

February 15, 2024

Critical Minerals Centre of Excellence (CMCE)
Natural Resources Canada

Email: cmce-cemc@nrcan-rncan.gc.ca

Subject: QMA comments – Consultation: Update of Canada's Critical Minerals list and methodology

Dear Sir, Dear Madam,

The Québec Mining Association (the “QMA”) is pleased to have this opportunity to submit its comments as part of the consultation on the updating of Canada's Critical Minerals list and methodology.

The QMA was founded in 1936 and speaks proactively for all mining companies involved in the production of metals and minerals, mines, metallurgical companies, mining contractors and junior mining companies in Québec, along with suppliers, institutions, non-profit organizations and other mining sector partners. The QMA's mission is to promote, support and proactively develop a responsible, committed and innovative mining industry in Québec. Its vision is as follows: *By 2030, the QMA will be recognized by stakeholders as a catalyst for the mining industry, inspiring the ethical conduct of its members, and helping them to achieve the highest environmental, social and governance standards.*

Québec recently updated its list of critical and strategic minerals (CSMs) and extended it to include six further minerals, taking the total from 22 to 28. The QMA was pleased to see the inclusion of manganese, aluminum, apatite, germanium, high-grade silica and, especially, high-grade iron ore, since Québec has a world-leading advantage in the decarbonization of the steel-making process through the use of high-grade iron ore from the Labrador Trough.

Criteria for the Canadian critical minerals list

The QMA agrees with the criteria set out in the Natural Resources Canada consultation paper, but suggests the addition of a criterion covering the CSM lists adopted by Canada's provinces and territories.

According to the consultation paper, mineral criticality is defined using one of the first three criteria, provided both the last two criteria are met:

1. Essential to Canada's economic or national security;
2. Required for our national transition to a sustainable low-carbon and digital economy;
3. A sustainable and strategic source of critical minerals for our international allies;
4. Mineral supply is threatened;
5. The mineral has a reasonable likelihood of being produced in Canada.

The QMA believes that a sixth criterion should be added, as it proposed in 2021 when the federal list was first adopted. As it explained at the time, it is essential for the Canadian government to ensure that the critical and strategic minerals identified by the provinces and territories are included on the Canadian list. If a CSM has been identified by a province or territory as critical and strategic, it should be considered in the same way as those of our allies and partners (criterion 3). As the lists may vary over time, it goes without saying that the Canadian list should also remain flexible.

In addition, the QMA believes that the CSMs recently added to Québec's list, namely manganese, aluminum, apatite, germanium, high-grade silica ore (99% silica) and, especially, high-grade iron ore (67% iron), meet the criteria of the Canadian list and should be added to it.

Canada's critical minerals list

In the view of the QMA, the minerals recently added to the Québec list should be recognized as critical by the Canadian government. Currently, apatite, cadmium, high-grade iron ore and high-grade silica ore are not part of the Canadian list despite being on the Québec list.

In addition to meeting the criteria of Natural Resources Canada, the high-grade, low-impurity iron ore found in the Labrador Trough has been recognized as a critical mineral by both Québec and Newfoundland and Labrador. This high-grade ore is used for the production of green steel, a critical material that is indispensable in the manufacture of energy transition technologies such as wind turbines, hydroelectric dams, photovoltaic panels, electric vehicles and geothermal systems.

Since the steel industry is responsible for almost 10% of the world's greenhouse gas emissions, it is facing a major challenge. Green steel made using high-grade iron ore produces up to seven times less carbon emissions than steel made using coal.

Around the world, increasing numbers of steelworks are announcing major investments to replace blast furnaces with electric arc furnaces, significantly reducing their greenhouse gas emissions. However, the electric arc technology requires the use of a high-grade iron ore concentrate.

High-grade iron ore is a rare mineral that contains few impurities and a high percentage of iron. In Québec, iron ore, to be considered a critical and strategic mineral, must contain at least 67% iron and have few impurities. Only 15% of the iron ore available worldwide is high-grade.

Among the small number of countries that can supply high-grade iron ore, only Canada can meet all the technical, geopolitical and ESG criteria and has sufficient reserves to meet the growing demand.

Except for Canada, the world's major producers face quality, extraction and geopolitical problems, creating a risk for the ongoing supply of high-grade ore:

- Brazil: the shift from wet concentration to dry concentration has made it harder to process the ore and eliminate impurities; over the years, the iron concentration has fallen below the percentage needed to qualify the ore as high-grade, and enrichment has become more difficult because of the constraints relating to mining residue.
- Russia, Ukraine, China and Iran: the current geopolitical instability and trade barriers have made exports of high-grade ore unlikely or economically unrealistic in the immediate future.

- Australia: the iron ore currently mined in Australia has an average alumina, silica and phosphorus content above the level needed to be used effectively in green steel production. Although the country has high-quality reserves, the lack of access to deep-water ports and basic infrastructures limits the feasibility of exports in the short term.

Apatite (phosphate) is essential to farming, and is used in many ways, including fertilizer production, drinking water treatment, animal feed and metallurgy. Québec has large phosphate deposits, including two mine projects under development that will produce a high-purity, low-contaminant phosphate concentrate that is ideal for use as fertilizer and in technical applications, including the production of purified phosphoric acid (PPA), an essential input in the production of lithium-iron-phosphate (LFP) batteries. Québec, like several other jurisdictions, including Ontario and the European Union, has recognized phosphate as a critical mineral. In addition, phosphate is on the “watchlist” of minerals that are deemed to be increasing in criticality in the United Kingdom.

It is important to note that Canada is 100%-dependent on imports of phosphate ore and phosphate-based finished products (monoammonium phosphate (MAP) and diammonium phosphate (DAP) fertilizers, and phosphoric acid). Canada imports most of its phosphates from the United States, whose reserves are depleting and which is also facing operational challenges. The QMA believes that phosphates meet the criteria for a critical mineral in Canada.

Jurisdiction over natural resource management

The QMA reiterates that since natural resource management in Canada is a provincial jurisdiction, the provinces should draw up their own CSM lists and the federal government should, at minimum, recognize the CSM lists of the provinces and territories in order to incorporate them in its own list. The federal government could take advantage of the work performed by the provinces and territories and include the CSMs they identify on the Canadian list.

The Québec Mining Association welcomes the opportunity provided by the representatives of the Critical Minerals Centre of Excellence at Natural Resources Canada to take part in the consultation, and offers its support for the next stages of its work.

For more information, please contact the undersigned.

Sincerely,

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