UNITED STEELWORKERS

USW

DISTRICT 3

CRITICAL MINERALS STRATEGY

July 10, 2023

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Vision

Become the primary union representing workers in all parts of the critical mineral value chain, from exploration to recycling.

Introduction

Governments are increasingly focused on advancing critical mineral extraction and security given their important role in the technologies necessary to meet energy transition and climate goals.

Canada has committed to trying to become a net zero-emissions country by 2050, which includes milestones such as 100% of new vehicles sold will need to be zero emissions vehicles by 2035. Considering it takes approximately 15 years get a mine from idea to full production these timelines are not far off, and the government is trying to ensure our country has the capacity to meet domestic and global demand in the coming years.

In that context, this strategy is designed to guide the USW District 3 (D3) in its actions and interactions with government and private sector so that we can take advantage of the critical mineral push. We can start taking action now to support projects on our terms, so we are players at the forefront, instead of chasing opportunities late in the cycle. We can position the union now so that when advanced projects come online, we are ready to organize and service the mining sector to meet the vision of becoming the primary union representing workers in Canada's critical mineral sector.

Broadly, the strategy builds on our union's current presence and excellent reputation in mining, manufacturing, processing, and recycling to reach key objectives. Those include:

Strategy objectives

1. Organized labour participation in the expansion of Canada's mining industry.
2. Organize by identifying current and future targets and communities to build relationships with to support our desire to increase USW unionization rates in the sector.
3. Lobby all levels of government for policies that build integrated supply chains and favourable conditions for union workers.
4. Advance reconciliation with Indigenous peoples by building relationships and showcasing the value of working together.

What are criticial minerals?

Critical minerals can change with time based on supply and demand, technological development, and societal needs. The federal government currently identifies 31 critical minerals to guide their incentive and investment dollars (see Appendix 1 for a full list).

In Canada, critical minerals must be: "essential to economic security and have a threatened supply; required for national transition into low carbon economy; and a sustainable source of highly strategic minerals for Canadian partners and allies". Canada, and USW members, are already a leader in producing several critical minerals, including potash, nickel, uranium and Aluminum.

The government of Canada prioritizes the following six critical minerals for domestic manufacturing needs:

- Lithium
- Graphite
- Nickel
- Cobalt
- Copper
- Rare earth elements

The government of Canada prioritizes the following critical minerals for export, expanding domestic refining, processing and components manufacturing:

- Vanadium
- Gallium
- Titanium
- Scandium
- Magnesium
- Tellurium
- Zinc
- Niobium
- Germanium
- Potash
- Uranium
- Aluminum

Key uses for critical minerals

Critical minerals are the building blocks for the green and digital economy. For example:

- Copper is one of the best metals to wire a path for electricity.
- Lithium, cobalt, nickel and magnets are used in batteries.
- Indium and tellurium are used to make solar panels.
- Uranium is a key material for nuclear power.
- Manganese, platinum, rare earth metals and magnets are required for wind turbines.

Growth in initiatives to electrify, power, and decarbonize industrial processes and manufacturing; advanced technologies like artificial intelligence; and attempts to improve agricultural productivity are all expected to boost the demand for many critical minerals.

For example, the International Energy Agency estimates the energy sector's overall needs for critical minerals could increase six-fold by 2040. The Chinese market champions lithium iron phosphate batteries (LFP[1]), as opposed to the lithium nickel manganese cobalt (NMC) batteries which are more popular in North American market, but regardless of which ends up winning out[2], either type needs critical minerals.

While that competition plays out, the North American zero-emission vehicle market is estimated to reach $174 billion by 2030, creating more than 220,000 jobs in mining, processing, and manufacturing. That presents an opportunity to organize a pool of workers almost equal to the current USW Canada membership.

1 LFP batteries are safer and cheaper, but initially they weren't the top choice in cars because they used to have much lower energy density and perform poorly in low temperatures. A decade of research has narrowed the energy density gap.

2 In the past two years, the number of EVs sold annually in the country grew from 1.3 million to 6.8 million, making 2022 the eighth consecutive year in which China was the world's largest market for EVs. For comparison, the US only sold about 800,000 EVs in 2022.

Which critical minerals are in District 3

The geographic region covered by D3 has deposits of all six critical minerals for domestic manufacturing, with advanced projects or mines distributed as follows (see Figure 1 for a visual map):

- **Lithium**: Manitoba mine, Alberta advanced project.
- **Nickel**: Manitoba mine, smelter in Alberta.
- **Graphite**: British Columbia (not on the Government of Canada map, but there is a junior mine operation called Eagle Graphite near Nelson).
- **Cobalt**: Northwest Territories advanced project, smelter in Alberta
- **Copper**: British Columbia mines, advanced projects in Nunavut, Northwest Territories and Yukon.
- **Rare Earth Elements**: Northwest Territories advanced project.

It also has deposits of 6/12 critical minerals for export:

- **Titanium**: Alberta advanced Project
- **Zinc**: Smelter in B.C., advanced project in NWT, deposits in Manitoba at Hudbay[3] Chisel North.
- **Niobium**: Advanced project in B.C.
- **Aluminum**: Smelter in B.C.
- **Uranium**: Saskatchewan mines and advanced projects
- **Potash**: Saskatchewan mines

While not on the federal priority list, USW Local 7499 also produces the critical mineral Cesium at the Tantalum Mine Corp in Lac Du Bonnet, MB.

Table 1 summarizes the scope of organizing opportunity ahead with 92 advanced projects potentially coming online in the future and 39 active operations, of which USW has organized 16[4]. There are opportunities for organizing in all provinces and territories. Please see the attached Excel document for a detailed list of all projects and which are organized by USW.

Table 1 - Critical mineral projects in D3

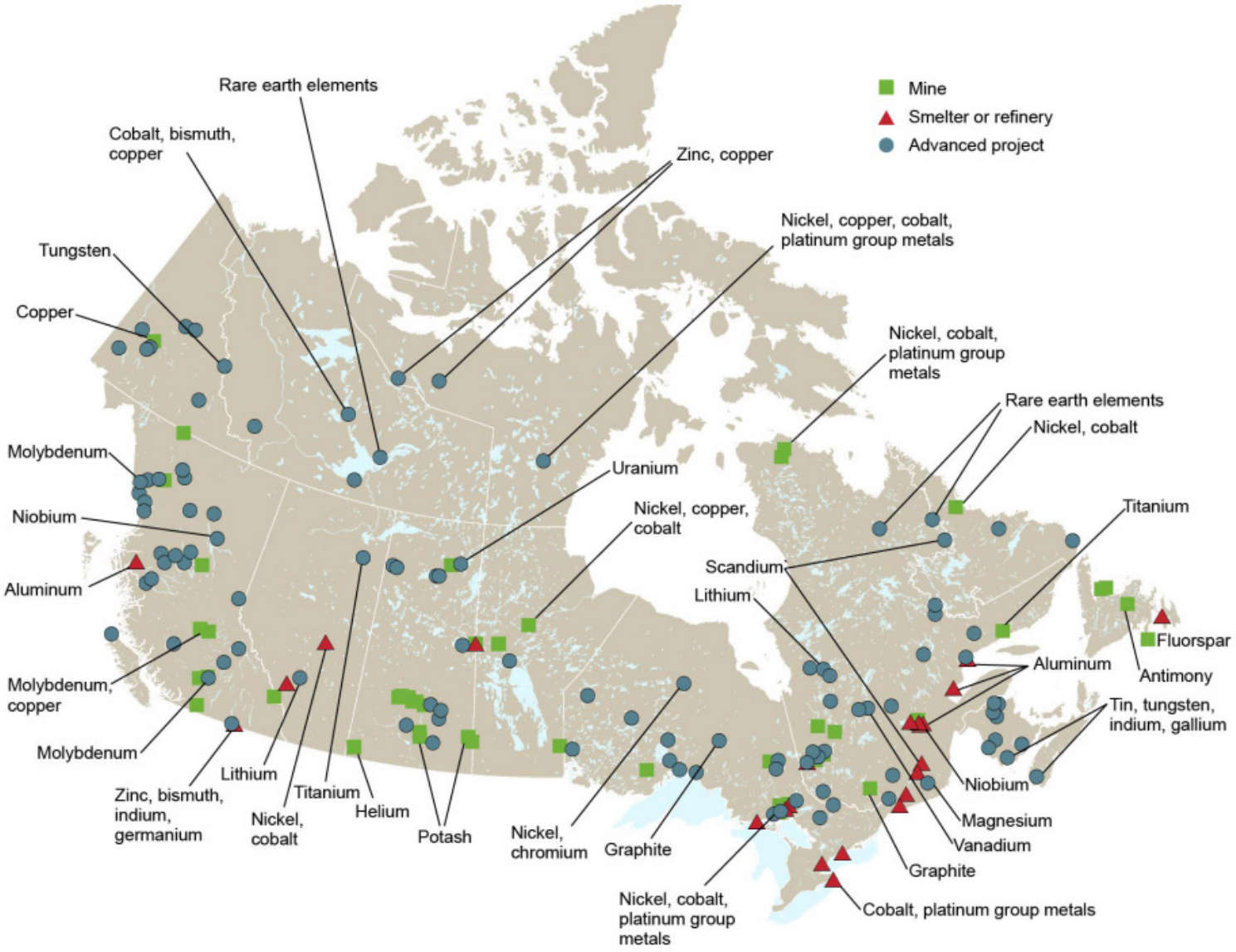
	Active Mines	Processing	Advanced Projects[5]
Yukon	1	0	16
NWT	0	0	5
Nunavut	0	0	4
BC	9	2	33
AB	1	2	5
SK	17	0	18
MB	6	1	11
TOTALS	34	5	92

3 Hudbay in Flin Flon/Snow Lake Manitoba considers themselves a gold mine. However, they produce a lot of copper and some zinc. These metals are historically produced in the area (also known as the "greenstone belt") in large quantities

4 This count includes the Hudbay zinc refinery which has been curtailed and will not be operating again.

5 Advanced projects are those with mineral reserves or resources (measured or indicated), the potential viability of which is supported by a preliminary economic assessment or a prefeasibility/feasibility study.

Figure 1: Canada's critical mineral opportunities

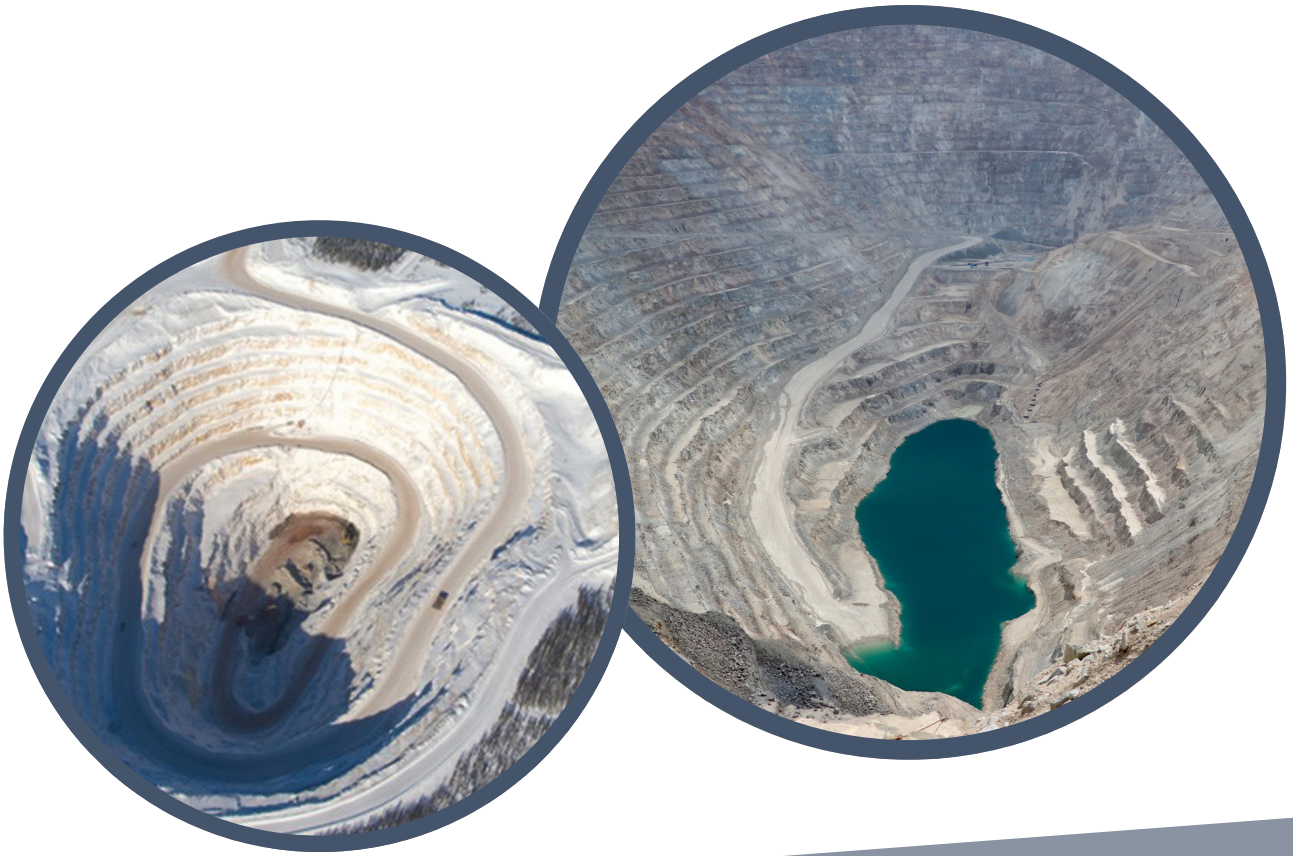


Note: the refinery indicated in Manitoba is the Hudbay zinc refinery, which has been curtailed and will not be operating again.

Source: Canadian Critical Minerals Strategy: From Exploration to Recycling: Powering the green and digital economy for Canada and the World. Accessed February 3, 2023. For internal use only, we don't have the right to distribute.

Challenges

- MABC indicates permitting and authorizations are one of the biggest challenges facing mines, processing facilities and advanced projects. The Fraser institute study on permit approval times supports this and suggest the problem is widespread across Canadian mining jurisdictions. There is often limited coordination between ministries responsible for approving different permits and regulating which can create confusion, uncertainty, and difficulty for the wrong reasons. According to MABC mining projects take an average of 15 years to bring from idea into production. This timeline puts projects started today into production 3 years (2038) after Canada's goal of 100% zero vehicle emissions sales and 12 years out from Canada's 2050 climate goals. Governments must ensure the regulatory system is thorough but does not unnecessarily tie up projects.
- Additionally, labour force challenges will likely persist, besides the 220,000 potential jobs indicated above, the Mining Industry Human Resources Council forecast the need for 113,000 new workers by 2030 to meet demand and replace retiring workers.
- Energy to run industrial operations is one of the biggest contributors to overall GHG emissions in mining. Since jurisdictions like BC and MB generate clean electricity for industrial use, finding additional ways to lower GHG emissions can be difficult and put Canadian producers at a cost disadvantage against imports from places like Chile or Australia which don't have the same policies.
- Organizing at remote mines posts a host of challenges including difficulties getting access orders, making and maintaining contacts at fly-in, fly-out job sites, and generally building support and solidarity where there isn't a strong community already in place making this task difficult.



Competitive advantages

- Despite the challenges mining jurisdictions in D3 have several key advantages that help position them to take advantage of a boom in critical mineral demand, which the union can leverage to organize new members. Specifically: an abundance of resources; skilled labour with experience and excellence in mining; and a resilient supply chain which generally stands up to environmental, social, and governance scrutiny in other jurisdictions with an abundance of critical minerals.
- Our union also has key competitive advantages that may motivate miners to join us instead of other unions. We:
    - Have a deep history and significant experience negotiating in the mining sector, with a host of high-quality agreements to showcase the benefit our union can provide miners.
    - Are developing more experience navigating the evolving nexus of First Nations rights, complex industrial projects and labour rights at mines like HVC and Red Chris, and Cameco.
    - Have regional advantages such as good relationships with the current government and favourable organizing conditions (card check) in British Columbia, or the dominance of USW in mining in Saskatchewan's potash and uranium sectors.
    - Have members in many commodity groups that know others in the industry which may help generate useful leads. See Appendix 2 for a breakdown of union mining membership by province and commodity in the context of Canada's mining workforce.

Recommendations to achieve objectives and vision

Recommendations to achieve our vision fall into three categories:

1. USW union action;
2. Lobbying provincial government asks; and
3. Lobbying the federal government.

Union action

- Continue organizing attempts in upstream (mineral extraction), mid-stream (intermediate processing + advanced manufacturing + recycling), and downstream (assembly and end use products) segments of the critical minerals value chain.
- Pre-project engagement by the Indigenous Engagement Coordinator with Indigenous communities in areas where advanced projects are planned, to build a relationship well in advance of organizing and bargaining.
    - Building relationships will showcase the value of working together and hopefully erode resistance Indigenous communities have to union involvement.
    - The mining sector is the second largest private sector employer of Indigenous people in Canada, behind construction[6]. This engagement can also help us prepare to service an influx of Indigenous members.
- Union offers project proponents to advocate that governments fast track permit and authorizations for advanced projects in return for voluntary cert opportunities/neutrality agreements.
- This advocacy must recognize the Duty to Consult and Accommodate Indigenous communities where the projects are located.
- Indigenous coordinator engagement efforts should try to determine where there is Indigenous support for advanced projects to determine where there is a high likelihood that Consultation and Accommodations will lead to community project support.

Provincial governments across D3

- Support stakeholder (like MABC and others) calls for more effective permitting and authorization processes for advanced critical mineral projects.
    - Encourage different ministries involved are coordinated and communicating on each project and that there is cohesion and cooperation in intergovernmental policy;
    - That there is a predicable process (not outcome);
    - Make voluntary recognition a choice that helps fast track applications due to the union's role in oversight over health and safety.
    - NOTE: This support is contingent on the stakeholders not calling for a race to the bottom standards style of de-regulation. We do not want to erode labour/environmental standards. We just want to make sure that there are no bureaucratic barriers to project implementation that as strictly related to inefficient government processes.

6 Table 14-10-0104-01 Employment by Indigenous group and occupation (x 1,000)

- Bulk up clean energy grids in remote areas where advanced projects are planned to reduce GHG emissions in the mining sector and build more resilient remote communities.
- Build up zero-emission public vehicle fleets and public infrastructure, utilizing building materials and manufactured projects made in Canada to support growth of domestic industry and build up local markets for these type of products by for example proliferating charging stations.
- Support circular economy initiatives to build up recycling industry.
- Labour Markets training to ensure workers are skilled and able to take advantage of opportunities created by investing in the ideas above.

Federal government[7]

- Build a Canadian integrated value chain (ship minerals from North/west to prairies for processing, then manufacturing in central/eastern Canada) to help diversify and strengthen Canadian supply chain.
    - Key areas identified as high probability for integrated value chains include clean tech zero emission vehicles, wind turbines, solar panels, advanced batteries, hydrogen fuel cells, small modular reactors, Information communications technology and semiconductors.
- Provide Steelworkers a spot on any advisory boards/bodies that monitory and implement critical minerals strategy.
- Include unionization as a requirement of projects approved under the strategic innovation fund ($1.5 billion).
    - Hire unionized companies and contractors to develop renewable energy grids in northern regions where advanced projects are located to supply clean energy needs for extraction, get them off diesel reliance, and push towards environmental goals.
- Emphasize domestic capacity over foreign supply/influence by implementing a border adjustment tax (BAT)[8] on critical minerals being imported for domestic processing/manufacturing.
    - Make sure businesses are incentivized to choose Canadian, union made goods first.
    - Consider rebating Canadian industrial producers on their GHG fees with funds collected from the tax to push down their production costs.
- Include metallurgical coal[9] on the list of critical minerals due to its role in making steel for infrastructure projects and clean energy, eg. wind turbines.

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7 This is going to involve broadening support at the federal level beyond the NDP. Have to work with politicians who support this initiative regardless of political affiliation.

8 A BAT levies a tax depending on where a good is consumed rather than where it is produced. This would make it more expensive to process and manufacture critical minerals sourced internationally, than those produced in Canada. The intention is to incent Canadian production, processing, and manufacturing to keep the benefits of these processes localized to Canada as much as possible.

9 The USW has a significant presence in metallurgical coal extraction in BC. The addition of this commodity in the critical mineral list will help us support those members continued employment.

APPENDIX 1: CANADA'S 31 CRITICAL MINERALS[10]

1. Aluminum
2. Antimony
3. Bismuth
4. Cesium
5. Chromium
6. Cobalt
7. Copper
8. Fluorspar
9. Gallium
10. Germanium
11. Graphite
12. Helium
13. Indium
14. Lithium
15. Magnesium
16. Manganese
17. Molybdenum
18. Nickel
19. Niobium
20. Platinum Group Metals
21. Potash
22. Rare earth element group
23. Scandium
24. Tantalum
25. Tellurium
26. Tin
27. Titanium
28. Tungsten
29. Uranium
30. Vanadium
31. Zinc

10 USW, similar to MABC, would like to see metallurgical coal included on Canada's list.

APPENDIX 2:
USW MINING MEMBERSHIP

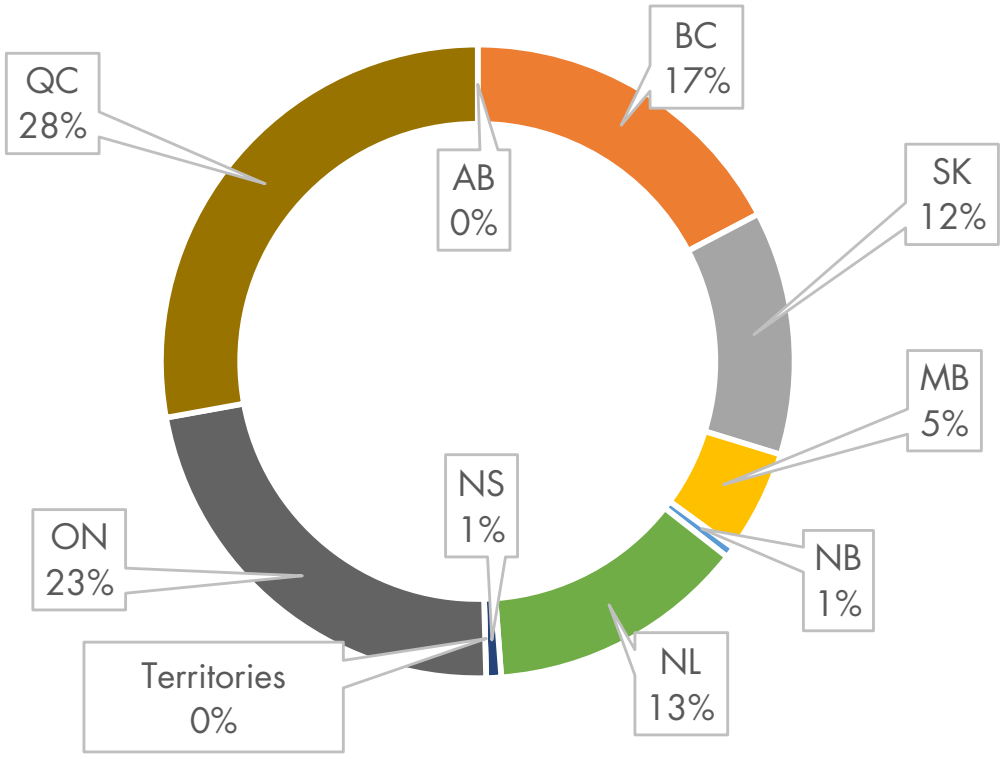
Canada currently produces 60 minerals and metals at 200 mines and 6,500 sand, gravel and stone quarries across the country.

According to StatsCan 206,516 people worked in "Mining, Quarrying, and oil and gas" extraction in Canada in 2022.[11] This is increase of 14,929 people from the 191,587 employed in 2021 and a return to more historical employment levels which averaged ~203,000 people per year between 2008-2022.

Mining and quarrying (excluding oil and gas) employed 80,196 people in Canada in 2022 (an increase from 73,731 in 2021). USW represents 19,397 of them, or ~24 percent of Canada's mining workforce. 6,791, or ~8% Canada's miners are in D3.

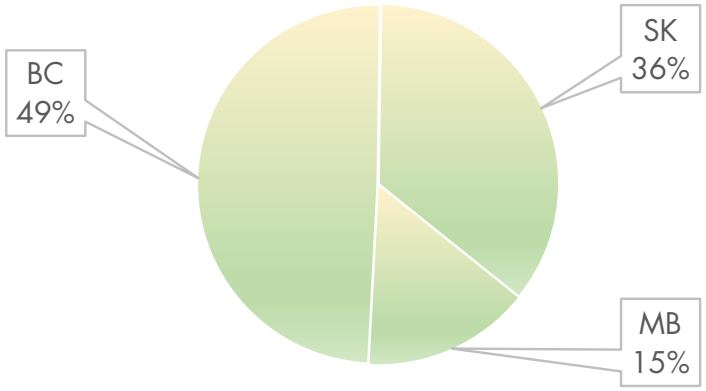
Approximately 1/3 of USW Canada's mining membership are in D3.

USW mining membership % by province and territory

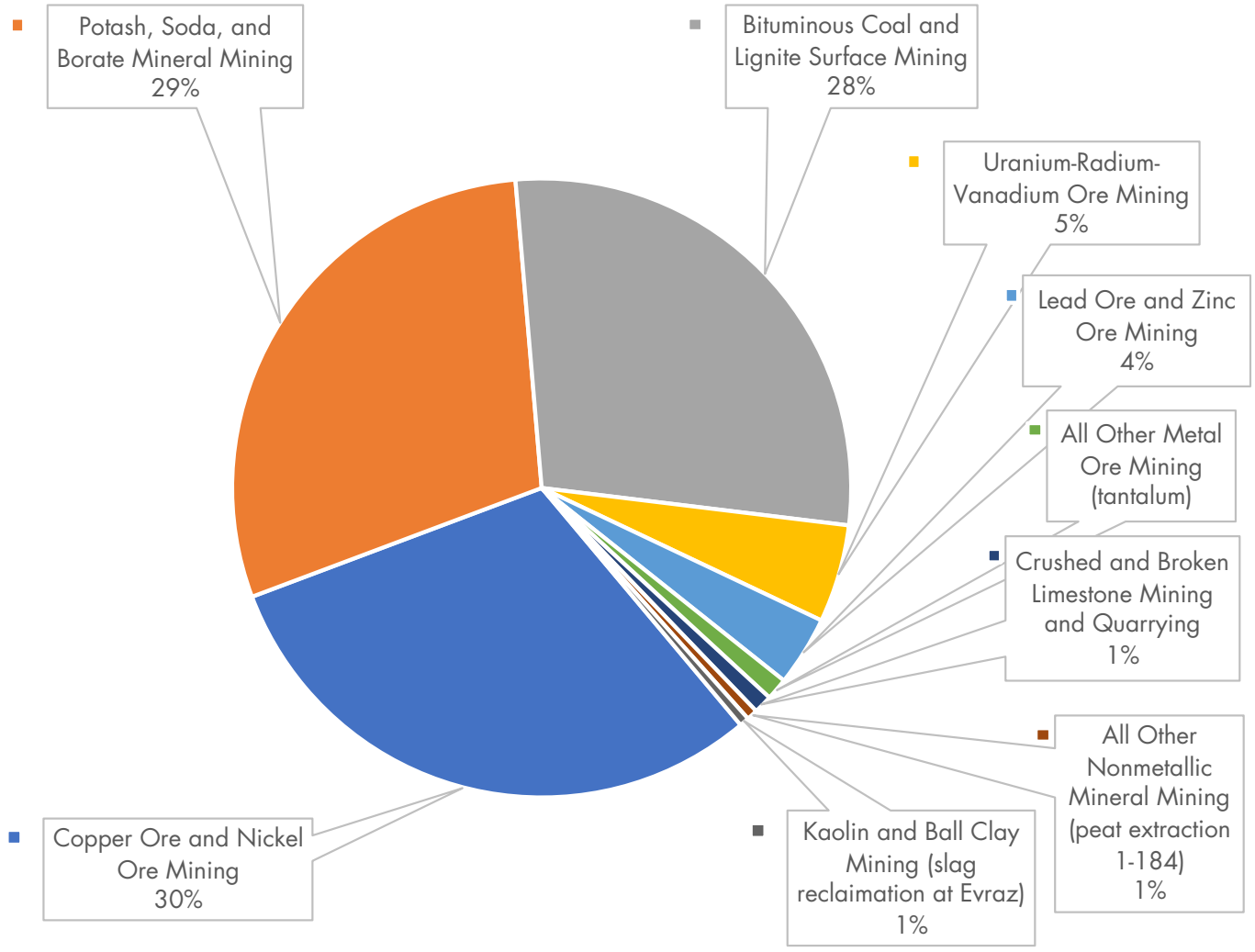


11 Table 14-10-0202-01. Employment by industry, annual. Accessed June 14, 2023.

USW District 3 mining membership



USW D3 membership by commodity



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