

September 15, 2022

Hon. Jonathan Wilkinson
Minister of Natural Resources
HonJonathan.Wilkinson@nrcan-rncan.gc.ca

Submitted by e-mail at to cmce-cemc@nrcan-rncan.gc.ca.

Re: Canada's Critical Minerals Strategy

Dear Minister Wilkinson,

On behalf of Canada's manufacturers and exporters and our association's 2,500 members across Canada, thank you for the opportunity to comment on the development and production of critical minerals and the local manufacturing industry this activity supports.

This Critical Mineral Strategy comes at an important time in Canadian history. The next century will be defined by how Canadian industry adapts to massive challenges like climate change and how it positions itself to take advantage of global shifts in manufacturing production. Our global competitors are investing vast sums and resources to solve these problems and are already well advanced in the execution of their plans. It is paramount that Canada follows suit, or else we simply risk being left behind as other countries grow their economies and prosperity and the world shifts to new energy sources.

CME strongly supports the creation of a Critical Minerals Strategy and the priorities outlined in the discussion paper. Canada must grow its economic competitiveness while also protecting the environment, enhancing partnerships with allies, advancing reconciliation, and promoting diversity and inclusion. However, unless the Critical Minerals Strategy falls within an overarching National Industrial Strategy, the economic impacts will be limited. We strongly urge the government to adopt such a strategy to stand a better chance at realizing its ambitions.

When the *Inflation Reduction Act* (IRA) was signed into law by President Biden last month, we celebrated the inclusion of Canadian made electric vehicles (EVs) for consumer purchase incentives. However, as more became known about the legislation, several challenges emerged which require immediate attention.

The first issue is the continued difficulty of attracting industrial capital investment to Canada. In total, the IRA provides about \$400 billion USD for climate change related transition over the next decade, including several refundable incentives for EV manufacturing and critical mineral exploitation. Meanwhile, Budget 2022 committed several welcome measures to support the transition of Canada's economy, including \$8 billion CAD for the Net Zero Accelerator and \$2.6 billion over five years for a Carbon

Capture, Utilization and Storage tax credit. Canada must commit more for the longer term and review investment incentives to ensure they remain competitive and accessible.

The second issue is timing, or put another way, speed versus ambition. As policymakers introduce aggressive targets to boost the proportion of EVs sold and the metal content of batteries from North American sources, we must consider industry capacity to meet objectives. Launching a new car model can require up to four years, assuming local supply chains provide the needed capital and materials. Further upstream, the average mining development can take a decade or more to come online, not to mention time to build supporting infrastructure (roads, rail, or electricity) needed to operate remote sites. Taking steps to accelerate supply development, while supporting the development of supply chains are critical.

CME supports a whole value chain effort to source critical minerals, but in practical terms, Canada's manufacturing sector is central to meeting the demand for North American EVs in the near term. It is quicker to establish intermediate processing and recycling capacity for critical minerals than to dramatically ramp-up domestic extracting. But companies operating in this space are currently facing pressures on several fronts, including soaring raw material costs, supply chain bottlenecks, and labour and skills shortages. They also face uncertainty in the ability to source supply from domestic sources.

To overcome those challenges, the Canadian manufacturing and mining sectors will require bold and immediate action from the federal government to reduce regulatory barriers, accelerate permitting and environmental reviews, keep international trade open, map critical value chains, reduce the costs of doing business, and drive investment in Canada. Attached to this letter are our recommendations designed to ensure that the critical minerals strategy is successfully implemented. We hope you will consider them carefully and we are available to meet at your convenience to discuss them and any other related issue.

As Budget 2022 noted, Canada will need to dramatically increase annual investment over the next 30 years to build a net zero economy. Government or industry alone cannot achieve this. We must work together to improve our global competitiveness. With timely action and a bold commitment to grow our domestic manufacturing sector, we hope that we can be partners to secure the well-being and prosperity of our citizens for decades to come.

Sincerely,



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CC: Hon. François-Phillippe Champagne, Minister of Innovation, Science and Industry

Context – What Challenges Do Critical Mineral and EV Manufacturing Face Today?

Manufacturing and mining are two of Canada's economic pillars. Together, they directly represent 11% of Canada's GDP. Including indirect and induced impacts, the sectors' combined footprint amounts to nearly 30% of Canada's total economic activity. It is also worth noting that the motor vehicle and parts industry is Canada's fifth largest manufacturing subsector, directly accounting for 7% of total manufacturing activity and employing over 120,000 people.

Because an EV is a car that still needs wheels, doors, seats, electric and heating systems, much of today's automotive supply chain will remain in place as the world pivots to greater use of EVs and other low-emission options. However, the transition to an electric drivetrain will require several components which are not today present in Internal Combustion Engines (ICE) vehicles, most notably battery cells and related components. Breaking down the value chain for battery development, the following five components must be considered:

- 1) Exploration and extraction of new sources of feed for existing smelters and refineries
- 2) Chemical Processing
- 3) Cathode/Anode Production
- 4) Cell Manufacturing
- 5) Application

While much must be done to secure critical minerals, this submission focuses mostly on the manufacturing stages of the supply chain, from the chemical processing of minerals to their applications in batteries and auto parts. Those activities are critical to ensure that Canada's role in the new economy is not limited to supplying raw materials to the rest of the world, but that it also captures high value-added segments of the supply chain.

Bolstering those areas of the supply chain would represent both a strategic and practical approach, given the long lead times, and known regulatory, capital, and technical impediments usually associated with mineral exploration and extraction. It would also help Canada realize significant economic and employment spin-offs in all regions of the country.

Recommendations

1. **Provide timely incentives in the 2022 Economic and Fiscal Update to protect current investment and attract new projects along the EV value chain following the adoption of the *Inflation Reduction Act* by US Congress.**

The last two years has seen an unprecedented string of business and government investments signalling a decisive transition away from ICE vehicles, including:

- Over \$5 billion for Stellantis and LG Energy Solution to establish Canada's first large-scale lithium-ion battery production plant in Windsor, Ontario, as well as an additional \$3B from Stellantis to establish an EV Centre of Competency and Battery Testing Research Lab at the Automotive Research and Development Centre (ARDC) in Windsor, and update the Windsor & Brampton Assembly Plants to manufacture EVs.
- \$1.8 billion to transform Ford's Oakville Assembly Complex from an internal combustion engine (ICE) site to also become an EV manufacturing facility.
- \$1.5 billion for Belgian-based Umicore to build a battery supply chain plant near Kingston.
- \$1.4 billion to upgrade Honda's Alliston, Ontario plant to manufacture new hybrid models.

Those investments, while impressive, cannot be taken for granted. The *Inflation Reduction Act* voted by US Congress introduced several incentives, many of which are refundable, aimed at offsetting costs for a broad range of EV value chain activities in the US, including:

- Expansion of the 48C credit with an additional US\$10 billion in funding. The credit is awarded competitively for investment in the manufacture of clean technologies and equipment, including electric and fuel cell vehicles and their components.
- An Advanced Manufacturing Production Tax Credit. For the manufacture of critical minerals and electrode active materials, the credit is set at 10% of a company's production costs.
- An additional US\$500 million to the Defense Production Act for activities related to enhanced critical mineral processing.
- An additional US\$7.8 billion for the Department of Energy to finance and support advanced manufacturing technologies and \$25 billion in loan guarantee authority. Of this amount, US\$2 billion is to be allocated to makers of electric, hybrid, and hydrogen fuel cell vehicles.
- Credits on purchases of qualified commercial clean vehicles.
- Expanded tax credit on consumer purchases of new electric and fuel cell vehicles to \$7,500 USD.
- Expanded credit for zero-emissions charging and refueling infrastructure with a base credit of 6% reimbursement for expenses up to \$100,000.

In its upcoming Economic and Fiscal Update, the Government of Canada should introduce measures to match those incentives, prioritizing areas of economic activity which are most at risk

of relocation to the US or where expedited development is needed to meet legislated content domestic content requirements.

2. Partner with EV manufacturers, processors, refiners, miners, and recyclers to map critical value chains and better coordinate policymaking across the various federal and provincial government agencies.

While there have been significant efforts by all levels governments to incentivize the production of critical minerals and much research conducted on the subject, there is often a disconnect between academic, government and the day-to-day work by Canadian automotive manufacturers to source finished components and inputs. This is driven by a lack of granular understanding of supply chains.

To address this, the Canadian government should partner with the entire EV industry, from miners to EV manufacturers and recyclers, to map the critical mineral value chain, and truly understand where the gaps are and how they should be addressed. This can be accomplished through ongoing sectoral roundtables and regular engagement between industry, government, academia, labour and aboriginal partners. The Government of Canada could then use this information to:

- Coordinate regulatory approvals and permitting related to infrastructure investments.
- Prioritize and inform trade negotiations to minimize technical and non-technical barriers to trade and secure access to supply in areas of the world where key minerals are readily available, such as Indonesia, the Philippines, Brazil, Chile, and Peru.
- Inform targeted policy interventions (including through the *Investment Canada Act*) to prevent the control of strategic assets by hostile foreign actors, while preserving objective and transparent criteria to protect Canadian exports and the Foreign Direct Investment (FDI) needed to grow our sector.
- Ensure gaps in the existing list of critical minerals are promptly addressed. For example, considering projected demand for Direct Reduced iron ore as a material essential for decarbonization and green steel making, Natural Resources Canada should consider the inclusion of this material in relevant policies.

3. Support the upscaling of EV manufacturers, supply chain partners, processors, refiners, miners, and recyclers.

To effectively meet the demand of consumers for locally sourced vehicles and the goal of regulators for locally sourced vehicle components and inputs, companies must be able operate in a profitable and sustainable manner. This requires support on three key elements: 1) labour; 2) fees and taxation and 3) investment incentives. Therefore, the Government of Canada should:

- a. **Align government programs to recruit the workforce of the future**

First, companies need people to get the job done. Both the mining and manufacturing sectors continue to suffer from well-documented labour and skills shortages. The federal government can play a key role in alleviating these shortages by continuing initiatives such as ESDC's Labour Mobility Deduction for Tradespeople announced in Budget 2022.

In addition, discussions must keep on expediting and increasing the immigration of skilled workers through all available channels. This includes updating the point system to better align with the actual needs of employers and enhancing the Temporary Foreign Worker Program by streamlining the approval processes and speeding up the implementation of the "trusted employer" stream.

b. Conduct a review of the tax system to improve Canada's investment competitiveness

High taxation rates and an inflated cost of doing business continue to squeeze the profitability of Canadian companies, a reality that is being exacerbated by soaring raw material costs. To provide relief and improve Canada's global competitiveness, the government should conduct a review of its tax system.

c. Introduce targeted investment incentives

CME advocated for the creation of the Net Zero Accelerator (NZA) Fund to help support carbon reduction investments at the largest emitting industrial sites in the country. The early investments and support from industry have been promising – spurring billions of dollars of investments that will improve processes and eliminate millions of tonnes of GHG emissions. However, given early strong interest from industry to access these funds, the size and scope of the NZA fund is clearly inadequate. As such, the program's funding envelope for large emission projects should be increased to at least \$5 billion per year until 2030.

Because the broader supply chain community (including the auto parts industry) also needs to be a part of this transition, a support program like the Net Zero Accelerator Fund, but scaled to and targeted at SMEs, should be created. In the past, CME successfully operated a program for the Ontario government that supported technology adoption aimed at emissions reductions. A \$100 million annual pan-Canadian program could follow a similar approach to meet the same objective of helping SMEs make emissions reduction investments.

Finally, the Accelerated Investment Incentive, announced in the 2018 Fall Economic Statement should be extended to enable continued investment in productivity-enhancing machinery, equipment, software, and technology, which has been impacted by the pandemic. In line with the critical mineral strategy, the incentive should be expanded to include mining and metal manufacturing activities (included in tax classes 41, 41.2 and 43), and the phase-out period should be delayed to fiscal year 2027.

4. Accelerate regulatory, permitting, environmental assessments, and infrastructure processes.

Part 4 of the *Inflation Reduction Act* recently passed by US Congress requires a high percentage of minerals in the batteries of eligible vehicles to be extracted, processed, or recycled in North America. This percentage is set at 40% for cars placed in service before January 1, 2024 and rises to 80% after December 31, 2026.

While CME agrees with the intent of the provisions which is to near-shore economic activity and increase the self-reliance of our north American auto industry, the reality of our economy makes the achievement of those targets extremely challenging. Mineral developments can take a decade or more and are highly influenced by the speed at which several processes can be conducted, including environmental assessments, and permitting. Because of this complexity and the nature of Canada's regulatory regime, the government must commit to accelerating development as appropriate at key junctures. A hands-off approach simply will not get us there in time.

Governments should reduce the regulatory burden on industry with the following measures:

- Improved coordination between federal and provincial processes and alignment in scoping Indigenous engagement. Umbrella agreements with each province, setting out how the two levels of government will work together, would boost predictability while advancing timeliness and efficiency. Requirements and processes should be streamlined, using a single window, electronic-based approach.
- Better coordination between Impact Assessment Agency of Canada (IAAC) and permitting departments, and among permitting departments, particularly ECCC, Fisheries and Oceans Canada (DFO), Transport Canada (TC) and NRCAN to reduce delays and improve timelines.

Finally, where processes directly impact the development of critical minerals (as identified through value chain mapping and consultation with industry), an extra level of facilitation should take place.

The below represents areas of highest priority:

- a. Transportation (Road, Rail, Marine) to prospective mineral developments.**
Transportation infrastructure is a necessary enabler of development, but it requires significant planning, investment, and consultation with local communities to ensure timely construction and the preservation of access after construction has occurred.
- b. Energy (Supply, Transmission capacity).** As the economy moves toward electrification of various end-uses, governments will need to make significant investments in renewable energy supply, including transmission capacity in more remote areas ripe for mineral

development. The federal government has a role to play by incenting the development of new technologies such as modular nuclear reactors, in complement with available renewables to provide alternatives to electric generation from diesel fuel. All development needs to be done in close coordination with aboriginal partners, as recently demonstrated by Hydro One and the Gwayakocchigewin Limited Partnership (GLP), a consortium of eight First Nations for the development of the Waasigan Transmission Line in northern Ontario.

- c. **Mineral Recycling.** Nowhere is the establishment of a circular economy more relevant than in the EV supply chain. Given the projected increase in demand for key materials and the concentration of existing production, a critical mineral strategy must dedicate significant energy to ensure the reuse and recycling of the material we already have.

5. **Incentivize made in Canada innovation.**

There has been significant effort lately to increase investment in a new generation of emission-free vehicles and batteries to power them. Most significant was the investment in Stellantis' Automotive Research & Development Centre (ARDC) which is set to host a brand-new centre of excellence focused on battery development. This research centre has been a prominent example of collaboration between private sector and academia, delivering market-focused innovation and anchoring investment in our automotive sector for over two decades.

We should build on examples like these to harness the creativity and expertise of our business leaders as we seek to tackle Canada's deficit in business commercialization. Our people, society, and businesses – is full of ideas. Our post-secondary institutions have more peer-reviewed articles per capita than anywhere else in the world. Similarly, our government research labs regularly turn out a range of intellectual property (IP) and patents each year. However, business R&D investment has been on the decline for decades. To successfully compete in the globally competitive area of EV production, we must turn those ideas into new products and services – new generations of auto parts, battery component, navigation system, etc.

CME supports the creation of a new Canadian Innovation and Investment Agency to provide a more focused approach to the commercialization of new products, services, and business growth, as announced in Budget 2022. Part of the mandate given to this new body should be to incentivize investment in the mining and manufacturing sector's transition to more sustainable production and end-of-life recycling of critical minerals and associated downstream supply chain activities.

For example, Vale Canada is currently involved in research to study the safe treatment of black mass (the material produced after the crushing of electric batteries for recycling). These efforts should be augmented in close coordination with various levels of government and existing funding

bodies and program such as MITACS, NSERC and IRAP, to facilitate a quicker and more profitable transition to a circular economy.

Also positive was the launch in spring 2022 of a critical minerals processing-specific innovation and R&D fund by Natural Resources Canada. To build and improve on this initiative, we recommend the following actions:

- Renew and expand the funding available in this program in consultation with industry, with a commitment to review and subsequently renew funding based on need and potential.
- Increase the availability of funding per-project to \$10 million dollars to better represent the cost of pilot-scale demonstrations of mineral processing technologies and include in scope projects that decarbonize current critical mineral processing assets operating in Canada.
- Streamline program administration by committing to evaluating and deciding on project approvals within 90 days of receipt of the application.
- Transition from a fixed call for applications to an open and rolling call for applications that maximizes flexibility for proponents and matches the real time nature of scientific research.