

PREPARING THE FUTURE OF QUÉBEC'S MINERAL SECTOR



QUÉBEC
MINERAL
STRATEGY



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The Canadian Salt Company – Seleine Mine

Xstrata Cuivre – Horne Smelter

Xstrata Nickel – Raglan Mine

*With the collaboration of the Québec Mining Association and
the Québec Mineral Exploration Association.*

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QUÉBEC
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A WORD FROM THE PREMIER

Our government is working to create a new economic space for Québec. In addition to providing access to new markets in Europe and Canada and attracting investment and qualified workers to Québec, this repositioning will put the Québec economy on a modern footing that ensures responsible and sustainable prosperity and well-paid employment for all Quebecers.

This new economic space also stimulates communities throughout Québec, in accordance with the principles of sustainable development. Its prime beneficiaries, today and for generations to come, are the people of Québec, including our First Nations.

This first Québec mineral strategy is part of an overall vision of harmonious economic development aimed at promoting social progress and environmental protection through wealth creation. It is founded on the mineral exploration and mining expertise we have acquired over the generations and opens the door to a bright future through sustainable use of our mineral resources.

Moreover, this mineral strategy is an important tool for the development of Québec's North that will accelerate wealth creation, develop resources sustainably, and build new bridges between Quebecers and the First Nations.

With this mineral strategy, we have set out a vision that shows our ambitions for Québec and our responsibility to future generations.

Jean Charest



Premier of Québec



A WORD FROM THE MINISTER FOR NATURAL RESOURCES AND WILDLIFE



Québec's mineral sector has benefited from growth in metal markets and will continue to do so. Development has and will continue to spur demand for minerals of all kinds. This is not the first time the industry has experienced cycles of growth and contraction. But it is the first time the government has a coordinated strategy aimed at ensuring the future of this sector and permanently bolstering its contribution to prosperity in our communities and regions.

With this mineral strategy, we are providing the means to boost mining activity and its economic spinoffs. We are putting in place measures that will lead to new mineral discoveries, both in unexplored regions and areas of Québec with long mining histories. We are helping the industry move forward and embrace new exploration and mining methods as a means of increasing its competitiveness and its appeal to young workers.

Our goal is to make the mineral sector a flagship for sustainable development.

The participation of local communities and First Nations is a central part of this strategy because wealth creation and economic development are meaningless if they do not contribute to the welfare of citizens.

Serge Simard

A handwritten signature in black ink, appearing to read 'Serge Simard', written in a cursive style.

Minister for Natural Resources and Wildlife

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OVERVIEW OF THE MINERAL SECTOR

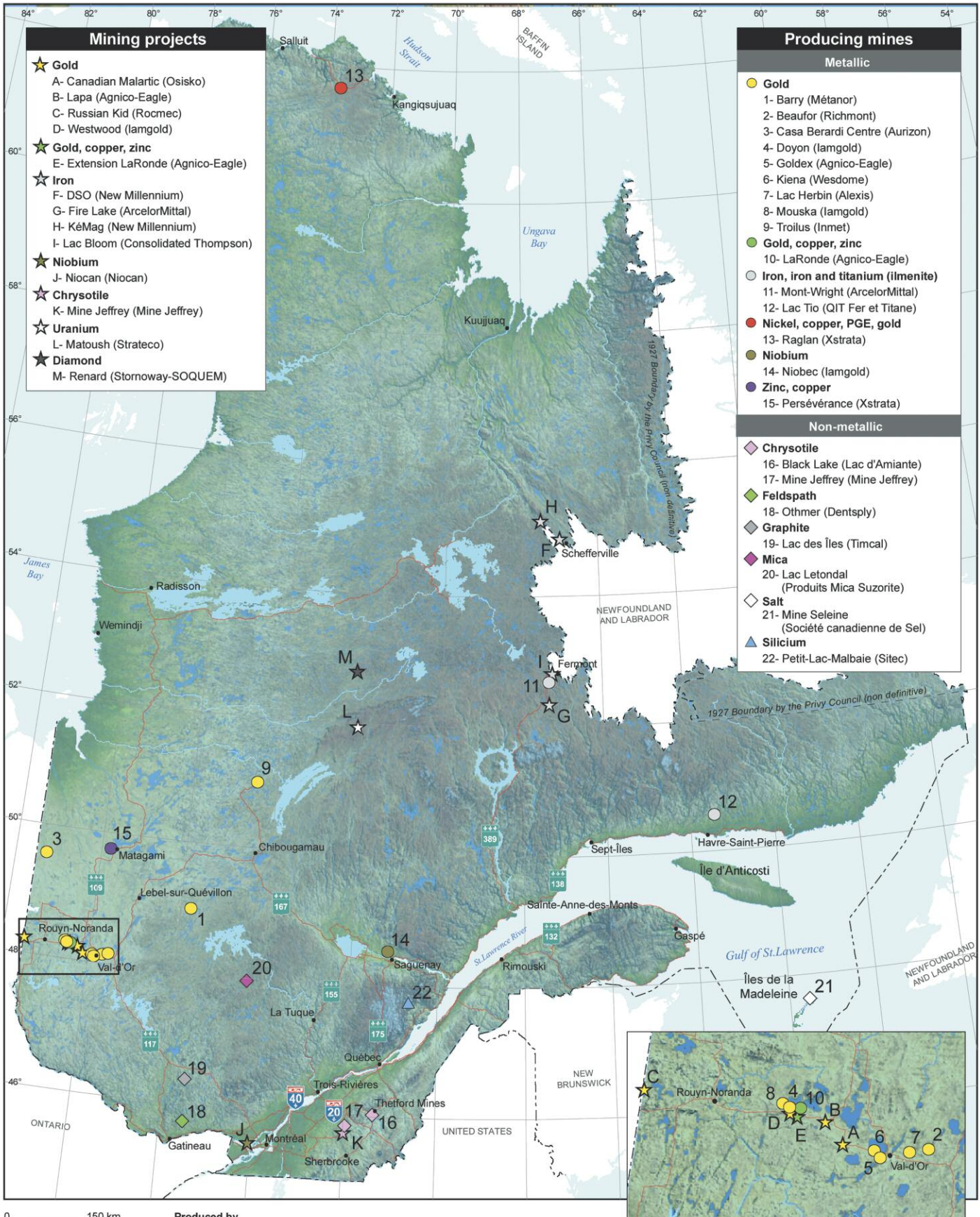
WHAT COMMODITIES ARE BEING EXTRACTED AT QUÉBEC'S 22 PRODUCING MINES? PRIMARILY IRON, ZINC, NICKEL, AND COPPER, PRECIOUS METALS SUCH AS GOLD, INDUSTRIAL MINERALS LIKE CHRYSOTILE, ILMENITE, MICA, AND SALT. BESIDES MINES, QUÉBEC ALSO HAS SAND AND GRAVEL PITS, QUARRIES, AND PEAT BOGS.

- People do not realize just how many of the most modern and technologically advanced objects that they use contain mineral substances.
- Among the thirty or so minerals produced in Québec, many are used in strategic sectors of the new economy, in areas like information technology, robotics, and the aerospace industry as well as in eco-friendly products such as solar panels, wind turbines, water filters (peat moss), and batteries for electric vehicles.
- Québec is a major producer of nickel and zinc, which are in high demand in the aerospace industry due to their remarkable resistance to corrosion. Nickel is also used to make stainless steel, and zinc is used in making galvanized steel, two materials that are found in numerous widely used products.
- In addition to being an excellent conductor, gold is the most malleable and ductile metal there is, and is extremely resistant to corrosion.
- Copper is used in the manufacture of many industrial products because of its high conductivity.
- The automobile and medical instrument industries would not be able to function without certain metals, such as titanium and nickel, which are indispensable in many technologically advanced products.
- Many commonly used materials like cement, sand, gravel, and cut stone are essential to the construction of our roads, civil engineering structures, and buildings.

- In 2007 there were approximately 18,000 people employed in mining-related jobs in Québec.
- In 2006, the average annual salary in the mining sector was \$66,500, almost twice that of industries by and large.
- Nearly half of the mining jobs in Québec are in the Côte-Nord, Abitibi-Témiscamingue, and Nord-du-Québec regions. Montérégie also has a high percentage of jobs, due to the presence of primary processing facilities.

- In 2007 the total value of mineral shipments in Québec was \$5.5 billion, 29% of which was comprised of nonmetallic minerals (industrial minerals and construction materials).
- Between 2003 and 2007, exploration expenditures rose from \$134 million to \$476 million. Growth tapered off in 2008, but the situation is expected to improve starting in 2010.

Producing Mines and Major Mining Projects in Advanced Phase



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QUÉBEC'S MINERAL SECTOR: A DRIVING FORCE IN OUR ECONOMY

The mineral industry is an important source of employment and economic benefits for Québec. With nearly 18,000 jobs – the equivalent of the pharmaceutical sector – and total shipments of \$5.5 billion in 2007, the mining industry contributes significantly to Québec's economy and its international standing.

Québec produces iron, zinc, nickel, copper, and gold. Industry investment is high, totalling \$1.43 billion in 2007. Exploration expenditures for 2007 alone were \$476 million.

Mines are found throughout Québec, but especially in the Nord-du-Québec, Abitibi-Témiscamingue, and Côte-Nord regions, which attract the bulk of investment. However, every region of the province reaps benefits from related activities like transport, technical and financial services, processing, etc.

The cyclical nature of the mineral industry has led the government to further its efforts with an eye to generating wealth. Between 2003 and 2007, the total value of Québec's mineral shipments rose by nearly 54%. Growth tapered off in 2008, but the situation is expected to improve starting in 2010.

With its first Mineral Strategy, Québec now has the means to make the sector a true engine of sustainable development that drives wealth creation and social progress while respecting the environment.

Strategy Development Process

The government held public consultations to develop its Mineral Strategy. Online consultations looked at the policy directions set out in the consultation paper on Québec's mineral industry and the five challenges it was facing. The government also held special consultation sessions with industry associations and organizations. A summary of the consultation paper is included in the appendix.

STRATEGIC VISION: ACTING NOW TO PREPARE THE FUTURE

As with most industrial sectors tied to natural resources, the mineral industry is cyclical in nature. For instance, at the start of 2000, exploration activity was only about a quarter of what it was in 2008. The current financial crisis has led to a temporary economic slowdown. As a result, the mineral industry is again in a period of downturn.

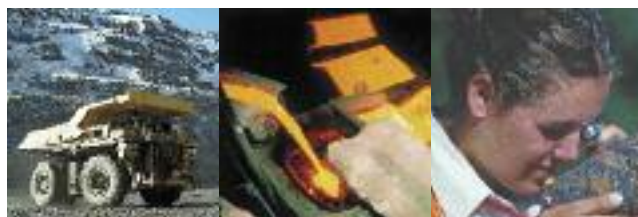
To deal with these cycles, we must strengthen the foundations for mineral development in order to ensure that the industry continues to contribute to economic prosperity.

This will require Québec to rethink a part of its approach.

CHOSEN DIRECTIONS

THE MINERAL STRATEGY IS BASED ON THE FOLLOWING THREE POLICY DIRECTIONS:

- Creating wealth and preparing the future of the mineral sector
- Ensuring environment-friendly mineral development
- Fostering integrated, community-related mineral development





POLICY DIRECTION

1

CREATING WEALTH AND PREPARING THE FUTURE OF THE MINERAL SECTOR



Chapter

1

INVESTING FOR THE FUTURE

MINES ARE A MAJOR ASSET FOR QUÉBEC. THE GOVERNMENT INTENDS TO PROMOTE EXPLORATION AND THE DEVELOPMENT OF NEW MINING PROJECTS BY THE FOUR FOLLOWING MEANS:

- Increasing mineral development in Northern Québec
- Optimizing the mineral potential of regions
- Improving the geological inventory of copper
- Diversifying mined mineral resources

INCREASING MINERAL DEVELOPMENT IN NORTHERN QUÉBEC

Northern Québec offers huge mineral development potential. In fact, 71% of new mining claims issued in 2008 were for Northern Québec.

A variety of promising deposits are being discovered in the region. Gold, iron, nickel, diamond, and other mining projects are in various stages of development.

Given its area, its geology, and our current state of knowledge, Northern Québec has specific issues that must be addressed. With the Mineral Strategy, the government hopes to accelerate development in the region by improving accessibility and adding to our understanding of the region's mineral potential. It also wishes to do so in a manner that respects the environment and Northern communities.

ADDING TO THE KNOWLEDGE OF MINERAL POTENTIAL IN THE NORTH

Deposits have to be found in order to open mines. Géologie Québec is conducting work that will enhance our geoscientific knowledge of the area. Target areas identified by Géologie Québec help to direct mining exploration companies to the most promising regions.



■ Géologie Québec will launch an ambitious geoscientific knowledge acquisition plan to spur exploration activity in Northern Québec. Under this initiative, the region will be mapped and airborne geoscientific surveys will be conducted in order to identify and report on geological areas likely to have economic potential. This will stimulate exploration.

Moreover, the Canadian Geo-mapping for Energy and Minerals Program aims to improve Canada's geoscientific database over a five-year period. A portion of the program's budget is earmarked to provide matching funding for expenditures shared on an equal basis by the two levels of government.

■ Québec, which is one of Canada's leading developers of geoscientific knowledge, will continue seeking federal support for knowledge acquisition projects in Québec.

IMPROVING ACCESS TO THE NORTH

Access to the region is essential to ensure Québec's mineral development, whether for exploration, mining operations, or transporting ore. Because of its vast area, certain parts of Northern Québec with mineral potential are not accessible via existing infrastructures.

New mining projects can require a variety of infrastructures and can be quite costly, particularly in Northern Québec. In its 2009–2010 Budget Speech, the Québec government announced nearly \$350 million in funding over the next five years to improve existing roads and airports or develop new infrastructure. This announcement is an initial step toward development in Northern Québec.



Some infrastructure will be developed in partnership with mining companies, which were hesitant to shoulder the full cost of roads that might be used by other businesses or the general public. This new approach could also ultimately pave the way for the development of Québec's many resources. Optimized infrastructures developed in cooperation with the main stakeholders will maximize the benefits for local communities while avoiding duplication.

Three measures will improve access to the territory:

■ Evaluate needs and plan infrastructure development in Northern Québec in accordance with mining, energy, and tourism projects as well as community needs.

■ Promote industry-region-government partnerships to develop new infrastructures (for example, a new road could provide access to a mine while at the same time facilitating access to a provincial park, new exploration sites, or a hydroelectric project).

■ Plan northern development in a way that ensures optimal use of new infrastructures on provincial lands.

OPTIMIZING THE MINERAL POTENTIAL OF REGIONS

ACQUIRING NEW KNOWLEDGE IN REGIONS ALREADY MINED

Mineral development in Québec can draw on new discoveries in regions where mining is long established. Abitibi-Témiscamingue has recognized gold potential within the Rouyn-Noranda-Val-d'Or axis. The potential for industrial minerals and stone in Québec's central and eastern regions, including architectural stone from Gaspésie-Îles-de-la-Madeleine, granite from Saguenay-Lac-Saint-Jean and Estrie, slate from Bas-Saint-Laurent, and chrysotile from Estrie and Chaudière-Appalaches, is also well known.

■ Géologie Québec will conduct work to gather geoscientific knowledge in regions already mined. Work will be based on identified needs in the regions with a view to strategic knowledge enhancement.

In Abitibi-Témiscamingue, mineral exploration to date has primarily been concentrated in the first 300 metres of the region's subsurface. The use of new technology by Géologie Québec will allow for the development of innovative geoscientific products that can be used to view 3D images of new exploration targets down to a 2 kilometre subsurface level. This will open up a largely unexplored subsurface area to mineral activity.

■ Géologie Québec, in collaboration with academic and institutional networks, will develop new mapping methods that integrate the available geological data in 3D format and use it to provide new digital products.

SPURRING EXPLORATION WORK ON CLAIMS

To conduct exploration work, mining companies must first obtain an exploration title or claim. To keep their claims, they must conduct exploration work and report back to the Ministère des Ressources naturelles et de la Faune (MRNF). However, current terms of claim renewal do not foster optimal levels of exploration. For example, a claim holder can make a payment in lieu of performing the required minimum exploration work, which reduces the likelihood that the claims' mining potential will be developed.

Claim renewal terms will be reviewed to spur mineral activity, because certain claims are considered to be dormant.

■ The *Mining Act* will be amended to enhance mineral activities on claims.

BETTER PUBLICIZING QUÉBEC'S MINERAL POTENTIAL

Québec boasts particularly favourable geological conditions for discovering new deposits. New regions are opening up to mineral exploration, whereas areas already being mined still hold considerable potential.

Québec is recognized for its mineral potential, its support for mineral development, and access to high quality geoscientific data. These attributes should be promoted.





Four measures will be implemented:

■ Promotional materials targeting investors will be developed to inform them about Québec's mineral potential. These materials will be distributed over the Internet and during conventions and missions.

■ Québec will take advantage of foreign missions to promote its mineral potential and the attractive conditions it offers for mineral exploration and mining.

■ Québec's foreign delegations and offices will be used to showcase what Québec has to offer the mineral industry. Their help will be sought in this regard.

■ Investissement Québec will participate in promoting Québec's mineral potential.

PROMOTING THE USE OF CHRYSOTILE

Chrysotile generates economic activity and employment in Québec, especially in the Chaudière-Appalaches and Estrie regions.

■ The Government of Québec will contribute financially to promoting the use of chrysotile.

SUPPORTING THE PEAT INDUSTRY

Canada is a major player in the peat industry, producing a third of the world's peat moss. Québec, which has peat bogs in several regions (although mostly in Bas Saint-Laurent), produces a significant share of total Canadian output. Peat's usefulness is well established in horticulture, and new applications are increasingly being discovered in other fields. Research by companies in the industry has yielded promising results, and several innovations are now being commercialized. Applications include wastewater treatment, water disinfection, and use of peat to capture the phosphates that cause blue-green algae proliferation. Peat use and peat mining potential should be optimized.

■ In conjunction with its partners, the MRNF will examine possible solutions to promote and ensure the sustainable development of this industry.

IMPROVING THE GEOLOGICAL INVENTORY OF COPPER

In 2006 the Government of Québec launched its Copper Plan to support the sector and spur exploration. New copper deposits must be found to ensure the supply of copper concentrate to the Horne smelter, the only copper smelter in Québec. This smelter uses a significant amount of recycled materials in its manufacturing process. Local supply is one of the keys to the smelter's long-term survival.

The MRNF has invested a total of \$8 million in the past four years to add to its geoscientific knowledge of copper. The federal government has invested the same amount. Industry is also collaborating on the Copper Plan by releasing a wide range of technical data (MEGATEM surveys) and regularly discussing how this data should be interpreted, leading to the identification of exploration targets.

Studies conducted under this Plan have spurred new interest in prospecting for this metal, especially in the Rouyn-Noranda, Matagami, and Chibougamau areas. Recent discoveries around the Caniapiscau Reservoir have shown copper mining potential outside traditional areas.

The government wants Québec to remain a copper producer and is working to this end.

Géologie Québec will maintain efforts to accelerate acquisition of geoscientific data that will allow the industry to conduct more intensive exploratory work and identify new copper mines.

In response to economic, social, and environmental issues, the MRNF is encouraging resource preservation through the reduction at the source, reuse, recycling, and recovery of metals.

The Société québécoise d'exploration minière (SOQUEM) could partner by conducting exploration work aimed at the discovery of new copper deposits in Québec.

DIVERSIFYING MINED MINERAL RESOURCES

Diversification of mineral substances mined in Québec is one of the objectives of the Mineral Strategy.

Diamonds are one example of Québec's mineral potential. Promising signs have been discovered in Northern Québec that suggest exploration should continue. In 2007 a total of \$28 million was invested in the search for diamond deposits in Québec.

In 2004 the Government of Québec adopted the Strategy for the Accelerated Development of Québec's Diamond Potential. This strategy sets out a wide variety of initiatives ranging from support for exploration to cutting, polishing, and jewellery-making activities. It will be reviewed and updated to bring it more closely in line with government initiatives in the mineral sector as a whole.

SOQUEM conducts diamond exploration activities in the Otish Mountains and is a 50% partner with Stornoway Diamond in the Renard project.

Other unexploited mineral substances in Québec could also be developed. For example, recent discoveries reveal that there is development potential in Québec for gemstones and decorative and ornamental stones.

PROMOTING DIAMOND MINING

Various measures will be taken to promote diamond mining in Québec:

■ The Government of Québec will continue implementing its Strategy for the Accelerated Development of Québec's Diamond Potential.

■ SOQUEM will continue to support the development of the diamond industry.

■ The government will adapt the mining royalties regime to the special characteristics of the diamond industry.

■ The government intends to pursue its objective of 10% local processing of rough diamonds mined in Québec by proceeding with cutting, polishing, and jewellery-making activities.

■ Lastly, in conjunction with industry stakeholders, the government will consider measures it should introduce to promote the establishment of a jewellery-making industry in Québec.

PROMOTING THE POTENTIAL OF NEW MINERAL SUBSTANCES

■ A portal will be set up to promote the development potential of Québec industrial minerals. The site will include information on regions suitable for exploration, markets for these minerals, and their various uses.

■ In the same way, a portal will promote the development potential of Québec gemstones (diamonds, emeralds, sapphires, rubies), decorative stones (garnet, topaz, zircon), and ornamental stones (agate, labradorite, amazonite). This portal will spur the development of a whole sector, from exploration to the manufacture of jewels that are 100% made in Québec. It will also serve as a place where prospectors, jewellery makers, and geologists can share ideas and information.





ENHANCING COMPETITIVENESS AND INCREASING ECONOMIC BENEFITS

QUÉBEC'S MINERAL SECTOR IS CYCLICAL BY DEFINITION. TO PROTECT AGAINST THE EFFECTS OF ECONOMIC CYCLES, WE WILL CONTRIBUTE IN IMPROVING THE COMPETITIVENESS OF THE QUÉBEC INDUSTRY AND MAXIMIZING ITS BENEFITS THROUGH FOUR MEANS:

- Ensuring a fair return on mineral resource mining
- Supporting research and innovation
- Strengthening support to businesses
- Supporting Québec mining entrepreneurship

ENSURING A FAIR RETURN ON MINERAL RESOURCE MINING

The government believes that rules are important to ensure the mineral sector is developed competitively while providing a fair return on mining and related activities.

The mineral sector has changed over the past few years, and the mining royalties regime must be adapted to take these changes into account. For example, metal prices increased substantially after 2002, but plummeted in 2007 and 2008. The time is ripe to adapt Québec's mining royalties regime to reflect the cyclical nature of this sector.

The mining royalties regime must also be examined to ensure that Québec receives its fair share from the mining of its non-renewable natural resources. With mine output of several billion dollars annually, Quebecers have a right to ask how much they should be receiving in royalties to enjoy a fair share of the resources that belong to them.

Generating more wealth for Quebecers through increased processing of mineral resources is also an important concern for the government. This is especially the case considering there are fewer and fewer industry players in the world market. For them, Québec is just one more place in their mining portfolio, and they may feel no particular compunction to process minerals in the province.

The interplay of these three aspects of the mining sector – the cyclical nature of the industry, the matter of obtaining a fair share of the profits of mining, and the question of wealth creation – raises a certain number of highly sensitive issues that can affect the sector's competitiveness and its spinoffs for Québec. We must therefore examine and discuss them simultaneously and take the time to complete our analyses and consultations.

■ The government will reassess the mining royalties regime by taking into consideration the following:

- Company competitiveness
- Maximization of benefits
- A fair share of returns on resource mining



THE IMPORTANCE OF PRIMARY PROCESSING ACTIVITIES

The success of the mineral sector in Québec is largely due to the vitality of its four smelters and refineries: Horne (Rouyn-Noranda), CEZinc (Salaberry-de-Valleyfield), QIT-Fer et Titane (Sorel-Tracy), and CCR (Montréal-Est). Primary processing represents nearly a quarter of all mining jobs in Québec. However, some deposits are being depleted. New opportunities must now be explored, both for minerals already processed in Québec and for new minerals.

Nickel offers opportunities for growth in the primary processing sector. The Raglan mine in Nunavik currently produces 30,000 tons of nickel concentrate per annum. Production could potentially be increased substantially. In addition, other companies carrying out exploration activities in the area could open new mining sites, representing a prime opportunity to develop primary processing operations.

In the case of iron ore, there is a growing world-wide trend to further process concentrate and iron pellets on site. Here, too, there is good potential for processing projects in the Côte-Nord region.

With regard to copper, the challenge lies more in maintaining existing levels of activity. The recent reduction in local production has had copper concentrate sourcing consequences for the Horne smelter. Keeping the smelter open in the long term will require a larger local source of copper concentrate. As we saw above, Géologie Québec will continue doing what is necessary to accelerate acquisition of geoscientific data that will allow the industry to conduct more intensive exploratory work and ultimately identify new copper mines.



SUPPORTING RESEARCH AND INNOVATION

As with many other industrial sectors, competition in the mining industry is global in nature, and the Québec mining industry must remain competitive in order to succeed.

As a responsible industry, the Québec mineral sector must also work to reduce the environmental impact of its activities. Improving the environmental performance of the mineral sector also means improving the energy performance of companies, which must cut their greenhouse gas emissions.

Technological innovation and the development of new processes will help the industry meet both environmental and technical challenges, like those posed by the increasing depth of new deposits, and improve its competitiveness. The government will seek to have the mineral sector adhere to the objective set out in Québec's research and innovation strategy, that of earmarking 3% of its GDP for R&D activities.

In addition to direct innovations by industry, R&D in the Québec mineral sector is performed by:

- Universities, through four research chairs, five faculties related to the mining sector, and a number of university research groups
- Two research consortiums
- Two college technology transfer centres
- Specialized research agencies
- Federal research centres

These organizations cover the full range of mineral activity. For example, some focus on exploration issues (CONSOREM), others on underground extraction (SOREDEM) or innovative mineral processing techniques (COREM), and still others on the environment or mining waste (NSERC – Polytechnique – UQAT Industrial Research Chair).

PROVIDING ONGOING FINANCIAL SUPPORT TO INNOVATION ORGANIZATIONS

A number of research organizations in the mining sector work or maintain direct ties with industry firms. Many receive government funding and financial support from industry for the research projects they conduct.

However, government funding is normally granted on an annual basis, forcing organizations to constantly plan for the short term. This is largely incompatible with a multiyear research perspective.

■ In direct relation to the importance it places on increasing industrial R&D, the Government of Québec recognizes the importance of supporting research partnerships with the private sector and the academic and institutional communities, and thus will provide multiyear financial assistance to a variety of organizations, including COREM, CONSOREM, and the NSERC – Polytechnique – UQAT Industrial Research Chair.

With the development of new techniques specifically adapted to the characteristics of Québec's geology and mining potential, more deposits could be discovered and Québec's mineral resources could be developed more efficiently.

SUPPORTING TECHNOLOGICAL DEVELOPMENT IN PRIORITY AREAS OF THE MINERAL SECTOR

By drawing upon universities and research centres for research projects with industry, the Government of Québec provides companies with unique access to public institutions and promotes knowledge transfer among the various research sectors.

Priority fields of application envisaged are deep exploration and mining, adapting technology to Québec's geology, adapting to climate change, mining in a northern environment, optimizing mining extraction practices and energy consumption, reducing environmental impact from mineral activity, and rehabilitating mine sites.

■ To support research projects in partnership with universities, institutions, and industry, the Government of Québec is setting up a program to provide assistance for research in priority areas of the Québec mineral sector. It will be available for applied research projects and will help fund the public component of projects conducted in partnership with the private sector. The government will continue to support the industrial component of research projects through tax measures and with funding from the Mining Heritage Fund.

By making funds available for innovation, the Government of Québec hopes to increase investment from industry through its leverage effect.

ESTABLISHING AN INNOVATION NETWORK

There are many innovators in Québec's mineral sector, and they are involved in a diversified range of endeavours and applications. The organization MISA (Mines, Innovations, Solutions et Applications) is already at work in the subsurface technomine sector. And the door is open to further progress, making it desirable to create synergies within the whole mineral sector to fully benefit from the impressive human, material, and financial resources available in science and technology. It is therefore important to step up collaboration among the various stakeholders active in R&D and foster a medium and long-term vision that encompasses all mineral activities (exploration, mining, primary processing, and waste management) in priority areas.

■ To this end the Government of Québec will support the establishment of an innovation network in the mineral sector that involves key R&D stakeholders from both industry and academic or institutional milieus. MRNF will provide expertise and support in developing and managing this network.

The network's mission will be to promote optimum use of human, material, and financial resources for innovation to improve the Québec mineral sector's competitiveness.



INCREASING FEDERAL GOVERNMENT PARTICIPATION IN INNOVATION ACTIVITIES

To set itself apart from other economies and thus ensure its prosperity, Québec needs to focus on research and innovation. Creating an environment conducive to R&D is more important than ever.

■ The Ministère des Ressources naturelles et de la Faune will begin talks with the Government of Canada on various issues pertaining to R&D in the mineral sector. Talks will notably address the need for increased R&D funding and more long term financial support from the federal government to various Québec research agencies, including the Consortium de recherche en exploitation minérale (COREM).



To be competitive in a global economy, mining companies also need to innovate. We therefore need to develop more partnerships with the federal government to make more funding available to organizations involved in R&D.

Many new technologies are the result of work by top-level research teams that bring together a variety of scientific disciplines or combine applied expertise and are able to assimilate, develop, and build on fast-changing knowledge. This is the reason the Consortium de recherche en exploitation minérale (COREM) was created in 1999. This non-profit organization seeks to make industrial operations and processes more competitive by developing and transferring technological innovations in keeping with the principles of sustainable development.

The Government of Québec also wants the federal government to help consolidate and enhance work at the CANMET experimental mine in Val-d'Or.

STRENGTHENING SUPPORT TO BUSINESSES

The government ensures that mining projects are run in accordance with sustainable development requirements. Opening a new mine requires a good understanding of current regulations. In addition, various administrative procedures must be undertaken before government approval of a mining project can be granted.

Support will now be offered to businesses wishing to develop mining projects in Québec. Support people will help explain the various legal processes and requirements and walk the company through its dealings with the various ministries involved. This support could also extend to other types of information, especially with regard to mining taxation.

SUPPORTING QUÉBEC MINING ENTREPRENEURSHIP

Junior mining companies dominate mineral exploration in Québec. The money invested by these SMEs greatly exceeds the sums invested by the large mining corporations, something that tax measures and support from organizations like the Société d'investissement dans la diversification de l'exploration (SIDEX) and the Société québécoise d'exploration minière (SOQUEM) have a good deal to do with. With its Mineral Strategy, the Government of Québec wants not only to continue promoting the development of Québec companies in their exploration activities, but also to support increased Québec entrepreneurship to help Québec firms move on to the stages that follow exploration, notably mining and processing.

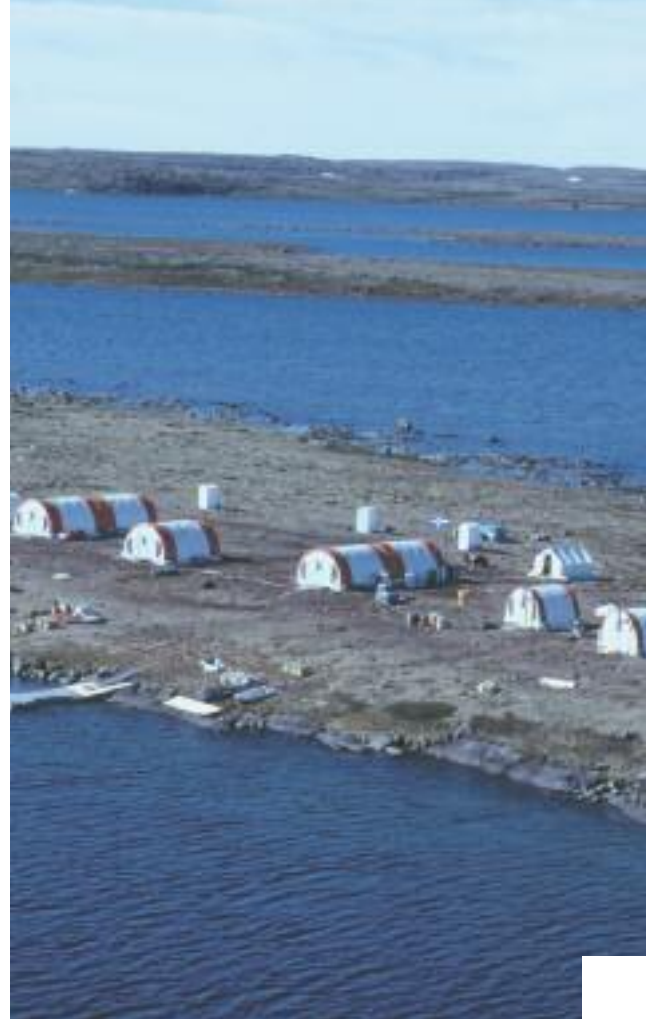
RENEWING THE MISSION ENTRUSTED TO THE SOCIÉTÉ D'INVESTISSEMENT DANS LA DIVERSIFICATION DE L'EXPLORATION (SIDEK)

SIDEX is a limited partnership (Government of Québec and Fédération des travailleurs du Québec) whose mission is to invest in the capital stock of junior mining companies involved in mineral exploration in Québec. SIDEX's primary mandates are to stimulate exploration investment in existing mining camps with attractive diversification potential and to open up new territories with high discovery potential to exploration and investment. Since its inception, SIDEX has invested \$45 million in 125 exploration projects in Québec and 70 junior mining companies, 56% of which are headquartered in Québec.

■ The mission of SIDEX will be renewed and expanded. SIDEX could help Québec companies move on to the stages that follow mining exploration by allocating up to 20% of its portfolio to advanced projects aimed at attaining the feasibility phase for a potential deposit.

SOCIÉTÉ QUÉBÉCOISE D'EXPLORATION MINIERE (SOQUEM)

SOQUEM is a parapublic mining exploration firm that reports to the Société générale de financement. It has played a leading role in the diversification of mineral production in Québec, notably with the opening of a salt mine in Îles-de-la-Madeleine, a niobium mine in the Saguenay – Lac-Saint-Jean region, and more recently through its diamond exploration activity in the James Bay region. Its exploration work in Abitibi-Témiscamingue has also led to the discovery of several deposits and the birth of the firm Cambior. SOQUEM's mission is a direct reflection of the government's desire to structure and diversify mineral production. This mission is independent from and complementary to that of Géologie Québec, which is to acquire and process new geoscientific data to promote Québec's mineral potential.



■ SOQUEM should continue its operations while contributing to greater diversification of mineral production in Québec. For example, SOQUEM could invest in the development of new types of deposits that have not yet been mined in Québec, or develop expertise in the marketing of industrial minerals.



Chapter

3

MEETING THE NEED FOR WORKERS

IN THE SPRING OF 2008, THE GOVERNMENT OF QUÉBEC JOINED WITH BUSINESSES AND UNIONS TO IMPLEMENT THE EMPLOYMENT PACT, A GROUNDBREAKING INITIATIVE TO BOOST PARTICIPATION IN THE LABOUR MARKET AND MEET THE NEED FOR QUALIFIED WORKERS IN THE MEDIUM AND LONG TERMS. THE ISSUE IS ONE OF CONCERN TO THE MINERAL SECTOR, TOO, WHERE SEVERAL THOUSAND JOBS WILL HAVE TO BE FILLED TO MEET THE NEEDS OF NEW MINING PROJECTS AND REPLACE RETIRING WORKERS. THREE MEANS ARE PROPOSED TO MEET THE NEED FOR WORKERS IN THE MINERAL SECTOR:

- Enhancing education and training opportunities
- Promoting employment in the mineral sector
- Providing support for worker adaptation

ENHANCING EDUCATION AND TRAINING OPPORTUNITIES

Teaching institutions at various levels work to meet the training needs of the mineral sector. Their education programs are among the best in the world. However, better linkage between industry requirements and the training available in the various regions is needed. Access to specialized training in all mining regions of Québec, at all levels of education, is one area that must be improved.

CREATING THE INSTITUT NATIONAL DES MINES

■ To better coordinate the efforts of teaching institutions in Québec's regions and industry, the government has created the Institut national des mines.

The mission of the Institut national des mines is to support the government in fulfilling its educational responsibilities in the mining sector. Its mandate namely includes maximizing labour force training capabilities by optimizing the means available and using them in accordance with the joint vision of all industry stakeholders, thereby helping to improve Québec's productivity and competitiveness. Institut national des mines serves all of Québec, and its board of directors includes representatives from the three education levels, industry, unions, the Mining Industry Sectoral Workforce Committee, and government. Two seats are reserved for Cree and Inuit community representatives.

The point is not to create a new infrastructure, but rather to promote synergy among teaching establishments and businesses in order to take the necessary steps to meet labour requirements in this sector.

PROMOTING PARTNERSHIPS AMONG INSTITUTIONS

The creation of the Institut national des mines strengthens partnerships among teaching institutions. Certain interinstitution collaborations have already shown the potential for success. For example, Université du Québec en Abitibi-Témiscamingue, École Polytechnique de Montréal, and Cégep de l'Abitibi-Témiscamingue have entered into an agreement that aims to increase the number of students in mining engineering. It makes the first year of the undergraduate mining engineering program available in the Abitibi-Témiscamingue region.

Other university partnerships are also in the works. These initiatives have the advantage of providing improved training and better access to training in the regions. Such agreements have a positive impact on research, as they stimulate existing teams.

■ The role of the Institut national des mines is to coordinate the efforts of all teaching and training institutions.

PLANNING FOR LABOUR NEEDS

For the past few years, the Mining Industry Sectoral Workforce Committee comprised of representatives from industry, the unions, Ministère de l'Éducation, du Loisir et des Sports (MELS), and MRNF (observers) has been working to develop measures to meet labour requirements and improve our understanding of human resource needs in this sector.



In order to increase our understanding of labour requirements in this sector, ensure sector monitoring of these needs, and help guide the actions of the regional councils of labour market partners (CRPMTs), Emploi-Québec, and the Institut national des mines, the Government of Québec wants:

■ The Mining Industry Sectoral Workforce Committee to provide periodic forecasts on labour requirements in the mining industry.

The Mining Industry Sectoral Workforce Committee must work closely with the Institut national des mines to analyze and exchange information regarding labour requirements.



PROMOTING EMPLOYMENT IN THE MINERAL SECTOR

The public's view of the mineral sector and employment opportunities in it is based on outdated perceptions. Many things have changed over the course of the past few decades, both with regard to exploration and mining. Technological developments have revolutionized industry practices and will continue to change the way things are done over the coming years by calling for specialized know-how. For example, some mines use remote control vehicles; exploration now calls upon increasingly advanced detection techniques requiring ever greater qualifications. Mineral development now meets high environmental standards. Salaries are very high: in 2006 the average annual salary in the mining sector was \$66,500. Workers also enjoy extensive benefits.

Marketing and promotional campaigns will be conducted to improve public perceptions of the mineral sector and promote mining industry careers.

CONDUCTING PROMOTIONAL CAMPAIGNS

The following specific measures will be put in place:

■ The Mining Employment Partnership will be created: industry, Emploi-Québec, and MRNF will fund this promotional campaign for jobs and careers in the mining industry. Aimed at the general public, this campaign will also target specific audiences, such as women, youth, immigrants, and aboriginal peoples.

■ In their Heading for Success campaign, Emploi-Québec and the Ministère de l'Éducation du Loisir et du Sport (MELS) will emphasize trades and professions in the mineral sector, particularly through print and electronic media.

■ Emploi-Québec will promote jobs available in the mineral sector at job fairs throughout Québec's regions.

CONDUCTING AN INFORMATION CAMPAIGN AMONG STUDENTS

Three measures have been put forward to promote better understanding of mining and its economic and social importance, and to inform youth about this Québec reality:

■ The Institut national des mines in conjunction with those concerned, has a mandate to develop and run a promotional campaign aimed at schools and those who influence youth in their career choices.

■ A mineral and geology information kit will be designed for elementary and secondary school teachers so that they may help their students learn more about the subject. MELS will also offer pedagogical support services for this measure.

■ Material to be used for school career counselling could also be made available to help make youth aware of the current employment situation in the mineral industry.

■ Putting in place the necessary means to reclassify workers who so desire, especially by helping them get the training they need to work in the mineral sector.

■ Promoting the mineral sector among workers who are laid off for structural reasons and providing them with the information they need to make a clear choice.

■ Facilitating interregional labour mobility in order to fill vacant positions.

Also in the aim of meeting labour requirements, targeted efforts should be directed at two groups in particular: youth, who contribute to the vitality of communities by returning or settling in the regions, and women, who are under-represented in the mining industry, where they hold only 13% of jobs.

■ Emploi-Québec, in partnership with the Mining Industry Sectoral Labour Committee, will conduct an educational campaign explaining industry needs and the various trades and professions targeted at women and youth in selected regions.

PROVIDING SUPPORT FOR WORKER ADAPTATION

FACILITATING WORKER ADAPTATION

Several thousand jobs will need to be filled in the coming years. The various regional offices of Emploi-Québec, working through the regional councils of labour market partners, will ensure that the necessary means and measures are made available to help workers adapt, notably by:

The early days of mining in Québec were closely tied to immigration. The first mines in Abitibi-Témiscamingue hired many immigrants to fill their labour needs, right up until the mid-thirties. These workers, originally from Europe – primarily Eastern Europe – played an important role in the development of Québec's mining industry and the regional development of Abitibi-Témiscamingue.

Calling on immigration to meet labour needs is still a way to deal with labour shortages. The government wants to increase immigrant workers' contribution to the mineral industry.

■ The Ministère de l'Immigration et des Communautés culturelles will draw up a proposal to assist employers or employer groups who want to recruit overseas.



PAVING THE WAY: THE MINING HERITAGE FUND

NEW MINERAL DISCOVERIES
DON'T GET MINED OVERNIGHT.
TEN YEARS MAY PASS FROM THE START
OF EXPLORATION TO THE OPENING
OF A MINE. THIS IS WHY WE MUST
PREPARE THE GROUND TODAY
FOR A DECADE FROM NOW.

The geoscientific knowledge gathered by Géologie Québec enables mining exploration companies to focus their work in the areas with the greatest promise.

Preparing the future means promoting innovation, too. Québec must invest in technological solutions to the specific challenges of its geology and geography. The industry needs new technologies adapted to deep mining and exploration, mining in a northern environment in times of climate change, rehabilitating mine sites, and optimizing mineral extraction practices and energy consumption.

Development of techniques specifically adapted to the characteristics of Québec's land and geology could lead to more deposits being discovered and Québec's mineral resources being developed more productively and efficiently.

Preparing the future also means diversifying the minerals mined in Québec and developing Québec mining entrepreneurship.

■ The Government of Québec wishes to reframe its approach and make a lasting contribution to the future of the mineral sector. This is why the Mining Heritage Fund has been created.

The Fund is financed by a percentage of the mining royalties collected from mining companies.

The Fund will provide \$200 millions in funding over ten years and the portion of the Fund dedicated to geoscientific data acquisition will be \$120 millions for the same period. Some of these funds will be set aside so as to maintain spending levels in years when annual funding may be lower.

The Mining Heritage Fund is meant to ensure stable funding for Géologie Québec's geoscientific work. Funds could also be earmarked for structural industry measures:

- Providing financial assistance to R&D to adapt exploration, mining, and rehabilitation techniques to the characteristics of Québec's land and geology
- Offering regular financial assistance to agencies working on innovation in the mineral sector
- Promoting the development of Québec entrepreneurship and mineral diversification

These structural measures will benefit the whole mining sector and have a positive, long-term impact.

The Fund will allow for multi-year planning of the activities it supports.



POLICY DIRECTION

2

ENSURING ENVIRONMENT-FRIENDLY MINERAL DEVELOPMENT

Environmental protection begins at the mining project planning stage and continues through every subsequent phase: exploration, mineral deposit evaluation, mine development, operation, and site rehabilitation once operations have ended.

A number of laws and regulations apply to the mineral sector, especially with respect to the environment, and call on various ministries, which must work together. The *Mining Act*, the *Environment Quality Act*, the *Regulation respecting mineral substances other than petroleum, natural gas and brine*, the *Regulation respecting pits and quarries*, the *Regulation respecting environmental impact assessment and review*, and the *Regulation respecting industrial depollution attestations* are among the texts comprising the legal framework governing mineral activities. Moreover, Section 22 of the *Environment Quality Act* governs the issuance of certificates of authorization for all new mines and for all modifications to existing mines.

The mining industry has taken major steps forward to include environmental concerns in project development. The mining associations have drafted and published good practice guides and encourage their members to put them to good use.

Despite existing legislation and regulations and the efforts of the mining industry, certain aspects of mineral development can still be improved. Measures will therefore be taken in the following areas:

- REHABILITATING ABANDONED MINE SITES
- IMPROVING ENVIRONMENTAL PROTECTION FOR THE FUTURE
- PROTECTING THE LAND FOR FUTURE GENERATIONS



REHABILITATING ABANDONED MINE SITES

Over the last several decades, the Government of Québec has seen a number of contaminated mine sites become its responsibility. These sites are an environmental liability for Québec, and not a heritage that we wish to pass on to future generations.

MANITOU-GOLDEX PROJECT

Of all the abandoned mine sites in Québec, the Manitou site is the most challenging one to rehabilitate. Over the years, the dispersal and weathering of tailings have had a significant environmental impact, especially on Rivière Bourlamaque. The goal of the Manitou-Goldex project is to rehabilitate the Manitou site by covering and neutralizing its tailings with sterile tailings from Agnico-Eagle's Goldex Mine.

Wildlife habitat will be restored and lost fish habitat on Rivière Bourlamaque revitalized. Land use will also be optimized, notably by avoiding the creation of a large new tailings storage area.

This project, the result of a partnership between MRNF and Agnico-Eagle Mines with the participation of MDDEP, is both a model for sustainable development and an example of an innovative and money-saving government project.

In the 2007–2008 budget, the government took steps to definitively rehabilitate its contaminated sites. It recorded \$789 million in environmental liabilities in its financial statements as at March 31, 2008, for contaminated sites, including \$264 million for mine sites. Rehabilitation work on abandoned mine sites will be carried out over a ten-year period.

REHABILITATION OF EXPLORATION SITES IN NUNAVIK

A comprehensive inventory conducted in Nunavik by the Kativik Regional Government (KRG) led to the identification of 18 abandoned exploration sites. The rehabilitation cost for the 18 sites has been estimated at \$4.1 million.

In the summer of 2006, a partnership agreement was reached between a group of exploration companies (Fonds Restor-Action Nunavik), the Government of Québec, KRG, and the Makivik Corporation to decontaminate and rehabilitate these 18 abandoned exploration sites.

The government has pledged \$3 million for this purpose. Rehabilitation began in the summer of 2007 and will be completed by March 31, 2012. The work is being coordinated by KRG.

to file a rehabilitation plan at the start of the project planning process and deposit as security a sum equivalent to 70% of the estimated rehabilitation costs for the accumulation areas. Security deposit payments are made according to a schedule based on the life of the mine. However, if mining companies go bankrupt before all payments are made, the government can be stuck with bills into the millions and have to pick up the tab for the 30% of unsecured rehabilitation costs.

The strategy suggests additional means to ensure mine site rehabilitation after operations have ceased.

- Increase coverage for estimated costs introduced in the rehabilitation plan from 70% to 100%.

- Extend the scope of the security deposit to cover more than just tailings accumulation areas.

- Revise the security payment schedule to accelerate payments, making the first payment due as of the first year.

- Introduce a five-year transition measure for existing mines.

IMPROVING ENVIRONMENTAL PROTECTION FOR THE FUTURE

ADOPTING NEW STANDARDS FOR MINING OPERATIONS

Mineral activities have an impact on the environment. It is important to ensure that mine sites are rehabilitated.

Mining lease holders have an obligation to rehabilitate mine sites after a mine closes. Despite this obligation and the increased awareness of mining companies, improvements to procedures for ensuring mine site rehabilitation are needed in order to avoid situations where the government again finds itself responsible for sites and their rehabilitation costs.

Guaranteeing mine site rehabilitation

The most recent amendments to the *Mining Act* and regulations to improve environmental protection were made over ten years ago. These amendments oblige mining companies

Filing mine site rehabilitation plans before public consultations

Mining companies must file a mine site rehabilitation plan expressing their commitment to rehabilitate the mine site after mining operations have ceased.

The law indicates that rehabilitation plans must be filed with the MRNF before mining operations begin. The government will make the legislative changes required to ensure that rehabilitation plans are available at BAPE hearings and community public consultations so that citizens have ample information on the overall mining project.

- Mining project promoters will be required to file mine site rehabilitation plans before BAPE hearings or community public consultations are held.



Publishing a new guide on mine site rehabilitation

Guidelines for Preparing a Mining Site Rehabilitation Plan is a publication to inform the mining industry about *Mining Act* requirements and help companies draw up rehabilitation plans in compliance with requirements.

The last edition of the guide dates from 1997. In collaboration with Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP), the MRNF has updated the guidelines to take into account the latest changes in the legislative and regulatory framework governing mineral activity in Québec.

■ The government will publish a new edition of the guidelines on mining site rehabilitation in the near future.

Revising the threshold for environmental impact studies

Projects for metal or chrysotile mines producing 7,000 tons of ore per day or more are subject to an environmental impact study and possible BAPE hearings (Bureau d'audiences publiques sur l'environnement). The same requirement applies to metallic mineral or chrysotile processing plants with a daily capacity of 7,000 tons of ore or more. To broaden the environmental impacts that are being taken into account, the government is extending this requirement.

■ Regulations will be amended to make an environmental impact study a prerequisite for opening a mine that produces 3,000 tons of ore or more per day.

■ The same conditions will apply to the construction of an ore processing plant with a processing capacity of 3,000 tons of ore or more per day.

OVERSIGHT FOR THE ISSUANCE OF ENVIRONMENTAL AUTHORIZATIONS

To develop and operate mines, companies require a mining lease from MRNF and an authorization from MDDEP.

MDDEP is responsible for issuing authorizations for all new mines and for all changes to existing mines under the *Environment Quality Act*. Aspects taken into consideration when issuing certificates of authorization include the following:

- Protection of the receiving environment
- Elimination of contaminants at the source
- Water management and controlled use
- Protection and conservation of groundwater

ADOPTING STRICTER STANDARDS FOR EXPLORATION

With the Mineral Strategy, the government is taking concrete action to enhance environmental protection measures when mineral exploration work occurs.

Guaranteeing rehabilitation of exploration sites

Companies that wish to conduct exploration work beyond a certain scale are currently required to obtain a certificate of authorization from MDDEP, file a rehabilitation plan, and make a security deposit equivalent to 70% of the estimated rehabilitation cost for the areas of accumulation.

■ A rehabilitation plan and a financial guarantee corresponding to 100% of rehabilitation costs will now be compulsory for exploration sites that require a certificate of authorization.

■ The scope of the security deposit shall be extended to cover all exploration work, including exploration camps, not just tailings accumulation areas.

Promoting good practices

Increased awareness of environmental issues in the exploration and mining community has led mining companies to draw up good practice guidelines that must be promoted.

The Prospectors and Developers Association of Canada has developed Environmental Excellence in Exploration (E3), a guide for exploration firms featuring information and advice on the best environmental and socially responsible practices. Intended for mineral industry stakeholders and for the public at large, this guide has become the benchmark for the mineral industry in Québec and Canada. The Québec Mineral Exploration Association (AEMQ) promotes the guide among its members and also makes it available via its website.

■ MRNF and AEMQ will collaborate to produce a mineral exploration guide informing exploration firms about the legislative and regulatory framework governing exploration work. It will also include information on the environmental and community aspects of exploration.

Setting guidelines for the exploration of radioactive substances

Uranium, one of the heaviest elements, is highly abundant in the Earth's crust. Its best known physical property is radioactivity. As with all mineral substances, deposits of sufficient size and content are needed for mining. Exploration work is required to locate such uranium deposits.

Uranium mining in Canada is highly regulated by law. A federal agency, the Canadian Nuclear Safety Commission, controls the use of nuclear energy and materials, including mines and concentrators. The Commission protects the health, safety, and security of Canadians as well as the environment, and respects Canada's international commitments regarding the peaceful use of nuclear energy.

The discovery of certain radioactive substances – whether or not accidental – during exploration or mining activities can raise concerns regarding the health and safety of workers, community members, and the environment.

For this reason, the Government of Québec intends to put in place the following measures in order to regulate the exploration of radioactive materials:

■ Require claim applicants to report exploration activities for mineral substances containing radioactive elements.

■ Require that the discovery of mineral substances containing radioactive elements be disclosed, even when accidental.

■ Regulate the exploration of mineral substances containing radioactive elements through regulatory provisions.

Setting guidelines for bulk sampling

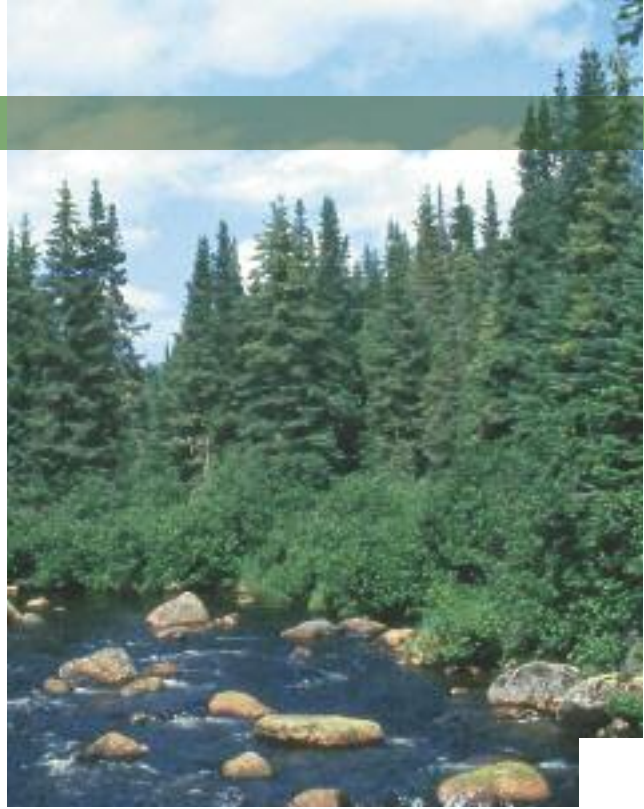
Certain sites undergo bulk sampling for metallurgical testing. Some of these sampling activities tend to border on mining rather than exploration. When processing applications, MNRF ensures that the planned activity is truly for testing purposes.

■ MNRF will tighten its evaluation criteria used for bulk sampling applications and will ensure that these are consistent with exploration requirements rather than mining operations.

Reiterating rehabilitation requirements

The law requires claim holders to rehabilitate exploration sites once work has been completed. To promote awareness among claim holders, information about this requirement should be better disseminated.

■ Claim registration certificates will now include a reminder of the obligation to rehabilitate sites once work has been completed.



PROTECTING THE LAND FOR FUTURE GENERATIONS

SUPPORTING THE CREATION OF PROTECTED AREAS

The Government of Québec continues to pursue its goal of creating a network of protected areas.

The *Mining Act* was amended in 2003 to allow a temporary ban to be placed on the issuance of new mineral titles on such areas. This provision facilitates the evaluation of land earmarked for potential protection and makes it possible to preserve the integrity of land likely to be designated as protected areas. Ultimately, these territories are reserved to the State or made permanently off limits for mineral activity.

Creating a network of outstanding geological sites

In the aim of protecting sites representative of the geological diversity or mining history of Québec, MRNF has established a series of criteria for designating outstanding geological sites.

In December 2005, the *Mining Act* was amended to incorporate the notion of outstanding geological site and provide for a consultation process with regional and aboriginal communities to designate such sites. Approximately 200 potential sites have been identified in collaboration with the mining industry.

■ MRNF will designate 50 outstanding geological sites by 2013. Once complete, this network will enhance regional tourism potential.

Setting land aside in reserves

The *Mining Act* is a real asset for the identification of protected areas and makes it possible to quickly protect areas of interest. At present, various parts of Québec are reserved to the State or off limits to mineral activity for the creation of protected areas.



ASSESSING AND PROTECTING ESKERS

Québec is home to numerous eskers, especially in the Abitibi region. Eskers are recent geological formations created by glaciers during the last ice age. These glacial deposits can be an important source of very good quality drinking water. To better protect and develop the eskers in an environmentally sustainable manner, the Abitibi-Témiscamingue region has taken steps to further its knowledge of its underground water resources, including those related to eskers.

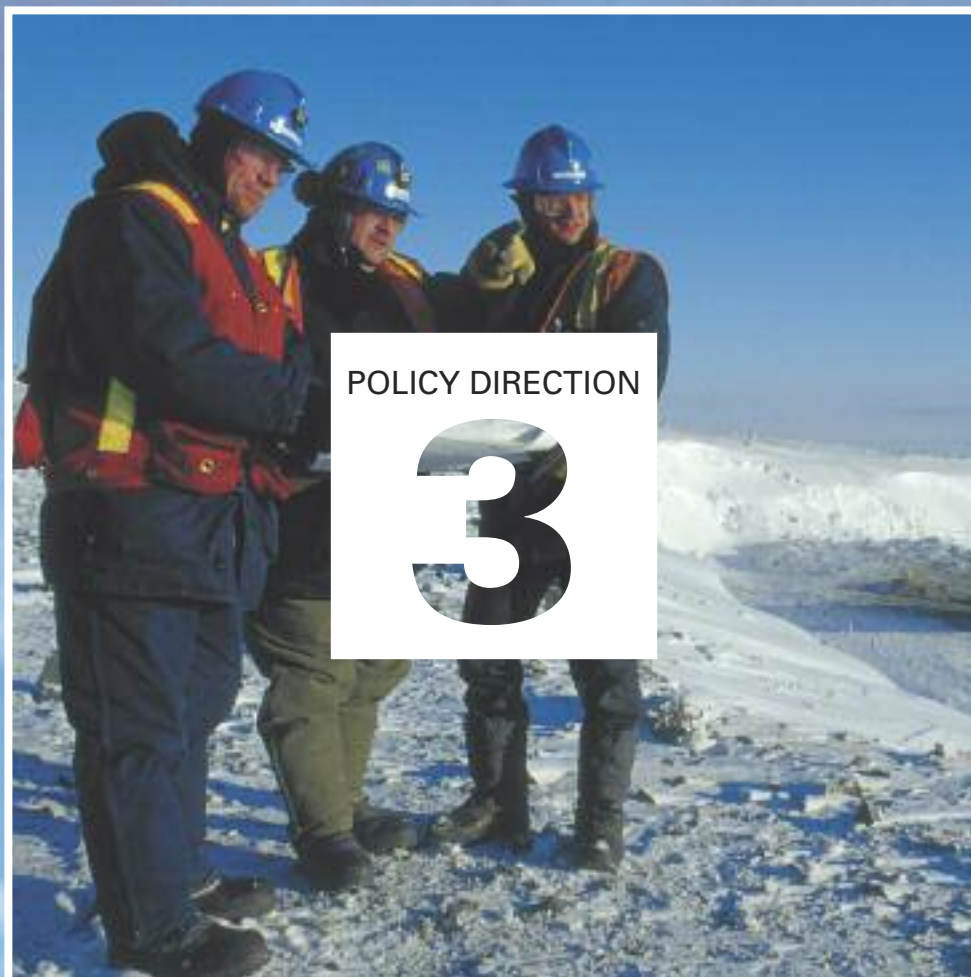
Completing the inventory of eskers in Abitibi-Témiscamingue

■ Géologie Québec will collaborate with efforts to complete the esker inventory. This inventory will play a key role in characterizing the eskers of the Abitibi region on the basis of their use as groundwater reservoirs.

This endeavour will be linked to the work of the Bureau québécois des connaissances sur l'eau, which has been tasked with improving our knowledge of this resource.

Establishing protective measures

■ The government will consider the possibility of providing special protection to eskers and other areas with drinking water potential.



POLICY DIRECTION

3

FOSTERING INTEGRATED, COMMUNITY-RELATED MINERAL DEVELOPMENT



Local and aboriginal communities want to play a greater role in mineral development. The government stands behind them in their desire to encourage citizen participation and involvement in accordance with the principles of sustainable development.

The management of public lands and resources is an ever-growing challenge. Diversification in usage, the multiple stakeholders involved, and application of the principles of sustainable development make planning a crucial step in the development and protection of public land and its resources. Local and aboriginal community involvement will be encouraged in three ways:

- FOSTERING LOCAL AND ABORIGINAL COMMUNITY PARTICIPATION IN MINERAL DEVELOPMENT
- DISSEMINATING INFORMATION ABOUT MINING TITLES
- BALANCING LAND USES

FOSTERING LOCAL AND ABORIGINAL COMMUNITY PARTICIPATION IN MINERAL DEVELOPMENT

Mineral activities represent a significant development opportunity for a number of Québec's regions. Regional authorities want to play a greater role in development in order to boost direct spinoffs in their communities and ensure that local concerns are taken into account.

THE ROLE OF THE GOVERNMENT

Drawing up public land use plans

Public Land Use Plans (PLUPs) are a tool the government uses to determine and publicize policy directions for the protection and use of public lands and resources. In these plans, the government lays out the conditions for the development of land and resources, including mineral resources.

PLUPs are currently being prepared in several regions of Québec with the collaboration of regional and local stakeholders, aboriginal communities, and user and interest groups.

PLUPs are developed in collaboration with regional conferences of elected officials. The plans, which fall under government jurisdiction, provide policy directions for land use.

THE ROLE OF THE REGIONAL LAND AND NATURAL RESOURCE COMMISSIONS

Drafting the regional plan for integrated land and natural resource development

In 2004, the Government of Québec released policy directions for regional development in a document entitled *Devenir maître de son développement, la force des régions – phase 1: une nouvelle gouvernance régionale*. MRNF helped implement these directions, notably by establishing Géologie Québec headquarters in Val-d'Or.

In addition, MRNF made significant changes to its governance structure by deploying an integrated, regionalized approach. It set up regional branches, brought all of its business units together under a single authority, and established the regional land and natural resource commissions.

It also made it possible for the regions to create conditions conducive to faster wealth creation in areas under MRNF jurisdiction.

With the creation of the regional land and natural resource commissions, the government sought to give regional populations access to an institution that would help bring regional stakeholders together in pursuit of objectives for the integrated development of regional resources.

In conjunction with the RCMs, the commissions will be responsible at the regional level for planning, consultation, and the promotion of sustainable development with respect to natural resources and land use. The commissions will thus be able to work together to identify development initiatives and opportunities for land and resource promotion and protection. They will also be able to identify possible avenues for wealth creation and collaborate with the government to develop strategies to exploit these avenues.

■ The main task of the regional land and natural resource commissions is to draft the regional plans for integrated land and natural resource development (PRDIRTs).

■ The PRDIRTs will set regional targets and objectives for land and natural resource development and conservation.

■ These targets and objectives will be subject to implementation agreements between the regional commissions and MRNF.

Of the 21 regional conferences of elected officials, 14 have chosen to include the mining component in their PRDIRTs.

The government will maintain responsibility for issuing mining titles, with the exception of pit and quarry management.

AGREEMENT IN PRINCIPLE ON SAND AND GRAVEL PIT OPERATIONS MANAGEMENT

The government signed an agreement in principle with the municipalities regarding the management of sand and gravel pit operations. Delegation of management responsibilities began in the spring of 2009.

Participating in planning Géologie Québec's work

Every year, Géologie Québec draws up its annual geoscientific knowledge acquisition program for Québec. The industry and its partners, including those in the regions, help set the priorities for the year.

■ Through the regional branches of MRNF, Géologie Québec will consult with the regional land and natural resource commissions when preparing its annual program of geoscientific activities.

CONSULTING THE COMMUNITY ON METAL AND CHRYSOTILE MINING PROJECTS

It is both necessary and desirable to inform and consult communities living near areas where mining projects are being set up.

A consultation process will improve relations between mining companies and communities living near projects. Residents wish to be informed of mining development projects located in or near their community, and they want an opportunity to express their views and share their concerns regarding these projects.

Public concerns and solutions to issues raised are easier for mining companies to consider during the project development phase.

It should be noted that public consultations and information campaigns do not replace the roles and responsibilities of promoters and decision makers with respect to their choices regarding a project.

In addition, the strategy already calls for BAPE hearings for mining projects expected to generate over 3,000 tons of ore per day.

In order to foster integrated, community-related mineral development with a view to transparency, social acceptability, and respect for sustainable development principles, the government intends to:

■ Amend the act to require that promoters of any metal or chrysotile mining project expected to generate less than 3,000 tons of ore per day hold community public consultations before mining operations begin.



NEGOTIATING SPECIFIC AGREEMENTS WITH THE REGIONS

The government is in favour of signing mineral development agreements with the regions. Specific agreements are a tool for establishing partnerships between the government and the regions to foster development in the mineral sector.

Agreements will take into account the needs expressed by the regions.

These agreements may deal with geoscientific knowledge projects, skills development in data acquisition and analysis, or implementation of ACCORD mine projects.

For the mining regions of Québec, mineral development means an influx of new capital, the creation of new jobs, new opportunities for incoming families, and an increase in the standard of living for everyone in local and aboriginal communities. For Québec as a whole, it means greater prosperity that allows us to invest more in public services like health and education.

CÔTE-NORD SPECIFIC AGREEMENT

The government recently signed a specific agreement with the Côte-Nord region on the development of regional expertise in geoscientific knowledge acquisition and the promotion and development of the mineral industry in the region. The objectives of the agreement are as follows:

- Develop regional expertise in the analysis of certain geoscientific data
- Rapidly acquire new geochemical data from large areas
- Foster mineral exploration by identifying and promoting new exploration targets in the region
- Increase private investment in mineral exploration in the Côte-Nord region

ENCOURAGING ABORIGINAL INVOLVEMENT IN MINERAL DEVELOPMENT

Mineral development offers numerous opportunities to aboriginal communities, especially in Northern Québec. These communities are both willing and able to increase their involvement in the mineral sector.

Providing funding for native mining funds

The purpose of the Native Mining Fund Assistance Program is to encourage community involvement in mineral development.

The program directly contributes to economic development in aboriginal communities by fostering awareness about job prospects in the mineral sector, workforce training, aboriginal business creation, and skills development in mineral exploration.

The program meets several objectives:

- Develop prospecting and mineral exploration activities in less explored areas
- Develop first-rate expertise in aboriginal communities that helps create jobs
- Encourage the creation of aboriginal businesses in the mineral resources sector

■ The government has extended the Native Mining Fund Assistance Program until 2013.



Encouraging agreements between the private sector and aboriginal communities

Impacts and Benefits Agreements between mining companies and aboriginal communities help ensure that mining projects benefit aboriginal people, notably in terms of the creation of jobs and service businesses, and may also include an environmental component. These two-party agreements are negotiated by the mining company and the aboriginal community concerned by a mine project and are increasingly common in the mineral sector.

■ The Government of Québec encourages mining companies and aboriginal communities concerned by the development of a mining site to establish a dialog with a view to possible negotiation of such agreements.

The Government of Québec has also undertaken to encourage and facilitate such agreements in the Partnership Agreement on Economic and Community Development in Nunavik (the Sanarrutik Agreement) and in the Agreement Concerning a New Relationship between le Gouvernement du Québec and the Crees of Québec (Peace of the Brave).

Facilitating access to training and employment for aboriginal communities

With all the equipment and new technology used by the mineral industry to develop resources, a well-trained, qualified workforce is essential. Many new mines will be located near aboriginal communities and will offer good opportunities for aboriginal peoples to obtain well-paying jobs, not only in mineral exploration and mining, but also in businesses serving the mining industry.

Various measures will be put in place to assist aboriginal peoples with their training efforts and help encourage their recruitment.



■ The government has provided funding for human resource development in the mining sector. This funding will be allocated in part to meet specific needs of the aboriginal workforce.

■ Every year through Géologie Québec, the government will offer internships with geological mapping teams to introduce aboriginal youth to geological work and encourage them to pursue postsecondary education in the mineral sector.

DISSEMINATING INFORMATION ABOUT MINING TITLES

Informing local and aboriginal communities about exploration work

In Québec, mining titles are computer managed and readily available on the Internet. The mining title management system (GESTIM) is an application offering instant access to up-to-date data from the Register of real and immovable mining rights in Québec. GESTIM can be used to consult and download data from the public register of mineral rights as well as to view mining title maps and download them free of charge.

MRNF issues and renews between 50,000 and 100,000 exploration titles per year. GESTIM is the ideal tool for keeping local and aboriginal communities informed about the claims issued in their area.



Regional county municipalities (RCM) and aboriginal communities will be informed whenever new claims are issued through GESTIM.

Information sessions are also offered to aboriginal communities on mineral activity in sectors of interest to them. These will continue to be made available on request.

The government's mineral strategy is aimed at keeping the public better informed about mineral activity. Communication is a key factor for ensuring project success.

■ MRNF will periodically provide local and aboriginal communities who request it with information on the mining titles issued for areas of interest they wish to monitor. Information sessions on the mining title management system (GESTIM) will also be offered to facilitate activity monitoring.

Consulting with aboriginal communities before delivering mining titles

In deference to the decisions of the Supreme Court of Canada, the government accords great importance to consulting any aboriginal communities affected by mineral activity. For this reason, the MRNF and, in some cases, MDDEP, consult aboriginal communities prior to issuing mining titles, as provided for under current government policy.

Informing the property owner about the issue of a claim

In Québec, subsurface ownership (mining title) is distinct from surface ownership (surface rights). Aside from a few exceptions, the subsurface and the mineral substances it contains belong to the government, even when the surface rights are privately owned.

Existing legal and regulatory provisions do not require a claim holder to inform the surface owner or tenant about the claim. However, claim holders cannot access private property without the authorization of the land owner or tenant.

■ The *Mining Act* will be amended to require claim holders to inform land owners and tenants about the issue of a claim on private land.

BALANCING LAND USES

Exploration and mining companies need access to the land. However, this access may conflict with other uses.

The Mineral Strategy introduces various measures to help balance different forms of land use.

Strengthening the possibility of making certain areas off-limits to mineral activity

Prior to the issue of a claim, the minister has no power to designate areas as off-limits to mineral activity for the purpose of harmonizing land use.

■ The *Mining Act* will be amended to grant the minister the option of invoking regional land use plans to increase his ability to reserve or withdraw land to reduce disputes over land use.

Granting the option to refuse or terminate mining titles for surface mineral substances for reasons of public interest

On land where no mining titles (claims or leases) are held, the minister can make an area off-limits for future mineral activity for reasons of public interest. However, once a claim has been issued, the minister has no authority to reject the claim holder's application for a mineral lease. So long as the legal requirements are met, the lease must be granted. This situation may be problematic in cases where the granting of a lease for surface mineral substances is incompatible with other forms of land use in the same area.

The minister must have the power to refuse to deliver or terminate a mining title for surface mineral substances where exceptional circumstances so warrant.

■ The *Mining Act* will be amended to give the Minister of Natural Resources and Wildlife the power, where public interest warrants, to refuse to grant leases for surface mineral substances and terminate mining titles for these same substances.

Harmonizing the development of new pits and quarries with other forms of land use

Lease applications for pit and quarry operations on public land are automatically approved, except in areas where prohibited for reasons of public interest. Under the current mining regime, the minister has no authority to reject compliant applications.

Land use should be harmonized and pit and quarry development better integrated into mineral development plans.

■ The *Mining Act* will be amended to give the minister the power to refuse to grant pit and quarry leases.

Clarifying the power of expropriation

The *Mining Act* sets out provisions governing the expropriation of surface rights owners for mining purposes. However, expropriation remains an exceptional measure.

■ The *Mining Act* will be amended to clarify the right of expropriation.

CONCLUSION

A MORE PROSPEROUS QUÉBEC, AN ENVIRONMENT-FRIENDLY AND COMMUNITY-CONSCIOUS MINERAL SECTOR

With this first mineral strategy, the government has reframed its actions to prepare the future of Québec's mineral sector with ambitious policy directions and a series of core measures.

Québec will open up new areas to mineral development. In concrete terms, this means stepping up the pace of mineral development in Northern Québec, a territory of over 1 million km².

Québec will also innovate more to optimize its mineral potential and reassess its mining royalties regime to ensure it receives a fair return on mineral resource mining involving nonrenewable resources.

Preparing the future of Québec's mineral sector also means looking ahead and developing the tools necessary to meet labour needs.

Québec is developing the means to achieve its ambitions by creating the Mining Heritage Fund, which will ensure long-term planning of government action.

Québec will work to improve its environmental standards by erasing the traces of the past, improving environmental protection, and setting aside outstanding sites and areas for future generations.

Through the initiatives announced in the Mineral Strategy, the government acknowledges the desire of local and aboriginal communities to play a greater role in mineral development and provides the means for them to do so.

With Québec's first mineral strategy, *Preparing the Future of Québec's Mineral Sector*, the government has taken the steps to build a more prosperous Québec for all of its citizens, a Québec where social progress and environmental sustainability are in the forefront.

Appendix

**CONSULTATIONS
ON THE MINERAL
STRATEGY**

APPENDIX

THE PAPER *PREPARING FOR THE FUTURE OF QUÉBEC'S MINERAL SECTOR* WAS SUBMITTED FOR PUBLIC CONSULTATION IN FALL 2007. THE PAPER SETS OUT FIVE CHALLENGES.

THE CHALLENGES

Discovering new deposits

- Exploration work carried out suggests that Québec is ripe for new discoveries.
- New areas are opening up in the Nord-du-Québec region, particularly in Nunavik and James Bay.
- However, deposits are increasingly difficult to discover because they are more remote or deeper.
- We must therefore focus first on increasing exploration in order to discover new deposits.
- To this end, we must at least continue on with Géologie Québec and promote Québec's mineral potential internationally.

Strengthening the industry's competitiveness and maximizing spinoffs

- Québec mineral sector production costs are high compared to those of our primary international competitors.
- It is important we invest in innovation and new processes to develop Québec's mineral resources more productively and efficiently.
- Our tax system should be overhauled to reduce administrative costs for businesses and the government.
- To increase economic spinoffs, efforts must be made to increase processing activities of minerals extracted from our subsurface.
- Mineral sector acquisitions and mergers must be carefully studied to ensure a maximum of economic spinoffs from the mining of Québec's mineral resources.

Attracting and training qualified labour

- The Québec mineral sector is facing challenges in attracting new talent and ensuring growth as conditions become increasingly difficult. It must both replace retiring personnel and plan for the labour requirements of projects now on the drawing board.
- Increases in enrolment have been observed at the various training institutions, but current and foreseeable needs are considerable, and enrolment levels are not high enough to meet them.
- Regional educational opportunities should therefore be reexamined.

Protecting the environment and ensuring harmonious integration

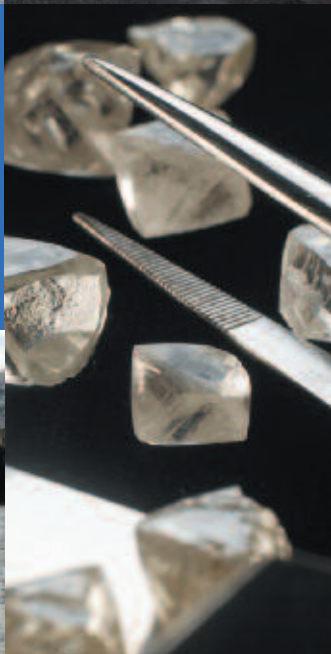
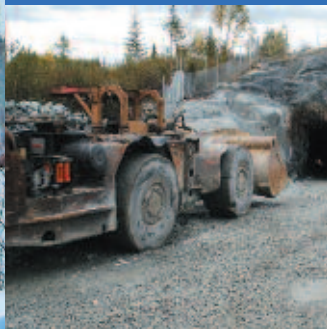
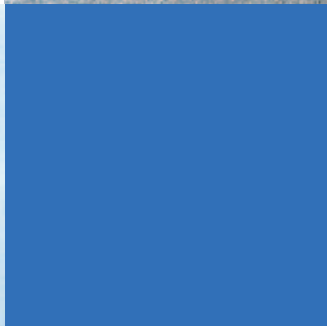
- With the adoption of the *Sustainable Development Act*, the Government of Québec marked a clear commitment to foster sustainable development.
- The government took action, announcing an abandoned mine site rehabilitation plan in its 2007–2008 Budget Speech.
- Certain problems remain, however, and we must work together with the industry to do more for environmental protection.
- Businesses that explore and develop mineral resources must have access to the land, but such access may conflict with other goals, such as recreational use.
- We must therefore develop an approach and adopt methods to help balance various uses of the land.

Involving the regions

- It is important that the regions be more involved in natural resource issues, including the development of mineral resources. The creation of regional land and natural resource commissions is significant in this regard.
- Greater involvement by aboriginal communities is a further goal, to increase the economic spinoffs certain projects provide to these communities.



**QUÉBEC
MINERAL
STRATEGY**



*Ressources naturelles
et Faune*

