

Investing in Québec's MINING SECTOR

August 2021





Note to readers

This report provides readers with an overview of metal mining activities (iron, titanium, gold, nickel, platinum group elements and cobalt, copper, zinc, niobium, lithium and tantalum, rare earth elements) as well as graphite, apatite, and diamond mining activities in the province of Québec. However, mining activities for industrial minerals such as feldspar, mica, salt, and silica are not discussed. For each metal or mineral substance discussed in this report, a table provides information on the mineral reserves and resources for mines and mining projects that have passed the preliminary economic assessment stage.

There is also a map for each metal or mineral substance, locating active mines, mining projects, deposits and some mineralized showings listed in the Système d'information géominère du Québec. The deposits contain mineral resources that have been published in a technical report respecting the [Regulation 43-101 respecting Standards of Disclosure for Mineral Projects \(chapter V-1.1, r. 15\)](#)¹.

The information presented in the report is as of July 2021.

Photographs

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Legal Deposit

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¹ [Online], [lautorite.qc.ca/en/professionals/regulations-and-obligations/securities/4-distribution-requirements-41-101-a-46-201/43-101-standards-of-disclosure-for-mineral-projects].

Table of CONTENTS

Québec rich in minerals and opportunities	1
An attractive business environment.....	3
A stable legal framework.....	3
A skilled workforce	6
A desire to reduce the time to issue rights	6
Social acceptability: for responsible development.....	7
The Gouvernement du Québec, your investment partner	8
The Société du Plan Nord	9
The Société de développement de la Baie-James.....	10
The Grande Alliance	11
Energy Policy:Energy in Québec, A Source of Growth.....	11
Plan for a Green Economy: framework policy on electrification and the fight against climate change	12
A leader in the mining industry	15
Strategic Vision for Mining Development in Québec	15
Critical and Strategic Minerals:Québec in action.....	16
Supporting innovation	17
Geological knowledge and mineral rights: cutting-edge management tools.....	18
Details of mining activities.....	21
Iron (including titanium and vanadium).....	22
Gold	24
Nickel (including platinum-group elements and cobalt).....	28
Zinc.....	30
Copper	32
Niobium	32
Rare earth elements	34
Lithium (including tantalum)	36
Graphite	38
Apatite	40
Diamond	42
Frequently asked questions about Québec’s mining sector	45
Contact us.....	49



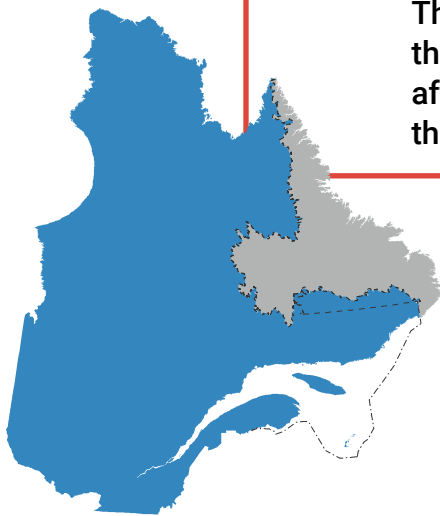
Québec

RICH IN MINERALS AND OPPORTUNITIES

Québec has significant mining potential that accounts for one-fifth of Canada's mineral production. The province produces and develops 17 metals and 12 non-metallic commodities, making it the most diverse resource base in Canada. Growing sectors such as telecommunications, renewable energy, biomedics and electric vehicles are putting pressure on resources that have, until now, been exploited sparsely or not at all in Western countries. Québec also contributes to supplying critical and strategic minerals, since it produces nickel, niobium and graphite, and mining projects are underway for lithium, vanadium, rare earths and tantalum.

Québec is strategically located north-east of the United States. It is close to major population and industrial centres and has easy access to Europe and Asia thanks to its deep-water ports.

Québec also works closely with associations representing the mining sector and with communities that host projects. These communities are natural project partners and work with the Government to develop the mining sector and promote it while respecting the principles of sustainable development and best practices of social acceptability.



The results of the [Fraser Institute's](#)² recent surveys are indicative of the interest Québec has generated among mining investors. Year after year, the province ranks among the most attractive regions in the world according to mining and exploration companies.

Area of
1.7 M
square kilometres



Iron,
Niobium



Gold, Nickel, Copper,
Zinc



Ranking
among all
Canadian
provinces
and territories



193,930
active mining titles
(June 2021)



22
active mines
(June 2021)



29
mining projects
(June 2021)



2.66 G
in private mining
investments
(2020 – preliminary data)



11.91 G
in shipment
value
(2019)

² [Online], [fraserinstitute.org/categories/mining].



An attractive BUSINESS ENVIRONMENT

A STABLE LEGAL FRAMEWORK

The Government of Québec has prepared a [document](#)³ (in French only) that lists all the laws and regulations that govern mining development.

The mining industry is governed primarily by the [Mining Act \(CQLR, chapter M-13.1\)](#)⁴, the [Mining Tax Act \(CQLR, chapter I-0.4\)](#)⁵ and the [Act respecting transparency measures in the mining, oil and gas industries \(CQLR, chapter M-11.5\)](#)⁶.

Mineral substances in Québec, except those of the topsoil, belong to the province, with a few exceptions. Any person may obtain exclusive exploration rights (a claim) for a parcel of land designated on a map, provided their request complies with the Mining Act and they are the first to register a claim on the land.

Québec's laws and regulations can be consulted free of charge on the [Légis Québec website](#)⁷.

Mining Act

The primary purpose of the Mining Act is to promote mineral prospection, research, exploration, and development in a sustainable development perspective. It aims to foster dialogue with communities, maximize economic benefits, and encourage companies to process their minerals in Québec. It helps protect the environment and take into account other possible uses of the territory and ensures greater transparency for better [social acceptability](#)⁸ through:

- > A chapter on First Nations communities, which provides for the development of a [First Nations community consultation policy specific to the mining sector](#)⁹. The policy, which was published in October 2019, clarifies the roles and responsibilities of the various stakeholders. In 2015, the Ministère de l'Énergie et des Ressources naturelles (MERN) also worked with the Secrétariat aux affaires autochtones and other government departments to publish a document entitled [Information for Developers and General Information Regarding Relations with Aboriginal Communities in Natural Resource Development Projects](#)¹⁰;

³ [Online], [mern.gouv.qc.ca/publications/mines/cadre-normatif-domaine-minier.pdf].

⁴ [Online], [legisquebec.gouv.qc.ca/en/showDoc/cs/M-13.1?&digest=].

⁵ [Online], [legisquebec.gouv.qc.ca/en/ShowDoc/cs/I-0.4].

⁶ [Online], [legisquebec.gouv.qc.ca/en/showDoc/cs/M-11.5?&digest=].

⁷ [Online], [legisquebec.gouv.qc.ca/en/home].

⁸ [Online], [quebec.ca/en/government/policies-orientations/social-acceptability].

⁹ [Online], [mern.gouv.qc.ca/wp-content/uploads/PO-consultation-mines_MERN-ANG.pdf].

¹⁰ [Online], [cdn-contenu.quebec.ca/cdn-contenu/adm/min/conseil-executif/publications-adm/saa/administratives/orientations/fr/2015-02-document-intention-promoteurs.pdf?1605704762].

- > A public consultation by the promoter for any metal mine project with a production capacity of less than 2,000 tons per day. The MERN published the [Guide for Public Consultations Conducted by the Promoter of Certain Mining Projects](#)¹¹, which describes how to conduct a public consultation in accordance with the Mining Act;
- > The [Best Practices Guide for Monitoring Committees and Legal Obligations of Mining and Petroleum Projects Promoters](#)¹² contains information for mine operators and monitoring committee members on good practices and on their legal obligations under the Mining Act;
- > The approval of a land rehabilitation and restoration plan before a mining lease is issued. To inform people of the technical content of such plans and the general requirements for restoring mine sites in Québec, the MERN has published the document [Guidelines for Preparing Mine Closure Plans in Québec](#)¹³;
- > An obligatory financial guarantee covering 100% of the restoration costs for the entire mine site, supplied within two years of the plan approval date;
- > The [annual publication of the amount and value of ore mined and the royalties paid to the province by mining companies](#)¹⁴ to ensure greater transparency.

Mining Tax Act

Québec offers one of the best business climates for mining investment. Under the Mining Tax Act, Québec's tax regime includes various measures to support companies in different phases of the mining cycle, including:

- > A refundable duties credit for losses, a unique measure in Canada,
 - > which provides a refund of 8% or 16% of the amount of eligible work (exploration-related development and pre-production development respectively);
 - > Since March 2021, expenses are allowed for the development of critical and strategic minerals.
- > An allowance for community consultations for mining projects, which allows mining companies to deduct a portion of these costs as part of their mining projects;
- > An environmental studies allowance so that mining companies can deduct a portion of the costs incurred to produce studies on the social and environmental impact of their projects.

The Act also helps to drive mining in Québec, including in northern Québec, through:

- > An exploration allowance that adds an extra 25% to exploration expenses incurred in northern Québec;
- > An additional allowance for mines located in northern Québec to offset the high costs associated with bringing into production a mine located in northern Québec.

The mining tax system also facilitates the processing and transformation of extracted mineral substances. For example, companies can get a processing allowance to acquire assets used in ore processing. The allowance is a percentage of the cost of the items and is determined based on the nature of the processing activity. This percentage is one of the most attractive in Canada.

¹¹ [Online], [mern.gouv.qc.ca/wp-content/uploads/GuideConsultationPromoteurSecteurMinier_ang_Web.pdf].

¹² [Online], [cdn-contenu.quebec.ca/cdn-contenu/adm/min/energie-ressources-naturelles/publications-adm/acceptabilite-sociale/GM-Guide-ComiteSuivi-en.pdf?1568213059].

¹³ [Online], [mern.gouv.qc.ca/english/mines/reclamation/documents/guidelines-mine-closure.pdf].

¹⁴ [Online], [mern.gouv.qc.ca/en/mines/publications/quantity-mine-mouth-output-value-and-duties-paid-by-mining-companies/].

Taxation Act

The Québec Government's objective is that the tax regime applicable to Québec's businesses should compare favourably to that of its business partners. Québec offers businesses conditions that encourage investment and innovation. For example, its corporate tax regime includes the following measures:

- > A 15-year tax holiday for major investment projects, applicable to both corporate income tax and Health Services Fund contributions;
- > An investment tax credit on manufacturing and processing equipment used for melting, refining or hydrometallurgy of ores other than gold or silver;
- > An accelerated amortization deduction with an amortization rate equal to 100% of the cost of computer hardware, manufacturing and processing equipment, clean energy production equipment and intellectual property;
- > An additional permanent amortization deduction equal to 30% of the previous year's amortization deduction for computer hardware, manufacturing and processing equipment, clean energy production equipment and intellectual property;
- > An enhanced amortization deduction allowing corporations to deduct up to three times the amortization deduction amount that normally applies in the first year for all other investments not covered by the accelerated amortization deduction (e.g., building used for manufacturing or processing).

The corporate and personal tax regimes include incentive measures to encourage mine exploration:

- > The resource tax credit, which provides a refund of up to 38.75% of eligible exploration expenses incurred in Québec by an eligible corporation;
- > The flow-through share system, under which individuals can deduct up to 120% of the cost of their investment.

Act respecting transparency measures in the mine, oil and gas industries

The result of an international initiative, the [Act respecting transparency measures in the mine, oil and gas industries](#)¹⁵ requires companies to report the amounts they pay each year to various levels of government, government agencies, municipalities, First Nations communities, and organizations that perform public functions for any of them. The information obtained is public.

The requirement applies to companies listed on a Canadian stock exchange that are headquartered in Québec and to large extractive companies, whether listed on a stock exchange or not.

Under the Act, these companies must declare any payment made to a single recipient that totals \$100,000 or more in a given fiscal year, in the same payment category such as taxes, royalties, expenses, production fees, certain dividends, bonuses, and contributions to build or improve infrastructure. This applies to payments in cash and in kind.

To avoid putting an unnecessary administrative burden on businesses, the Act is harmonized with the Extractive Sector Transparency Measures Act adopted by the Canadian Parliament and the requirements of the European Union Transparency Directive. Québec recognizes returns filed with other authorities¹⁶ whose requirements are equivalent to those set out in the Act so companies do not have to file separate returns in each country they are subject to.

¹⁵ [Online], [mern.gouv.qc.ca/en/mines/transparency-measures/act/].

¹⁶ The regulations under the Act (chapter M-11.5, r. 1) contain a list of these authorities. At the time of writing, the list includes Canada and the vast majority of European countries.

A SKILLED WORKFORCE

Québec is recognized worldwide for the quality of its workforce. The province is a long-time mining producer with experienced workers in every region, as well as specialized suppliers in all phase of the mineral development process. According to a [study](#)¹⁷ published in 2020, more than 5,000 suppliers of goods and services work for the mining sector, 77% of which are in Québec. The mining industry directly employs approximately 19,000 people¹⁸.

Several leading educational institutions meet the training needs of the mining workforce. Created in 2008, the [Institut national des mines](#)¹⁹ (INMQ) is tasked with helping the Government of Québec to meet its commitment to provide mining education. The INMQ has produced a number of studies to help Québec's mining industry make the digital shift to smart mining, namely the impact on the workforce, and to equip itself with the necessary tools to ensure the winning conditions so that the workforce adapts to these changes.

A DESIRE TO REDUCE THE TIME TO ISSUE RIGHTS

The Gouvernement du Québec is committed to accelerating the realization of economic development projects and investments by creating a more attractive business environment for foreign investors.

To achieve this objective, the government has set up the Bureau de coordination des droits (BCD), which aims to ensure better management of administrative timelines in the allocation of rights and authorizations, and to better coordinate and optimize processes for issuing these rights and authorizations as part of a concerted and collaborative approach between the various government departments and agencies.

¹⁷ [Online], [www.amq-inc.com/en/].

¹⁸ This includes mining and mining support activities and some processing activities, for example zinc, copper, cement, clay and lime.

¹⁹ [Online], [inmq.gouv.qc.ca].

SOCIAL ACCEPTABILITY: FOR RESPONSIBLE DEVELOPMENT

Québec fosters a collaborative climate where stakeholders in the mining sector work closely with the local and First Nations communities in the areas where mining activities take place. MERN's [social acceptability](#)²⁰ guidelines were adopted to that end.

Agreements with First Nations

Québec has already signed treaties with the Cree, Inuit and Naskapi nations that cover nearly 1.1 million square kilometres (over 65% of Québec's total area). The native law on this land have been clarified and the processes that govern the relationship between the parties are defined. The Gouvernement du Québec and the MERN have also established policies containing rules for consulting Québec's other First Nations when a project may affect their ancestral or treaty rights, whether they are established or claimed. These rules can be replaced by sector-specific consultation agreements with the Indigenous communities concerned, such as the agreement signed with the Abitibiwinni First Nation that defines a clear framework for consulting and accommodating the community on mining activities.

Support from project managers

The deployment of a network of project managers in all regions of Québec has greatly improved the support provided to mining project promoters and local stakeholders. This support is explained in the MERN's [Offer of service in the area of social acceptability](#)²¹. Project managers are responsible for assisting promoters upon request, for example by providing information on local stakeholders and issues, and on good social acceptability practices. They also encourage promoters to implement discussion mechanisms with the community early in the project preparation process. The network of project managers also assists local stakeholders upon request by providing, among other things, information on major project and project authorization requirements, and by informing them of the various possibilities for public participation during the project analysis and implementation phases. Project managers also encourage local stakeholders to maintain contacts and open dialogue with promoters. All these steps help to provide a better understanding of the parties' respective issues and, eventually, to ensure that projects are welcomed by their host communities.

Tools to support responsible development

Mining companies are encouraged to apply good practices relating to social acceptability in the project's planning, execution and closure phases to ensure that, as far as possible, the concerns and issues raised by local communities are taken into account, regardless of whether the project is situated close to an urban area or in a sparsely populated region. In addition, the Gouvernement du Québec makes [guides and tools](#)²² available to promoters and local stakeholders to help them understand the factors influencing [social acceptability](#)²³ and implement effective public participation mechanisms that will maintain an open dialogue with the communities, and hence help to develop a climate of trust between the parties.

New leverage for municipalities

To enhance community involvement in the planning of the development of their territory, the Gouvernement du Québec published a land use planning guideline for mining activities in January 2017, entitled "[Pour assurer une cohabitation harmonieuse de l'activité minière avec les autres utilisations](#)

²⁰ [Online], [quebec.ca/en/government/policies-orientations/social-acceptability].

²¹ [Online], [cdn-contenu.quebec.ca/cdn-contenu/adm/min/energie-ressources-naturelles/publications-adm/acceptabilite-sociale/SA-offer-service-MERN.pdf?1566835214].

²² [Online], [www.quebec.ca/en/government/ministere/energie-ressources-naturelles/publications].

²³ [Online], [www.quebec.ca/en/government/policies-orientations/social-acceptability/].

[du territoire](#)²⁴ (in French only). Regional county municipalities (RCMs) may exercise [land use planning authority](#)²⁵ (in French only) and delineate territories incompatible with mining activity in their land use and development plans. In this regard, the RCMs must inform and consult the concerned stakeholders, including the Indigenous communities and the holders of mining rights.

This government guideline provides mining promoters with greater knowledge of the territories where their mining activities are compatible with other citizen activities. In addition to designating mining-incompatible territories, RCMs may also use the planning guideline to introduce measures governing territorial occupation to avoid the possibility of sensitive uses near mining sites.

THE GOUVERNEMENT DU QUÉBEC, YOUR INVESTMENT PARTNER

Capital ressources naturelles et énergie fund

The [Capital ressources naturelles et énergie fund](#)²⁶ was created by the Gouvernement du Québec to stimulate the development of structuring projects in the mining, forestry and energy sectors. The fund is administered by Ressources Québec (RQ), a division of Investissement Québec, and has a capitalization of \$1 billion.

The intervention model is based on partnerships with local and international private investors, an approach facilitated by Investissement Québec's mandate to attract foreign direct investment.

²⁴ [Online], [mamh.gouv.qc.ca/fileadmin/publications/amenagement_territoire/orientations_gouvernementales/document_orientation_activite_miniere.pdf].

²⁵ [Online], [quebecmunicipal.qc.ca/index.asp?module=articles&action=details&id=85423].

²⁶ [Online], [www.economie.gouv.qc.ca/bibliotheques/programmes/aide-financiere/fonds-capital-ressources-naturelles-et-energie/].

THE SOCIÉTÉ DU PLAN NORD

The [Société du Plan Nord \(SPN\)](#)²⁷ was created to help ensure integrated and coherent development of the northern Québec territory, in accordance with the orientations defined by the government and in collaboration with representatives of the regions, the First Nations concerned, and the private sector. The Québec territory north of the 49th parallel covers 72% of Québec's total area. Thanks to its numerous regional service offices and its headquarters in the city of Québec, the SPN plays a major role in supporting the communities, businesses and organizations that carry out projects on the territory. Through the Bureau de commercialisation, the SPN helps foster economic benefits for northern regions, in particular through privileged contact between prime public and private contractors and local suppliers, and wider, Québec suppliers. Thus, the SPN encourages the implementation of corporate social responsibility principles by providing guidance and tools to promoters of structuring projects.

In doing this, the SPN encourages synergy between the area's stakeholders in order to develop the mineral, forest, energy, social, cultural and tourism-related potential of the northern Québec territory. It also fosters the creation of a favorable context for mine development by focusing on a range of resources. Québec's northern territory offers significant potential in mineral resources including nickel, cobalt, platinum, zinc, iron, ilmenite, gold, apatite, diamond, lithium, vanadium, rare earth elements and graphite. In addition, the SPN is working to facilitate access to the territory, whether by land, sea or air, and to improve telecommunications infrastructures, notably to encourage the shift to Mine 4.0. Finally, the SPN is interested in recruiting and developing the skills of the local and Indigenous workforce.

Infrastructures that facilitate access to land and resources

Québec's northern territory is served by a vast network of road, rail, port, and airport infrastructures, most of which is shown on Map 1.

Transportation is, of course, an essential consideration for mining operations. The SPN supports the development of ore transportation and transshipment infrastructures to maintain a context conducive to natural resource development.

When it was first created, the SPN set aside hundreds of millions of dollars to repair roads that provide access to resource-rich areas. In particular, it is involved in repairing the Billy-Diamond Road, upgrading Road 389 between Baie-Comeau and Fermont, and extending Road 138.

Currently, to further encourage mining development in Québec's northern territory, the SPN is providing financial support to mining companies that will carry out major repair work on existing multi-purpose roads in order to operate a new mining site. An envelope of \$20 million over 3 years is earmarked for this measure.

Société ferroviaire et portuaire de Pointe-Noire

In 2016, the Gouvernement du Québec acquired the railway and port infrastructure of Pointe-Noire, in Sept-Îles, through the Société ferroviaire et portuaire de Pointe-Noire (SFPPN) to make railways, docks and other transshipment facilities available to all potential users. Since 2017, the SPN is the only sponsor of the SFPPN. Over \$120 million have been invested to purchase assets and restart operations. Two major projects are underway, totalling more than \$300 million in public and private investments to optimize the facilities and increase the total capacity of the site.

²⁷ [Online], [plannord.gouv.qc.ca/en/spnen/].

THE SOCIÉTÉ DE DÉVELOPPEMENT DE LA BAIE-JAMES

The mission of the [Société de développement de la Baie-James \(SDBJ\)](#)²⁸ is to promote, from a sustainable development perspective, economic development, improvement and exploitation of natural resources of the James Bay territory. The SDBJ may generate, support and carry out projects in the pursuit of those objectives.

The SDBJ is involved in economic development and transportation infrastructure management by encouraging and supporting business projects in the region.

Rehabilitation of Billy-Diamond Road

Billy-Diamond Road, formerly known as James Bay Road, is the extension of Road 109 in the Nord-du-Québec administrative region. It is the main north-south link in the region and covers over 700 km from Matagami. Since 2016, Billy-Diamond Road has been the subject of a major rehabilitation project.

In 2021, the governments of Québec and Canada will have consented to major investments of \$270.2 million to improve the road, structures and safety equipment on Billy-Diamond Road. The project will strengthen the strategic role of this road in the socio-economic development of the region. It will provide reliable, sustainable and safe infrastructure on which people and businesses in active industrial sectors (mining, energy, forestry) can count.

As an authorized agent of the Gouvernement du Québec, the SDBJ is responsible for managing projects resulting from these investments.

Investment fund

The [SDBJ investment fund](#)²⁹ was created to support the economic development of the James Bay region by making investments, in particular for structuring and profitable business projects in various economic sectors (other than the mining exploration sector). The objectives of this fund are to promote job creation, economic diversification of the territory and the emergence of new products or new technologies.

The [SDBJ mining investment fund](#)³⁰ was created in 2003, mainly to meet the financing needs of mining exploration companies for carrying out exploration work in the James Bay territory. The objectives of this fund are to contribute to the renewal and increase of the territory's mineral resources and to increase the SDBJ's investment capital.

²⁸ [Online], [www.sdbj.gouv.qc.ca/en/home/].

²⁹ [Online], [www.sdbj.gouv.qc.ca/en/financing-offer/investment-fund/].

³⁰ [Online], [www.sdbj.gouv.qc.ca/en/financing-offer/mining-sector/mining-sector-investment-fund/].

THE GRANDE ALLIANCE

In February 2020, the Gouvernement du Québec and the Cree Nation Government signed the [Grande Alliance](#)³¹, an important agreement for collaboration and consolidation of socio-economic ties between the Cree Nation and the Gouvernement du Québec to connect, develop and protect the territory. This agreement will allow the planning and execution of a 30-year infrastructure program that aims to facilitate transportation of people and goods, and increase the value of natural resources.

Resulting from a consultation process, the project envisions, among other things:

- > the development of essential infrastructures in terms of transportation (rail, road, maritime and air), energy (production and distribution of electricity) and telecommunications;
- > the construction of a deep-water port at Whapmagoostui/Kuujuarapik;
- > the sharing of infrastructure in the territory;
- > local workforce training;
- > long-term protection through conservation measures, including the creation and management of protected areas, considering wildlife and environmental requirements as well as the need to coordinate these measures with the development of infrastructure and resources.

The plan is anticipated to extend over 30 years to ensure the predictability and stability of the economic and social development of the Eeyou Istchee James Bay territory and Québec overall.

ENERGY POLICY: ENERGY IN QUÉBEC, A SOURCE OF GROWTH

Québec is a major producer of electricity, 99% of which comes from renewable sources. The province ranks 4th in the world in [hydropower generation](#)³² (in French only).

Thus, throughout much of the province, investors have access to green, renewable energy delivered through a reliable electrical distribution network. Companies can also benefit from extremely competitive energy rates, depending on their consumption.

The territory also has a large natural gas pipeline system that is interconnected to the North American network and serves several regions of Québec. This network continues to develop and the government intends to encourage the production of renewable natural gas and its injection into the network in the coming years, which will make this energy increasingly green. Moreover, the Gouvernement du Québec plans to increase the minimum volume of renewable natural gas injected into the natural gas network to 10% by 2030.

The [2030 Energy Policy, Energy in Québec](#)³³: A Source of Growth, includes energy priorities that will benefit the mining sector, including:

- > Ensure natural gas supply to serve areas not connected to the natural gas pipeline system at competitive prices to enhance the profitability of mines, reduce greenhouse gas (GHG) emissions, and attract new investments;
- > Ensure electricity supply under competitive conditions for mining development;
- > Support projects to convert electricity generation using fossil fuels to cleaner or renewable energy sources.

³¹ [Online], [www.lagrandealliance.quebec/en/].

³² [Online], [hydropower.org/publications/2021-hydropower-status-report] and [Statistics Canada. Table 25-10-0015-01 Electric power generation, monthly generation by type of electricity].

³³ [Online], [politiqueenergetique.gouv.qc.ca].

PLAN FOR A GREEN ECONOMY: FRAMEWORK POLICY ON ELECTRIFICATION AND THE FIGHT AGAINST CLIMATE CHANGE

The Plan for a Green Economy (PGE) will contribute to achieving the 2030 greenhouse gas emissions reduction target Québec has set for itself, namely a 37.5% reduction compared with 1990 levels, and to reach carbon neutrality by 2050. It will also strengthen Québec's capacity to adapt to the consequences of climate change.

The government's vision is clear: make the fight against climate change a major lever for economic development and international outreach. That vision is rooted in the electrification of Québec's economy, the development of our other renewable energy resources, and the emergence of new cutting-edge economic sectors that create quality jobs.

The first [implementation plan](#)³⁴ of the 2030 PGE, covering the period 2021-2026, is structured around five main axes:

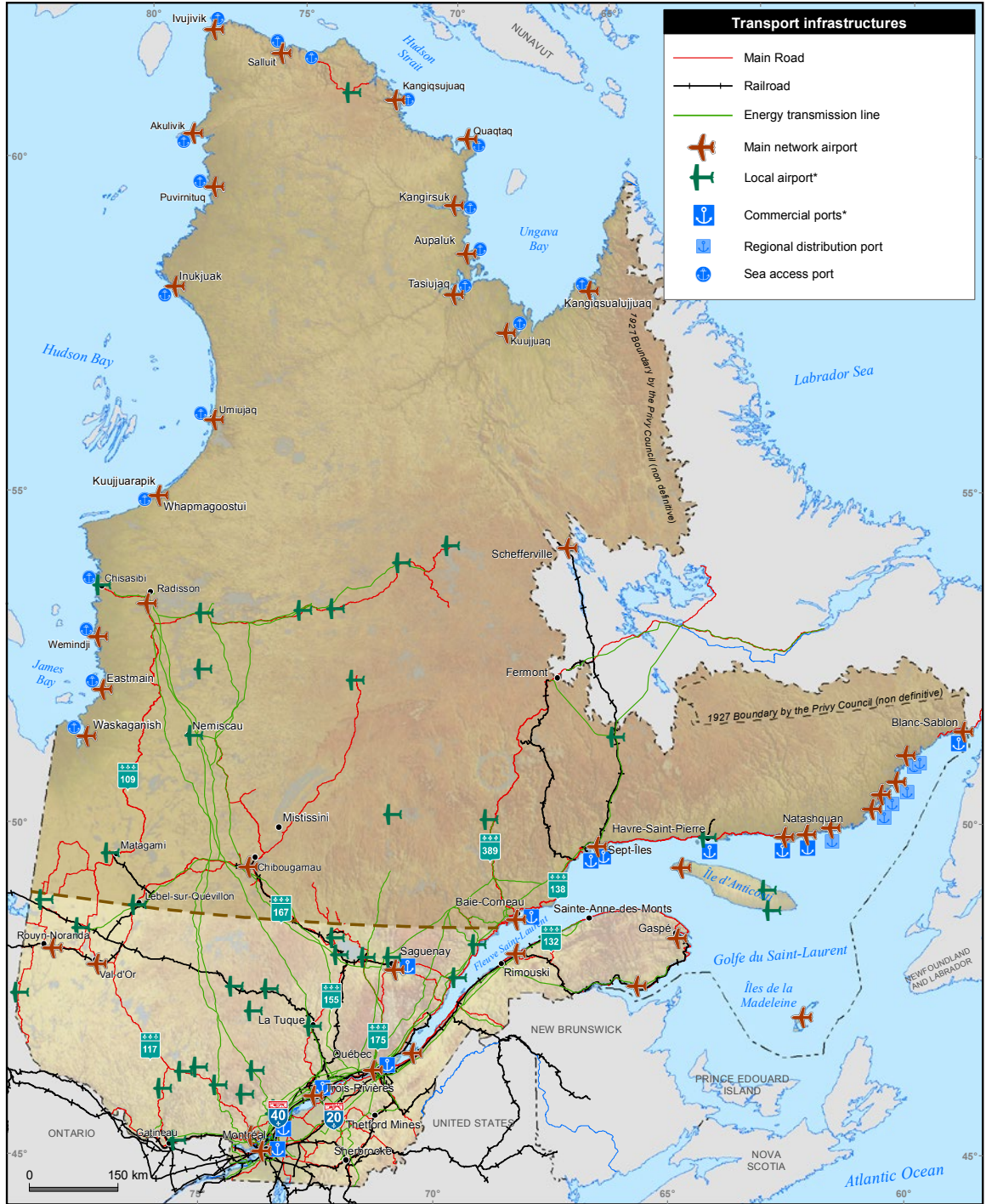
- > Mitigate climate change
- > Build the economy of tomorrow
- > Adapt to climate change
- > Create a predictable environment that is conducive to the climate transition
- > Accelerate the development of knowledge

The 2030 PGE also proposes important measures for the energy transition of the mining sector, including the improvement of certain programs to replace fossil energy by electricity and other renewable energies, the reduction of GHG emissions of the industrial sector, and research and development for carbon sequestration. These energy transition programs are all included in the [Québec Energy Transition, Innovation and Efficiency Master Plan](#)³⁵, which is also promising for the mining sector.

³⁴ [Online], [cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-economie-verte-2030-en.pdf?1635262991].

³⁵ [Online], [transitionenergetique.gouv.qc.ca/fileadmin/medias/pdf/plan-directeur/PAP_TEQ_PlanDirecteur_Web_ANG.pdf].

Map 1 – Transportation infrastructure in Québec



Area covered by the Plan Nord

Québec-Newfoundland-and-Labrador border
(this border is not final)

Source: Transports Québec

Date: June 2021



A LEADER IN THE MINING INDUSTRY

STRATEGIC VISION FOR MINING DEVELOPMENT IN QUÉBEC

The [Strategic Vision for Mining Development in Québec 2016-2021](#)³⁶ (Strategic Vision), extended until 2022, rallies all stakeholders wishing to advance the interests of the mining industry, create a business environment conducive to industry development and guide government action according to needs, issues, and priorities of stakeholders in the sector. It is consistent with other government policies.

The Strategic Vision defines 3 broad guidelines that adhere to the principles of sustainable development:

1. Advance current mining sub-sectors and develop new ones. This guideline consolidates economic development measures for economic stakeholders in the sector and covers mining exploration and development, and metal processing. In addition, it allows to support promising projects within the industry, to intensify the acquisition of geoscientific knowledge on the territory and to implement initiatives enhancing accessibility to clean energy within the framework of mining activities. Finally, the Bureau de coordination des droits was set up to ensure better government coordination in the issuance of various permits and authorizations, and thus speed up the process for mining project promoters. Promoters can also benefit from a brand new support service by regional project managers, thus facilitating constructive dialogue with the communities.
2. Prevent and mitigate environmental impacts
Among the flagship measures of this guideline, there is the new obligation to publish mine restoration and rehabilitation plans filed and approved after December 10, 2013, as well as amounts of the financial guarantees required. Furthermore, to stimulate research in mine wastes recycling, the MERN has added this research niche to the Joint Research Program on Sustainable Development in the Mining Sector.
3. Promote transparency and citizen participation
This guideline focuses on the social aspect and governance. The Strategic Vision established the Native Community Consultation Policy Specific to the Mining Sector and the Government land-use planning guidelines in relation to mining activity. Finally, the MERN participated in the financing of the development of the very first sustainable development certification in mining exploration, [ECOLOGO - UL](#)³⁷.

The high rate of implementation of the planned measures, nearly 90% as of March 31, 2021, testifies to the commitment of the Gouvernement du Québec to support the development of the Québec mining sector to remain highly competitive, while respecting environmental and transparency principles.

³⁶ [Online], [mern.gouv.qc.ca/wp-content/uploads/vision-mines-long-ang.pdf].

³⁷ [Online], [canada.ul.com/fr/programmesulc/explores/].

CRITICAL AND STRATEGIC MINERALS: QUÉBEC IN ACTION

The rapid evolution of sectors such as new technologies, telecommunications, aerospace, energy storage, medical equipment and renewable energy production is indeed leading to an increase in demand for critical and strategic minerals (CSMs). However, since these minerals have no commercial substitutes, they are of major economic importance for key sectors of the economy and represent a high risk in terms of supply. The strong growth anticipated in CSMs represents business opportunities to be seized.

The Gouvernement du Québec, your investment partner

In fall 2020, Québec adopted the Québec Plan for the Development of [Critical and Strategic Minerals 2020-2025 \(QPDCSM\)](#)³⁸ to encourage investments in its territory to meet the growing demand for these resources and actively contribute to the global energy and technological transition. This is the first such initiative in Canada.

With the QPDCSM, Québec is investing as a partner in the success of businesses, at the local, regional, national and international levels. In addition to the possibilities associated with the exploitation of Québec's subsurface resources³⁹, the development of new products resulting from the transformation and recycling of critical and strategic minerals is one of the promising business prospects.

Concrete actions and public investments

This plan is based on a financial framework of \$90 million over 5 years, to which is added \$22 million in additional financial support announced in the 2021-2022 Budget (in March 2021) for the establishment of an allocation to the enhancement of CSMs in the mining tax system in Québec.

The QPDCSM is made up of 22 actions divided into 4 orientations:

1. Increase knowledge and expertise on CSMs
The need to develop knowledge and expertise in several stages of development of value chains has emerged as one of the key issues for the development of CSM sub-sectors in Québec. Over the next few years, the government will intensify its geoscientific work to identify the sectors conducive to exploration for CSM deposits in order to support the discovery of new mines.
2. Deploy or optimize integrated sub-sectors in partnership with regional and Indigenous communities
Several measures are planned to support structuring and R&D projects in exploration, processing, recycling and artificial intelligence in order to set up value chains that create impacts in Québec. Access to CSM resources in the territory will also be facilitated, notably by improving infrastructures in northern regions.
3. Contribute to the transition to a sustainable economy
Quebec wants to ensure that the development of CSM sectors contributes to the achievement of its environmental ambitions. Several actions therefore specifically target the integration of the circular economy into CSM value chains and the recovery of mining and industrial tailings.

³⁸ [Online], [cdn-contenu.quebec.ca/cdn-contenu/ressources-naturelles/Documents/PL_resume_critical_strategic_minerals.pdf?1604003084].

³⁹ The list of critical and strategic minerals in Québec includes: antimony, bismuth, cadmium, cesium, copper, tin, gallium, indium, tellurium, zinc, cobalt, the elements of rare earths, platinum group elements, graphite, lithium, nickel, magnesium, niobium, scandium, tantalum, titanium and vanadium.

4. Raise awareness, guide and promote

The development of CSM sectors is an emerging phenomenon in the global economy, a communication strategy will be deployed to raise awareness and inform the public about the necessity of CSMs in their everyday lives and their importance, among other things, for the energy transition.

Actions will also be implemented to promote Quebec internationally as a responsible partner for the supply of CSMs. A pilot project for the implementation of a traceability system for the minerals necessary to battery manufacturing will be carried out to show compliance with the standards in force and ethical, governance and corporate social responsibility principles throughout the supply chain of a product made in Québec.

The QPDCSM is also in synergy with other government actions, such as:

- > Stratégie de développement de la filière batterie (\$55 million);
- > 2030 Sustainable Mobility Policy;
- > 2030 Plan for a Green Economy;
- > the development of structuring projects thanks to the Capital ressources naturelles et énergie fund.

A responsible partner

Québec is a reliable, ethical, responsible and sustainable partner for the supply of CSMs. In this regard, a pilot project for the implementation of a traceability system for the minerals necessary to battery manufacturing has been launched to show compliance with the standards in force and ethical, governance and corporate social responsibility principles throughout the supply chain of a product made in Québec.

Québec's brand image represents an added value contributing to the outreach of the companies that establish their projects here.

SUPPORTING INNOVATION

To make Québec's mining sector even more competitive, the Gouvernement du Québec has introduced a number of initiatives to support innovation as well as research and development. It began by identifying the following research priorities:

- > Development of the mining sector in the North;
- > Energy conservation and greenhouse gases;
- > Impact of mining development on the environment and communities;
- > Development and optimization of geomatics tools;
- > Social acceptability of mining projects;
- > Mining waste recycling;
- > Adaptation to climate change;
- > Critical and strategic minerals research.

Research is supported through:

- > The [Mining Research and Innovation Support Program \(PARIDM\)](https://mern.gouv.qc.ca/mines/programmes/programme-dappui-a-recherche-a-innovation-domaineminier/)⁴⁰, launched in 2017 and renewed in June 2019. This financial assistance program helps fund the mining industry's research projects conducted with universities and recognized research organizations.

⁴⁰ [Online], [mern.gouv.qc.ca/mines/programmes/programme-dappui-a-recherche-a-innovation-domaineminier/].

- > Research organizations: the government provides financial support for [CONSOREM](#)⁴¹, a research consortium on mineral exploration, [COREM](#)⁴², a research consortium on mineral processing and transformation, and [Groupe MISA](#)⁴³, a network of experts who actively contribute to the development of innovative equipment and services for mining activities ranging from exploration to restoration.
- > [Joint Research Program on Sustainable Development in the Mining Sector](#)⁴⁴ (in French only), implemented by the Fonds de recherche du Québec – Nature et technologies (FRQNT):
 - > The program is intended for university and college researchers and aims to address the above research priorities. The mining industry's contribution must be at least 10% of project costs.
 - > The government has authorized the MERN to invest \$24 million from 2019 to 2022, as part of the renewal of the program implemented by the FRQNT, by adding a research axis on CSMs. The MERN expects to be able to fund at about 55 projects with the initial program and at least 10 CSM research projects.

Many research organizations

Québec's mining sector includes at least 45 research centres whose work is beneficial to the mining sector:

- > 3 college centres for technology transfer (CTMP-Thetford, CMQ-Trois-Rivières, and CTRL-RouynNoranda);
- > 13 private or university research centres;
- > 26 research chairs linked to Québec universities;
- > 2 ACCORD niches of excellence (MISA and Industrial, Mining and Metallurgy Process Engineering);
- > 5 research laboratories, 3 at Polytechnique Montréal and 2 at the Université du Québec à Chicoutimi.

GEOLOGICAL KNOWLEDGE AND MINERAL RIGHTS: CUTTING-EDGE MANAGEMENT TOOLS

The acquisition of new geoscientific knowledge throughout the territory is a key component of mining development in Québec. To achieve this, the government invests \$15 million annually to acquire, process, and publish geological data.

Québec has developed the [SIGÉOM](#)⁴⁵ (Québec geomining information system) database, which contains geoscientific information collected over the last century by the mining industry and the MERN. An Internet portal with an interactive map provides access to the database, which is one of the most comprehensive in the world.

Prospective zones to exploration, discovered during the work of the Ministère de l'Énergie et des Ressources naturelles, are published on the Internet in the [Bulletin GéologiQUE](#)⁴⁶, which renews and enhances the traditional geological report by using all the benefits of the Web. This geological bulletin is also available in English.

⁴¹ [Online], [[consorem.ca](#)].

⁴² [Online], [[corem.qc.ca/en](#)].

⁴³ [Online], [[legroupemisa.com/?lang=en](#)].

⁴⁴ [Online], [[mern.gouv.qc.ca/en/mines/programs/research-program-sustainable-development/](#)].

⁴⁵ [Online], [[sigeom.mines.gouv.qc.ca/signet/classes/11102_indexAccueil?l=a](#)].

⁴⁶ [Online], [[gq.mines.gouv.qc.ca/bulletins-geologiques_en/](#)].

In Québec, mining rights are managed electronically and can be accessed online through the [GESTIM](#)⁴⁷ application. This system gives users real-time access to updated data from the Register of real and immovable mining rights of Québec. It allows developers to map, renew and pay for exclusive exploration rights (claims) in a secure online environment.

THE QUÉBEC MINES + ÉNERGIE CONGRESS

For over 40 years now, the annual [Québec Mines + Énergie](#)⁴⁸ congress has been the most anticipated event of the year for stakeholders involved in developing Québec's mining industry. Its objective is to promote Québec's mineral potential from a sustainable development perspective. The congress covers the entire mining development process, from exploration and mining to processing and site restoration. It is a forum for meetings and exchanges that bring together key mining stakeholders from research and education, science, economics and industry, as well as representatives of local and Indigenous communities. The Ministère de l'Énergie et des Ressources naturelles takes this opportunity to release the latest results of its geological knowledge development fieldwork.

The congress added an energy component in 2018. Topics relating to energy resource development have also been included, in addition to the usual mining sector training sessions, high-calibre conferences and exhibitors, expanding and enhancing the program for participants.

Due to the COVID-19 pandemic, the QM+É congress' next edition will again be held in virtual mode in November 2021. The congress in its usual form should be back in 2022.

⁴⁷ [Online], [gestim.mines.gouv.qc.ca/MRN_GestimP_Presentation/ODM02101_login.aspx].

⁴⁸ [Online], [QcMinesEnergie.gouv.qc.ca].



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04

114

Details of MINING ACTIVITIES

The following tables present all mining activities in Québec, including active mines and mining projects where developers are engaged in work at the site.



IRON (including TITANIUM and VANADIUM)

Deposit appraisal mining projects	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
BlackRock Blackrock Metals www.blackrockmetals.com	Iron	Vanadium Titanium	Not public	Not public	
Hopes Advance Oceanic Iron Ore Corporation www.oceanicironore.com	Iron			1,388.04 Mt at 32.11% Fe	
Mont Sorcier Vanadium One Iron Corp. www.vanadiumone.com	Iron	Vanadium		113.5 Mt at 22.7% Fe	

Active mines	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
DSO Tata Steel Minerals Canada Ltd. www.tatasteelcanada.com	Iron		Not public	Not public	2017-2032 1954-1982
Fire Lake ArcelorMittal Mining Canada G.P. www.transformerlavenir.com	Iron		Included in those of Mont-Wright	Included in those of Mont-Wright	2006-2045 1977-1981
Lac Bloom Québec Iron Ore Inc. www.mineraiferquebec.com	Iron		807.00 Mt at 28.93% Fe	*893.50 Mt at 29.34% Fe	2018-2033 2010-2014
Mont-Wright ArcelorMittal Mining Canada G.P. www.transformerlavenir.com	Iron		2,405.00 Mt at 29.49% Fe	3,857.00 Mt at 30%	1974-2045
Lac Tio Rio Tinto Fer et Titane inc. www.riotinto.com	Titanium		119.00 Mt at 83.20% Ti	19.00 Mt at 84.60% Ti	1950-2051

June 2021

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- (2) Mt: millions of metric tons; %: percentage; g/t: grams/ton; c/t: carats/ton.
- (3) Resources preceded by an asterisk (*) include reserves.

Iron – Mining Activities in Québec



Area covered by the Plan Nord

Quebec-Newfoundland-and-Labrador border
(this border is not final)

Source: SIGÉOM

Date: June 2021

GOLD

Deposit appraisal mining projects and projects under development	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Kiena Wesdome Gold Mines Ltd. www.wesdome.com	Gold		1.57 Mt at 11.89 g/t Au	0.64 Mt at 7.56 g/t Au	2006-2013 1981-2002
Barry Bonterra Resources inc. www.bonterresources.com	Gold			2.05 Mt at 5.84 g/t Au	2008-2010
Croinor Gold Monarch Mining Corporation www.monarchmining.com	Gold		0.60 Mt at 6.67 g/t Au	0.80 Mt at 9.12 g/t Au	2003-2005 1996-1997
Douay Maple Gold Mines www.maplegoldmines.com	Gold			8.60 Mt at 1.52 g/t Au	
Eau Claire Fury Gold Mines Ltd. www.furygoldmines.com	Gold			4.29 Mt at 6.18 g/t Au	
Fenelon Wallbridge Mining Company Limited www.wallbridgeminig.com	Gold			*0.09 Mt at 13.21 g/t Au	
Sleeping Giant Abcourt Mines Inc. www.abcourt.com	Gold		0.34 Mt at 7.90 g/t Au	0.49 Mt at 11.22 g/t Au	2013-2014 1993-2012 1988-1991
Granada Granada Gold Mine Inc. www.granadagoldmine.com	Gold			5.96 Mt at 2.34 g/t Au	1930-1935
Horne 5 Falco Resources Ltd. www.falcores.com	Gold	Zinc Copper Silver	80.90 Mt at 1.44 g/t Au 0.78% Zn 0.17% Cu 14.16 g/t Ag	105.64 Mt at 1.44 g/t Au 0.79% Zn 0.17% Cu 14.32 g/t Ag	1927-1976
Lac Windfall Osisko Mining Inc. www.miniereosisko.com	Gold	Silver		6.02 Mt at 9.56 g/t Au 5.91 g/t Ag	
Marban O3 Mining www.o3mining.ca/	Gold	Silver		54.15 Mt at 1.10 g/t Au	
O'Brien Radisson Mining Resources Inc. www.radissonmining.com	Gold			0.95 Mt at 9.48 g/t Au	1933-1981
Troilus Troilus Gold Corp. www.troilusgold.com	Gold	Copper Silver		177.30 Mt at 0.75 g/t Au 0.08% Cu 1.17 g/t Ag	1997-2010
Wasamac Yamana Gold www.yamana.com	Gold		21.46 Mt at 2.56 g/t Au	29.86 Mt at 2.69 g/t Au	1965-1971

June 2021

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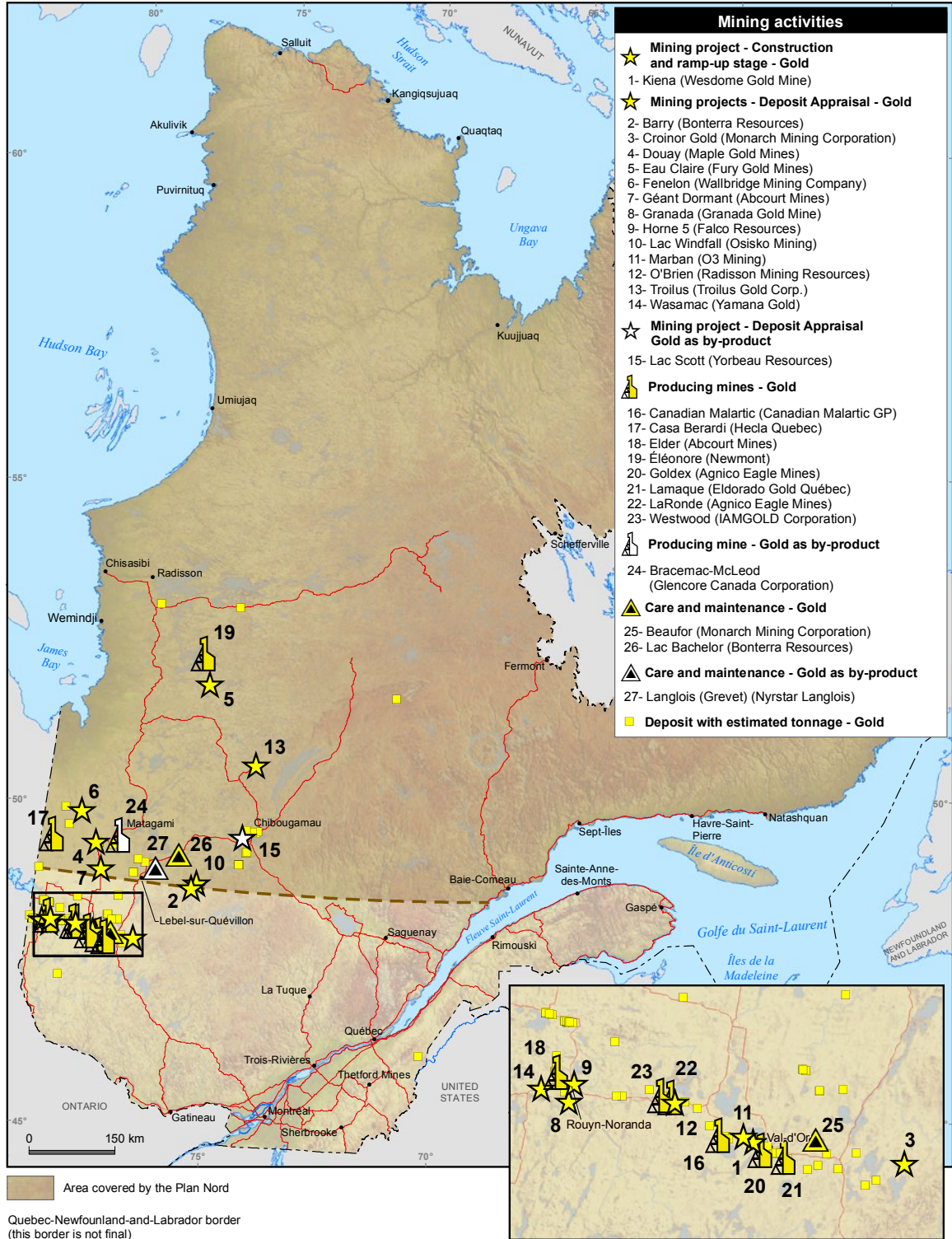
Active mines	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Canadian Malartic Canadian Malartic Partnership www.canadianmalartic.com	Gold	Silver	133.81 Mt at 1.11 g/t Au	17.48 Mt at 1.54 g/t Au	2011-2028 1933-1965 1927-1929
Casa Berardi Hecla Québec inc. www.hecla-mining.com	Gold	Silver	16.77 Mt at 2.90 g/t Au	10.10 Mt at 3.89 g/t Au	2007-2034 1988-1997
Elder Abcourt Mines Inc. www.abcourt.com	Gold			0.64 Mt at 6.39 g/t Au	2016-2025 1984-1989 1947-1966
Éléonore Newmont www.newmont.com	Gold		7.80 Mt at 5.00 g/t Au	3.00 Mt at 4.51 g/t Au	2015-2026
Goldex Agnico Eagle Mines Ltd. www.agnicoeagle.com	Gold		22.12 Mt at 1.57 g/t Au	31.61 Mt at 1.66 g/t Au	2013-2030 2008-2011
Lamaque Eldorado Gold Québec www.eldoradogold.com	Gold		4.99 Mt at 6.77 g/t Au	*7.12 Mt at 7.95 g/t Au	2019-2027
LaRonde Agnico Eagle Mines Ltd. www.agnicoeagle.com	Gold	Zinc Copper Silver	26.92 Mt at 4.36 g/t Au 0.76% Zn 0.26% Cu 17.89 g/t Ag	17.12 Mt at 2.43 g/t Au 0.81% Zn 0.13% Cu 21.39 g/t Ag	1988-2030
Westwood IAMGOLD Corporation www.iamgold.com	Gold		2.69 Mt at 7.10 g/t Au	*4.76 Mt at 10.17 g/t Au	2013-2035

Mines under maintenance	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Beaufor Monarch Mining Corporation www.monarquesgold.com	Gold			0.43 Mt at 6.68 g/t Au	2002-2019 1996-2001 1939-1942
Lac Bachelor Bonterra Resources inc. www.btrgold.com	Gold			0.84 Mt at 7.79 g/t Au	2013-2019 1982-1989

June 2021

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- (3) Resources preceded by an asterisk (*) include reserves.

Gold – Mining Activities in Québec





NICKEL (including Platinum-Group Elements and COBALT)

Deposit appraisal mining projects	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Dumont Nickel Magnetite Investments Limited Partnership www.rncminerals.com	Nickel	Cobalt Palladium Platinum	1,028.05 Mt at 0.27% Ni 107.27 g/t Co 0.02 g/t Pd 0.01 g/t Pt	1,665.50 Mt at 0.26 % Ni 107.34 g/t Co 0.02 g/t Pd 0.01 g/t Pt	

Mines actives	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Nunavik Nickel Canadian Royalties inc. www.canadianroyalties.com	Nickel	Cobalt Copper Palladium Platinum	Non publiques	Non publiques	2014-2030
Raglan Glencore Canada Corporation www.glencore.com	Nickel	Copper Cobalt Palladium Platinum	10.30 Mt at 2.69% Ni 0.75% Cu 0.06% Co 1.97 g/t Pd 0.81 g/t Pt	*19.94 Mt à 3.16% Ni 0.92% Cu 0.07% Co 2.27 g/t Pd 0.91 g/t Pt	1997-2040

June 2021

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- (3) Resources preceded by an asterisk (*) include reserves.

Nickel – Mining Activities in Québec



■ Area covered by the Plan Nord

Quebec-Newfoundland-and-Labrador border (this border is not final)

Source: SIGÉOM

Date: June 2021

ZINC

Deposit appraisal mining projects	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Abcourt-Barvue Abcourt Mines Inc. www.abcourt.com	Zinc	Silver	8.07 Mt at 2.83% Zn 51.79 g/t Ag	8.11 Mt at 3.07% Zn 55.35 g/t Ag	1985-1990 1952-1957
Lac Scott Yorbeau Resources Inc. www.yorbeauresources.com	Zinc	Copper Silver Gold		3.56 Mt at 4.17% Zn 0.95% Cu 37.20 g/t Ag 0.22 g/t Au	

Active mine	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Bracemac-McLeod Glencore Canada Corporation www.glencore.com	Zinc	Copper Silver Gold	1.20 Mt at 5.80% Zn 1.00% Cu 26.00 g/t Ag 0.70 g/t Au	*2.00 Mt at 5.80% Zn 1.00% Cu 26.00 g/t Ag 0.60 g/t Au	2013-2022

Mines under maintenance	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Langlois (Grevet) Nyrstar Langlois www.nyrstar.com	Zinc	Copper Silver Gold	2.34 Mt at 7.23% Zn 0.59% Cu 36.48 g/t Ag 0.06 g/t Au	*5.39 Mt at 8.00% Zn 0.52% Cu 36.27 g/t Ag 0.07 g/t Au	2012-2020 2007-2008 1997-2000 1996-1996

June 2021

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- (3) Resources preceded by an asterisk (*) include reserves.

Zinc – Mining Activities in Québec



COPPER

There are currently no mining projects or active mines whose main substance is copper. However, copper is a by-product in several mining projects and active mines, as shown in the corresponding column of the tables for gold, nickel and zinc.

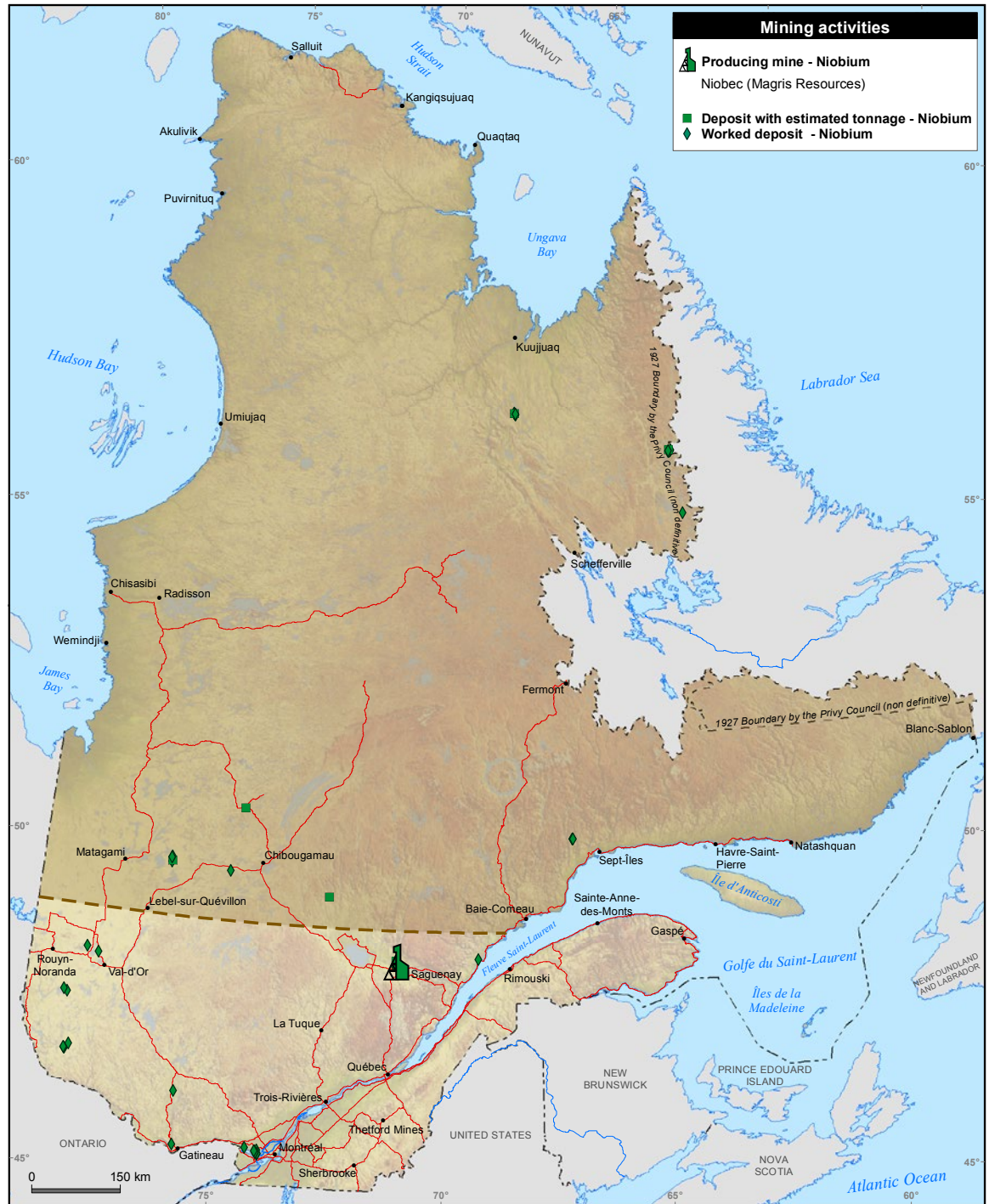
NIOBIUM

Active mine	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Niobec Magris Resources www.niobec.com	Niobium		416.42 Mt at 0.41% Nb ₂ O ₅	288.68 Mt at 0.43% Nb ₂ O ₅	1976-2045

June 2021

- ⁽¹⁾ The difference between reserves and resources is established in accordance with the ICM "Definition Standards on Mineral Resources and Mineral Reserves." Warning: Mineral resources have not been shown to be economically viable and it is not certain that all or some of the resources will be converted to reserves.
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- ⁽³⁾ Resources preceded by an asterisk (*) include reserves.

Niobium – Mining Activities in Québec



Area covered by the Plan Nord
 Québec-Newfoundland-and-Labrador border
 (this border is not final)

Source: SIGÉOM
 Date: June 2021

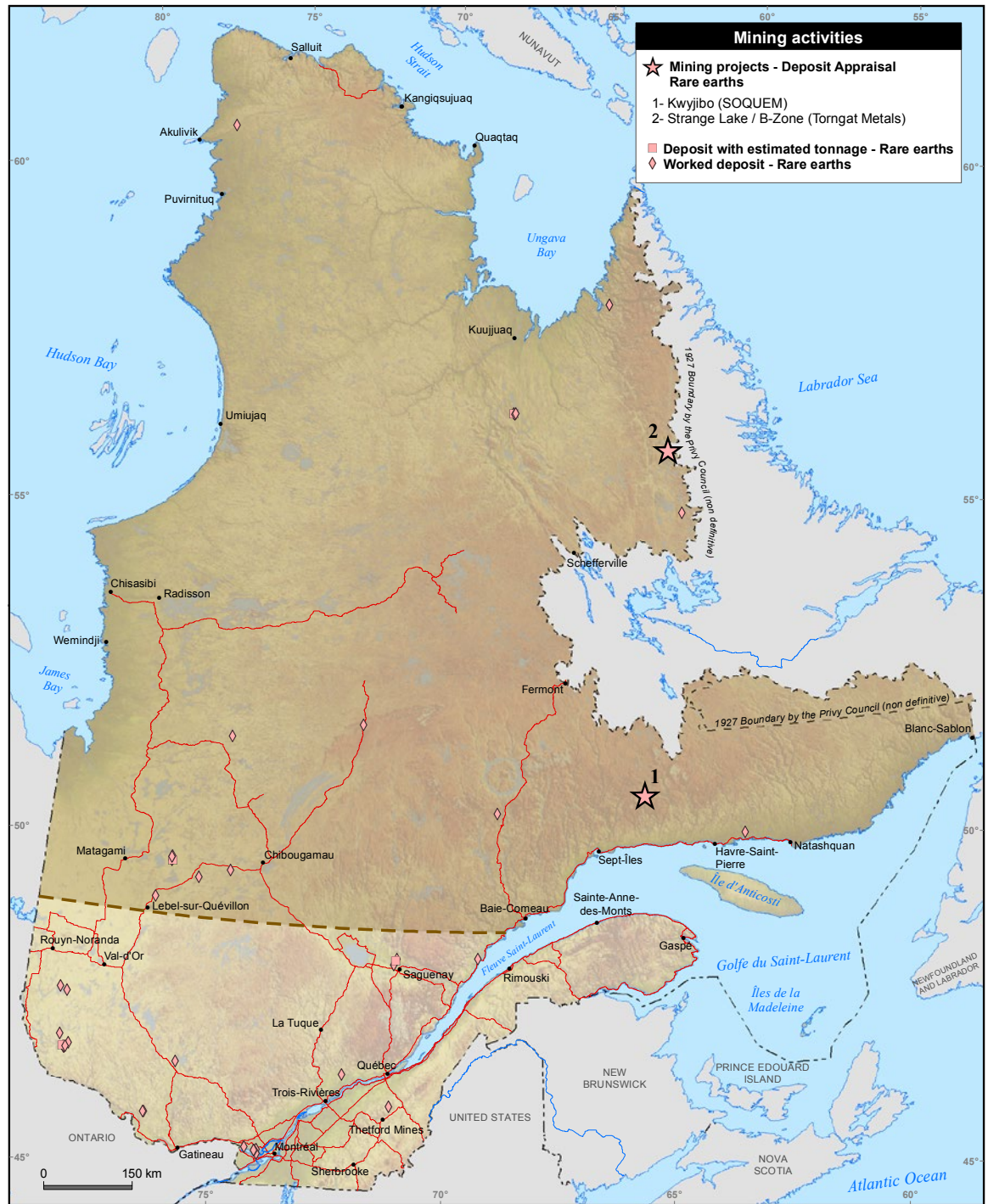
RARE EARTH ELEMENTS

Deposit appraisal mining projects	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Kwyjibo SOQUEM www.soquem.qc.ca	Rare earths			6.92 Mt at 2.72% TREO	
Strange Lake / B-Zone Torngat Metals http://torngatmetals.com	Rare earths	Light rare earths Heavy rare earths	Not public	Not public	

June 2021

- ⁽¹⁾ The difference between reserves and resources is established in accordance with the ICM "Definition Standards on Mineral Resources and Mineral Reserves." Warning: Mineral resources have not been shown to be economically viable and it is not certain that all or some of the resources will be converted to reserves.
- ⁽²⁾ Mt: millions of metric tons; %: percentage; g/t: grams/ton; c/t: carats/ton.
- ⁽³⁾ TREO: total of rare earth oxides plus yttrium oxide; LREO: total of light rare earth oxides (La Sm); HREO: total of heavy rare earth oxides (Eu Lu).

Rare Earth Elements – Mining Activities in Québec



■ Area covered by the Plan Nord

Quebec-Newfoundland-and-Labrador border (this border is not final)

Source: SIGÉOM

Date: June 2021

LITHIUM (including TANTALUM)

Deposit appraisal mining projects and projects under development	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Authier Sayona Québec inc. www.sayonaquebec.com	Lithium		12.10 Mt at 1.00% Li ₂ O	*17.18 Mt at 1.01% Li ₂ O	
James Bay Lithium Galaxy Lithium One (Québec) inc. www.gxy.com	Lithium			40.30 Mt at 1.40% Li ₂ O	
Moblan Lithium Neotec Lithium – Lithium Guo AO www.neoteclithium.com	Lithium		10.73 Mt at 1.40% Li ₂ O	12.03 Mt at 1.40% Li ₂ O	
Rose Critical Elements Lithium Corporation www.cecorp.ca	Lithium	Tantalum	26.80 Mt 0.85% Li ₂ O 133.00 g/t Ta ₂ O ₅	*31.90 Mt 0.93% Li ₂ O 148.00 g/t Ta ₂ O ₅	
Whabouchi Nemaska Lithium inc. www.nemaskalithium.com	Lithium			*38.27 Mt at 1.46% Li ₂ O	

Mines under maintenance	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
North American Lithium North American Lithium Inc. na-lithium.com	Lithium		20.50 Mt 0.93% Li ₂ O	39.30 Mt 1.04% Li ₂ O	2018-2019 1956-1965

June 2021

- (1) The difference between reserves and resources is established in accordance with the ICM "Definition Standards on Mineral Resources and Mineral Reserves." Warning: Mineral resources have not been shown to be economically viable and it is not certain that all or some of the resources will be converted to reserves.
- (2) Mt: millions of metric tons; %: percentage; g/t: grams/ton; c/t: carats/ton.
- (3) Resources preceded by an asterisk (*) include reserves.

Lithium – Mining Activities in Québec



Area covered by the Plan Nord

Québec-Newfoundland-and-Labrador border
(this border is not final)

Source: SIGÉOM

Date: June 2021

GRAPHITE

Deposit appraisal mining projects	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Matawinie Nouveau Monde Graphite inc. nouveau monde.ca	Graphite		59.00 Mt at 4.35%	*95.80 Mt at 4.28%	

Active mine	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Lac des Îles Imerys Graphite & Carbon Canada www.imerys-graphite-and-carbon.com	Graphite				1989-2022

June 2021

- (1) The difference between reserves and resources is established in accordance with the ICM "Definition Standards on Mineral Resources and Mineral Reserves." Warning: Mineral resources have not been shown to be economically viable and it is not certain that all or some of the resources will be converted to reserves.
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- (3) Resources preceded by an asterisk (*) include reserves.

Graphite – Mining Activities in Québec



Area covered by the Plan Nord

Québec-Newfoundland-and-Labrador border
(this border is not final)

Source: SIGÉOM

Date: June 2021

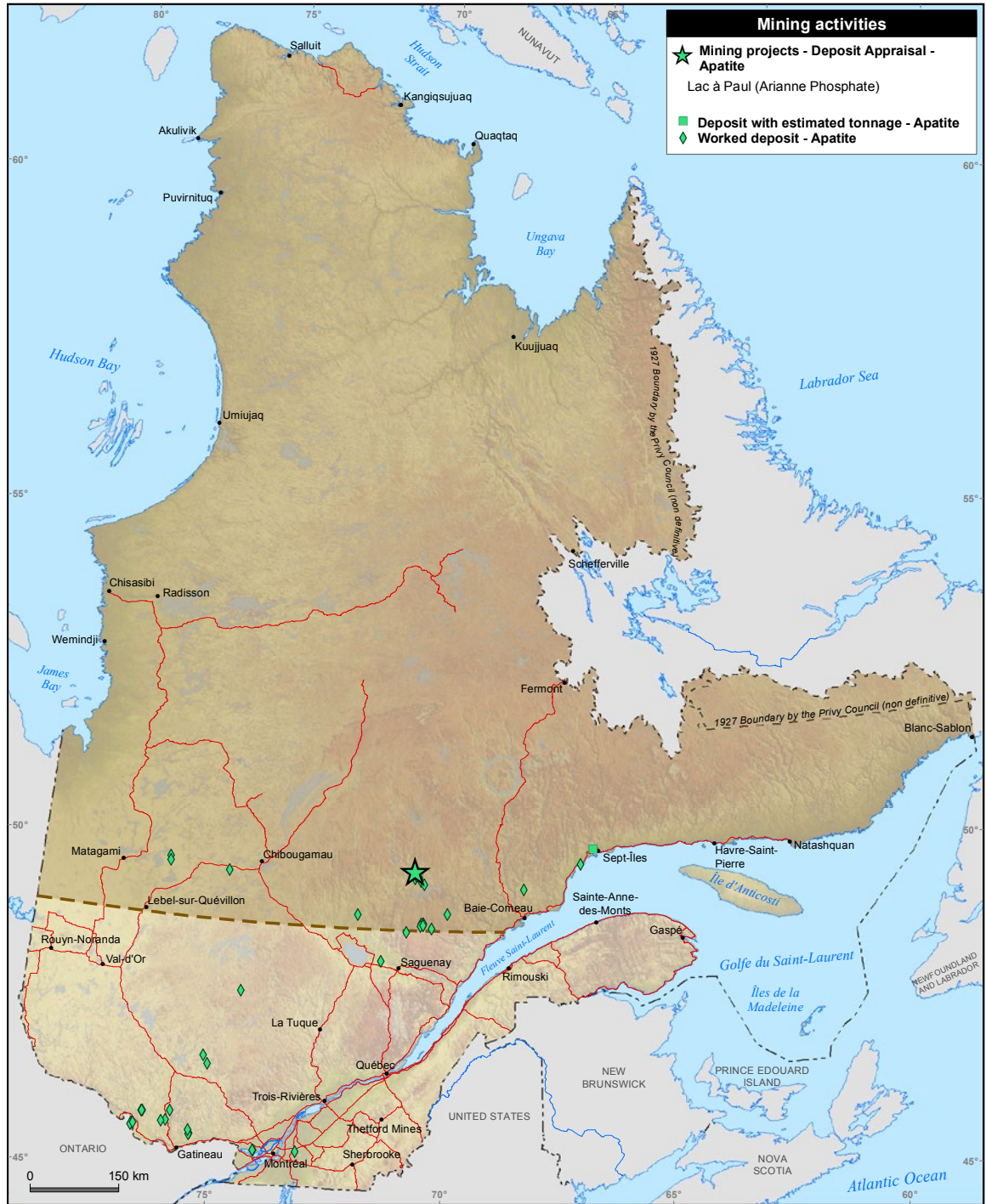
APATITE

Deposit appraisal mining projects	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Lac à Paul Arianne Phosphate inc. www.arianne-inc.com	Apatite	Ilmenite	472.09 Mt 6.88% P ₂ O ₅	*702.70 Mt 7.16% P ₂ O ₅ 7.71% TiO ₂	

June 2021

- (1) The difference between reserves and resources is established in accordance with the ICM "Definition Standards on Mineral Resources and Mineral Reserves." Warning: Mineral resources have not been shown to be economically viable and it is not certain that all or some of the resources will be converted to reserves.
- (2) Mt: millions of metric tons; %: percentage; g/t: grams/ton; c/t: carats/ton.
- (3) Resources preceded by an asterisk (*) include reserves.

Apatite – Mining Activities in Québec



Area covered by the Plan Nord

Québec-Newfoundland-and-Labrador border
(this border is not final)

Source: SIGÉOM

Date: June 2021

DIAMOND

Active mine	Main substance	By-product substances	Proven and probable reserves ⁽¹⁾⁽²⁾	Measured and indicated resources ⁽¹⁾⁽²⁾⁽³⁾	Operational years
Renard Stornoway Diamonds www.stornowaydiamonds.com	Diamond		33.42 Mt at 66.50 c/t	67.12 Mt at 64.85 c/t	2020-2028 2016-2020

June 2021

- (1) The difference between reserves and resources is established in accordance with the ICM "Definition Standards on Mineral Resources and Mineral Reserves." Warning: Mineral resources have not been shown to be economically viable and it is not certain that all or some of the resources will be converted to reserves.
- (2) Mt: millions of metric tons; %: percentage; g/t: grams/ton; c/t: carats/ton.
- (3) Resources preceded by an asterisk (*) include reserves.

Diamond – Mining Activities in Québec





FREQUENTLY ASKED QUESTIONS about Québec's mining sector

What are the jurisdictions of the Québec and Canadian governments with regard to the mining sector?

Canada's Constitution Act, 1982 provides for the sharing of jurisdictions between the federal government and the provinces, including Québec. Prospecting, mining operations, conservation and management of natural resources, including mineral resources, is the exclusive jurisdiction of Québec. Nevertheless, the environment is a shared jurisdiction between the Government of Canada and the Gouvernement du Québec. Moreover, any business established in Québec is subject to both Québec and federal income tax requirements.

What is the regulatory process to obtain approval for a mining project, from mineral exploration to mine opening and closure?

Under the Mining Act, developers must first obtain exclusive exploration rights (a claim) from the MERN before searching for mineral substances on a specific parcel of land. If the land is private, the claim holder must obtain written authorization from the landowner at least 30 days before going onto the land or conducting exploration work. Claim holders must also notify the municipality and the landowner of their claim no more than 60 days after it is registered and must inform the municipality and the landowner at least 30 days before work begins. Claim holders must comply with the provisions of the **Environment Quality Act** and obtain the necessary authorizations and permits. Other legislation may also apply.

In the event of a discovery, the claim holder must obtain a **mining lease** under the provisions of the Mining Act. The lease application must be accompanied by a land survey of the area for development, a report certified by an engineer or geologist who meets the qualification requirements set out in the regulation, a project feasibility study, and an economic and market opportunity study for processing in Québec. Where applicable, a **public land use application** must also be filed for all uses, temporary and permanent activities, developments and structures not covered by the mining lease.

Before a mining company applies for a mining lease, it must file a **rehabilitation and restoration plan** with the MERN. The plan must be made available to the public at least 30 days before the public consultation. A mining lease cannot be signed until the mine rehabilitation and restoration plan has been approved in accordance with the Mining Act and an authorization certificate has been issued under the Environment Quality Act. The Mining Act states that when granting a lease, the government may, on reasonable grounds, require that the economic spinoffs within Québec be maximized, including with respect to primary processing.

A **financial guarantee** for the closure of the mine site is also required, to cover the anticipated cost of carrying out the work provided for in the rehabilitation and restoration plan. The guarantee must be paid in three instalments: the first payment (50%) must be made within 90 days of receiving the plan's approval, and each subsequent payment (25% each) must be made on the anniversary of the plan's approval. Developers must also provide the MERN with a financial guarantee for certain types of exploration work.

Under the Environmental Quality Act, the following types of construction and mining projects are subject to an **environmental assessment**:

- > Metal ore processing plants and projects to develop and operate metal ore mines with a processing or production capacity of 2,000 t or more per day;
- > All rare earth element extraction projects, regardless of processing and production capacity.

Exceptionally, as per the Environmental Quality Act, other projects may be subject to an environmental assessment on the recommendation of the Ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC).

Under the Mining Act, developers must organize and hold a **public consultation** before a mining lease for a metal ore mine with a production capacity of less than 2,000 tons per day, a lease for surface mineral substances such as peat, or a lease for an industrial activity or commercial export activity may be granted. After the mining lease is issued, the lessee must establish a **monitoring committee** to foster the involvement of the local community in the project as a whole.

Once operations have **ceased**, the mine operator may be required to obtain one or more authorization certificates from the Ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC) for restoration work. The financial guarantee will be returned once all restoration obligations have been met to the satisfaction of the MERN and the MELCC.

Québec has published a [document](#)⁴⁹ (in French only) listing the main permits, leases, and authorizations required for mine development in Québec.

Do foreign investors have the same rights as Canadian investors?

In Québec and Canada, all investors, whether Canadian or foreign, are treated equally. However, there are rules regarding takeovers of Canadian firms by [foreign interests](#)⁵⁰.

Does a mining company need to hire workers from a particular region or union? Can it bring in its own workers?

The Gouvernement du Québec encourages companies to employ workers from neighbouring communities. Québec has a skilled mining workforce and these workers mostly live in mining areas.

However, businesses established in Québec may employ workers from anywhere in Canada. Bringing workers in from outside Canada to occupy positions is possible if the company is having trouble filling those positions with [Canadians](#)⁵¹.

Does Québec have standards to ensure the safety of workers in the mining sector?

The Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST) is the body responsible for administering the occupational health and safety system and overseeing the application of the [Regulation respecting occupational health and safety in mines](#)⁵².

⁴⁹ [Online], [mern.gouv.qc.ca/publications/mines/cadre-normatif-domaine-minier.pdf].

⁵⁰ [Online], [bdp.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/201142E?].

⁵¹ [Online], [canada.ca/en/employment-social-development/services/foreign-workers.html].

⁵² [Online], [legisquebec.gouv.qc.ca/en/ShowDoc/cr/S-2.1,%20r.%2014].

In addition, the [Association paritaire pour la santé et la sécurité du travail du secteur minier](#)⁵³ is dedicated to helping workers and employers in the mining sector eliminate dangers to workers' health and safety.

Which mining associations are active in Québec?

There are three mining associations operating in Québec: the [Québec Mineral Exploration Association \(QMEA\)](#)⁵⁴, the [Québec Mining Association \(QMA\)](#)⁵⁵ and the [Québec Peat Moss Producers Association \(QPMPA\)](#)⁵⁶.

What are the roles and responsibilities of the main departments and agencies that deal with foreign companies looking to invest in mining projects in Québec?

- > [Ministère de l'Énergie et des Ressources naturelles](#)⁵⁷: all matters related to exploration and mining, metal processing, industrial mineral purification, recovery of mining residues, and mine closure (permits, mineral rights, authorizations, leases, public land use leases, etc.).
- > [Ministère de l'Environnement et de la Lutte contre les changements climatiques](#)⁵⁸: all matters relating to the environment and environmental impacts.
- > [Ministère des Finances](#)⁵⁹, [Ministère de l'Économie et de l'Innovation](#)⁶⁰: financial assistance, equity investments and general business support.
- > [Société du Plan Nord](#)⁶¹: integrates and coordinates development of northern Québec, in a sustainable development perspective.
- > [Institut national des mines](#)⁶²: provides consultation, innovation and training services for the mineral industry outside Québec.
- > [Ressources Québec \(RQ\)](#)⁶³: a division of Investissement Québec specialized in mining and energy sector investments. RQ assists project developers at every stage of their development, from exploration and extraction to resource processing. It offers a range of financial solutions adapted to the needs of projects, including stock holdings, debentures or loans. It also administers the Capital Mines Hydrocarbures Fund, which has a budget of \$1 billion.

Other departments and agencies may also be involved, depending on their areas of jurisdiction.

⁵³ [Online], [aspmines.qc.ca/en/].

⁵⁴ [Online], [aemq.org/en/].

⁵⁵ [Online], [amq-inc.com].

⁵⁶ [Online], [peatmoss.com].

⁵⁷ [Online], [mern.gouv.qc.ca/en/].

⁵⁸ [Online], [environnement.gouv.qc.ca/index_en.asp].

⁵⁹ [Online], [finances.gouv.qc.ca/index_en.asp].

⁶⁰ [Online], [quebec.ca/en/government/ministere/ministere-de-leconomie-et-de-linnovation/].

⁶¹ [Online], [plannord.gouv.qc.ca/en/].

⁶² [Online], [inmq.gouv.qc.ca].

⁶³ [Online], [investquebec.com/quebec/en/].

What laws and regulations generally apply to mining exploration and development?

Québec laws and regulations (non-exhaustive list):

- > Mining Act (M-13.1) and Regulation respecting mineral substances other than petroleum, natural gas and brine (M-13.1, r.2);
- > Act respecting transparency measures in the mine, oil and gas industries (M-11.5) and Regulation respecting the application of the Act respecting transparency measures in the mining, oil and gas industries (chapter M-11.5, a. 6, 9, and 18);
- > Mining Tax Act (I-0.4);
- > Sustainable Forest Development Act (A-18.1) and Regulation respecting standards of forest management for forests in the domain of the State (A-18.1, r.7);
- > Act respecting the lands in the domain of the State (T-8.1);
- > Environment Quality Act (Q-2) and various regulations;
- > Act to affirm the collective nature of water resources and to promote better governance of water and associated environments (chapter C-6.2) and Water Withdrawal and Protection Regulation (chapter Q-2, r. 35.2);
- > Act respecting occupational health and safety (S-2.1) and Regulation respecting occupational health and safety in mines (S-2.1, r.14);
- > Natural Heritage Conservation Act (C-61.01);
- > Act respecting the conservation and development of wildlife (C-61.1);
- > Parks Act (P-9).

These laws and regulations can be consulted on the [LégisQuébec](#)⁶⁴ website.

Canadian laws and regulations (non-exhaustive list):

- > Canadian Environmental Assessment Act (S.C.2012, c.19, s.52);
- > Fisheries Act (R.S.C.[1985], c. F-14) and Metal Mining and Diamond Mining Effluent Regulations (SOR/2002-222);
- > Nuclear Safety and Control Act (S.C.1997, c.9) and various regulations.

These laws and regulations can be found on the [Justice Laws](#)⁶⁵ website.

N.B. The information in this section is for information purposes only and has no legal value.

⁶⁴ [Online], [legisquebec.gouv.qc.ca/en/home].

⁶⁵ [Online], [laws-lois.justice.gc.ca].

CONTACT US

For additional information, contact the international offices of [Investissement Québec](#)⁶⁶ or the [Ministère des Relations internationales et de la Francophonie](#)⁶⁷.

QUÉBEC OFFICES ABROAD

Investissement Québec

Location	Telephone number	Email
Montréal (Canada)	1-844-474-6367	info@invest-quebec.com
Atlanta (United States)	1-404-584-5340	info@invest-quebec.com
Chicago (United States)	1-312-471-1127	info@invest-quebec.com
Los Angeles (United States)	1-310-209-3332	info@invest-quebec.com
New York (United States)	1-212-843-0981	info@invest-quebec.com
London (United Kingdom)	+44 20 7766 5900	info@invest-quebec.com
Munich (Germany)	+49 (0) 89 255 49 31 0	info@invest-quebec.com
Paris (France)	+33 (0)1 40 67 85 00	info@invest-quebec.com
Beijing (China)	+86 10 5139 4264	info@invest-quebec.com
Tokyo (Japan)	+81 3 5733-4588	info@invest-quebec.com
Seoul (South Korea)	+82 2 3703 7718	info@invest-quebec.com
Singapore (Singapore)	n/a	info@invest-quebec.com

Ministère des Relations internationales et de la Francophonie

Location	Telephone number	Email
Atlanta (United States)	1-404-584-2995	qc.atlanta@mri.gouv.qc.ca
Boston (United States)	1-617-482-1193	qc.boston@mri.gouv.qc.ca
Chicago (United States)	1-312-645-0392	qc.chicago@mri.gouv.qc.ca
Los Angeles (United States)	1-310-824-4173	qc.losangeles@mri.gouv.qc.ca
New York (United States)	1-212-843-0950	qc.newyork@mri.gouv.qc.ca
Philadelphia (United States)	1-215-515-7112	qc.philadelphie@mri.gouv.qc.ca
Silicon Valley (United States)	1-310-824-4173	qc.siliconvalley@mri.gouv.qc.ca
Washington (United States)	1-202-659-8990	qc.washington@mri.gouv.qc.ca
Houston (United States)	1-713-968-9836	qc.houston@mri.gouv.qc.ca
Mexico City (Mexico)	+52 (55) 1100-4330	qc.mexico@mri.gouv.qc.ca
Havana (Cuba)	+53 7204 2516	qc.lahabana@international.qc.ca

⁶⁶ [Online], [investquebec.com/quebec/en/financial-products/all-our-solutions/Concerted-temporary-action-program-for-businesses.html].

⁶⁷ [Online], [mri.gouv.qc.ca/en/ministere/representation-etranger].

Location	Telephone number	Email
São Paulo (Brazil)	+55 (11) 5509 4321	qc.saopaulo@international.qc.ca
Beijing (China)	+86 10 5139 4000	qc.beijing@mri.gouv.qc.ca
Shanghai (China)	+86 021 3279 2800	qc.shanghai@mri.gouv.qc.ca
Qingdao (China)	+86 532 6695 0965	qc.qingdao@mri.gouv.qc.ca
Shenzhen (China)	+86 755 8280 9584	n/a
Mumbai (India)	+91 22 6749 4444	quebecinindia@international.qc.ca
Seoul (South Korea)	+82 2 3703 7700	qc.seoul@mri.gouv.qc.ca
Singapore (Singapore)	+65 6808 5612	n/a
Tokyo (Japan)	+81 03 5733 4001	qc.tokyo@mri.gouv.qc.ca
Barcelona (Spain)	+34 93 476 42 58	qc.barcelone@mri.gouv.qc.ca
Berlin (Germany)	+49 0 30 5900646-0	qc.berlin@mri.gouv.qc.ca
Munich (Germany)	+49 0 89 25 54 931 0	qc.munich@mri.gouv.qc.ca
Brussels (Belgium)	+32 0 2 512 00 36	qc.bruxelles@mri.gouv.qc.ca
London (United Kingdom)	+44 0 20 7766 5900	qc.londres@mri.gouv.qc.ca
Rome (Italy)	+39 06 4203 4501	qc.rome@mri.gouv.qc.ca
Paris (France)	+33 0 1 40 67 85 00	qc.paris@mri.gouv.qc.ca
Abidjan (Côte d'Ivoire)	+ 225 20 20 40 15	qc.abidjan@mri.gouv.qc.ca
Dakar (Senegal)	+221 33 849 8216	qc.dakar@mri.gouv.qc.ca
Rabat (Morocco)	n/a	qc.rabat@mri.gouv.qc.ca

Other Departments – Offices Located in Québec

Location	Telephone number	Email	Website
Ministère de l'Énergie et des Ressources naturelles	1-866-248-6936	renseignements@mern.gouv.qc.ca	www.mern.gouv.qc.ca
Ministère de l'Environnement et de la Lutte contre les changements climatiques	1-800-561-1616	info@environnement.gouv.qc.ca	www.environnement.gouv.qc.ca/

