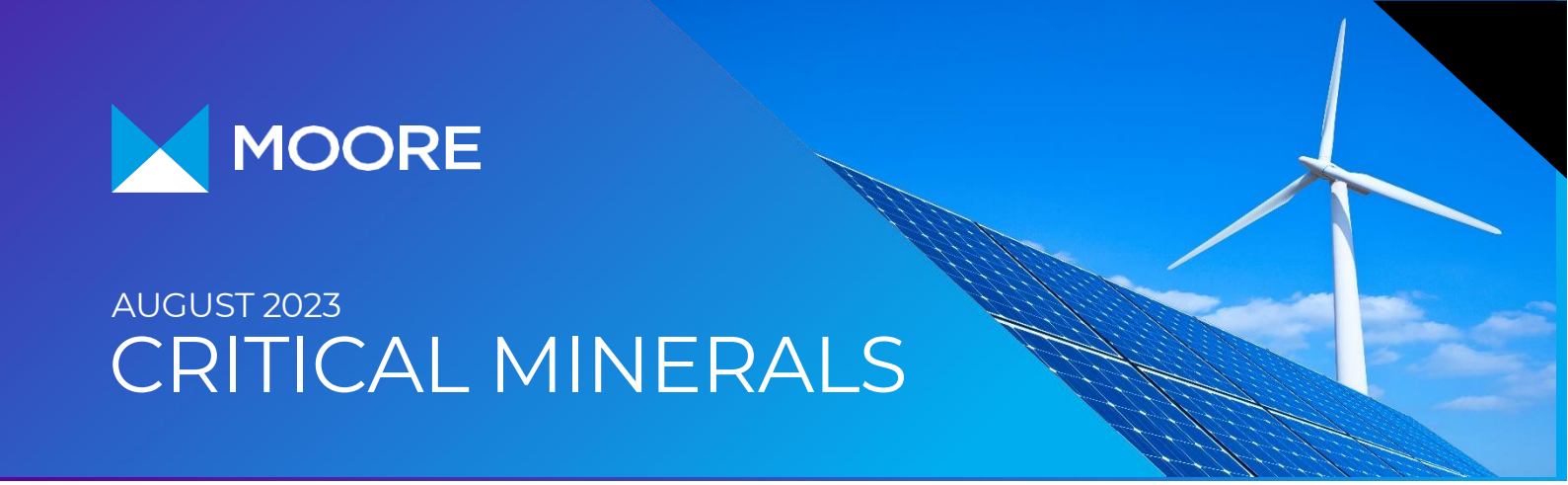


AUGUST 2023

CRITICAL MINERALS

Moore Global is a leading niche mining advisory and assurance professional services firm providing a world-class service to our clients. The multi-disciplinary and multi-commodity professional team spans the Moore Global Member Firm network with specialist teams in centres of excellence in key markets. Critical minerals have become a particular area of focus across the value chain and across Sectors in the Moore Global network.

What is a Critical Mineral?

A critical mineral is a metallic or non-metallic element essential for modern tech, economies, or national security, and has a supply chain at risk of disruption.

Which Minerals Are Critical Minerals?

The answer may vary depending on who you ask, as a mineral that one country may consider critical, may be abundant for another, though as an example, the Canadian Government considers 31 resource commodities to be critical minerals, and have been selected by assessing their own access to resources, in addition to the needs and capabilities of their trading partners. Their critical minerals and their corresponding production in 2021 is presented in the table below (in no particular order):

Critical Mineral	US list - 2022	EU list - 2020	Australia list - 2022	Japan list - 2019	India list - 2016	UK list - 2021	South Africa list -2022	Canadian Geological Potential	Canadian Economic Demonstrated Resources (2021)	Canadian Production (2021)	World Mine Production (2021)
Aluminum	✓	✓	✓	✗	✗	✗	✗	Moderate	78,000 kt	3,100 kt	67,000 kt
Antimony	✓	✓	✓	✓	✗	✓	✗	Moderate	No data	364 t	109 kt
Bismuth	✓	x	✓	✓	✗	✓	✗	No data	No data	50 t	19 kt
Cesium	✓	✗	✗	✓	✗	✗	✗	No data	No data	No data	No data
Chromium	✓	✗	✓	✓	✓	✗	✓	No data	0	1.6 kt	41,400 kt
Cobalt	✓	✓	✓	✓	✗	✓	✓	High	200 kt	3.8 kt	165 kt
Copper	✗	✗	✗	✗	✗	✗	✓	Moderate	9,800 kt	542 kt	21,000 kt
Fluorspar	✓	✓	✗	✓	✗	✗	✗	No data	No data	No data	9,200 kt
Gallium	✓	✓	✓	✓	✗	✓	✗	No data	No data	No data	430 t
Germanium	✓	✓	✓	✓	✓	✗	✗	No data	No data	No data	140 t
Graphite	✓	✓	✓	✓	✓	✓	✗	High	5,700 kt	7.7 kt	1,000 kt
Helium	✗	✗	✓	✗	✗	✗	✗	Moderate	2,000 hm 3	2 hm 3	160 hm 3
Indium	✓	✓	✓	✓	✗	✓	✗	No data	No data	60 t	920 t
Lithium	✓	✓	✓	✓	✗	✓	✓	High	681 t	0	105 kt
Magnesium	✓	✓	✓	✓	✗	✓	✗	No data	No data	No data	30,000 kt
Manganese	✓	✗	✓	✓	✗	✗	✓	No data	42,500 kt	0	19,500 kt
Molybdenum	✗	✗	✗	✓	✗	✗	✗	Moderate	96 kt	1.4 kt	290 kt
Nickel	✓	✗	✗	✓	✗	✗	✓	High	2,000 kt	133.6 kt	2,427 kt
Niobium	✓	✓	✓	✓	✓	✓	✗	High	1,600 kt	6.2 kt	75 kt
Platinum-group elements	✓	✓	✓	✓	✗	✓	✓	High	310 t	21.4 t	380 t
Potash	✗	✗	✗	✗	✗	✗	✗	High	1,100,000 kt	22,500 kt	71,900 kt
Rare-earth elements	✓	✓	✓	✓	✓	✓	✓	High	15,100 kt	0	240 kt
Scandium	1.	1.	1.	1.	1.	1.	1.	High	No data	No data	No data
Tantalum	✓	✓	✓	✓	✓	✓	✗	High	No data	No data	2.1 kt
Tellurium	✓	✗	✗	✓	✗	✓	✗	Moderate	0.8 t	No data	580 t
Tin	✓	✗	✗	✗	✗	✓	✗	Moderate	117 kt	0	378 t
Titanium	✓	✓	✓	✓	✗	✗	✗	High	31,000 kt	600 kt	15,000 kt
Tungsten	✓	✓	✓	✓	✗	✓	✗	High	No data	No data	79 kt
Uranium	✗	✗	✗	✗	✗	✗	✓	High	4,900 kt	4.7 kt	48 kt
Vanadium	✓	✓		✓	✗	✓	✓	Moderate	No data	No data	110 kt
Zinc	✓	✗	✗	✗	✗	✗	✓	Moderate	5,400 kt	310 kt	1,290 kt

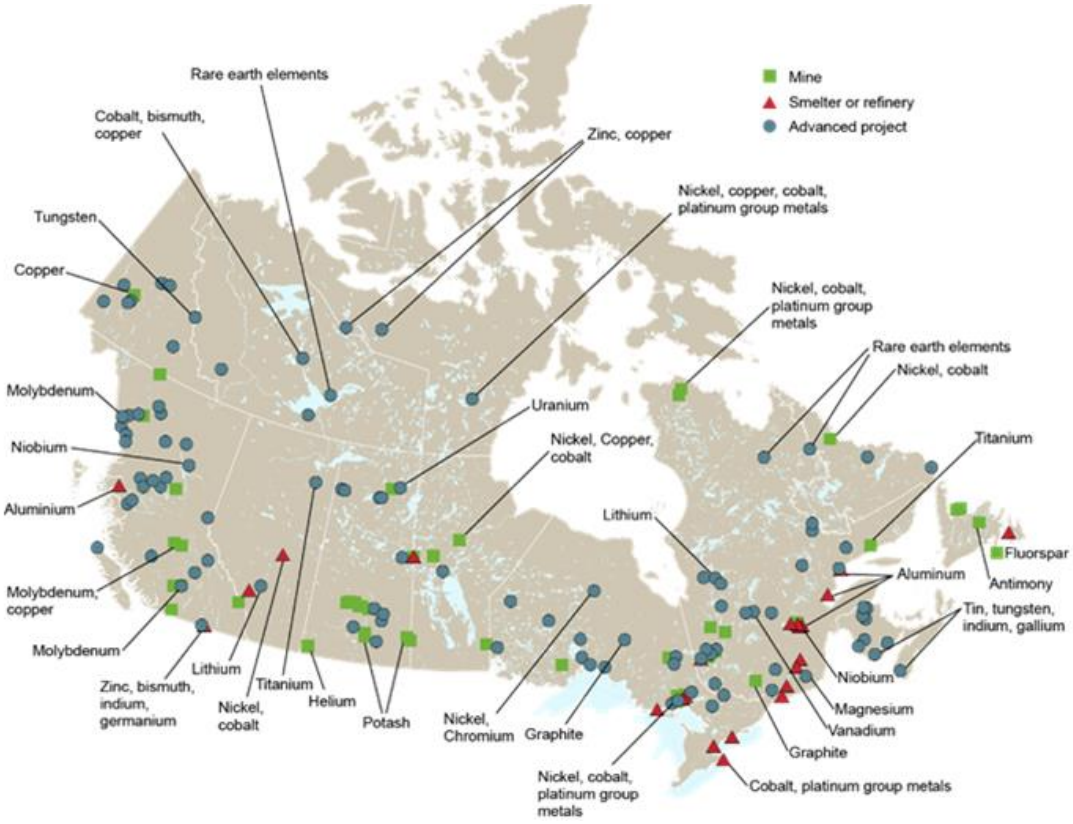
1. No information available

Which Minerals Are Critical Minerals? (cont.)

Some of these have become household names – such as Lithium and Graphite (both crucial ingredients in rechargeable batteries), whereas others aren't as well-known but are integral to many of the luxuries of 21st century life – such as Niobium which is used to make super-conducting magnets in MRI machines.

Where are these Critical Minerals?

Canada possesses a diverse and significant distribution of critical minerals, contributing to its global prominence as a resource-rich nation. Abundant reserves of minerals like lithium, rare earth elements, and cobalt are spread across various regions.



To find out more about the opportunities for your business in the Energy, Mining and Renewables sector, please contact one of our Moore experts below.

DAVID TOMASI
Moore Global EMR Sector leader
Moore Australia
david.tomasi@moore-australia.com.au

DARBY YOUNG
Moore Global Analyst Disruptor
Moore Australia
darby.young@moore-australia.com.au