



The Mining Association
of Canada | L'association minière
du Canada

MAC Recommendations for Budget 2020: Critical Minerals and Opportunities for Canada's Mining Industry



CANADIAN MINING MATTERS

A WORKFORCE OF OVER 600,000, BUILDING OUR ECONOMY



A WORLD LEADER IN THE MINING SECTOR

Exporting Canadian expertise around the globe, through Towards Sustainable Mining™ program



CANADA IS AMONG THE TOP 5 GLOBAL PRODUCERS OF 15 MINED SUBSTANCES.



60+
MINERALS & METALS PRODUCED IN CANADA



3,700+
COMPANIES THAT SUPPLY MINING OPERATIONS

BUILDING RELATIONSHIPS WITH INDIGENOUS COMMUNITIES



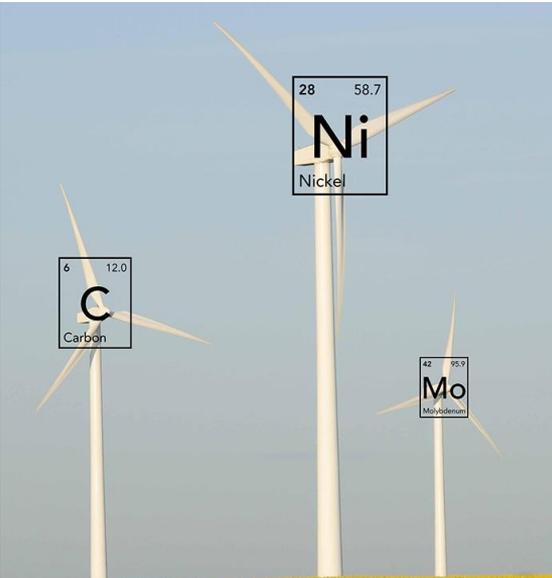
CONTRIBUTING TO A CLEANER, LOW-CARBON FUTURE

We provide essential materials for green innovation while practicing responsible mining.



- ◆ \$97 billion in GDP contributions
- ◆ Major direct and indirect employer:
 - ◆ 409,000 direct jobs, 217,000 indirect jobs
 - ◆ Top employer of Indigenous peoples at 16,600+ direct jobs
 - ◆ 3,700 companies provide goods and services to the industry
- ◆ Canada's largest shipping customer:
 - ◆ >50% of rail freight revenue
 - ◆ 40% of maritime bulk volume
- ◆ ~20% (\$105 Billion in 2018) of Canada's total domestic exports
- ◆ One of Canada's largest outward investing sectors at \$80 billion in 2018
- ◆ Largest economic driver in Canada's Arctic
- ◆ Global Centre for Mineral Finance:
 - ◆ The Toronto Stock Exchange (TSX) and TSX Venture Exchange (TSXV) are the world's number one mining and exploration listing venues, where one-third (\$6.5 billion) of the world's total equity capital was raised in 2018

- ◆ Mining is essential for a lower carbon future. The world will never achieve a net-carbon-neutral future without a substantial increase in the supply of **critical and battery minerals and metals**:
 - ◆ By 2040, between 7 and 17% of global electricity generation will be from solar power. Renewable energy systems can require up to 12 times more **copper** compared to traditional energy systems.
 - ◆ By 2040, between 9 and 21% of global electricity generation will be from wind power. Approximately 170 tonnes of **steelmaking coal** and 10 tonnes of **zinc** are needed to produce and galvanize the steel in an average wind turbine.
 - ◆ By 2040, there will be more than 900 million electric cars worldwide, accounting for over 50% of the global fleet. Zero-emission electric vehicles require about three times as much **copper** as an internal combustion vehicle.
 - ◆ By 2040, cars that rely solely on gasoline and diesel are 40% more efficient than today. As the world transitions to a low-carbon economy, oil will continue to play a necessary role in the global energy mix and the remaining demand should be met by low-carbon, responsible producers.
 - ◆ By 2030, anticipated global demand for battery metals will require production increases in **lithium, graphite, cobalt and nickel** ranging from +250% to +1,250% beyond 2019 production levels.
 - ◆ Demand for **rare earth elements** will also increase as critical inputs to clean energy and high-tech economies.
- ◆ **The opportunity is great but there are significant barriers to achieving this vision in a way that maximizes benefits for Canada.**



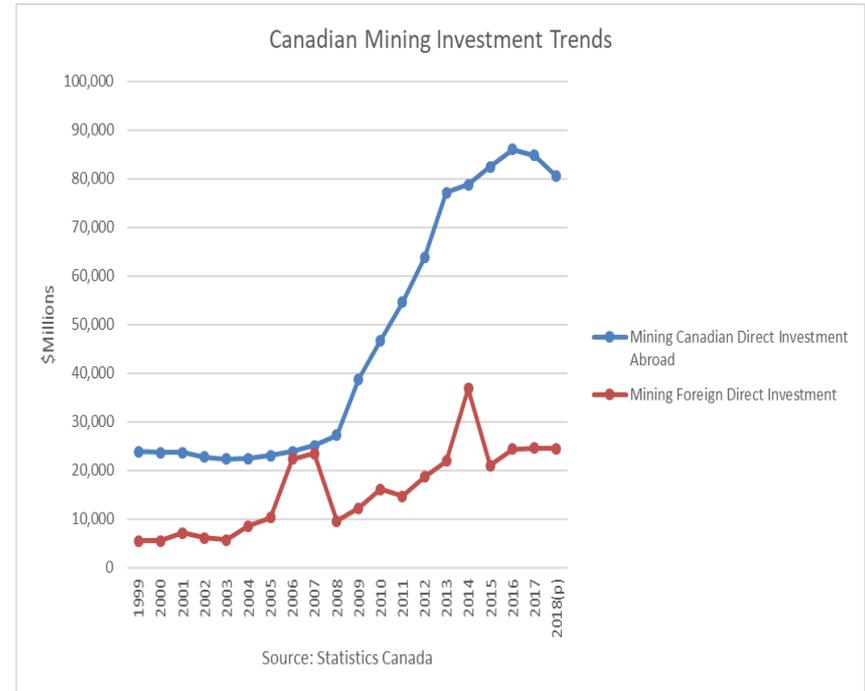
Before it's yours, it's mined.

Canadian mining provides the minerals that make green energy possible for our future.

mining.ca

CANADIAN MINING
What will we find next?

- The gulf between Canadian mining investment abroad and mining foreign direct investment into Canada has steadily grown, suggesting many companies are actively pursuing projects beyond as opposed to within Canada's borders.
- Increased global demand for critical and battery minerals *must be met responsibly*, by operators and jurisdictions committed to reducing environmental impacts and GHG emissions.
- Canada and Canadian industry have put frameworks (IAA, Carbon Pricing, TSM, etc.) in place to achieve this – and MAC has been in lockstep with decision makers on these developments - but we cannot ignore fundamental economic realities.
 - Mining companies don't invest where they don't believe they can permit a project, nor where they can't afford to build and profitably operate a mine.*
- Government decisions regarding regulatory, infrastructure, innovation, tax and mineral policy will directly influence Canada's ability to re-gain its leadership in mining.
 - Positive steps have been taken in some areas (CMMP, Critical Minerals MoU, 5-year METC, Infrastructure investments), but much more is needed to quell the erosion of Canadian mining investment competitiveness.*



◆ **Natural Resources – Minister Seamus O’Regan:**

- ◆ Position Canada as a global leader in clean technology, including in critical minerals.
- ◆ Work with partners to implement the Canadian Minerals and Metals Plan.

◆ **Infrastructure – Minister Catherine McKenna:**

- ◆ Move forward with a Clean Power Fund to help finance the development and linking of clean energy to transmission systems and to support the transition of northern, remote and Indigenous communities from reliance on diesel-fueled power to clean, renewable and reliable energy...and supporting the electrification of Canadian industries.

◆ **Northern Affairs – Minister Dan Vandal:**

- ◆ Implement the Arctic and Northern Policy Framework to create a future where Northern and Arctic people are thriving, strong and safe.
- ◆ Support territorial planning for hydroelectricity projects.

◆ **Innovation, Science and Industry – Minister Navdeep Bains**

- ◆ Work with the Minister of Natural Resources and the Minister of Environment and Climate Change to position Canada as a global leader in clean technology.

- ◆ To support government in the pursuit of this ambitious agenda, MAC has formed a senior level task force to identify and prioritize recommendations in support of the Canada Minerals and Metals Plan and the development of critical minerals.
- ◆ While this work remains ongoing, the below proposals have been identified in advance of budget 2020:
 - ◆ **To reverse the decline of critical mineral reserves, MAC recommends government:**
 - ◆ **Renew and expand from previous levels the Geo-mapping for Energy and Minerals (GEM) program, to \$200 million over five years, with the expanded funding being dedicated to the identification of critical minerals, strategically prioritizing the most prospective regions.**
 - ◆ **Renew and expand from previous levels, the Targeted Geoscience Initiative to \$50 million over five years, to continue developing new in-depth geoscience knowledge to inform the exploration of deeper mineral deposits, with the goal of increasing the life of Canada's existing fleet of operational mines, until the next generation of mines are discovered, developed and become operational.**

- ◆ **To support the stated objectives of the Joint Action Plan on Critical Minerals Collaboration, signed between Canada and the United States, MAC recommends a suite of initial actions, including:**
 - ◆ **Significantly enhanced funding for Natural Resources Canada's CanmetMINING to develop state of the art Rare Earth Element (REE) identification, extraction and refining processes, including from recycled existing mine waste streams.**
 - ◆ **A commitment to a whole-of-supply chain approach, including supports for downstream market development and value-added production, which will drive demand for upstream REE production, until China's control of the market is loosened.**
 - ◆ **Establishing an interdepartmental joint government-industry task force to study, report and recommend additional policy options that will position Canada as a leader in the production and processing of critical minerals – both for REE, other strategic minerals and metals and more broadly – over the long term.**

- ◆ **To support the industry in its transition to a lower carbon economy, MAC respectfully recommends a two-tier strategy to accelerate emissions reduction for power generation at off-grid sites and from haul fleets at grid-connected operations:**
 - ◆ **Establish or allot, over 5 years, at least \$250 million for remote and northern industrial electrification to accelerate improvements in energy and fuel efficiency, as well as drive to the maximum extent possible the scalability, deploy-ability, capacity and storage capabilities of clean power generation assets in Northern Canada. This fund should also include an RD&D component for testing and, where needed, adaptation of existing technologies to Canada's Arctic climatic realities; and,**
 - ◆ **As promised in the Liberal Party's 2019 platform, extend the tax measure announced in the 2018 Fall Economic Statement that enabled the full expensing for clean energy equipment to include all types of battery electric, trolley-assist and energy-efficiency conveying equipment deployed in Canada's mining sector. Further, and consistent with the long-term nature of climate change and the policy and regulatory actions required to properly combat it, we recommend making this measure permanent, and updating the list of eligible technologies regularly as technology improves.**

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