

CRITICAL MINERALS

OUR GROWING DEPENDENCE ON CRITICAL MINERALS

WHAT ARE CRITICAL MINERALS?

Minerals deemed critical vary by country. The United States classifies **35 minerals** as critical because they are:

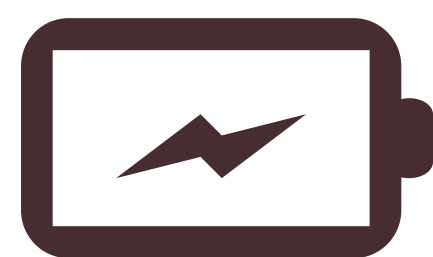
- essential to economic and national security,
- from vulnerable supply chains, or
- a key part of the manufacturing of a product. ¹

TOP INDUSTRIES THAT RELY ON CRITICAL MINERALS

- 1 Telecommunications and electronics
- 2 Energy
- 3 Defence
- 4 Aerospace
- 5 Transportation

²

CRITICAL MINERALS ARE EVERYWHERE



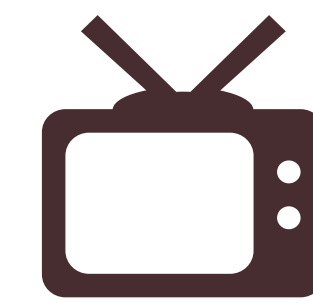
Lithium is used to create batteries.



Potash is used in fertilizer.



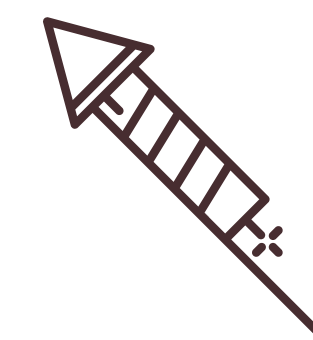
Helium is used in MRIs.



Indium is used to make LCD screens.



Uranium is used in radiation therapy.



Strontium is used in fireworks.

³

WHY IMPORT CRITICAL MINERALS?

- Domestic supply cannot meet the demand of the American market.
- Mines have shut down because minerals are cheaper to produce abroad.
- Certain mineral deposits have not been found in the United States. ⁴

U.S. CRITICAL MINERAL SUPPLIERS ⁵



NATIONAL SECURITY

With only **10 supplying countries**, U.S. supply is vulnerable to foreign export reductions, trade disputes, civil unrest, and natural disasters. ⁶

13/35 critical minerals are imported from China. ⁷

China has threatened to use these minerals as leverage in trade disputes. Shortages in these critical minerals would hit American businesses, the American government, and American industries such as the **defence sector** and **the healthcare system**. ⁸



Sources:

1. United States Geological Survey, 2018.

*For the full list of critical minerals visit: <https://buff.ly/2ZfMRFx>

2. Ibid.

3. United States Geological Survey, 2018.

4. United States Geological Survey, 2018.

5. Ibid.

6. Ibid.

7. Ibid.

8. CBC, 2019.

CRITICAL MINERALS

AN OPPORTUNITY FOR STRATEGIC COOPERATION

CANADA-U.S. PARTNERSHIP

Canada is the top supplier of aluminum, cesium, rubidium, indium, potash, tellurium, and uranium for the United States.⁹

52% of Canada's mineral and metal exports are to the United States.¹⁰

25% of America's uranium supply is imported from Canada.¹²



83% of all potash consumed in the US comes from Canada.¹¹

100% of all cesium consumed in the United States comes from Canada.*¹³

STABLE TRADING PARTNERS

The United States is trying to strengthen supply chains for critical minerals with stable trading partners:^{14 15}

- Australia, Canada, and the United States are working together to address current and future mineral shortages.
- Canada and Australia are also helping the United States with geologically mapping and mineral information sharing practices.
- Canada and the United States have a joint-action plan to secure **mineral supply, future industry competitiveness, and supply chain resilience and reliability.**

URANIUM EXPORTS

SECTION 232

U.S. tariffs will not be implemented against Canadian uranium companies - for the time being.¹⁶

FUTURE MINERAL SHORTAGES

As the world invests in cleaner technologies - electric vehicles, wind turbines, and solar panels - future markets and mineral shortages are predicted for cobalt, lithium, and copper.

BY 2050¹⁷

7x

increase in demand for cobalt.

11x

increase in demand for lithium.

275%-350%

increase in demand for copper.

Sources:

9. Natural Resources Canada, 2019.

10. Ibid.

11. United States Geological Survey, 2018.

12. Financial Post, 2018.

13. United States Geological Survey, 2018.

*The Manitoba mine ceased operations in 2015. The US has been importing cesium from stockpiles.

14. Financial Times, 2019.

15. Office of the Prime Minister, 2019.

16. CBC, 2019.

17. Financial Times, 2019.

CRITICAL MINERALS

A CLOSER LOOK AT QUÉBEC

WHERE ARE CRITICAL MINERALS?

Québec is actively mining eight critical minerals. They are also exploring their potential to mine other critical minerals.

MINES AND PROJECTS, QUÉBEC¹⁸

49th Parallel	---
Cobalt	✖
Graphite	✖
Lithium	✖
Niobium	✖
Platinum Group Metals	✖
Rare Earth Elements	✖
Vanadium	✖



PLAN NORD¹⁹

- Launched by Québec in 2011 to develop communities north of the 49th parallel.
- Québec plans to improve current telecommunications and infrastructure, which will facilitate mine development.

TOP MINERAL-PRODUCING PROVINCES²⁰

Ontario

- \$10.1 billion mineral production value

Québec

- \$10.0 billion mineral production value

British Columbia

- \$9.7 billion mineral production value

Created by Morgan Leung, Canada Institute

Sources:

18. Natural Resources Canada, 2019.

*For the full list of active mines and advanced projects visit: <https://buff.ly/2PcbF1w>

19. Government of Québec, 2018.

20. Natural Resources Canada, 2019.