



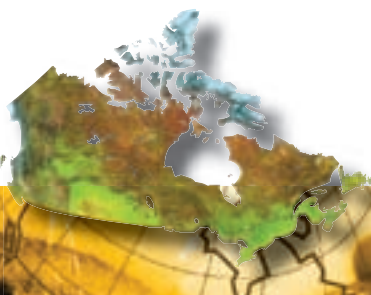
Natural Resources
Canada

Ressources naturelles
Canada

Minerals and
Metals Sector

Secteur des minéraux
et des métaux

MMS **BUSINESS PLAN**



2002-2004

*from **vision to results***

Canada 

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INTRODUCTION

In the autumn of 2001, the Minerals and Metals Sector (MMS) of Natural Resources Canada (NRCan) launched its first strategic plan titled *Focus 2006*. The plan contained a vision and strategic directions that provide a framework for action.

Objective

The objective of the *Minerals and Metals Sector Business Plan 2002-2004* is to articulate how and what MMS will deliver to fulfil the vision and strategic directions outlined in *Focus 2006*, as well as departmental and government-wide goals and priorities.

Strategic Directions

To achieve the vision, *Focus 2006* identified four strategic directions to guide MMS's activities over the next four years:

- champion innovation;
- ensure a strong international voice;
- contribute to the health, safety and security of Canadian communities; and
- sustain vibrant and responsible industries.

The strategic directions support the five departmental goals of NRCan's Planning, Reporting and Accountability Structure, which forms the basis for this plan.

About MMS

MMS is the federal government's primary source of scientific and technological knowledge, and policy advice, on Canada's mineral and metal resources, and on explosives regulation and technology. MMS has the government lead in promoting the sustainable development and responsible use of Canada's mineral and metal resources. It is one of five sectors within NRCan. The others are the Earth Sciences Sector, Energy Sector, Canadian Forest Service, and Corporate Services Sector.

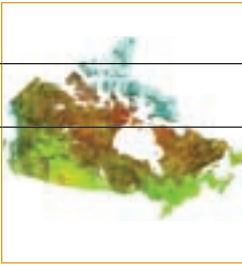
MMS comprises four branches: Economic and Financial Analysis, Mineral and Metal Policy, Mineral Technology, and Information Infrastructure and Services. The Sector devotes a large portion of its resources to science and technology, and includes three of Canada's premier scientific research institutions — the CANMET Mining and Mineral Sciences Laboratories, the CANMET Materials Technology Laboratory, and the CANMET Canadian Explosives Research Laboratory. The Sector, through the Explosives Regulatory Division, also administers Canada's *Explosives Act* and Regulations.



The vast majority of MMS's facilities are located in Ottawa, primarily within the Booth Street complex and, to a lesser extent, at Bells Corner. The Sector has regional laboratories in Sudbury, Ontario, and Val-d'Or, Quebec. The Mineral Technology Branch's Explosives Regulatory Division has regional offices in Halifax, Nova Scotia; Varennes, Quebec; Calgary, Alberta; and Vancouver, British Columbia.

MMS Vision

Canada will be a role model for the world in applying sustainable development through good stewardship of its minerals and metals resources to enhance the quality of life of Canadians and their communities.



Mission, Mandate and Operating Principles

Mission

MMS's mission is to advise the Government on — and to advance its agenda for — the economic, social, environmental, scientific and technological spheres through the development and use of minerals and metals. An important role for MMS is to generate and share knowledge as a basis for sound decision-making that affects the sustainable development of minerals and metals for the benefit of Canadians.

NRCan's Operating Principles

Respect, honesty, equity, fairness and integrity are the basis of our relationship with Canadian citizens, our clients and each other. Our Operating Principles define the business standards, beliefs and values of our organization and state what we are striving to achieve. We value the commitment and dedication of the people who form our organization and we believe that:

- Strong leadership is essential.
- People are our principal strength.
- Effective planning helps us to improve.
- Creativity and innovation are key to our future.
- The Canadian public interest is paramount.
- Quality service to clients is our standard.
- Effective communication is a shared responsibility.
- Cooperation is the foundation of our success.

Mission, Mandate and Operating Principles

Mandate

The MMS mandate derives from the *Department of Natural Resources Act* (1994), the *Resources and Technical Surveys Act*, the *Explosives Act*, the *Income Tax Act*, the *Excise Tax Act* and the *Export and Import of Rough Diamonds Act* (2002). Under the authority of the *Department of Natural Resources Act* (1994) and on behalf of the Minister, MMS:

- has regard to the sustainable development of Canada's natural resources;
- assists in the development of Canadian scientific and technological capabilities;
- seeks to enhance the responsible development and use of Canada's natural resources and the competitiveness of Canada's natural resource products;
- participates in the enhancement and promotion of market access;
- promotes cooperation with governments and non-governmental organizations (NGOs) in Canada and internationally;
- administers Canada's participation in the Kimberley Process and issues Kimberley Process Certificates; and
- gathers, compiles, analyzes, coordinates and disseminates information.

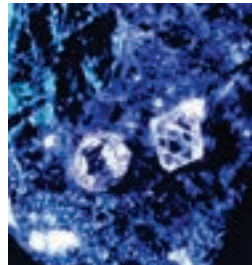
The *Resources and Technical Surveys Act* provides the authority under which MMS, on behalf of the Minister, collects, compiles and publishes statistics on mineral exploration, development and production, and on Canada's mining and metallurgical industries. MMS is responsible for collecting and publishing economic data related to the processes and activities associated with the use of minerals and metals and for preserving records of mines and mining works in Canada.

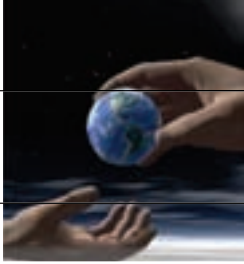
In the administration of the *Explosives Act* and Regulations, MMS is responsible for classifying explosives and issuing licences, permits and certificates for the manufacture, importation, sale and storage of blasting explosives, ammunition, propellants, fireworks and pyrotechnics.

The *Export and Import of Rough Diamonds Act* and its implementation fulfill Canada's commitment to participate in the Kimberley Process, an international certification scheme designed to ensure that trade in rough diamonds does not fund armed conflict. MMS is responsible for: verifying data on applications and issuing Canadian Kimberley Process Certificates (KPCs) for diamonds; receiving the certificates of rough diamonds imported to Canada from other participating countries; carrying out inspections as stipulated in the Act; and other activities including collecting, using and providing the statistics mandated by the Act.

Under the *Income Tax Act* and the *Excise Tax Act*, MMS fulfills the Minister's mandate by issuing certifications, rulings and opinions on the interpretation and application of these statutes to the mineral industry. MMS assists Justice Canada in defending the integrity of the Income Tax and Excise Tax acts before the courts, thereby preventing loss of revenue to the Crown.

MMS also has responsibilities under a variety of agreements and memoranda of understanding with the provinces, territories and other federal departments.





Clients and Partners

MMS interacts with a wide range of stakeholders, including the private sector, environmental groups, Aboriginal peoples, provincial and territorial governments, other federal departments and agencies, foreign governments, and international organizations. It also collaborates with and provides knowledge and research services to governmental, institutional and industrial clients (from mining to manufacturing to recycling) to develop innovative policies and technologies with economic, environmental and social benefits for Canadians in all regions, particularly in northern, rural and Aboriginal communities.

Approach

MMS's activities will be "smart":

- S**pecific — activities will state precisely what is to be achieved;
- M**easurable — activities will be results-based and, wherever possible, measurable;
- A**ppropriate — activities will fall within MMS's overall vision, mission and mandate as outlined in *Focus 2006*;
- R**ealistic — given MMS's resources and mandate, activities will be achievable; and
- T**imely — all activities listed under NRCan Goals 1 through 5 will be completed within the two-year period 2002-2004, although, of course, much of MMS's work is ongoing.

Canada's Minerals and Metals Industries

Nationally

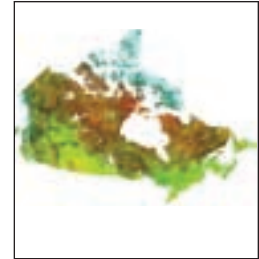
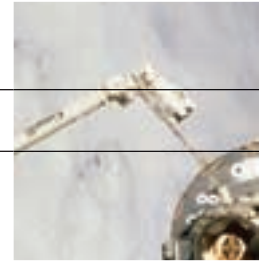
- The minerals and metals industries contribute \$35.1B or 3.7% to Canada's GDP.
- More than 376 000 Canadians are directly employed in the minerals and metals industries, representing 40% of natural resource employment as a whole.
- 2.5% of all Canadian jobs are in the minerals and metals industries.
- Workers in the minerals and metals industries earn among the highest wages in Canada, averaging \$1000 per week compared to the national average of \$650 per week.
- R&D expenditures related to mining amounted to \$370 million in 2001, an increase of 14.6% over 2000. The mining industry is the ninth largest Canadian R&D investor, responsible for approximately 3.2% of 2001 industrial sector R&D in Canada.
- These industries are among the most productive in Canada. From 1981 to 1998, total factor productivity in the minerals and metals industries grew by an annual average of 2.7%, almost three times Canada's overall rate of 1%.
- Over 3000 metal recycling companies, most of them small and medium-sized enterprises (SMEs), employ about 15 000 Canadians.
- Earnings from metal recycling recently topped \$60 million and continue to climb.
- Canada's minerals and metals industries provide a market for more than 2200 SMEs that provide related equipment and services.

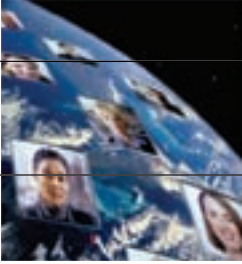
Globally

- Canada is a global leader in:
 - Commodity production (magnesium, aluminum, potash, uranium, nickel, gold, silver, platinum group metals);
 - Diamonds certified as conflict-free;
 - Environmental technologies, including recycling and site remediation;
 - Capital markets — one third of equity raised globally for exploration and mineral development is raised in Canada.
- Canadian companies have demonstrated world leadership in the sustainable development and operation of mines around the world.
- The minerals and metals industries are key to Canada's international trade, often providing a first export experience for Canadian SMEs.
- Minerals and metals exports account for \$45.4 billion or 12.2% of Canada's total exports.
- The mineral, metal and allied industries contribute \$1.4 billion to Canada's balance of trade, or 2.4% of our trade surplus.
- 12% of Canada's total direct investment abroad is in the minerals, metals and allied industries.
- The minerals and metals industries attracted \$6.6B or 3.4% of Canada's total in new capital investment in 2001.

Regional Influence of Minerals and Metals

- Minerals and metals account for over 60% of port volume and 55% of the freight revenue of railways.
- Of Aboriginal Canadians employed in primary resource industries, 26% are employed in mining.
- The majority of some 20 000 Aboriginal-owned businesses participate to one degree or another in the minerals, metals and allied industries.
- In 1996 (most recent tabulation), more than 100 Canadian communities were reliant on the minerals and metals industries.





CHALLENGES AND OPPORTUNITIES

International Context/Global Challenges and Opportunities

Internationally, five key forces are driving long-term change — globalization, technological advances, civil society engagement, nation state failure or Balkanization, and the move from environmental stewardship to sustainable development. These trends present both challenges and opportunities.

Globalization

Arguably, the single greatest trend we face is the globalization of the world's economies. Globalization has occurred due to a progressive dismantling of barriers to trade and capital flows, fundamental technological advances, and steadily declining costs of transportation, communication and information technology.¹ As a result, activities outside of Canada are having a profound effect on our environment, economy and society. In brief, we are living in a "global village."

The benefits of globalization are evident: faster economic growth, higher living standards for many, accelerated innovation and diffusion of technology and management skills, and new economic opportunities. While globalization offers great opportunities, it also presents challenges, including the increasing loss of sovereignty and uneven distribution of its benefits. The benefits of globalization remain highly concentrated among a relatively small number of countries. The challenge is to ensure that globalization is a positive force for all the world's people by making it more inclusive.

Technological Change

Rapid technological change is affecting all sectors of society — industry, government and individual citizens. Innovations in the fields of information and communications technology, renewable energies, biotechnology, materials sciences, and nanotechnology are expected to be the major sources of new breakthroughs in the foreseeable future. As well, the integration of these existing disciplines to form new ones is expected to accelerate innovation and have profound effects on business, government, and public health and safety.

Together rapid technological change and globalization are increasing competition in markets around the world and, in turn, the need for further technological advances. As is often repeated by business and government leaders both at home and abroad, the development and adoption of innovative technologies are the keys to success in the global economy.

International Context/Global Challenges and Opportunities



Civil Society Engagement

Enabled by technological advances, such as the Internet, that facilitate communications, and in response to the globalization of trade, a new world force is emerging — the empowerment and active engagement of civil society.² This trend represents a push back against the forces of globalization that do not address its inequities, against the growing gap between rich and poor, and against the diminishing effectiveness of nation states to protect their citizens from the negative impacts of globalized trade and the unequal application of technology's benefits. This push back finds expression in consumer movements that force companies to adopt policies of corporate social responsibility, in grassroots Aboriginal and environmental movements that seek to restrict or control development of natural resources, and in the often-violent aspirations to nationhood of ethnic and religious minority groups.

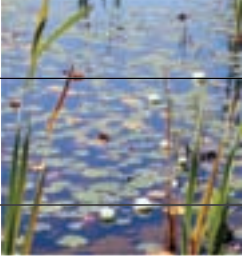
The active engagement of civil society is beginning to affect policies and operations at all levels. In Canada, public consultations have become an integral part of governance for everything from proposed changes in municipal zoning by-laws to the establishment of our national budget. Civil society is in the process of reshaping many of the world's key transnational institutions, such as the World Bank and the United Nations, many of which were established about 60 years ago in the very different post-World War II era. The necessity to engage civil society inclusively has implications for every aspect of MMS's work, from our participation in the World Summit on Sustainable Development through work with Aboriginal communities and extending to the individual level, where it finds expression in NRCan's human resources policies and practices. The key challenge for MMS is to broaden its outreach to engage non-traditional stakeholders, such as health, safety, environmental and labour groups, and people living in mineral-dependent communities.

National and International Governance

A key challenge in operating internationally is the different and sometimes inadequate governance structures in developing countries. Inadequate or failed governance is at the root of some of the bloodiest and most destructive events of our time. Nation state failure and the related cycle of civil war and impoverishment have been attributed to many root causes, including the misuse and depletion of natural resources.³ The tragic events of 9/11 brought home as never before the integral links between feelings of injustice and alienation arising from inadequate governance and the eruption of violence and terrorism. From Quebec's aspirations to nationhood to the break-up of the former Yugoslavia, to the internecine conflicts in Africa that prompted Canada to be among the leading countries in establishing the Kimberley Process, it is apparent that governance structures that fail to be fair and inclusive have dire consequences.

With Canadian-owned mining companies operating in over 100 countries worldwide, the need to recognize and, as much as possible, pro-actively address governance issues is compelling. Key international policies such as the New Partnership for Africa's Development and the global anti-poverty agenda reflect global attempts to enhance governance in the developing world. MMS is assisting Latin American and African countries in establishing appropriate governance that will enable mining to contribute to the sustainable development of their communities. Within Canada, enhanced federal transfer payments and the emergence of a more consultative and collaborative relationship between the Government of Canada and provincial/territorial governments acknowledge that citizens appear to prefer smaller units of governance. At the level of individual corporations, a greater emphasis on corporate social responsibility and a greater attention to the needs of local stakeholders are a measured response to the need for fair and inclusive governance.





International Context/Global Challenges and Opportunities

From Environmental Stewardship to Sustainable Development

Approaches to environmental stewardship have evolved in several important ways. Environmental stewardship used to focus on protecting unique aspects of our environment — clean air or clean water — or charismatic species, such as baby seals and spotted owls. Now the focus is more holistic, integrated and reflects the three pillars of sustainable development: environment, economy and society. The environmental movement has become institutionalized. Grassroots activists and consumer movements still play an important role, but international and multilateral environmental accords are now the key mechanisms for environmental stewardship. Canada is a signatory to 59 international, legally binding environmental agreements. These include: multilateral commitments relating to chemical pollution, climate change, ozone depletion, and biological diversity, as well as several legally binding, regional agreements.⁴ Several major pieces of domestic environmental legislation, either presently in existence or before Parliament, define the standards for environmental

performance in terms that are consistent with the international agreements Canada has already signed.⁵

Increasingly, policy-makers seek to reinforce the link between environment and economy. The Kyoto Protocol on Climate Change is best understood as an economic policy, its three flexibility mechanisms⁶ designed to help reduce the carbon dependence of our economy. The integration of environment and economy helps drive the social agenda. The poverty of developing countries and their dependence on international financial institutions provide leverage for the implementation of international environmental standards. This integration of environment and economy is also apparent in changing corporate attitudes to environmental stewardship. Once regarded as a necessary cost of doing business, progressive firms, such as those listed on the Dow Jones Sustainability Indexes,⁷ now see environmental management systems as a key tool for enhanced productivity and profitability.

Minerals and Metals Context

Since the dawn of time, the ability to mine, smelt and work metals has been considered one of the defining characteristics of advanced civilizations. Fortunately for archeologists, metal artifacts are among the more durable of humankind's endeavours. Of course, it is the very potential for durability that makes managing the impact of the minerals and metals industries in a sustainable fashion so challenging.

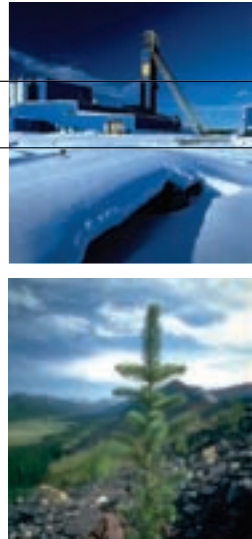
In today's world, some developing countries are able to use extractive industries, such as mining, oil and gas, to vault their economies into positions of global competitiveness. Meanwhile, developed countries demonstrate their economic leadership through value-added processing and in resource recovery and recycling. Much of Canada's economic history is characterized by our efforts to add value to our abundant natural resources while simultaneously protecting our natural environment.

MMS is concerned with the full spectrum of minerals and metals value-added activity, from the identification and extraction of raw minerals, through smelting and refining, semi-fabrication, fabrication and product assembly, to resource recovery and recycling. This spectrum of activity is integral to Canada's economy as a whole and to the Canadian lifestyle. Without quarries and sand pits, we would have no construction industry, winter roads would be much more dangerous, and crops, lacking potash as a fertilizer, would be less plentiful. Without the smelting of primary steel and nonferrous metals, the companies that produce rolled, cast, forged and extruded products for our automotive, avionic, telecommunications and high-tech industries would not exist. Even our personal attire – watches, jewellery, zippers, buttons, the eyelets in our shoes and many of the dyes that colour our clothing – depends on minerals and metals.

The need to continually find new ways to innovate and add value in the minerals and metals industries is therefore integrally linked to our quality of life. Innovations in geoscience enable us to identify new mineral deposits. Innovations in mining allow us to extract minerals from greater depths and from deposits that were previously not considered economically viable while protecting the health and safety of workers and minimizing the environmental impact of mining operations. Production process innovations enhance productivity, save on energy and eliminate costly transportation by combining production steps that previously took place in locations separated by hundreds of kilometres. New recycling and resource recovery technologies allow us to add value to the back end of the production cycle, transforming what was previously waste into new products that enhance our lifestyle while protecting the environment.

As the interrelatedness of lifestyle, the underlying social and economic value of business activity and the impact of that business activity on the environment become more apparent, a new business ethos is emerging. Mining companies are beginning to redefine their responsibilities and roles, in particular, their relationships with stakeholders. Moving from the traditional model in which they maximized the return on their capital subject to statutory law, ethical custom and public perception, mining companies now strive to enable stakeholders to benefit in proportion to their entitlements. Companies are not only seeking to engage stakeholders in a dialogue, but are also collaborating with communities, governments, non-governmental organizations and international agencies.

In Canada, the path to the sustainable development of our minerals and metals resources entails many challenges, but it is also aided by opportunities. Major themes in terms of challenges and opportunities, categorized by the three pillars of sustainable development, are listed on the next page.





Minerals and Metals Context

Social

- Building capacity for Aboriginal peoples to participate in economic activity and incorporating traditional knowledge in resource development and extraction.
- Ensuring sustainability for the more than 100 mostly rural and remote communities whose economies have become dependent on mineral resource-based activities.
- Mitigating the social changes that result from the closure of traditional mining camps.
- Empowering communities to make the best use of their mineral resources.
- Ensuring mineral and metal companies embrace corporate social responsibility.
- Promoting greater transparency and ethical business practices in all mineral and metal activities.
- Balancing the environmental and competitive advantages of technological improvements with the potential of these improvements to reduce local employment opportunities.
- Contributing to providing a safe, healthy workplace and consideration for workers once their employment is no longer required.
- Working to earn a more favourable public and media image of mining and mineral processing.
- Striving to meet the many, often conflicting, expectations of different stakeholder groups.

Environment

- Addressing past unsustainable environmental practices, and orphaned and abandoned mine sites.
- Moving from waste disposal to practising waste reduction and by-product synergy.
- Minimizing water use in processing and avoiding groundwater contamination in mining operations.
- Helping to improve energy and resource efficiency, especially with respect to greenhouse gas emission reduction targets.
- Encouraging the adoption of extended producer responsibility and total life-cycle analysis in the minerals and metals industries.
- Maximizing the opportunities for recycling to create employment and add value.
- Recognizing the need to protect biodiversity and habitat.
- Streamlining environmental assessments and incorporating their findings into ongoing management plans.
- Integrating safe use and precautionary principles into all aspects of the minerals and metals industries.

Economic

- Competing for international financial capital.
- Adopting a “smart regulation” strategy, including benchmarking Canadian regulatory performance against world standards.
- Simplifying and streamlining Canadian securities regulations.
- Facing increased competition from countries with low production costs.
- Ensuring that the benefits of mineral, metal and allied industries’ activities are distributed fairly.
- Maintaining and expanding market access, especially with respect to SMEs.
- Facilitating access to resources by supporting the work of other government departments to resolve Aboriginal rights and titles issues and by simplifying the approval process for large mining projects.
- Surviving short-term cyclical variations and long-term secular decline in the prices of many minerals and metals.
- Adding value to mineral and metal commodities.
- Adjusting to the consolidation of mining companies.
- Capitalizing on international business opportunities so as to demonstrate the leadership of Canadian companies in Corporate Social Responsibility (CSR).
- Ensuring adequate human resources in an aging work force by recognizing foreign credentials and including formerly marginalized groups, such as Aboriginal youth.
- Ensuring an internationally competitive and equitable tax regime for Canada’s mineral exploration and mining companies.
- Maximizing downstream benefits to the economy and the environment by fostering Canadian processing, recycling and site remediation.

While public expectations of the mineral, metal and allied industries continue to expand, government must still play a critical role. Government must provide an enabling environment, define the standards expected of industry, ensure those standards are met, and put in place meaningful incentives and sanctions to encourage compliance.⁸

Emerging Science and Technology Issues

One of the areas in which government continues to play a critical role is in science and technology (S&T) and guidance for the mineral, metal and allied industries. As in all other contexts, S&T in the mineral, metal and allied industries is evolving rapidly. MMS's world-famous CANMET laboratories are working to find solutions to some of the emerging S&T issues:

- Finding technological solutions for moving equipment, workers and ore between the surface and the depths of increasingly deeper mines, and ensuring worker safety.
- Identifying and securing access to increasingly remote deposits in ways that ensure the environmental protection of hitherto pristine wilderness areas.
- Developing economically viable technologies to operate in lower-grade deposits.
- Helping Canadian industry address the challenge of climate change, for example, through the Canadian Lightweight Materials Research Initiative (CliMRI), which will help the automotive parts industry to produce lighter (and therefore more fuel-efficient) vehicles, and through new processes such as the use of higher volumes of fly ash in cement, which reduces CO₂ emissions from the construction industry.
- Working to facilitate the development of new process technologies that will enable Canadian mineral, metal and allied industries to retain and gain international competitive advantages.
- Addressing environmental challenges including: promoting uptake on recycling through the Canadian Resource Recovery Strategy; developing strategies to measure and mitigate the toxicity of mine tailings and acid mine drainage; and perfecting creative low-technology strategies, such as phyto-remediation, to rehabilitate former mine sites.





GOVERNMENT OF CANADA'S PRIORITIES

Speech from the Throne 2002

The Speech from the Throne (SFT), delivered by the Governor General on September 30, 2002, at the opening of the 37th Session of Parliament, does not explicitly mention natural resources, nor does the Prime Minister's reply. However, policy and program initiatives at MMS respond directly to four of the SFT themes: Canada and the world; the challenge of climate change and the environment; a magnet for talent and investment (including skills, learning and research; smart regulations; and competitive cities and healthy communities); and a new partnership between government and citizens. The complete text of the SFT can be found at <http://www.sft-ddt.gc.ca>.

Canada and the World calls for: reducing the gap between rich and poor; doubling international assistance by 2010, with half of this investment going to the New Partnership for Africa's Development; and eliminating tariffs and quotas on almost all products from the world's least developed countries.

Climate Change and the Environment proposes to: engage all Canadians and make it a national project to meet the climate change challenge; improve the ecological integrity of existing national parks and create new ones; reintroduce legislation to protect species at risk; accelerate the clean-up of federal contaminated sites; and work with the provinces/territories on improved national water quality guidelines.

A Magnet for Talent and Investment pledges to strengthen government science by integrating efforts across departments and disciplines; to transform Canada's labour market programs to promote life-long learning, including workplace learning; to tailor and target training programs to help Aboriginal and Inuit people participate in the economic opportunities of Canada's natural resources industries; and to break down barriers to the recognition of foreign credentials so that skilled workers entering Canada can participate more fully in the economy. *Smart Regulation* promises to regulate for the public good in ways that enhance the climate for investment and trust in markets, including: streamlining environmental assessments; implementing the Canada-U.S. Smart Border Declaration; strengthening the governance standards for federally incorporated companies in order to maintain confidence in capital markets; and working with stakeholders to ensure that Canada has a modern and efficient securities regulatory system. *Competitive Cities and Healthy Communities* outlines commitments to target regional development activities to better meet the needs of urban, rural and northern communities.

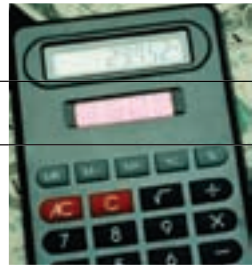
A New Partnership Between Government and Citizens includes: more opportunities for young Canadians; new legislation to strengthen First Nations governance institutions; and reforms to the public service so it can attract the diverse talent it needs to continue to serve Canadians well.

Budget 2003

The federal budget of February 18, 2003, supports a social and economic agenda, "building the Canada we want," while maintaining a balanced budget. The complete text of Budget 2003 is available at <http://www.fin.gc.ca/budtoce/2003/budliste.htm>.

Of particular importance to NRCan are measures to advance sustainable development, protect the environment, strengthen research and innovation, support skills and learning, and improve tax measures affecting the resource sector.

- Climate Change: an additional \$2 billion over five years, including \$250 million for Sustainable Development Technology Canada and, potentially, \$1.7 billion for measures such as those in the Climate Change Plan for Canada, for example, to promote energy efficiency, renewable energy, sustainable transportation, alternative fuels, a greenhouse gas regime for large industrial emitters, and carbon sequestration in forests; and a minimum of \$200 million for climate change research and technologies, which will include energy technologies.
- Northern Science: \$16 million over the next two years, including \$6 million to NRCan's Polar Continental Shelf Project, which supports Arctic researchers, and \$10 million to the Targeted Geoscience Initiative for mineral and energy geological investigation and analysis.
- Tax Changes: federal capital tax eliminated and federal corporate income tax rate on resource activities reduced from 28 percent to 21 percent over five years; deductions for paid provincial and other Crown royalties and mining taxes allowed; existing 25 percent resource allowance eliminated; accelerated depreciation for some renewable-energy and energy-efficient equipment; and continued exemption from the federal excise tax on gasoline for ethanol and methanol.
- Government Accountability and Transparency: ongoing review of all non-statutory programs over a five-year cycle; and a requirement for departments to reallocate \$1 billion per year from existing spending beginning in 2003-04 to help fund the cost of new initiatives announced in this budget.





Canada's Innovation Strategy

In February 2002, the Government of Canada launched its Innovation Strategy, comprising two papers.⁹ The first paper, *Knowledge Matters: Skills and Learning for Canadians*, aims to strengthen learning in Canada and to provide opportunity for all to contribute to and benefit from technological advances. The second paper, *Achieving Excellence: Investing in People, Knowledge and Opportunity*, focuses on strengthening our scientific research capacity to build a more innovative economy that benefits all Canadians. In May 2002, the ministers of Industry and Human Resources Development invited all Canadians to take part in a country-wide engagement process. NRCan participated in this process through the National Roundtable on Innovation and Skills in the Natural Resources Sectors and Allied Industries¹⁰ held in October 2002. This process yielded specific feedback from industry participants on their hopes for changes to Canada's tax and investment regime and a short list of five cross-cutting themes:

1. research, development and commercialization,
2. enhancing the innovation environment,
3. strengthening our learning culture,
4. building an inclusive and skilled work force, and
5. strengthening communities.

In November 2002, the National Summit on Innovation and Learning was held in Toronto. More than 500 leaders from across Canada from the private sector, non-governmental organizations, academia and government attended the summit, which had the objectives of:

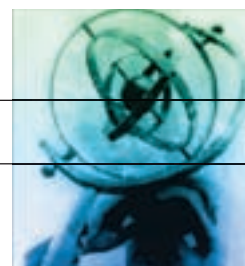
- shaping the priorities for Canada's Innovation Strategy; and
- seeking commitment from all sectors for a Canadian innovation and learning action plan.

Summit delegates prioritized 18 recommendations and related strategies they considered to be the most crucial within the five cross-cutting themes. They also identified key challenges to innovation and learning.¹¹ The following are significant to NRCan and specifically to MMS:

- A recommendation under theme 1 is to increase commercialization outcomes by broadening and deepening the mandates of existing technology support programs.
- MMS will be affected by all four recommendations under the second theme: to reduce or eliminate capital taxes at the federal and provincial levels; to improve the functioning of the Scientific Research and Experimental Development tax credit; to develop new tax-based instruments to stimulate seed and early-stage investments; and to accelerate regulatory reform on a sector-by-sector basis by 2005.
- The three recommendations under theme 4 will help address impending skills and labour shortages in the minerals and metals industries. The recommendations are: to increase the participation levels of under-employed groups; to increase investment in workplace training; and to improve the process of recognition of foreign credentials.
- The fifth theme elicited recommendations to: prepare long-term community plans and strategies; to support the growth of clusters; and to enhance the capacity of children, youth and adults in rural and Aboriginal communities by providing tailored support programs and educational opportunities.

The Mineral and Metal Policy Branch (MMPB) is leading the process of developing a *Minerals and Metals Strategy for Canada* to outline a federal action plan for innovation in the minerals and metals industries and to map a way forward.

Results for Canadians



In 2000, the Government of Canada identified four critical areas for management in the public service. As outlined in *Results for Canadians*, managers in the public service must:

- first and foremost, focus more on citizens by improving service and expanding partnerships with other government and private-sector organizations, and by evaluating and reporting on their activities;
- second, be guided by a clear set of values and ethics;
- third, focus on the achievement of results and on reporting them to Canadians; and
- fourth, ensure responsible spending.

To fulfill the commitments outlined in *Results for Canadians*, TBS established an agenda with six priorities:

- Modern Comptrollership;
- Citizen-centred service delivery;
- Government On-Line;
- Improved reporting to Parliament;
- Program Integrity; and
- Developing an exemplary workplace.

These priorities not only support the commitments made in *Results for Canadians*, but also integrate and build upon on a number of key government-wide initiatives such as the:

- Financial Information Strategy;
- Integrated Risk Management Framework;
- Revised Internal Audit and Evaluation Policies;
- Active Monitoring Policy;
- Transfer Payment Policy; and
- Modernization of human resource management, including the *Public Service Modernization Act*.¹²

As a result of the commitments made in *Results for Canadians* and its accompanying agenda, MMS has experienced over the past several years — and no doubt will continue to experience over the planning period — a marked increase in requests from central agencies to expand existing or implement new policies, programs and services. These requests most often have not been, and will not be, accompanied by a compensatory increase in financial or human resources.



Tenth Annual Report to the Prime Minister on the Public Service of Canada

In his first report to the Prime Minister, the new Clerk of the Privy Council Alex Himelfarb noted that the Public Service remains an essential national institution. Today's public servants inherit a strong tradition of excellence and pride. Tomorrow's public servants must protect this history of service to ministers and Canadians and continue to excel and earn the pride of the Canadian public. While innovation in public service is to be applauded, public servants must accept the primacy of the rule of law. They must also continue to advise ministers about laws that need to be created or modernized. Missteps in a large, diverse and complex organization, be it public or private, are inevitable, but fear of missteps should not impede innovation. The key is to acknowledge, address and learn from mistakes so as to retain the trust and pride of Canadians. An ongoing and uncompromising adherence to values and ethics is essential, as is maintaining and strengthening core competencies. Core competencies of financial management, human resource management, information and communications management, leadership development,

professional development and service delivery should be embedded at all levels in all departments and agencies. These steps will enable us to build a public service that will continue to set world standards for professionalism. Developing and nurturing a new generation of public servants to meet the challenge of an aging work force and a rapidly evolving society requires recruiting a diversity of young Canadians to reflect our changing society. These new recruits must also be introduced to the values and ethics within the public service framework of accountability. Diversity in recruitment is also key to the public service remaining relevant to Canada's diverse communities. Mr. Himelfarb encourages risk-taking in the crafting of leading-edge policy advice, provided it is based on solid research and consultations. Finally, Mr. Himelfarb underlines the emphasis on continuous learning and innovation as the pathway to achieving excellence. The full text of the Clerk's report to the Prime Minister can be found at <http://www.pco-bcp.gc.ca/default.asp?Language=E&Page=Report>.

Corporate Priorities for the Public Service of Canada 2003-2004

The Privy Council Office has identified four key corporate priorities that will be reflected in Deputy Minister performance agreements for 2003-2004.¹³ These are:

- fostering a culture in the workplace in which employees feel comfortable using their official language of choice;
- promoting a greater diversity of backgrounds, linguistic and ethnic heritage among public servants, with special emphasis on visible minorities;
- fostering a culture of learning and of sharing knowledge; and
- integrating the principles of modern comptrollership into the overall management of business lines, including HR management.



MINERALS AND METALS SECTOR'S BUSINESS PLAN 2002-2004

NRCan Goal #1: To provide Canadians with information to make balanced decisions regarding natural resources.

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
1.1. Knowledge Create easily accessible and integrated knowledge on the state of Canada's landmass and natural resources, and the economic, environmental and social dimensions of their use.	In cooperation with federal, provincial, territorial and international partners, collect, analyze and disseminate comprehensive physical (e.g., reserves, production and flow of recyclable materials) and economic (e.g., value added and employment) statistics on Canada's minerals and metals industries.	<ul style="list-style-type: none"> Statistics are reviewed and found to be accurate, timely and comprehensive by Statistics Canada. Informal and formal feedback indicates that MMS's statistics are objective and relevant to policy formulation and decision-making. 	EFAB
	Publish or post to the Internet technical and economic reports on Canada's minerals and metals industries and key commodities (e.g., <i>Canadian Minerals Yearbook: Review and Outlook and Overview of Trends in Canadian Mineral Exploration</i>).	<ul style="list-style-type: none"> The contents of the reports are useful and timely. Through formal and informal feedback, clients indicate satisfaction with the accuracy and relevance of the reports. 	EFAB MMPB IISB
	Reconfirm MMS's expertise on select key mineral and metal commodities.	<ul style="list-style-type: none"> MMS's commodity analysts are recognized domestically and internationally for their expertise on key mineral and metal commodities. 	MMPB
	In collaboration with the Department of Foreign Affairs and International Trade, the World Bank and industry, raise stakeholders' awareness and knowledge of the social dimensions — in particular the health of communities and corporate social responsibility — of the sustainable development of minerals and metals both at home and abroad.	<ul style="list-style-type: none"> Private and public decisions regarding the production and processing of minerals and metals begin to integrate and balance social benefits with economic development and the protection of the environment. Minerals and metals companies and associations begin to include social indicators in their annual reports. 	MMPB EFAB
	Remain at the forefront of the management of knowledge on the contribution of minerals and metals to sustainable development.	<ul style="list-style-type: none"> MMS's Internet site is revitalized to respond to the needs of clients, stakeholders and the Canadian public and to conform to the Treasury Board Secretariat's common look and feel standards. Clients, stakeholders and the Canadian public are satisfied with the Internet site as measured by on-line surveys. 	IISB
	Lead stakeholders in a process to develop national indicators to measure the contribution of minerals and metals to sustainable development.	<ul style="list-style-type: none"> A framework of well-accepted and relevant goals, objectives and indicators is used to assess progress in the sustainable development of Canada's minerals and metals resources, and to assist in making decisions that integrate economic, environmental and social dimensions. 	MMPB
1.2 Cooperation and Consensus Promote greater national and international cooperation and consensus on sustainable development issues, policies, goals and actions.	Foster the sustainable development of minerals and metals throughout the world by: <ol style="list-style-type: none"> preparing for and participating in the World Summit on Sustainable Development (WSSD) to establish a global intergovernmental dialogue on the sustainable development of mining, minerals and metals; seeking consensus on the merits of an intergovernmental mining, minerals and metals forum; 	<ul style="list-style-type: none"> A group of core countries, including Canada, agree to support the establishment of the global dialogue. WSSD's final documents recognize the contribution of mining, minerals and metals to sustainable development. An agreement is reached to embark upon the establishment of the forum. 	MMPB

CERL *Canadian Explosives Research Laboratory*
 EFAB *Economic and Financial Analysis Branch*
 ERD *Explosives Regulatory Division*
 IISB *Information Infrastructure and Services Branch*
 MMPB *Mineral and Metal Policy Branch*

MMS *Minerals and Metals Sector*
 MMSL *Mining and Mineral Sciences Laboratories*
 MTB *Mineral Technology Branch*
 MTL *Materials Technology Laboratory*

NRCan Goal #1: To provide Canadians with information to make balanced decisions regarding natural resources. (cont'd)

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
1.2 Cooperation and Consensus Promote greater national and international cooperation and consensus on sustainable development issues, policies, goals and actions. (cont'd)	(3) providing leadership to the Annual Mines Ministers of the Americas Conference (CAMMA); and (4) actively participating in the Asia-Pacific Economic Cooperation (APEC) forum's Expert Group on Minerals and Energy Exploration and Development.	<ul style="list-style-type: none"> • With renewed support from the Canadian International Development Agency and continued Canadian leadership, CAMMA advances the sustainable development of minerals and metals in the Americas and the Caribbean and becomes a model for other regional intergovernmental organizations (e.g., the African Mining Partnership). • In cooperation with Chile, MMS assists in the organization of a successful meeting of APEC Mines Ministers in 2004. 	MMPB
	Contribute scientific information to the development of international policies.	<ul style="list-style-type: none"> • Influence the position of other countries (particularly the members of the European Union) on the risks and hazards posed by metals. • Expand the application of the life-cycle assessment to metals. 	MMSL/ CANMET ¹⁴ -MTB
	Contribute to the alleviation of poverty and place Africa on the path to sustainable growth by participating in the establishment of the African Mining Partnership (AMP) as part of the New Partnership for Africa's Development (NEPAD). Funding will be sought for the AMP from Canada's Africa Fund.	<ul style="list-style-type: none"> • With Canada's assistance, the AMP embarks on ensuring that Africa's rich mineral resources are a significant source of sustainable growth for Africans. 	MMPB EFAB
	Demonstrate effective intergovernmental relations with the provinces and territories to ensure coherence, collaboration and harmony in addressing minerals and metals issues largely by providing leadership on issues and acting as the secretariat to the Intergovernmental Working Group on the Mineral Industry and the annual Mines Ministers' Conference.	<ul style="list-style-type: none"> • Through the joint actions of MMS and its provincial and territorial partners, results are observable in areas such as corporate performance, the rehabilitation of orphaned or abandoned mines, geoscientific mapping, Aboriginal participation in minerals and metals activities, and regulations that affect the competitiveness of Canada's minerals and metals industries. 	
	Strengthen the linkages between the policy and scientific communities. ¹⁵	<ul style="list-style-type: none"> • The number and depth of the collaborative activities between scientific and policy staff. 	MMS
1.3 Policy Develop and promote fiscal, regulatory and voluntary approaches that encourage the sustainable development of natural resources.	To support the competitiveness and economic growth of Canada's minerals and metals industries, provide analyses and advice to the Minister and other senior officials on a variety of issues such as: policies affecting the cost of transporting commodities, mineral reserves and the long-term viability of mining; and environmental regulations and assessments.	<ul style="list-style-type: none"> • As measured by feedback from the Minister and other senior officials, the analyses and advice are found to: <ol style="list-style-type: none"> (1) be authoritative, candid and non-partisan; (2) clearly articulate both immediate and longer-term risks; (3) provide a comprehensive assessment of the full spectrum of possible options on which to base decisions; and (4) reflect the public interest and priorities of government. 	EFAB MMPB
	Contribute to the development of legislated regulations and adoption of voluntary policies to protect the environment (e.g., the proposed <i>Species at Risk Act</i> and Biodiversity Stewardship in the Resource Industries initiative).	<ul style="list-style-type: none"> • The number of mining companies that implement the policies of the Biodiversity Stewardship in the Resource Industries initiative. 	MMPB

NRCan Goal #2: To provide Canadians with sustainable economic, social and environmental benefits derived from natural resources for present and future generations.

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
<p>2.1 Innovation Create innovative, higher-value, environmentally friendly uses of natural resources.</p>	<p>Add value to mineral and metal-based products for use by the construction, transportation and energy industries through:</p> <ol style="list-style-type: none"> (1) the development of new products such as corrosion-resistant reinforcing bar and manganese steel, and processes such as the galvanization of high-strength steel; (2) the development of more efficient processes to produce advanced parts for vehicles and railways; and (3) the application of nanotechnology and other emerging techniques to develop new materials for use in a variety of products such as infrared optical glasses, sensors, actuators, ¹⁶ photovoltaic solar cells, and electrodes in batteries. 	<ul style="list-style-type: none"> • Projects are completed on time and within budget. • Papers are published in refereed journals and conference proceedings. • Targets are reached or surpassed with regard to fees-for-service, attendance at technology transfer events, and the number of industrial trials. • Technical reports are completed. • In cooperation with academic partners, a plan for the Materials Innovation Cooperative is developed to expand opportunities to add value to minerals and metals. 	<p>MTL/MTB</p>
	<p>Improve the productivity and competitiveness of Canada's minerals and metals industries by undertaking innovative research such as:</p> <ol style="list-style-type: none"> (1) improving technologies to process minerals; (2) promoting the application of automated mining technologies, including remote operating systems and robotics; and (3) examining the replacement of diesel power by hydrogen fuel cell power in underground mining vehicles. 	<ul style="list-style-type: none"> • Projects are completed on time and within budget. • Papers are published in refereed journals and conference proceedings. • Technical reports are completed. • Clients are satisfied as measured by formal and informal methods, and their continued participation, interest or funding. • Targets are reached or surpassed with regard to fees-for-service, patents and the acceptance of new proposals by clients. 	<p>MMSL/MTB</p>
	<p>Prepare and certify reference materials to verify the accuracy and precision of instruments or analytical methods used in the production and processing of minerals and metals, and the protection of the environment.</p>	<ul style="list-style-type: none"> • The number and value of the sales of the reference materials. 	
	<p>Certify the proficiency of laboratories to analyze minerals and metals.</p>	<ul style="list-style-type: none"> • The number of laboratories seeking certification. 	
	<p>Expand the international flow of technology and scientific information by:</p> <ol style="list-style-type: none"> (1) establishing the Global Mining Research Alliance (GMRA) and undertaking research in cooperation with the other members of the Alliance (Australia, South Africa and the United States); (2) developing environmental expertise within the mining industries of Guyana, Brazil and Zambia with support from the Canadian International Development Agency (CIDA); (3) submitting a proposal to CIDA to transfer technology to address the impacts of metals on the environment in Argentina; and (4) holding international seminars on concrete technology. ¹⁷ 	<ul style="list-style-type: none"> • The GMRA is established and member countries build on each other's research and technology to advance the sustainable development of minerals and metals throughout the world. • The host countries and CIDA are satisfied with progress. • The proposal is approved by CIDA and the project is initiated. • Targets are reached or surpassed with regard to technical papers completed and seminars organized. 	<p>MMSL/MTB MTL/MTB</p>

NRCan Goal #2: To provide Canadians with sustainable economic, social and environmental benefits derived from natural resources for present and future generations. (cont'd)

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
<p>2.1 Innovation Create innovative, higher-value, environmentally friendly uses of natural resources. (cont'd)</p>	<p>As part of the Government of Canada's Innovation Strategy, participate in the development of action plans to foster innovation and learning in the mining, oil and gas pipeline, recycling and lightweight materials industries.</p>	<ul style="list-style-type: none"> MMS is recognized as a leader in advancing the Innovation Strategy by developing, through extensive consultation with stakeholders, comprehensive, effective action plans to improve innovation and skills in these industries. 	MMS
<p>2.2 Investment Facilitate the flow of capital to the natural resource industries to create greater economic opportunities.</p>	<p>In cooperation with the Department of Foreign Affairs and International Trade, Investment Partnerships Canada and others, assist investors seeking to directly invest in Canada's minerals and metals industries by:</p> <ol style="list-style-type: none"> giving promotional presentations to audiences in Canada and abroad; providing advice and information to individual investors from the exploratory phase through to the selection of projects and follow-up; and contributing material, analyses and advice to Ministerial trade and investment missions. 	<ul style="list-style-type: none"> Based on formal and informal feedback, the attendees are satisfied with the presentations. The number and frequency of investors seeking assistance. The results of the assistance are observable. The Minister, his staff, senior government officials or participants from the private sector provide positive assessments. 	EFAB
	<p>To improve the investment climate in Canada, pursue the benefits of federal corporate tax reform for mining companies.</p>	<ul style="list-style-type: none"> Changes to Canada's tax regime for mining ensure that the mineral exploration and mining industries are treated equitably in relation to other sectors of the Canadian economy and remain internationally competitive. 	
	<p>Under the Government of Canada's <i>Income Tax Act</i> and <i>Excise Tax Act</i>, provide opinions to the Canada Customs and Revenue Agency (CCRA) and the Department of Justice on whether mineral resources qualify for the special tax provisions such as the resource allowance, accelerated depreciation, and the 15 percent exploration tax credit connected to flow-through shares.</p>	<ul style="list-style-type: none"> MMS's opinions with regard to mineral resources are fair, consistent and respected, and prevail if they are disputed by companies. Provincial/territorial authorities are satisfied with MMS's opinions. The CCRA and, where applicable, the Department of Justice are satisfied with MMS's assistance in presenting the best case on behalf of the Crown while maintaining the integrity of Canada's tax regime for mining. 	
	<p>Provide expertise to foreign governments (e.g., South Africa) on economic policies and tax measures (e.g., flow-through shares) to encourage exploration and mineral development.</p>	<ul style="list-style-type: none"> Formal and informal feedback confirm that the Government of Canada and foreign governments are satisfied with the expertise. 	
<p>2.3 Trade and Market Access Maintain and expand access to international markets for Canadian resource-based products, knowledge, technologies and services.</p>	<p>To ensure continued prosperity for Canadians, maintain or expand access to established (e.g., the European Union) and emerging (e.g., Asia) markets for Canadian minerals, metals and related products by:</p> <ol style="list-style-type: none"> participating in a range of regional intergovernmental (e.g., CAMMA and the European Commission) and multilateral (e.g., the World Trade Organization and International Metal Study Groups) initiatives and fora, and, to a lesser extent, bilateral activities; and raising the awareness of the benefits of applying the safe use principle¹⁸ to minerals (i.e., chrysotile asbestos) and metals around the world. 	<ul style="list-style-type: none"> Fewer measures are taken to restrict the use of minerals, metals and related products, of which Canada is a major producer, by foreign governments and international organizations. 	MMPB

NRCan Goal #2: To provide Canadians with sustainable economic, social and environmental benefits derived from natural resources for present and future generations. (cont'd)

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
<p>2.3 Trade and Market Access Maintain and expand access to international markets for Canadian resource-based products, knowledge, technologies and services. (cont'd)</p>	<p>Assist exporters, especially small, medium-sized or regional enterprises, of minerals, metals and related products and services by:</p> <ol style="list-style-type: none"> (1) expanding their participation in international trade shows and in Team Canada and ministerial trade missions such as the one to India and other countries in Southeast Asia in the Fall of 2002; (2) providing them with relevant, timely and incisive information on business opportunities abroad; (3) examining new approaches to increase their international business opportunities (e.g., e-commerce workshops and Naturallia); (4) promoting Canadian scientific expertise; and (5) increasing the knowledge and awareness of trade officials with the Department of Foreign Affairs and International Trade of issues and opportunities in the minerals, metals and ancillary industries. 	<ul style="list-style-type: none"> • The frequency and extent of participation by exporters in international trade shows and in Team Canada and ministerial trade missions. • The number of business opportunities identified for exporters. • The number of companies participating in the new approaches. • The number of opportunities for Canadian scientists to apply their expertise abroad. • The number of trade officials briefed on the issues and opportunities in the minerals, metals and ancillary industries. 	MMPB EFAB
	<p>To advance Canada's global interests, protect direct investment abroad by Canadian mineral exploration and mining companies through multilateral fora and bilateral initiatives.</p>	<ul style="list-style-type: none"> • The effectiveness of defence against unjustified measures that have a negative impact on direct investment abroad by Canadian mineral exploration and mining companies. 	EFAB
	<p>To meet Canada's commitment under the international Kimberley Process¹⁹ and to protect Canada's expanding and important diamond mining industry, administer Canada's national system for rough diamonds entering or leaving Canada, issue KPC certificates, and participate in the global effort with participating countries.</p>	<ul style="list-style-type: none"> • In cooperation with other federal departments and the provinces/territories, a comprehensive national system — involving amendments to existing acts and regulations, and the introduction of new legislation — is implemented. • As an initial step, legislation is prepared for consideration by Parliament by December 2002. • A system to issue Kimberley Process Certificates is in place by January 2003. 	MMPB EFAB
<p>2.4 Communities Build the capacity of Aboriginal, rural and northern communities to generate sustainable economic activity based on natural resources.</p>	<p>In close cooperation with partners such as the four federal regional development agencies (Human Resources Development Canada, Indian and Northern Affairs Canada, the minerals and metals industries, and non-governmental organizations), develop and implement the Minerals and Metals Strategy for Canada.</p>	<ul style="list-style-type: none"> • A deck is presented to the Cabinet Committee on Economic Union and a Memorandum is prepared for Cabinet. • In cooperation with the Treasury Board Secretariat and other federal departments, funding for the Memorandum to Cabinet is secured. • The Strategy is implemented and initial steps are taken to improve the overall quality of life (as measured by economic and social development, and the preservation of the environment) in minerals- and metals-based communities in Canada. 	MMPB

NRCan Goal #2: To provide Canadians with sustainable economic, social and environmental benefits derived from natural resources for present and future generations. (cont'd)

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
<p>2.4 Communities Build the capacity of Aboriginal, rural and northern communities to generate sustainable economic activity based on natural resources. (cont'd)</p>	<p>Ensure that minerals and metals activities contribute to the building of a more inclusive society and the long-term socio-economic well-being of Canadians in rural, remote and northern communities and regions by:</p> <ol style="list-style-type: none"> (1) promoting the federal exploration tax credit; (2) assisting in the development of fiscal recommendations by the Tax Credit Subgroup of the Intergovernmental Working Group on the Mineral Industry; (3) providing advice and supporting analyses to the proponents of the development of mineral deposits and infrastructure in the North, such as the construction of the proposed port and road at Bathurst Inlet, Nunavut; and (4) undertaking environmental research to facilitate mineral development in the North and expand Northerners' scientific capacity and knowledge. 	<ul style="list-style-type: none"> • The number of provinces that introduce new tax credits to complement the federal credit. • The value of funds raised and the number of mineral deposits discovered as a result of the federal credit. • The Committee's recommendations with regard to the future of the federal tax credit are accepted by the Mines Ministers and Finance Canada. • Advice and analyses are provided in a timely and objective manner and reflect the public interest and priorities of the Government of Canada. • A mine rehabilitation office is established in Whitehorse in cooperation with the Government of the Yukon. 	<p>EFAB MMSL/MTB</p>
	<p>Increase Aboriginal participation in, and benefits from, resource-related economic opportunities by:</p> <ol style="list-style-type: none"> (1) contributing to the development of the Government of Canada's initiative to promote Aboriginal economic development led by the Reference Group of Ministers on Aboriginal Policy; (2) participating in Human Resources Development Canada's Aboriginal Skills Training Initiative; and (3) participating in a national summit on Aboriginal participation in the natural resource-related economy. 	<ul style="list-style-type: none"> • An overview of the initiative is completed by December 2002. • A training program is established for Aboriginals in Labrador to provide them with the skills and knowledge to participate in the Voisey's Bay project. • The summit is held by June 2003. 	<p>MMPB</p>
	<p>To address the needs of British Columbia, lead the development of a world-class interpretive centre and reclamation research facility at the closed mine at Britannia Beach, B.C.</p>	<ul style="list-style-type: none"> • In close cooperation with partners, a feasibility study on the interpretive centre and reclamation research facility is completed by January 2003. 	
	<p>Lead the closure of the Cape Breton Development Corporation's (Devco) operations and address outstanding liabilities.</p>	<ul style="list-style-type: none"> • Devco's operations continue to be concluded and outstanding liabilities are addressed in a timely and orderly manner (e.g., pension plans of former employees). • Land leases with the Province of Nova Scotia are concluded. • The provisions of the <i>Financial Administration Act</i> are adhered to. 	
	<p>Provide federal leadership related to the development of the Voisey's Bay project by:</p> <ol style="list-style-type: none"> (1) leading the Voisey's Bay Assistant Deputy Ministers' Interdepartmental Committee; and (2) providing relevant information and advice, including the due diligence of the financial aspects of the proposed project, to ensure informed decisions. 	<ul style="list-style-type: none"> • Advice is provided in a timely manner and reflects the public interest and the priorities and policies of the Government of Canada, in particular, the need to maintain regional equity without setting unfavourable precedents. • In cooperation with other departments, coordinate the preparation of a Memorandum to Cabinet on the Government of Canada's response to Inco's request for federal support for the project. 	

NRCan Goal #3: To provide Canadians with strategies that reduce environmental impacts in the natural resources sector.

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
<p>3.1 Limit and Adapt to Climate Change Assist Canada in addressing its international Kyoto commitment to reduce greenhouse gas (GHG) emissions.</p>	<p>Support the Government of Canada's commitment to reduce GHG emissions and the risk of climate change by:</p> <ol style="list-style-type: none"> (1) developing advanced, lightweight materials - such as high-strength steel, metal matrix composites for brake rotors, metallic foams for automotive parts and materials to be used as heat exchangers in hydrogen fuel cells - to improve the fuel efficiency of vehicles, thereby reducing energy consumption and GHG (i.e., carbon dioxide) emissions; (2) increasing the use of supplemental materials (particularly fly ash) in cement and concrete and, in collaboration with CIDA, transferring technology to produce concrete from supplemental materials to India; and (3) implementing the Minerals and Metals Program of the Government of Canada's Action Plan 2000 on Climate Change - in particular, expand recycling, the use of concrete roads and supplementary cementing materials, and knowledge of other approaches to reduce GHG emissions. 	<ul style="list-style-type: none"> • Projects are completed on time and within budget. • The number of patents granted on the new materials. • The use of lightweight and other specialized materials, and new processes, is increased in the transportation sector (i.e., manufacturers of vehicle parts and assemblers of vehicles). • Targets are reached or surpassed with regard to fees-for-service, attendance at technology transfer events, the number of industrial trials, and the rate and level of the adoption of the new technologies by industry. • Percentage of stakeholders who are aware or knowledgeable of the activities of the Minerals and Metals Program. • Cash and in-kind contributions leveraged by the Program from other federal, provincial/territorial and industrial partners. 	<p>MTL/MTB</p> <p>MMSL/MTB</p>
<p>3.2 Reduce Environmental Impacts Promote science, technology and stewardship practices that reduce environmental impacts, conserve biodiversity, and increase the efficiency of resource development and use.</p>	<p>Reduce the impacts on the environment of the production and processing of minerals and metals by undertaking research on topics such as:</p> <ol style="list-style-type: none"> (1) the prevention and treatment of effluents from mines, mills and metallurgical operations; (2) the disposal of wastes from mines; (3) the impact of metals on the environment; (4) the treatment of acidic drainage from mines; and (5) the toxicology of mine effluents. <p>In collaboration with other governments, industry and other stakeholders, address the problems associated with orphaned and abandoned mines by involving communities, gathering information and overcoming barriers to collaboration.</p> <p>Foster eco-efficiency²⁰ by:</p> <ol style="list-style-type: none"> (1) developing advanced systems to monitor and maintain oil and gas pipelines; (2) improving the properties of steel used in pipelines; (3) expanding the use of lead-free alloys in plumbing fixtures; (4) increasing the use of supplemental materials in cement and concrete; (5) improving the durability of concrete; and (6) advancing the technology to recycle metal. 	<ul style="list-style-type: none"> • Projects are completed on time and within budget. • Papers are published in refereed journals and conference or workshop proceedings. • Technical reports are completed. • Clients are satisfied as measured by formal and informal methods, and their continued participation, interest and funding. • Targets are reached or surpassed with regard to fees-for-service, patents, investment in facilities and the acceptance of new proposals, and the rate and level of adoption of new technologies by industry. • A guide to involving communities in the rehabilitation of orphaned or abandoned mines is completed. • An initial draft of a national inventory of orphaned or abandoned mines is developed. • A report on progress in overcoming barriers to collaboration and securing financing for mine reclamation projects is completed. • Projects are completed on time and within budget. • Papers are published in refereed journals and conference proceedings. • Technical reports are completed. • Targets are reached or surpassed with regard to fees-for-service, attendance at technology transfer events, the number of industrial trials, and the rate and level of the adoption of new technologies by industry. 	<p>MMSL/MTB</p> <p>MMPB MMSL/MTB</p> <p>MTL/MTB</p>

NRCan Goal #3: To provide Canadians with strategies that reduce environmental impacts in the natural resources sector. (cont'd)

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
<p>3.2 Reduce Environmental Impacts Promote science, technology and stewardship practices that reduce environmental impacts, conserve biodiversity, and increase the efficiency of resource development and use. (cont'd)</p>	<p>Lead the development of the Canadian Resource Recovery Strategy (CRRS) to increase the recovery of materials.</p>	<ul style="list-style-type: none"> • As a result of extensive consultations with stakeholders, priorities and projects are identified and support is garnered for the strategy. • The results of the consultations are available to prepare a presentation to the Cabinet Committee on Economic Union and a subsequent Memorandum to Cabinet. 	<p>MMPB</p>
	<p>Strengthen the links between science and public policy by ensuring that environmental policies are based on sound scientific information.</p>	<ul style="list-style-type: none"> • The development of regulations and guidelines on the production and processing of minerals and metals under the <i>Canadian Environmental Protection Act</i> is based on sound scientific information. • The proposed Metal Mining Effluent Regulations under the federal <i>Fisheries Act</i> are also based on sound scientific information. 	<p>MMSL/MTB</p>
<p>3.3 Safeguard the Environment Safeguard Canada's environment from the risks associated with the development and use of natural resources.</p>	<p>Promote environmental stewardship in the minerals and metals industries to ensure the sustainable use of Canada's lands by acting as:</p> <p>(1) a federal authority, responsible authority or expert department in the environmental assessments of mining projects in Canada; and</p> <p>(2) the departmental lead on the <i>Species at Risk Act</i> (SARA).</p>	<ul style="list-style-type: none"> • Stakeholders believe that MMS is fair, consistent and objective in its role as federal authority, responsible authority or expert department in environmental assessments. • With MMS's support, SARA is promulgated to ensure a strong legislative foundation that complements voluntary measures to protect species at risk and conserve their habitat. • Canadians understand that they are all responsible for protecting species at risk. 	<p>MMPB</p>

NRCan Goal #4: To provide Canadians with safety and security in the natural resources sector.

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
4.1 Public Safety and Security Promote the safe use and secure handling of explosives (i.e., explosives, propellants and pyrotechnics).	Effectively administer the <i>Explosives Act</i> and associated regulations to protect the safety and security of the public by: <ol style="list-style-type: none"> (1) classifying and authorizing the use of explosives; (2) regulating the manufacture, importation, storage, sale, transportation and possession of explosives; and (3) supervising the investigation of accidents involving explosives. 	<ul style="list-style-type: none"> • As measured by informal methods, feedback from industry on the effectiveness and efficiency of explosives regulations in Canada is positive. • The number of explosive products that are kept out of or eliminated from Canadian markets because they fail to meet Canadian standards or are deemed to be hazardous. • The number of accidents and incidents involving explosives in Canada. 	ERD/MTB
	Reorganize MMS's Explosives Regulatory Division to address both safety and security.	<ul style="list-style-type: none"> • New roles and responsibilities are defined. • Positions are staffed in a timely fashion. 	
	In response to the tragic events of September 11, 2001, enhance the security of the importation, manufacturing, transportation and storage of explosives by supporting the passage of Bill C-17 (the <i>Public Safety Act</i>) and subsequent amendments to associated regulations, including: <ol style="list-style-type: none"> (1) extensive consultations with stakeholders; (2) the introduction of certificates to possess explosives and regulations to control the use of fertilizers (such as ammonium nitrate, which can be easily used to manufacture explosives); and (3) the fulfilment of the counter-terrorism measures of a convention of the Organization of American States. 	<ul style="list-style-type: none"> • The range of stakeholders consulted. • The level of acceptance by stakeholders of the proposed controls. • The degree of compliance with the new regulations. • The impact of the new regulations on cross-border shipments of explosives and the acquisition of explosives and restricted components such as ammonium nitrate. 	
	Promote the safe use of pyrotechnics - especially in the rapidly expanding areas of fireworks and special effects pyrotechnics - by disseminating information through training sessions, publications and the Internet.	<ul style="list-style-type: none"> • As measured by surveys, clients are aware of the safe use of pyrotechnics. • Fewer accidents and incidents involving pyrotechnics in Canada. 	
	Improve the safety of workers and the public from the threat of explosives by: <ol style="list-style-type: none"> (1) improving the ability to identify, mark and detect explosives; (2) mitigating the impact of blasts from explosives on structures and the public; (3) improving the capability to measure and predict the properties and performance of explosives; (4) testing processes and products designed to improve safety (e.g., blast-resistant windows); and (5) investigating the cause of accidents involving explosives or hazardous products to prevent further accidents. 	<ul style="list-style-type: none"> • Projects and reports are completed on time and within budget. One new research program is funded each year. Results are published in journals and conference proceedings. • Projects and reports are completed on time and within budget. One or more new research programs are funded each year. Results are published in journals and conference proceedings. Clients are satisfied as measured by surveys. Recommendations are adopted. • Results are published in journals. The capability to evaluate the thermal properties of energetic materials is improved. • Clients are satisfied as measured by surveys and the renewal of contracts. Work is completed on time and within budget. The value of contracts established per year. • The causes of accidents are identified and changes to processes and procedures are implemented to prevent further accidents. 	

NRCan Goal #4: To provide Canadians with safety and security in the natural resources sector. (cont'd)

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
4.1 Public Safety and Security Promote the safe use and secure handling of explosives (i.e., explosives, propellants and pyrotechnics). (cont'd)	Test explosives, pyrotechnics and other energetic materials for authorization under the <i>Explosives Act</i> and certify equipment for use in underground coal mines and hazardous locations.	<ul style="list-style-type: none"> • Projects are completed on time. • Clients are satisfied as measured by surveys. 	CERL/MTB
	Participate in the development and harmonization of national and international standards and testing procedures to enhance safety.	<ul style="list-style-type: none"> • The use of harmonized standards and testing procedures is increased while safety is maintained. 	
4.2 Health and Safety Enhance health and safety in Canada's natural resources sector.	Enhance the health and safety of workers in underground mines by: <ol style="list-style-type: none"> (1) monitoring and controlling stress in rock formations; (2) improving the environment (e.g., air quality); and (3) improving the reliability of cables used in hoisting. 	<ul style="list-style-type: none"> • Projects are completed on time and within budget. • Technical reports are completed. • Papers are published in refereed journals and conference proceedings. • Clients are satisfied as measured by informal feedback and acceptance of reports. • Targets are reached or surpassed with regard to fees-for-service, attendance at presentations, the number of industrial trials, and the rate and level of the adoption of new technologies by industry. 	MMSL/MTB
	Administer a Canada-wide program to certify personnel, based on national standards, who apply non-destructive methods (e.g., industrial radiography and ultrasonic technology) to analyze materials.	<ul style="list-style-type: none"> • At least 600 certificates are issued each calendar year. 	MTL/MTB

NRCan Goal #5: To provide Canadians with a department that is efficiently and effectively managed.

NRCan OBJECTIVE	MMS ACTIVITY	MEASURE OF SUCCESS	PRIMARY RESPONSIBILITY
5.1 Responsible Management Manage NRCan's human and financial resources responsibly.	Continue MMS's transition to a modern, people-centred, flexible and responsive organization, and improve recruitment, retention and workplace well-being by:		MMS
	(1) achieving a more inclusive, diverse and representative work force; (2) making improvements in the area of official languages to ensure a more bilingual workplace to better serve a bilingual country; (3) implementing the departmental Learning and Career Development Strategy within MMS to ensure that the Sector's staff have the skills and knowledge to continue to develop sound policies, undertake innovative research and deliver excellent programs and services to Canadians; (4) implementing the Public Service Employee Survey (PSES) 2002 within MMS and addressing the issues raised by employees; (5) developing succession plans for executive and specialized positions to ensure orderly succession and people reaching their full potential; and (6) encouraging new employees to participate in MMS's orientation program and departing employees to complete exit interviews or questionnaires.	<ul style="list-style-type: none"> • All employees complete employment equity and diversity awareness training. • The representation of each of the four designated groups (Aboriginals, persons with disabilities, visible minorities and women) match respective labour market availability for most occupational groups within the Sector.²¹ • All executives meet the CBC linguistic commitment. • The language of work plan for the Sector is implemented and monitored. • Information and services (e.g., on-line) to the public are of equal quality in both official languages. • All employees update their learning plans each year. • All employees are permitted the time and resources to take 15 days of non-mandatory learning activities over the next three years. • Action plans are developed and implemented to address issues raised by employees. • Executive and specialized positions are filled without a disruption in programs and services. • All new employees participate in the orientation program. • New employees are satisfied with the orientation program as measured by surveys. • All departing employees complete exit interviews or questionnaires. • Based on the feedback from departing employees, measures are taken by the Sector's senior management team to improve the work environment. 	
	Promote modern comptrollership, particularly at the level of individual managers, to ensure that MMS's programs and services are delivered efficiently and effectively by:		
	(1) establishing a strong sector-wide dialogue between staff on values and ethics; (2) participating in the introduction of the departmental framework for assessing and managing risk; (3) strengthening the auditing and evaluating of MMS's programs and services to ensure the efficient and effective use of MMS's resources;	<ul style="list-style-type: none"> • One-third of staff attend values and ethics sessions. • A values and ethics framework for the Sector is established and adhered to. • Risk assessment and management are integrated into the business decisions of the Sector. • Comprehensive results-based management and accountability frameworks are completed and implemented for each new or renewed policy, program or initiative that requires supplementary funding from the Treasury Board Secretariat. 	

Endnotes

1. World exports have increased tenfold since 1950 and have consistently grown faster than GDP. Foreign investment has risen even more rapidly. Foreign exchange flows have soared to more than \$1.5 trillion daily, up from \$15 billion in 1973 when the regime of fixed exchange rates collapsed. [Back](#)
2. See http://www.worldbank.org/wbi/B-SPAN/sub_kumi_naidoo.htm. [Back](#)
3. See <http://econ.worldbank.org/pr/CivilWarPRR>. [Back](#)
4. Compendium of International Environmental Agreements - Third Edition, http://www.ec.gc.ca/international/multilat/compendium_e.htm. [Back](#)
5. See: *Canadian Environmental Assessment Act* (CEAA) recently underwent mandatory 5-year legislative review; new CEAA legislation (Bill C-9, http://www.parl.gc.ca/37/2/parlbus/chambus/house/bills/government/C-9/C-9_2/C-9_cover-E.html) has passed first reading in the House of Commons, was reviewed by Committee and referred back to the House January 2003; *Canadian Environmental Protection Act*, 1999 (CEPA <http://laws.justice.gc.ca/en/C-15.31/text.html>); and the *Species at Risk Act* (SARA, http://www.parl.gc.ca/37/2/parlbus/chambus/house/bills/government/C-5/C-5_4/C-5_cover-E.html), received Royal Assent, December 2002. [Back](#)
6. The Clean Development Mechanism (CDM), Joint Implementation (JI) and international carbon credit trading are designed to encourage technology transfer from Kyoto signatory nations to non-signatory nations with the objective of achieving cleaner production and reduced greenhouse gas emissions. [Back](#)
7. See <http://www.sustainability-index.com>. [Back](#)
8. From the Executive Summary of *Breaking New Ground: Mining, Minerals and Sustainable Development*, by the International Institute for Environment and Development and the World Business Council for Sustainable Development, 2002, ISBN: 1 85383 907 8, www.earthprint.com. [Back](#)
9. See <http://www.innovationstrategy.gc.ca/cmb/innovation.nsf/pages/index>. [Back](#)
10. See http://mmsd1.mms.nrcan.gc.ca/roundtable/home_e.html. [Back](#)
11. See <http://www.innovationstrategy.gc.ca/cmb/innovation.nsf/MenuE/KeyDocs40>. [Back](#)
12. See http://www.tbs-sct.gc.ca/mhrm-mgrh/ovhi-apps-PR_e.asp?printable=True. [Back](#)
13. See http://www.pco-bcp.gc.ca/default.asp?Language=E&Page=PCOSecretariats&sub=mpsp&doc=pmp_dma_priorities_e.htm. [Back](#)
14. Canada Centre for Mineral and Energy Technology. [Back](#)
15. See goal 3.2 for more information on science and policy linkages. [Back](#)
16. An actuator is a mechanism for moving or controlling something indirectly instead of by hand. [Back](#)
17. This activity is closely linked to the activity in section 3.1(2) of this plan. [Back](#)
18. The safe use principle recognizes that minerals and metals and their products can be produced, used, re-used, recycled and returned to the environment in a manner that is consistent with sustainable development. [Back](#)
19. The Kimberley Process refers to a series of intergovernmental meetings initiated by the Government of South Africa in May 2000 to address the illicit trade in rough diamonds. The 35 major diamond-producing, using and trading countries are participating in the process. [Back](#)
20. Eco-efficiency involves doing more with less or minimizing costs and maximizing value. In practice, eco-efficiency has three core objectives: (1) increasing the value of goods or services, (2) optimizing the use of resources, and (3) reducing environmental impacts. [Back](#)
21. The estimates of labour market availability for some designated groups within several occupational groups appear to be inaccurate. [Back](#)