



October 20<sup>th</sup>, 2021

## **C2M2A — Progress Report No. 4**

### ***C2M2A – “bringing investment, innovation and employment to the new critical minerals and metal industry of Canada”***

It has been several months since our last report (Progress Report #3 dated May 4<sup>th</sup>) – not that we haven't move the yardsticks forward, rather the opposite. There has been a growth of competing global critical material supply initiatives, newly formed collaborative organizations, and an increasing number of informed (and lesser informed) influencers. Recent supply chain disruptions, both down- and upstream, stronger national and global climate policies and e-mobility targets have not made things easy. These certainly present opportunities for Canada.

I would like to thank followers and those who continue to enthusiastically express interest in the C2M2A's goals. I am pleased to report on the significant progress being made as we drive C2M2A's efforts.

### **Federal Budget**

The Federal Government presented its first budget in two years in April in which Cleantech, e-mobility and critical material supply chains received significant profile. These are seen as instrumental to revitalizing and building Canada's future economy (although several line items are not as bold as many have argued as needed). The subsequently called federal election has delayed the budget's formal adoption. During this temporary lull, C2M2A and its members have continued to work with policy makers and advisors to better understand and hopefully help shape the establishment of the Critical Materials Office and R&D priorities at Canada's national labs and understanding Strategic Initiative Fund programs.

The Federal Budget can be found at <https://www.budget.gc.ca/2021/home-accueil-en.html>

### **Parliamentary Standing Committee on Natural Resources & Critical Materials**

As reported in May, the House of Commons Standing Committee undertook a study on positioning Canada as a responsible source in critical minerals and battery value chains in support of renewable energy and clean technology in the post-COVID-19 economy. The Committee issued its findings in June 2021, which can be found at <https://www.ourcommons.ca/Content/Committee/432/RNNR/Reports/RP11412677/rnnrrp06/rnnrrp06-e.pdf>

### **Collaborating with Canadians**

- Accelerate – formerly the ‘Zero Emission Vehicle (ZEV) Supply Chain Alliance’  
Last month, C2M2A, as a Founding Member, joined a group of industry organizations focused on ZEV Supply Chains. This 5-year national initiative brings together key players across Canada, from mining to mobility, from R&D to commercialization, and from vehicle assembly to infrastructure. The alliance provides a forum to collaborate, strategize and advocate for priorities that will support the accelerated development of a ZEV supply chains in Canada.



C2M2A believes it is important that companies along the supply chain organize and align themselves on the policies, programs, and support needed to ensure its growth and success.

The Founding Members are:



To learn more, just click on <https://acceleratezev.ca/>

- Battery Metals Association of Canada (BMAC)  
C2M2A participated in series of three half-day virtual workshop hosted by BMAC will be co- with The Energy Futures Lab (October 7th, 14th & 21<sup>st</sup>). The workshop explored new ways to collaborate, communicate and find solutions in the battery metals value chain.

The workshop built on BMAC’s recently released report, *Maximizing Canada’s Battery Metals Sector*, which looks at how Canada can build a thriving mines-to-mobility supply chain (link below). The report is based on a workshop held earlier this year that brought together leaders from all segments of the supply chain. The report examines current and potential markets in mining, chemical production, battery components, battery cell manufacturing, end-use applications, and recycling. It presents key barriers to growing each segment of the supply chain, along with potential solution pathways to overcome these barriers. It also reviews the geopolitical, policy, and regulatory challenges to building out the supply chain, and provides a potential path forward to grow the battery metals sector. The BMAC report can be found at [https://www2.jwnenergy.com//Maximizing\\_Canada%E2%80%99s\\_Battery\\_Metals\\_Sector](https://www2.jwnenergy.com//Maximizing_Canada%E2%80%99s_Battery_Metals_Sector)

- NGen  
NGen is the industry-led, non-profit organization leading Canada’s Advanced Manufacturing Supercluster. It is one of five national networks supported by Canada’s ambitious Innovation Superclusters Initiative.

NGen recently launched its *Automotive Zero-Emission Manufacturing Challenge*, by which it will be investing up to \$20 million in projects with an industry match of at least 50%, resulting in at least \$40 million of new advanced manufacturing innovation spending for the automotive industry. NGen projects focus on developing new Advanced Manufacturing capabilities, with this challenge expecting to develop new processes throughout ZEV value chains including crushing ore, mineral refinement, materials development, downstream to manufacturing



components, systems and final assembly, and recycling. The broader goals – to develop products to enter new supply chains and scale manufacturing, reduce the overall cost of manufacturing EV products in Canada, increase the quality of the products being manufactured, reduce overall operational emissions and build flexibility into production processes

Project proposals are expected to be transformative, applied, enduring, and collaborative. You can learn more by clicking on <https://www.ngen.ca/funding/challenge/azemc>

### **ISO – REEs & Lithium Standards and a recently-formed Strategic Advisory Committee**

- TC298 REEs – This technical Committee has now published six standards covering definitions, recycling, traceability, packaging & labelling and testing & analysis. C2M2A and experts from several of its members have been actively engaged in the five working groups, one of which is a newly established Working Group to explore and develop standards related to Sustainability as applied to REEs. At the recent plenary meeting (October 13<sup>th</sup> & 14<sup>th</sup>), several new proposed standards, in the areas of testing & analysis, recycling and the traceability of midstream rare earth processed products were tabled.

The number of Participating Member countries on TC298 has recently increased with two European members joining the effort. Discussions with the Standards Council of Canada and other authorities have also been initiated around if and how such standards can be adopted as Canadian standards

- ISO/TC333 Lithium – Canada is one of 18 Participating Member countries to more recently launch this ISO Technical Committee effort to develop standards in the areas of lithium mining, concentration, extraction, separation, conversion to useful lithium compounds/materials (including oxides, salts, metals, master alloys, lithium-ion battery materials, etc.), recycling and reuse. TC333 recently receive a half dozen new Project proposals covering vocabulary, testing & analysis and sustainability.
- Strategic Advisory Group on Critical Materials (SAGCM) -- Under the convenorship of the Australians, the ISO launched this new initiative in July to collaboratively explore challenges, opportunities and priorities for standardization across the broad category of critical minerals. Canada holds one of eight seats on this effort. This initiative provides a mechanism for an holistic view of priorities for standardization in the critical minerals sector and collaboratively determine a path forward for the development of priority standards. rather than the fragmented approach where each mineral is considered in isolation. It is expected, at a minimum, that the scope of the SAGCM's work include mining and production of raw materials, and processing steps to pre-cursor materials. The SAG is set to hold it third meeting on October 27<sup>th</sup>.

### **Canada Collaborating with Others**

- *Critical minerals: From discovery to supply chain (November 16<sup>th</sup> – 18<sup>th</sup>, 2021)*



Being hosted by Natural Resources Canada, Geoscience Australia and the US Geological Society, this online workshop, this three-day on-line workshop will address the critical minerals needed to grow low-carbon economies, emphasizing those used in battery, magnet, and photovoltaic technologies. Presentations will consider the life cycle of critical minerals from exploration, resource availability, and mineral systems to market trends and supply chains. The preliminary 'six-session over three-day' program includes:

- Session 1: Critical minerals and markets
- Session 2: Geology of critical minerals
- Session 3: World-class critical mineral deposits
- Session 4: Selected critical mineral deposits I
- Session 5: Selected critical mineral deposits II
- Session 6: Exploration methods and technical considerations

Registration is free and can be found at [https://zoom.us/webinar/register/WN\\_6mYvDD6bSly5yjD6csXpog](https://zoom.us/webinar/register/WN_6mYvDD6bSly5yjD6csXpog)

- **UK-Canada Bilateral Regulatory Workshop**

Building a robust global framework to support a circular economy for critical materials, discussions continue with a longer-term possibility on a global regulatory framework to support a circular economy for critical materials. These discussions span many different topics and dimensions, such as waste management policies that define and regulate waste, reuse, repurposing, and recycling; standards development of product design to account for recyclability, requirements for product chemistry labelling, and policy tools to incentivize industry and consumers.

The UK Science and Innovation Network in Canada (British High Commission in Canada) and the UK's Critical Minerals Association (CMA) in collaboration with C2M2A and Natural Resources Canada are looking at a one to two-day virtual event for industry and policy participants later this year or early during the first quarter 2022.

### **In the News**

C2M2A continues to be approached by media and technical & business organizations for comments on the highly dynamic developments, opportunities and challenges in the critical material supply chain space. C2M2A members have also been advancing their projects and services offerings. The following links provide only a smattering of their progress and offerings.



#### Avalon Advanced Materials

- [https://www.avalonadvancedmaterials.com/news\\_media/news\\_releases/index.php?content\\_id=930](https://www.avalonadvancedmaterials.com/news_media/news_releases/index.php?content_id=930)
- [https://www.avalonadvancedmaterials.com/news\\_media/news\\_releases/index.php?content\\_id=938](https://www.avalonadvancedmaterials.com/news_media/news_releases/index.php?content_id=938)

#### Commerce Resources

- <https://commerceresources.com/commerce-resources-corp-achieves-98-ndpr-recoveries-into-solution-from-sulphation-crack-of-its-high-grade-concentrates/>
- <https://commerceresources.com/commerce-resources-corp-announces-participation-in-eco-friendly-flotation-collector-research/>

#### Defence Metals

- <https://defensemets.com/defense-metals-provides-wicheeda-rare-earth-element-project-economic-scenario-analysis-update/>
- <https://defensemets.com/defense-metals-announces-landmark-memorandum-of-understanding-with-sinosteel-mecc-for-information-sharing-beneficiation-testwork-and-investigation-into-establishing-a-large-scale-pilot-plant-at-the/>

#### Innovation Metals

- <https://www.globenewswire.com/news-release/2021/05/04/2222508/0/en/Innovation-Metals-Corp-Announces-Execution-of-RapidSX-Separation-Technology-Testing-Agreement-with-Rare-Earth-Producer.html>
- <https://www.globenewswire.com/en/news-release/2021/05/19/2232590/0/en/Innovation-Metals-Corp-Appoints-Critical-Metals-Industry-Experts-to-Technical-Advisory-Board-to-Enhance-Commercialization-of-RapidSX-Separation-Technology.html>

#### Kingston Process Metallurgy

- [https://www.kpm.ca/service\\_er.html](https://www.kpm.ca/service_er.html)



### Neo Performance Materials

- <https://www.neomaterials.com/energy-fuels-and-neo-performance-materials-announce-contract-signing-and-launch-of-commercial-shipments-of-rare-earth-product-to-europe-in-emerging-u-s-based-rare-earth-supply-chain/>
- <https://www.neomaterials.com/neo-performance-materials-joins-the-u-n-global-compact-and-commits-to-implementing-its-10-principles-to-promote-sustainability/>

### Process Research Ortech

- <https://www.processortech.com/info.php?pnum=1>

### Saskatchewan Research Council

- <https://mailchi.mp/src/ree-update-aug21>

### Search Minerals

- <http://www.searchminerals.ca/news/news-releases/search-minerals-and-usa-rare-earth-enter-non-binding-memorandum-of-understanding-for-an-offtake-agreement>
- <http://www.searchminerals.ca/news/news-releases/search-minerals-commissions-combined-foxtrot-deep-fox-resource-preliminary-economic-assessment>

### SGS Canada

- <https://www.sgs.ca/en/our-company/about-sgs/sgs-in-brief>

### Cheetah Resources/Vital Metals

- <https://cheetahresources.com/mining-technology-vital-metals-signs-rare-earth-carbonate-supply-agreement-with-ucore/>
- <https://www.miningnews.net/energy-minerals-news/news/1419774/vital-signs-maiden-us-offtake-agreement>

Until soon - be well, be safe and be kind.

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