

## NATURAL RESOURCES

### 1. CRITICAL MINERALS – CRITICAL FOR EVERYTHING FROM CLIMATE TO NATIONAL SECURITY

#### Opening Statement

Supply chain resilience is a lesson that we learned because of the pandemic. As countries weathered wave after wave of infections owing to the pandemic, resources were stretched thin, and industries were halted due to government-mandated shutdowns. One commodity's supply chain has been neglected in the discussion of supply chain resilience, and that is the supply chain of sustainable and trusted critical minerals, or Rare Earth Elements (REE). Canada urgently needs a trade and economic strategy for our own critical mineral deposits. Building our domestic production capacity is essential to reduce our vulnerability to supply shortages in times of crises.

#### Background

Critical minerals are the building blocks for the clean and digitized economy. Critical minerals include:

- Aluminum
- Antimony
- Bismuth
- Cesium
- Chromium
- Cobalt
- Copper
- Fluorspar
- Gallium
- Germanium
- Graphite
- Helium
- Indium
- Lithium
- Magnesium
- Manganese
- Molybdenum
- Nickel
- Niobium
- Platinum group metals
- Potash
- Rare earth elements
- Scandium
- Tantalum
- Tellurium
- Tin
- Titanium
- Tungsten
- Uranium
- Vanadium
- Zinc

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Canada’s critical minerals are:

- Essential to Canada’s economic security
- Required for Canada’s transition to a low-carbon economy
- A sustainable source of critical minerals for our partners

They are essential for everything from sensors, fuel cells, electric vehicles, microwaves and magnets to smart missiles and air pollution controls. The uses of critical minerals are limitless and as we develop more sophisticated technology, they will become more essential to everyday life.

From the 1960s until around 1985, the United States was the world’s largest producer of REE, with all production originating from the Mountain Pass mine in California. Starting in the mid 1980s, China began REE mining and extraction operations and became the largest contributor to global REE production. By the 2010s, China was producing nearly 85% of the world’s supply of REE and supplying 95% of processed REE.<sup>1</sup>

There were 10 active REE mining operations in 2017 (table 1).

**Table 1. Active REE Mines in 2017**

Deposit Name	Location	Resource (Mt)	Grade (REO, %)
Mount Weld	Australia	23.9	7.9
Buena Norte	Brazil	na	na
Bayan Obo	China	800	6
Daluxiang (Dalucáo)	China	15.2	5
Maoniuping	China	50.2	2.89
South China clay deposits	China	na	0.05 – 0.4
Weishan	China	na	na
Karnasurt Mountain	Russia	na	na
Mountain Pass	United States	16.7	7.98
Dong Pao	Vietnam	na	na

**Source:** Bradley S. Van Gosen, Philip L. Verplanck, Robert R. Seal II, Keith R. Long, and Joseph Gambogi, *Critical Mineral Resources of the United States—Economic and Environmental Geology and Prospects for Future Supply*, ed. Klaus J. Schulz, John H. DeYoung, Jr., Robert R. Seal II, Dwight C. Bradley (Reston, VA: U.S. Geological Survey, 2017), Table O3, p. O12, <https://doi.org/10.3133/pp1802O>.

On July 31, 2021, a US working group discussed the implementation of President Biden and Prime Minister Trudeau’s commitment to strengthen cooperation on critical minerals supply chains<sup>2</sup>. To further North American relations, incentives on purchasing critical minerals from Canada must be in place.

<sup>1</sup> Bradley S. Van Gosen, Philip L. Verplanck, and Poul Emsbo, Rare Earth Element Mineral Deposits in the United States, U.S. Geological Survey, Circular 1454, 2019, p. 4, <https://doi.org/10.3133/cir1454>.

<sup>2</sup> <https://www.state.gov/united-states-and-canada-forge-ahead-on-critical-minerals-cooperation/>

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While a joint action plan is important because of the level 52% of Canada's mineral and metal exports are to the United States<sup>3</sup>, Canada must strengthen its own supply chain and ensure that it remains competitive with other nations, especially as minerals can be used as leverage in trade disputes<sup>4</sup>.

Climate change policy impacts off-grid mines in a substantial way. These off-grid mines currently use diesel power because they cannot easily access or implement net-zero technology to meet significant climate targets set by various governments. The majority of Canadian nickel and cobalt is currently extracted at off-grid mines. These mines are hit first and hardest with carbon caps. Carbon caps will negatively impact these mines making them uncompetitive in the global sector. If the off-grid mines are unable to compete, then we may lose out on the ability to mine the critical minerals necessary to meet our global climate change targets.

These mines are essential for downstream nickel manufacturing industry. They are unable to implement green technology due to financial and logistical constraints. These mines will not be able to operate or expand if they are restricted by climate change policy.

Many of these deposits are on Indigenous lands so it is important to consider the recent Declaration Act and the subsequent Action Plan introduced by the Provincial Government, specifically item 2.6.<sup>5</sup>

To compete globally on mineral and metal exports, the regulatory and tax environment must be competitive. As such, the red tape and burden placed on businesses to begin the extraction process must be reduced.

### THE CHAMBER RECOMMENDS

That the Federal Government:

1. Working with the provinces, territories, and Indigenous groups, develop a strategy to enable the development of critical mineral extraction projects, including tax and regulatory measures to support the development of this sector.
2. Use government procurement contracts to create incentives for North American sourced critical minerals;
3. Explore with the United States the possibility for joint purchasing and stockpiling of critical minerals; and
4. Create a level playing field for mines that cannot access electricity grids and create different climate change targets.

**Submitted by the Surrey Board of Trade**

**The Policy Review Committee supports this resolution.**

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<sup>3</sup>[https://www.wilsoncenter.org/sites/default/files/media/documents/article/our\\_growing\\_dependence\\_on\\_critical\\_minerals2.pdf](https://www.wilsoncenter.org/sites/default/files/media/documents/article/our_growing_dependence_on_critical_minerals2.pdf)

<sup>4</sup> <https://www.cbc.ca/news/business/china-us-rare-earths-1.5154338>

<sup>5</sup> [https://www2.gov.bc.ca/assets/gov/government/ministries-organizations/ministries/indigenous-relations-reconciliation/declaration\\_act\\_action\\_plan.pdf](https://www2.gov.bc.ca/assets/gov/government/ministries-organizations/ministries/indigenous-relations-reconciliation/declaration_act_action_plan.pdf)