



THE CANADIAN
MINERALS AND
METALS PLAN



PART TWO



DISCLAIMER

Since the official launch of the Canadian Minerals and Metals Plan (CMMP) in March 2018, the Secretariat, on behalf of federal, provincial and territorial governments under the Intergovernmental Working Group on the Mineral Industry, has engaged with governments, Indigenous Peoples, industry, ENGOs, and public stakeholders on the future of mining.

In total, two reports were published to summarize what the Secretariat heard from stakeholders:

- 1. **What We've Heard: Part I** summarized input from March 2018 to July 2018. Part I focuses on current challenges, future opportunities, and identified areas for actions that industry and government can pursue.*
- 2. **What We've Heard: Part II** summarized input from March 2018 to March 2019, and includes the expert submissions received. Part II focuses on specific actions recommended by participants throughout the various engagements activities.*

The summaries presented in these reports represent the variety of perspectives and expertise heard during cross-country engagement activities, including experts meetings with Indigenous Peoples, industry and civil society, workshops, and bilateral meetings.

The input presented in this report has not been adjusted outside of the requirement to categorize the range of ideas discussed under the strategic directions. Statements made in this document are not consensus-based and should not be viewed as such.

The ideas and views compiled in this document are from CMMP-related engagement activities and do not necessarily represent the views of the Intergovernmental Working Group on the Mineral Industry or its individual members.

ACKNOWLEDGEMENTS

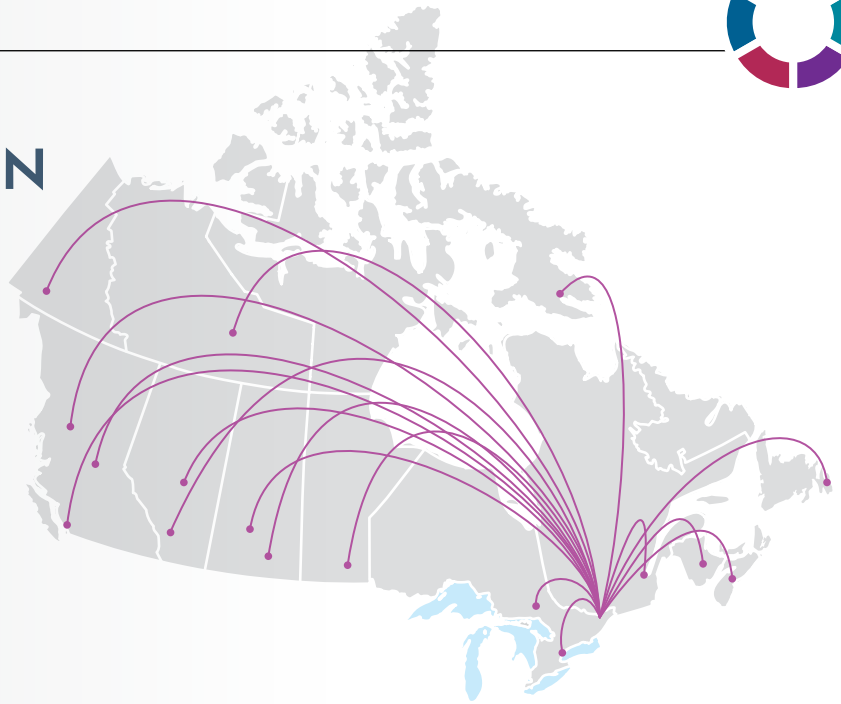
The ideas and views presented in this report could not have been possible without the countless contributions of partner associations and organizations, and dedicated Canadians. We would like to thank our provincial and territorial counterparts, organizations and associations for dedicating time to organize and participate in the CMMP expert roundtables and workshops.

Members of the Intergovernmental Working Group on the Mineral Industry thank you for making CMMP engagement sessions across the country a success.



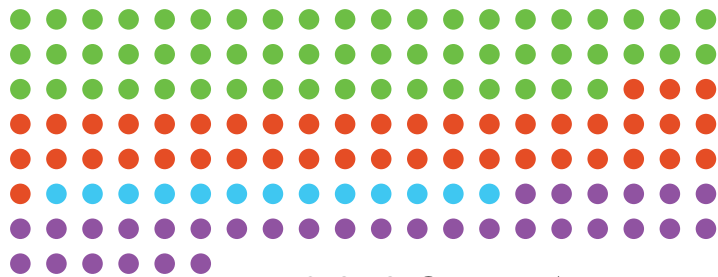
THE CONVERSATION

What We've Heard Part 2 was informed by engagement with Indigenous Peoples, innovation experts, private companies, industry associations, non-governmental organizations, youth, other stakeholders and partners, as well as Canadians from across the country.



ANALYTICS

146 IN-PERSON ENGAGEMENT ACTIVITIES (SCALE 1:1)



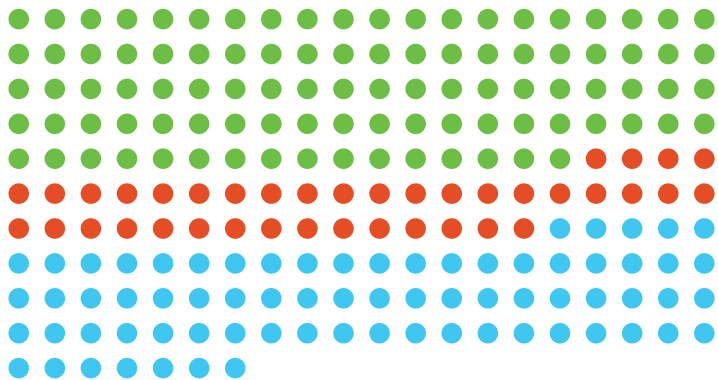
57 Stakeholder Workshops / Expert Meetings

44 Bilateral Meetings

13 Presentations

32 Expert Report Submissions

2,070 ONLINE ACTIVITIES (SCALE 10:1)



961 Quizzes Completed

392 Surveys Filled

717 Ideas Submitted on Social Media (Facebook, Twitter, LinkedIn)



ECONOMIC DEVELOPMENT AND COMPETITIVENESS

Canada's business and innovation environment for the minerals sector is the world's most competitive and most attractive for investment.

TOP RECOMMENDED ACTIONS:

Create longer-term, stable tax incentives to promote better industry planning for exploration activities, such as removing the yearly uncertainty surrounding the Mineral Exploration Tax Credit and setting renewal for a minimum period of three years.

Determine enabling infrastructure priorities to support high mineral potential areas, including northern, remote and isolated regions, potentially through a prioritization exercise, and/or an industry and stakeholder survey.

Establish a new, pan-Canadian collaborative public geoscience strategy for mineral exploration with federal, provincial and territorial geoscience surveys and university researchers.

Implement a process for substitution where information collected under provincial and territorial regulatory assessments is accepted or considered in federal processes, and vice versa.

OTHER PROPOSED ACTIONS:

Canadians proposed establishing **financial incentives** that could help send a strong signal about Canada's mineral investment competitiveness. This could include creating:

- A drilling tax credit provided towards the cost of drilling a new exploratory hole and/or at a new depth within an existing hole;
- An incentive for mining the critical materials and metals that are essential to a low carbon future in Canada, especially those that may not be economically viable at this time;
- A tax credit for undertaking environmental, sustainable development, community relations and social acceptability studies or making these expenditures eligible for existing credits;





- A Mineral Exploration Tax Credit-like program for mineral development expenses such as metallurgy, pilot plant construction and market studies;
- An RRSP-type of structure where industry can contribute annual investments into a mine reclamation fund; and
- The Atlantic Investment Tax Credit, which, if reinstated, could help spur regional economic growth in the sector.

Canadians recommended developing strategies and/or programs focusing on **transportation and energy infrastructure investments** in high potential areas, such as northern, remote and isolated regions. These could include:

- Exploring a more equitable model for road development projects that implements road user fees;
- Reprioritizing resources to multi-use transport corridors (i.e., to be used by multiple natural resource sectors);
- Exploring replacements for conventional transportation and power technologies (e.g., roads, rail and hydro lines) with novel approaches (e.g., an industrial hovercraft) that can overcome regional limitations; and
- Using small, modular plants for local value-added processing. These plants operate autonomously, are monitored through control centres in major cities and are already operating on East Coast oil production platforms in Canada.

Canadians called for increased assistance to carry regional **geological** surveys, including supporting the use, testing and adoption of the latest methods and technologies. In addition, Canada should enhance and ensure stability of federal, provincial and territorial geological survey organizations regarding the acquisition and dissemination of public geoscientific data for continual knowledge advancement.

Canadians proposed creating a centre of excellence for **regulatory success**, with a mandate to oversee an agile, outcome-based and stringent regulatory system. A “trusted” mine operators program could be created to incentivize and recognize companies with existing relationship and strong engagement practices to allow for more streamlined approvals and timelines.

Canadians sought greater clarity on the role of **environmental assessments** and recommended federal authorities ensure that the appropriate resources are available to conduct efficient and timely environmental assessment processes. Communities responding to assessments should also be provided with appropriate resources and support. Canadians supported a shift towards regional and strategic assessment on federal and marine areas, as well as working collaboratively with other jurisdictions to address broader issues that cannot be addressed through project assessments.





Canadians suggested undertaking comprehensive mineral resource assessments that consider the mineral potential of lands prior to making **land use/land withdrawal decision**. Assessments should:

- Consider diverse goals and values, including economic potential;
- Be credible, inclusive and include geoscience studies; and
- Be predictable and clear.

To help further support the decision-making process, an inventory of leading practices could be developed and shared among jurisdictions, and where possible, mineral and energy resource potential methodology and requirements could be standardized.

Canadians would like to ensure that the mining sector, including small and medium enterprise are aware of available **mineral support programs**. Industry could support decision-makers and financial regulatory authorities to improve broader understanding of the unique features and requirements of the mineral exploration and development sector. This could include providing greater guidance in developing programs that address regional disparities across Canada.

Canadians indicated that governments should support new niches in **mineral processing**, such as secondary and tertiary processing that focuses on emerging mineral commodities (e.g., lithium, vanadium and rare earth elements). Canadians also recommended an incentive that encourages energy efficiency improvements and environmental performance, establishes additional circuits at smelters and refineries to handle minor or specialty metals, and promotes the greater recovery of metals contained in the concentrates. Increasing land zoning and infrastructure development near **smelters and refineries** was also suggested as it could improve logistics and stimulate the construction of synergistic industrial facilities.

Industry, applied research and development institutions and government could collaborate on an **EV battery strategy** based on Canadian sourced minerals (nickel, cobalt, aluminum, lithium, graphite) and production of intermediate materials along the Li-ion battery supply chain.





ADVANCING THE PARTICIPATION OF INDIGENOUS PEOPLES

Increased economic opportunities for Indigenous Peoples and supporting the process of reconciliation.

TOP RECOMMENDED ACTIONS:

Provide targeted funds for skills training and entrepreneurship to assist Indigenous Peoples in securing employment, increasing Indigenous procurement activities and business development.

Develop a program to help build community capacity for the permitting process, employment readiness, business opportunities, and Impact-Benefit Agreement negotiations.

Award Indigenous youth scholarships, in partnership with provinces and territories, to provide opportunities for active participation in the minerals sector and generate benefits for communities.

Initiate a leadership exchange program that focuses on connecting experienced Indigenous leaders in the mineral sector (in areas such as land surveying, geoscience activities, policy and programs) with inexperienced communities.

OTHER PROPOSED ACTIONS:

Canadians recommended establishing **regional-level capacity building** programs, in proximity to areas of current and potential mineral activities. However, support should be provided first towards foundational social investments (e.g., housing, water and infrastructure) that contribute to better health and educational outcomes, and then follow-up with targeted funds for skills training and entrepreneurship.

- This could be through a dedicated strategy and/or business development funds that enables **Indigenous-owned businesses** to successfully integrate into mainstream supply opportunities. Best practices of the resource-sector relationship with Indigenous businesses as well as fiscal tools to support equity partnerships could be leveraged.





Canadians suggested establishing a **resource centre for Indigenous Peoples in mining** to help build the knowledge base and interest towards the mining industry within communities, including ensuring that Indigenous women are provided with safe, accessible and culturally appropriate environments to engage.

- This could involve exchanging and highlighting best practices and success stories. Better **metrics** could be developed to help monitor Indigenous training, employment and procurement to establish baselines and address progresses.

Canadians indicated that universal broadband across Canada could significantly **facilitate remote learning, upskilling opportunities and training programs** that promote necessary apprenticeships and on-the-job skills that lead to sustainable jobs.

- This could also support access to better geoscience and engineering education that supports bridging programs among the community and geoscientists and engineers outside of the community.

To ensure that **Aboriginal and treaty rights are respected** and are at the forefront of relationships, Canadians proposed strengthening guidance to proponents and Indigenous communities. For example, we could think about the roles and responsibilities relating to the duty to consult and establishing mechanisms to better align activities with the provinces and territories, including accounting for regional challenges.

- This could also include programs that help Indigenous communities have a clearer involvement in decision-making processes with respect to projects, at the earliest possible stage and in a culturally aware manner.





THE ENVIRONMENT

The protection of Canada's natural environment underpins a responsible, competitive industry. Canada is a leader in building public trust, developing tomorrow's low-footprint mines and managing the legacy of past activities.

TOP RECOMMENDED ACTIONS:

Develop programs for green technology development, such as for the reprocessing of tailings and waste rock to recover metals and industrial minerals, to repurpose lower value materials, and to reduce environmental liabilities.

Rejuvenate existing research initiatives on abandoned and orphaned mines to enable sound decision-making, cost-efficient planning, and sustainable rehabilitation.

Establish a well-funded organization to enhance collaboration between industry, innovators, universities and polytechnics, advance innovation in clean technologies, and encourage the adoption of advanced and green technologies.

OTHER PROPOSED ACTIONS:

Canadians recommended a **single point of contact** for advancing innovations in clean technology and supporting their adoption into mainstream supply chains. Innovations would focus on reducing water consumption, greenhouse gas (GHG) emissions and waste, and adopting clean energy sources, all of which could be deployed broadly.

With regards to the **early stages of a project**, where limited funds are available, Canadians recommended that various incentives be developed and support be provided. These should be integrated with provincial incentive programs and could include a focus on small- and medium-sized enterprises that are creating solutions for mining companies.

Canadians suggested that further effort is needed to gather, analyze and include metal **recycling** figures in the annual mining data reports. This could also include quantifying the GHG benefit of metal recycling in Canada, reviewing existing policies and programs, and identifying gaps and opportunities for improvement.





To reduce carbon footprint, Canadians recommended that **local procurement of goods and services** be used as often as possible rather than outsourcing. In addition, employment practices, particularly in remote communities, must take into consideration other local economic opportunities such as hunting and fishing operations.

Canadians indicated that more should be done to move the mining sector towards **true sustainability** including, for example, better balancing private/public sector interests, and environmental and economic development in decision-making processes. Industry should plan for and adopt measures to adapt to climate change.





SCIENCE, TECHNOLOGY AND INNOVATION

A modern and innovative industry supported by world-leading science and technology—across all phases of the mineral development cycle.

TOP RECOMMENDED ACTIONS:

Support the development and adoption of the next generation of geoscience and exploration tools in the exploration service industry to detect new mineral deposits.

Streamline all innovation programs into a single portal to better prioritize research and ensure that funding programs are systematically reported to industry.

Create a strong ecosystem for innovation that is public and leverages key organizations that provide leadership and expertise across all fields (exploration, extraction, processing and tailings management) of the sector.

Develop a policy position on mining in new frontiers, which includes extreme climate, deep mining, offshore and space, and encourage collaboration among external industries to advance mutually-beneficial technologies.

OTHER PROPOSED ACTIONS:

Canadians indicated that academia and industry should be supported throughout the **innovation cycle**—from research and development, through to commercialization. This could include:

- Setting up a technology and regulatory table to monitor emerging technology and suggest regulatory amendments that support innovation;
- Consulting with the investment community to learn how they assess risks;
- Reducing the technological and financial risk of adopting innovation, including at early stages of technology implementation through tax credits, incentives, venture capital and equipment certification;





- Improving the management of Intellectual Property (IP) in the mining sector, including retaining Canadian IP rights;
- Developing a system to track educational and training programs, research outputs and graduates related to the mineral sectors in Canada; and
- Working with universities to address inefficiencies in funding applications and duplicative grants for equipment.

Canadians suggested that an **innovation fund** should be managed by a national entity that represents the entire country, and which could identify strategic priorities that would ensure all projects work towards the same objectives. This coordinated body could help breakdown silos and streamline various funding pockets that currently exist.

Canadians recommended identifying and evaluating **financial models (e.g., expanding the Mineral Exploration Tax Credit) that could be applied in other stages of the mining cycle** (e.g., mineral processing or metallurgy) to provide additional incentives for investments and reduce risk.

Canadians recommended **expanding the exploration targets** to include targeting deposit types that are significantly under-represented in Canada and areas of mineral deposit under deep organic cover, all of which could lead to a more innovative and competitive Canadian exploration service industry.

Canadians proposed **looking at sectors outside of mining** for innovative approaches and ideas that could be leveraged by the mining sector.





COMMUNITY

Communities welcome sustainable mineral development activities for the benefits they deliver.

TOP RECOMMENDED ACTIONS:

Develop advertising or marketing strategies to shine a light on Canada's sustainable, high-technology minerals industry, build community support, and promote mining as a career choice.

Implement training initiatives to encourage recruitment of young professionals, and support displaced workers and employers through upskilling, skills and credential recognition, and labour mobility.

Invest in early childhood education for science, technology, engineering and mathematics, with a focus on girls, Indigenous Peoples and visible minorities to increase the pool of candidates.

OTHER PROPOSED ACTIONS:

To help optimize **community benefits**, Canadians recommended:

- Identifying the full range of resources that could benefit the community, beyond financial ones (e.g., social infrastructure); and
- Ensuring that taxes and other contributions directly benefit the communities in which they are collected.

Canadians suggested developing a **national awareness campaign** to educate, inspire and motivate the public on the importance of mining to the economy and society and on its realities. This “make mining cool” campaign would:

- Educate Canadians about the critical role the minerals and metals industry plays in everyday life, including delivering the inputs required for clean technologies;
- Support the domestic demand for Canadian products that are mined in an environmentally-and socially-responsible manner; and
- Make mining a career of choice and dispel negative myths and perceptions about the sector.





Canadians indicated that increased partnership between business and education is imperative. **Continued financial support for education and apprenticeship programs** will be essential to current and future workers in the mining sector. This could also include addressing academic curriculum gaps in geology and mining through partnerships with universities and student recruitment programs, and accepting a common, pan-Canadian certification of skills.

Mining is a cyclical industry that is subject to commodity prices and other global economic factors; low commodity prices lead to a slowdown of operations, which results in fewer jobs. Canadians recommended that developing initiatives to support employees through this commodity cycle would be an important strategy to **build engagement and loyalty** to the sector. This includes ensuring that workforce transition planning is a key component of early planning phase. As students and recent graduates are often the most impacted by the commodity cycle, targeted programs are needed to retain their enrolment in mining-related post-secondary programs.

Key values and principles could be created to guide industry and communities in establishing **collaborative partnerships**. This could also help **build internal capacity** to secure employment opportunities and progress to corporate leadership positions, while contributing to a local, skilled labour force.

Canadians suggested a targeted campaign for **women in mining**, which could include highlighting policies in safety, diversity and inclusion. To encourage further participation, industry could ensure that the right tools (e.g., woman-friendly clothing) are provided and services such as family-friendly policies and mentorship programs are available and accessible.

With the emergence of a **new mining industry**, Canadians proposed proactive programs to prepare the future workforce for emerging artificial intelligence and automation technologies. The new skills requirement needed are different from the traditional industry and could rapidly change the social profile of the industry.





GLOBAL LEADERSHIP

A sharpened competitive edge and increased global leadership for Canada.

TOP RECOMMENDED ACTIONS:

Establish a Canadian Mining Brand and launch a campaign to promote Canada's environmental, corporate and social credentials in areas supporting a modern and clean economy that contributes to ethical value chains, and to underline critical Canadian mineral investment opportunities to key partner countries.

Develop a strategy for the mining service and supply sector to support Canadian export opportunities and adoption of clean technology, and spur new partnerships in innovation.

Develop tools to support responsible sourcing and transparency of global supply chains to leverage Canada's leadership in responsible procurement policies abroad and in Canada, and to position Canadian mineral resource in the global green economy of tomorrow.

OTHER PROPOSED ACTIONS:

Canadians recommended **establishing a Canada Brand for Mining** that would help:

- Benchmark Canadian strengths, dispel myths and attract new foreign direct investment;
- Export the Canadian model of skills development and labour market collaboration;
- Support the adoption of innovative technologies in the mining service and supply sector, addressing challenges in major global mining jurisdictions; and
- Promote government- and industry- led responsible sourcing and procurement policies highlighting the traceability of Canadian-produced minerals and metals according to internationally accepted standards.





Canadians also suggested developing a **strong national digital presence** with clear and comprehensive investor toolkits that could highlight Canada's investment opportunities and attractiveness. This could be an online portal that uses plain language to:

- Connect investors and industry with a database of supply and service companies;
- Triage web traffic to relevant government agencies; and
- Describe Canada's regulatory environment and its stakeholders.

Canadians supported establishing a **minerals trade and investment office** to support sector-wide trade and investment for minerals of the future economy. This office would lead new research and push industry and government partners towards opportunities for Canada in global value chains for advanced manufacturing, clean technology and national security.





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