Critical Minerals Economic Impact Study

January 2024

MABC
MINING ASSOCIATION OF BRITISH COLUMBIA

CRITICAL MINERALS
OPPORTUNITY RIGHT
UNDER OUR FEET

There are currently 10 metal mines, seven steelmaking coal mines and two smelters operating in British Columbia, which has long been regarded as a key global mining jurisdiction and is home to one of the largest concentrations of mining expertise in the world. BC is Canada's leading producer of copper and steelmaking coal, second largest producer of silver, and only producer of molybdenum. BC's mining industry supports an active exploration industry. More than 1,100 publicly listed exploration companies call Metro Vancouver home.

The mining industry benefits all British Columbians, supporting more than **35,000 jobs** and over **3,700 small, medium and First Nations businesses** in every corner of the province through an annual spend of **$3 billion**. The industry accounted for **$18 billion in economic activity and almost 30 per cent of the province's goods exports in 2022.**

British Columbia's mineral, metal and steelmaking coal producers have among the lowest carbon footprints globally and are helping the world transition to a cleaner, low-carbon future; safely and responsibly. The clean technologies needed for the global energy transition require enormous amounts of critical minerals and metals.

Critical Minerals: A Generational Opportunity for British Columbians

Minerals are deemed "critical" because they play an indispensable role in climate action, economic or technological development, and national security. According to the International Energy Agency, the demand for critical minerals is expected to increase by as much as six times by 2040, while the market for a number of key critical minerals required for the energy transition reached a staggering $320 billion in 2022.

The Government of Canada has a list of 31 minerals it currently considers to be critical. Sixteen of the 31 critical minerals on Canada's list are found or produced in BC. A number of the critical minerals in BC—including copper, nickel, and zinc, for example—are indispensable to the energy transition and efforts to reach net-zero GHG emissions by 2050. They are also essential to allied security and North America's emerging electrical vehicle and battery industries.

Assessing the Economic Impact of BC's Critical Mineral Projects

The Mining Association of British Columbia (MABC) commissioned an independent study to assess the economic impact of 14 proposed critical mineral mines and two proposed mine extensions.

The 16 projects are in advanced stages of development. A number of these projects are in the early stages of regulatory review. Others may enter regulatory review within a few years. Data for the projects were provided from technical reports, preliminary economic assessments, and feasibility studies that were published by the proponents and available through the SEDAR website.[1]

[1] *SEDAR (the System for Electronic Document Analysis and Retrieval) is the system used for electronically filing most securities-related information with the Canadian securities regulatory authorities.*

Development and Construction

While these proposed projects still require regulatory approvals and First Nations support and partnerships, the analysis finds that for all 16 projects the combined estimated near-term economic impacts occurring during the construction of the critical mineral projects includes:

- Total investment of **$36.5 billion** for development and construction
- Economic output of **$79.9 billion**
- GDP of **$38.3 billion**
- Labour income of **$23.6 billion**
- **302,000** person-years of employment (direct, indirect and induced jobs)
- Tax revenues of **$10.862 billion**

Each mine project would take over three years to construct, representing an average investment of **$2.3 billion**, providing almost **$1.5 billion in labour income** and creating nearly **19,000 person-years** of employment per mine, and almost **$680 million in tax revenue.**

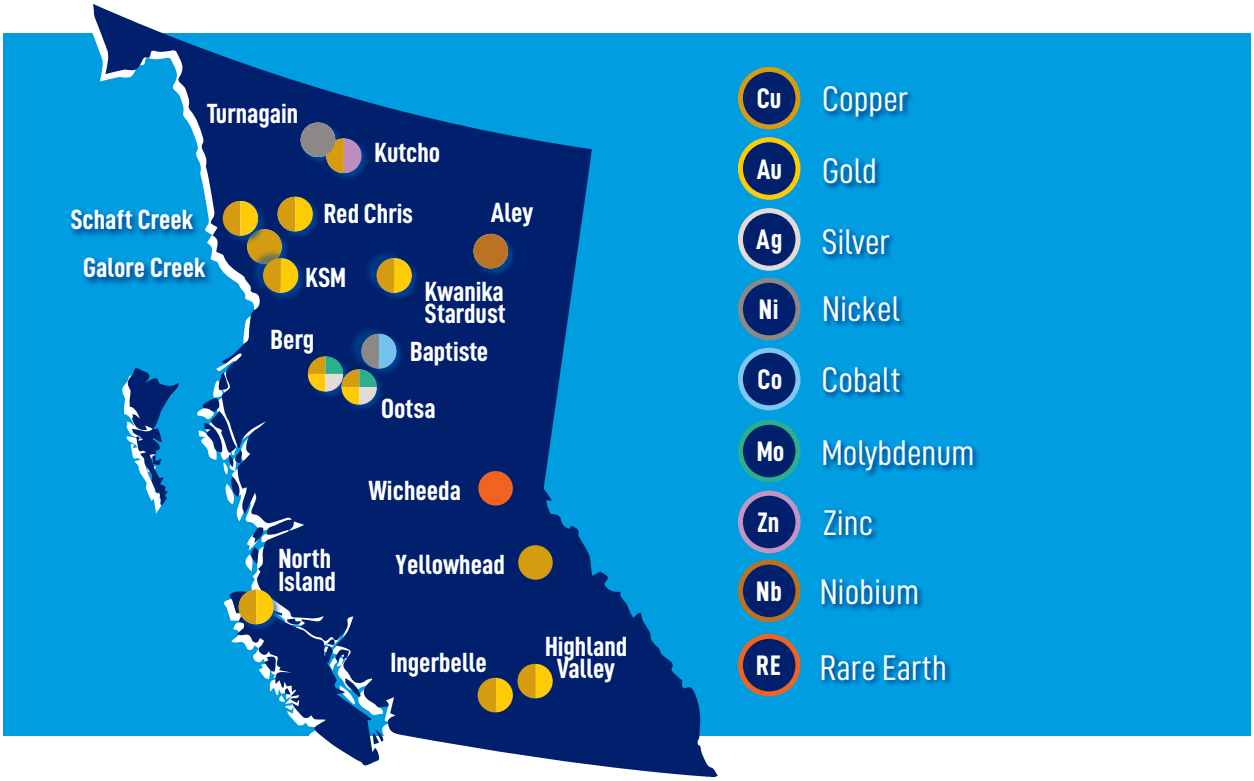
Ongoing Operations

The combined estimated long-term economic benefits created by the 16 mines' ongoing operations include:

- Economic output of **$791.7 billion**
- GDP of **$398.3 billion**
- Labour income of **$183.8 billion**
- **2,155,000** person-years of employment (direct, indirect and induced jobs)
- Tax revenues of **$154.5 billion**

According to the study, each of the 16 critical mineral mines reviewed would generate GDP of **$24.8 billion** during their respective life span averaging 24.1 years. The total labour income at each mine over its life span would be nearly **$11.5 billion**, while creating almost **135,000** person-years of employment and generating over **$9.6 billion** in tax revenue for all levels of government.

Broadly speaking, over 80 per cent of the economic benefits from the proposed critical mineral projects would accrue to British Columbia, with nearly 20 per cent benefiting other parts of Canada.



Comparing the Economic Impacts of Critical Minerals Projects with Other Industries

To provide context on the magnitude of the critical minerals opportunity, the study compared both the near and long-term economic impacts created by other significant events and industries in British Columbia versus the proposed critical minerals projects. These comparisons include the 2010 Vancouver Olympics and key industries such as motion pictures, wood product manufacturing, telecommunications, and the residential construction industry.

Comparison of Near-Term GDP Impacts

Industry / Activity	Estimated Total GDP in BC (2023 millions)	Critical Minerals Mines Combined Estimated Near-Term GDP in BC (2023 millions)
BC Motion Picture Industry	$2,695	**$31,134**
Vancouver Olympics from 2003 through 2010 (8 years)	$3,000	

Comparison of Long-Term GDP Impacts

Industry / Activity	Estimated Direct GDP in BC (2023 millions)	Critical Minerals Mines Combined Estimated Long-Term Direct GDP in BC (2023 millions)
Wood Product Manufacturing	$2,326	**$183,826**
Telecommunications	$5,589	
Residential Building Construction	$10,829	

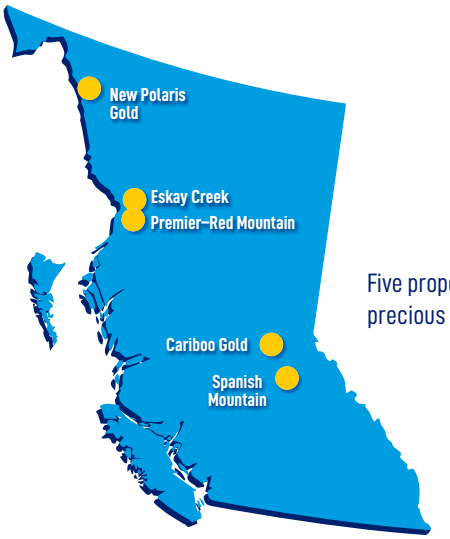
Precious Metals

The study also assessed the anticipated economic impacts from five proposed precious metal mines that produce minerals of high economic value, primarily gold and silver. The combined estimated near-term economic impacts from the development and construction of the five precious metals mines in the study include:

- Total investment of **$1.9 billion** for development and construction
- Economic output of **$4.2 billion**
- GDP of **$2.0 billion**
- Labour income of **$1.2 billion**
- **15,970** person-years of employment (direct, indirect and induced jobs)
- Tax revenues of **$0.573 billion**

The estimated long-term economic impact of the proposed precious metals mines over the course of their operations, include:

- Economic output of **$29.5 billion**
- GDP of **$18.3 billion**
- Labour income of **$8.0 billion**
- **96,065** person-years of employment (direct, indirect and induced jobs)
- Tax revenues of **$5.3 billion**



Five proposed BC precious metal mines

Unlocking BC's Critical Minerals Opportunity

Developing BC's critical minerals resources means billions in economic development and thousands of high-paying jobs. Critical minerals also offer a real opportunity to accelerate economic reconciliation with First Nations while making a sizeable contribution to climate action.

Yet BC (and Canada) has a reputation as a high-cost jurisdiction where it is difficult to get projects done. We lag other competing jurisdictions like Ontario and Quebec who have launched and funded strategies and are taking bold policy actions to attract investment in their critical mineral sectors. The BC government's forthcoming Critical Mineral Strategy presents an opportunity to change this and improve our competitive position. The federal Critical Minerals Strategy and recent budgets also provide useful tax measures to help develop our critical minerals resources.

But developing our critical minerals opportunity requires visionary thinking, strong leadership, and concerted action by the provincial and federal governments in close partnership with First Nations, communities, labour and industry. We need to act. If we don't, investment and talent will flow elsewhere. Below are five policy areas upon where the Governments of British Columbia, and Canada, need to take action if we are to realize our critical minerals potential.

1. Competitive Fiscal Framework

BC's mines and smelters operate in a high-cost environment due to complex resource geology and challenging geography. They are 'price takers' in world markets without the ability to pass increased costs and taxes onto global customers. Changes to BC's tax regime over the past ten years have significantly increased operating costs across the sector.

The need for competitive fiscal policy is highlighted by the BC government's transition to an Output-Based Pricing System (BC OBPS). BC's mining and smelting industry supports a carbon price signal, but currently pays the highest carbon tax in Canada and the world, while having the lowest emissions globally. It's imperative that critical mineral mines in BC pay a carbon tax that is competitive with Ontario's and Quebec's, while maintaining BC's position as a climate leader. If not, the OBPS will negatively impact investment decisions and undermine the BC government's upcoming Critical Mineral Strategy.

2. Permitting and Authorization

Lengthy timelines for mine permitting and authorizations continue to slow project development and are a barrier to investment. Permitting timelines must be expedited without compromising environmental protection or human health and safety. MABC has made recommendations to the federal and British Columbia governments calling for greater inter-governmental cooperation and alignment to expedite mine permitting – an approach underscored by the Supreme Court of Canada in its recent reference decision on the Impact Assessment Act.

The BC and federal governments should jointly convene project-based tables to align permitting and authorization agencies and processes for regionally significant projects, including determining the 'best placed regulator' in areas of overlap. 'One process, one project' should be the rule.

3. Advancing Economic Reconciliation with First Nations

First Nations must have the governance, administrative, and technical capacity to participate – on their terms – in reviews of critical mineral and other resource projects. Equally important is federal and provincial support for financial instruments to backstop First Nations co-ownership and equity positions in mining projects and related infrastructure.

Both the BC government and Ottawa have adopted the UN Declaration of the Rights of Indigenous Peoples in law. It's imperative First Nations governing bodies have an equitable footing in government-to-government interactions, including major project reviews within their traditional territories. A practical approach could see federal and provincial governments underwriting a 'shared services' delivery model, governed by First Nations.

4. Investments in Electrification and Infrastructure

Unlocking critical minerals opportunities in BC will require new electrical grid, road, and rail infrastructure. The scale and scope of investments needed will require significant provincial and federal co-investment and coordinated action.

British Columbia requires federal partnership to advance priority transmission projects to electrify new critical mineral developments and accelerate decarbonization to ensure new mines can open and the sector's GHG emissions remain among the lowest in the world. Further, a key road infrastructure priority includes Highway 37 and access roads into Tahltan communities in Northwest BC, which are not safe for residents or industry. Coordinated provincial and federal investment is needed to upgrade and improve Highway 37.

5. Skills Training, Health and Safety

The existing labour market for mining is extremely tight with almost full employment in the sector in BC and across Canada. And the demand for workers in every part of the sector will only increase as critical mineral projects are developed.

The BC mining and smelting industry benefits from provincial and federal support for the Centre for Training Excellence in Mining (CTEM) and Mining Industry Human Resources Council (MiHR). Government should continue to support timely and relevant training advice and financial assistance to applicable BC post-secondary institutions through a more focused and tailored Future Ready Action Plan, including measures to increase the skills and participation of First Nations, women, and other underrepresented groups.

Read the full report here.