model that exacerbates already vulnerable supply chains.

Canada has a wealth of critical minerals, representing a generational opportunity. As such, an end-of-life, circular economy focus while building up Canada's critical mineral sector is becoming increasingly important in ensuring sustainability.

Background

- As of 2024, 34 critical minerals have been identified in Canada that meet the essential criteria of 1) have a threatened supply chain and 2) have a reasonable chance of being produced in Canada.
- Protecting Canada's critical minerals is core for advancing sustainable use of resources and supporting Canada's economic and climate goals to meet its net-zero emissions target.
- Given the finite, non-renewable nature of critical minerals, Canada must shift from the early stages of supply and consider how end-of-life can be developed to support a circular economy.
- Employing a circularity model and further shining light on the design and re-purposing stage of circularity, Canada could meet its current national goals with more ease.

Objectives

- Eliminate and reduce waste of critical mineral extraction and usage through implementation of circular economy principles.
- Increase critical minerals supply chain resilience, reliability, traceability, and transparency, per the G7 summit commitments while reducing reliance on controversial critical minerals supply chains.

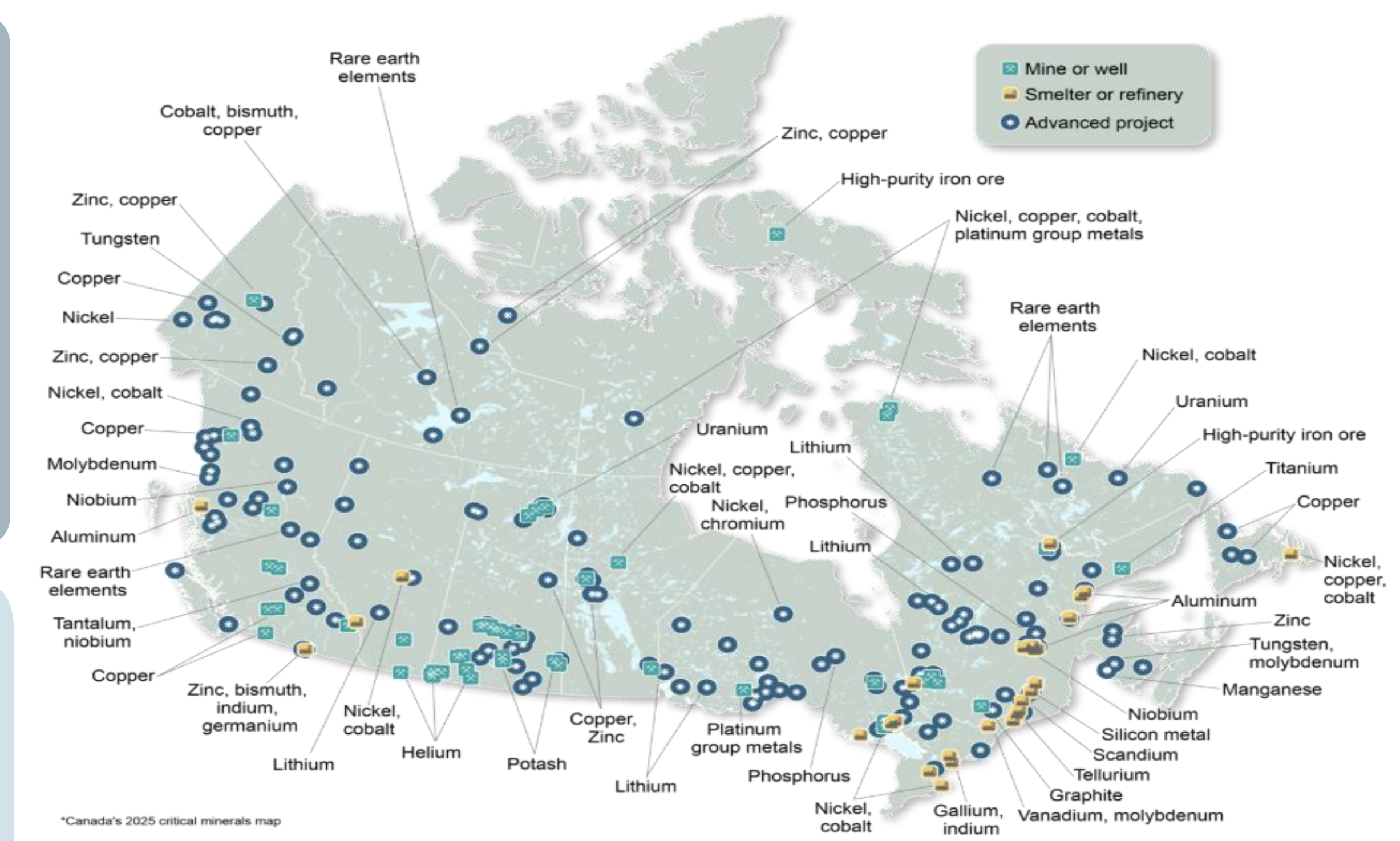


Figure 1. Canada's 2025 critical minerals map. Retrieved from: <https://www.canada.ca/en/campaign/critical-minerals-in-canada/critical-minerals-an-opportunity-for-canada.html>

Policy Design

- Globally-backed **price floor** for at least 2 priority critical minerals from Canada, USA, E.U., Japan to enable investment in circular extraction without being undercut by cheaper product from other countries.
- Independently-managed **certification** for products made from fair and sustainable critical minerals.
 - Industry coalition is currently drafting such a standard (CMSI).
 - This also requires a supply chain data pipeline.
- Targeted R&D funding for mineral recovery from significant tailings (e.g. cobalt from nickel or copper tailings in Sudbury).

Implementation

Phases

- Setting certification standard** with an **Oversight Committee** comprised of stakeholder groups, Indigenous Communities, ECCC, ISED, and NRCan.
- Set the Price floor for critical minerals** alongside ECCC (Horizontal Policy, Engagement and Coordination Directorate) and ISED (Clean Technology and Clean Growth).
- Provide R&D funding** to help achieve that standard or to the certified entities.

Managed by the Natural Resource Canada's Critical Minerals Centre of Excellence.

Review the policies with the Oversight Committee every 3 years.

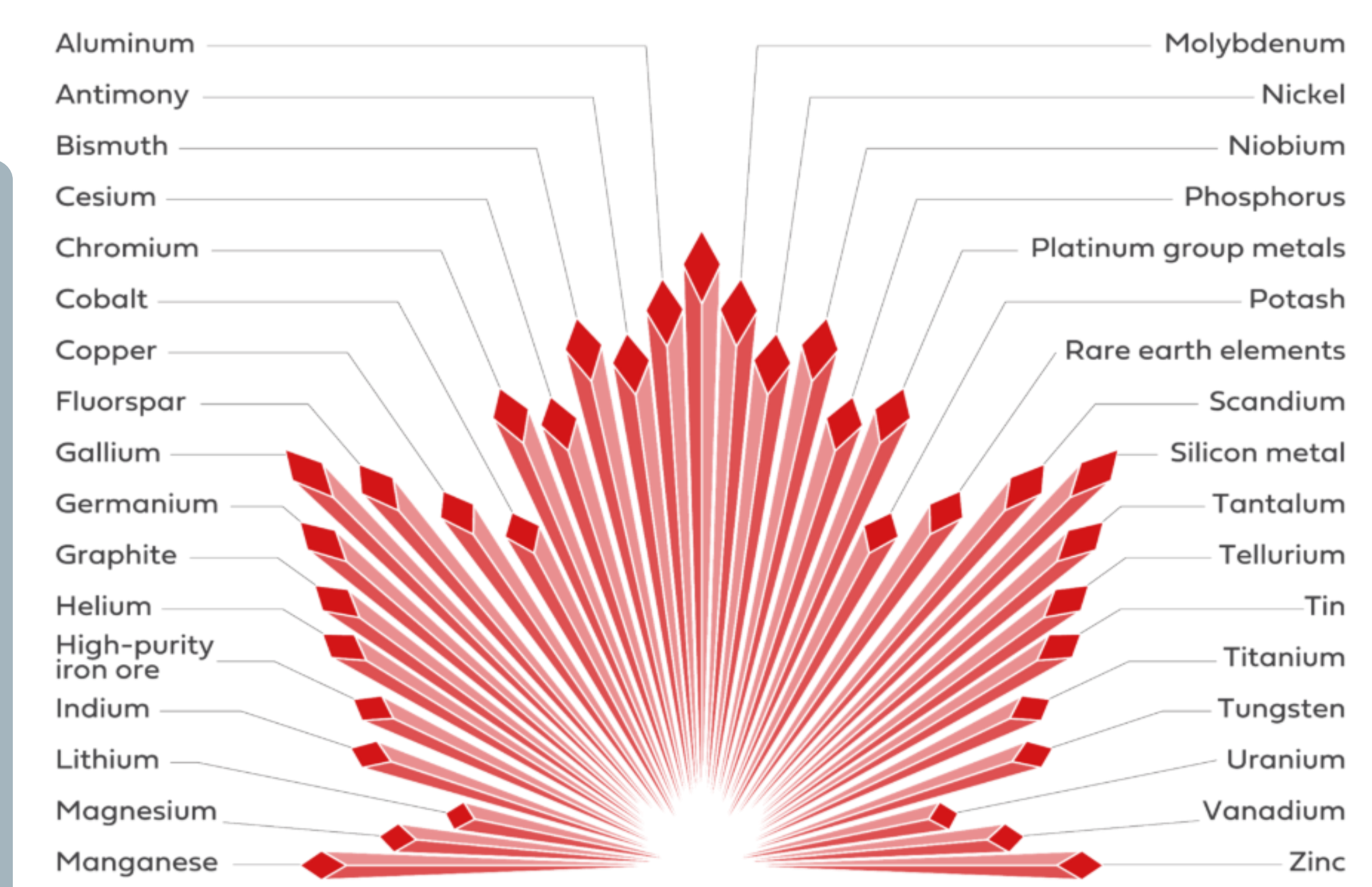


Figure 2. Canada's list of 34 critical minerals and metals. Retrieved from: <https://www.canada.ca/en/campaign/critical-minerals-in-canada/critical-minerals-an-opportunity-for-canada.html>

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