ESTIMATES

Natural Resources Canada

2000-2001
Estimates

Part III – Report on Plans and Priorities

Canada

The Estimates Documents

Each year, the government prepares Estimates in support of its request to Parliament for authority to spend public monies. This request is formalized through the tabling of appropriation bills in Parliament. The Estimates, which are tabled in the House of Commons by the President of the Treasury Board, consist of three parts:

Part I – The Government Expenditure Plan provides an overview of federal spending and summarizes both the relationship of the key elements of the Main Estimates to the Expenditure Plan (as set out in the Budget).

Part II – The Main Estimates directly support the *Appropriation Act*. The Main Estimates identify the spending authorities (votes) and amounts to be included in subsequent appropriation bills. Parliament will be asked to approve these votes to enable the government to proceed with its spending plans. Parts I and II of the Estimates are tabled concurrently on or before 1 March.

Part III – Departmental Expenditure Plans which is divided into two components:

(1) **Reports on Plans and Priorities (RPPs)** are individual expenditure plans for each department and agency (excluding Crown corporations). These reports provide increased levels of detail on a business line basis and contain information on objectives, initiatives and planned results, including links to related resource requirements over a three-year period. The RPPs also provide details on human resource requirements, major capital projects, grants and contributions, and net program costs. They are tabled in Parliament by the President of the Treasury Board on behalf of the ministers who preside over the departments and agencies identified in Schedules I, I.1 and II of the *Financial Administration Act*. These documents are to be tabled on or before 31 March and referred to committees, which then report back to the House of Commons pursuant to Standing Order 81(4).

(2) **Departmental Performance Reports (DPRs)** are individual department and agency accounts of accomplishments achieved against planned performance expectations as set out in respective RPPs. These Performance Reports, which cover the most recently completed fiscal year, are tabled in Parliament in the fall by the President of the Treasury Board on behalf of the ministers who preside over the departments and agencies identified in Schedules I, I.1 and II of the *Financial Administration Act*.

The Estimates, along with the Minister of Finance's Budget, reflect the government's annual budget planning and resource allocation priorities. In combination with the subsequent reporting of financial results in the Public Accounts and of accomplishments achieved in Departmental Performance Reports, this material helps Parliament hold the government to account for the allocation and management of public funds.

As part of its ongoing efforts to streamline reporting requirements, the Treasury Board of Canada Secretariat has requested that Natural Resources Canada and ten other departments explore alternative reporting structures to this year's *Report on Plans and Priorities*. It has, therefore, exempted the department from the usual guidelines for the preparation of this report.

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Natural Resources Canada

2000-01
Estimates

A Report on Plans and Priorities

Approved

Ralph Goodale
Minister of Natural Resources Canada

Our Operating Principles

Respect, honesty, equity, fairness and integrity are the basis of our relationship with Canadian citizens, our clients and each other. NRCan's 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

We value leadership that provides a vision of the future and creates an environment of trust and respect. By example and involvement, leadership demonstrates a clear sense of direction, fosters teamwork, is accountable, and motivates and supports our organization in reaching its objectives.

People are Our Principal Strength

We work in a challenging and healthy environment that enables us to achieve our work goals and reach our full potential. We have the tools and opportunities to acquire the skills and expertise to perform our jobs, are encouraged to be innovative, and are recognized for our achievements.

Effective Planning Helps Us to Improve

We believe that planning is important in helping us to improve and in our ability to manage effectively and to measure our performance and the impact of our programs. Through continuous learning and improvement, measurement and evaluation, we deliver efficient and relevant programs that support government priorities and objectives and meet the needs of our clients and stakeholders.

Creativity and Innovation are Key to Our Future

We value and support creativity and innovation in the development of leading-edge science and technology, policies and programs, better practices and processes and improved service delivery. Creative thinking and innovative solutions help us meet the challenges we face.

The Canadian Public Interest is Paramount

We help our Minister, under law and the constitution, to serve the public good and enhance the economic, social and environmental well-being of Canada.

High Quality Service to Clients is Our Standard

We consult with our clients and stakeholders to ensure that we understand their needs and expectations, and that our programs are relevant and useful to them. In delivering the best value for the public funds entrusted to us, we seek excellence in delivering our products and services.

Effective Communication is a Shared Responsibility

We create an environment and provide the means for open, honest and transparent communication to encourage the sharing of timely information throughout our organization and with our clients and stakeholders.

Cooperation is the Foundation of Our Success

We believe cooperation is the foundation for meeting the challenges of the future. Through partnerships, teamwork and strategic alliances, we work together toward common goals both within and outside the organization.

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I Minister's Message

Ralph Goodale
Minister of
Natural Resources Canada

I am pleased to present the 2000-2001 Report on Plans and Priorities for Natural Resources Canada (NRCan).

The Government of Canada is working on building a higher quality of life for all Canadians in the rapidly changing world of the new millennium. Since becoming Minister of Natural Resources, I have been expanding an overall vision statement:

A Vision for Canada's Natural Resources Sector

As we enter the new millennium, Canada must become and remain the world's "smartest" natural resources steward, developer, user and exporter – the most high-tech, the most environmentally friendly, the most socially responsible, the most productive and competitive – leading the world as a living model of sustainable development.

The 1999 Speech from the Throne recognizes the value and importance of Canada's natural resources sector. This provides us welcome recognition of the significant contribution the sector will continue to make to our national well-being in the 21st century.

For Canada to prosper and grow, we need to develop our natural resources while protecting the health of our environment. For 3.5 million Canadians in more than 650 communities in every corner of our country – especially rural, remote, northern and Aboriginal areas – the sustainable development of natural resources is the lifeblood of their existence. It will remain a key engine of Canada's growth in the new century.

The dynamics of the new knowledge-based, technology-driven economy are present in a very real way in the natural resources sector. The brainpower, the skills, the new processes, the innovation and advanced technologies are as sophisticated as in any other sector – often more so.

If we are to find the best solutions to environmental challenges, if we are to lead the world in energy efficiency, if we are to add more value to our basic commodities before exporting them, if we are to maintain all those economic and social benefits that flow from our resources – then science, research and new technology development and deployment with respect to our natural resources will be crucial. It will also be very exciting for this and future generations.

My department will continue to pursue a future-oriented natural resources strategy for Canada which includes a focus on resource innovation, trade and investment, and solid environmental performance, notably with respect to climate change. This strategy will seek to achieve the objectives outlined in the Speech from the Throne, such as:

- building a dynamic economy for the 21st century by supporting economic growth and enhanced productivity;

- fostering innovation and the development of new technologies in the resources sector that lead to greater economic stability for rural communities and regions;

- ensuring that the resources sector has a modern and effective research and science capacity to promote the well-being of Canadians; and

- preserving the quality of the environment by adopting innovative environmental practices and technologies.

In order to achieve these objectives, we need to create momentum. We need to share information, ideas and enthusiasm. Now is the time to reach beyond our traditional stakeholders with the message that the natural resources sector is vital to sustaining and improving the qualify of life we enjoy in Canada.

I am very proud of the progress NRCan has achieved and look forward to further successes. As we continue to pursue our forward-looking natural resources strategy, I am confident that NRCan will continue to deliver the quality of services that Canadians demand from their government.

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Ralph Goodale
Minister of Natural Resources Canada

II Departmental Overview

NRCan's Mission

Natural Resources Canada provides the knowledge and expertise for the sustainable development and use of Canada's natural resources and the global competitiveness of the resource and related sectors for the well-being of present and future generations.

(Additional information can be found on NRCan's website at http://www.nrcan.gc.ca.

A. The Environment that Shapes our Business

Guiding Themes
NRCan's work is represented under two broad themes: sustainable development and good governance. As the Government's sustainable development department for Canada's natural resources, NRCan has a unique role to play in bridging economic, social and environmental issues at the federal level. Good governance is recognized as the guiding principle for providing value-for-money services to Canadians.

Sustainable Development
Canadians rely on natural resources for a high standard of living and quality of life and, at the same time, want to ensure that these resources are used efficiently in order to protect the natural environment and foster competitiveness. Balancing these interests and taking an integrated approach to economic, social and environmental issues and interests, with an eye to the welfare of future generations, poses problems and challenges – but also opens new windows of opportunity. NRCan is committed to the sustainable development of Canada's natural resources. By adopting sustainable development principles and practices, Canada will continue to use and develop its natural resources in a way that protects the health of the natural environment and landmass and ensures a legacy for the future. This approach, as stated in the Department's Sustainable Development Strategy (SDS), will lead to benefits that will include a healthier environment, increased productivity, innovation and new employment opportunities (see Section IV).

Good Governance
Canadians are concerned about the value and quality of the services they receive from their governments. As our society grows and changes, responsiveness and accountability are necessary. Jurisdiction, sound policy development, efficient program delivery, and the need to make the best possible use of limited resources all need to be taken into account. A highly-skilled workforce and commitment to improved service delivery are essential to the provision of high-quality government. Good governance is the guiding principle in areas such as protecting public health, safety and security, ensuring accountability in the management of natural

resources and the environment, fiscal responsibility, strengthening the federation, and providing public services that are responsive to the needs of citizens.

Our Partners in Change

The Department exercises good governance, using innovative ways to deliver departmental programs through partnerships and in collaboration with other federal, provincial and territorial governments and with industry and stakeholders. These partnership arrangements have produced good results in cost sharing, cost recovery and the transfer of new technology, and represent an effective and efficient way to develop and deliver science and technology (S&T) programs that aim to support Canada's progress toward sustainable development. For example, collaboration is essential in developing a knowledge infrastructure that will provide Canadians with the tools to participate in the new knowledge-based economy. By maintaining and, in some areas, enhancing a positive federal presence, NRCan and its partners are able to work together more effectively in achieving objectives in an era of resource constraints. A listing of the Department's co-delivery partners and areas of cooperation is presented on page 8.

Departmental Goals

Canada's natural resources sector faces three critical public policy challenges: ensuring that resource development and use are sustainable; remaining internationally competitive in the increasingly knowledge-based and globalized economy; and maintaining an infrastructure and business climate that attracts investment in the natural resources sector.

To remain focused on the Department's vision and mission, and to help meet these challenges, NRCan has established a structure of strategic goals, objectives and performance measures. Our five goals are:

Goal 1: To enable Canadians to make balanced decisions regarding natural resources.

Goal 2: To sustain the economic and social benefits derived from natural resources for present and future generations.

Goal 3: To manage the environmental impacts of natural resource development and use.

Goal 4: To contribute to the safety and security of Canadians.

Goal 5: To manage the Department efficiently and effectively.

NRCan's Strategic Priorities

The key objective of the 1999 Speech from the Throne is to build a higher quality of life for all Canadians. To achieve this objective, the Government identified eight principal themes: a strong and united Canada, children and youth, a dynamic economy for the 21st century, health and quality care for Canadians, the quality of our environment, building stronger communities, a stronger relationship with Canada's Aboriginal peoples, and Canada's place in the world.

NRCan's strategic priorities are closely aligned to the Speech from the Throne within the context of sustainable development and good governance. These priorities move us closer to achieving the long-term vision of the Department and the natural resources sector. They are targeted at areas where NRCan will make a difference given the significant role the natural resources sector plays in the life of Canadians and the contribution it makes to our quality of life. These areas are: climate

change, resource innovation, work opportunities, trade and investment, national consensus, and federal science and technology capacity.

The following presents NRCan's strategic priorities, their challenges, and linkages to the Department's goals and the Government's broader agenda.

Climate Change
Scientists are concerned that an upward trend in average global temperatures means that the Earth is experiencing a change in climate. In Canada, higher temperatures could mean more severe weather events like droughts, winter storms and tornadoes, flooding and erosion in coastal regions, greater risk from forest pests, diseases and fires, damage to our water sources, and negative effects on the health and well-being of Canadians.

NRCan is playing a lead role in developing the National Implementation Strategy on climate change. We have built a high standard of living on the strength of energy-intensive industries and natural resource exports. Our population, our economy and our trade are all growing. But with that growth comes more demand, more energy consumption and more greenhouse gases. Under a business-as-usual scenario, Canada's greenhouse gas emissions are expected to climb over the next ten to twelve years. Canada will need to reduce its emissions by some 26 percent to meet Canada's Kyoto commitment of six percent below 1990 levels by the period 2008 to 2012.

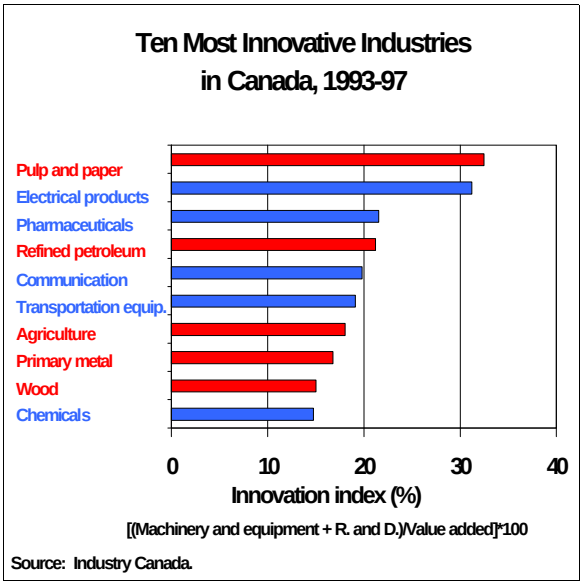
Signing the Kyoto agreement committed Canada to play its part in the world response to climate change. Under NRCan leadership, the initiatives Canadians undertake to tackle climate change are beginning our transformation to a more sustainable economy. NRCan plays a lead role with Environment Canada and the Climate Change Secretariat in managing federal initiatives under the Climate Change Action Fund (CCAF). The $300 million fund (1998-1999 to 2003-2004) includes a suite of public education and outreach projects, studies on climate change, impacts and adaptation, and the development and deployment of new climate change mitigation technologies. More details on climate change commitments can be found in Section III, Goal 3, starting on page 26.

Resource Innovation
Innovation is essential if Canada is to maintain and expand its global market share in the new international environment and to develop and market the new value-added products and services in demand around the world. Recent studies from the Organization for Economic Cooperation and Development (OECD) have suggested that Canada is experiencing an innovation gap, evident in low investment in research and development and relatively slow uptake of advanced technologies by Canadian industries.

It is important to the natural resources sector that NRCan continues to develop and deploy new technologies. Through innovation in science and technology, we can continue to expand value-added production, and we can create new business and employment, develop new markets, increase our economic and technological sophistication, protect the health and safety of Canadians and better manage the environmental impacts of natural resources development and use.

Today's resource industries rely on scientific discoveries and the use of new technologies

and processes. From 1993 to 1997, the pulp and paper industry was the leader among Canada's ten most innovative industries. Others included the refined petroleum industry, the primary metal industry and the wood industry.



In the last 15 years, six resource-based industries were among the ten leaders in productivity growth. Productivity growth in the refined petroleum industry grew at an impressive rate of 7.1 percent per year, eclipsing gains in high-tech sectors such as electronics and telecommunications. Since the early 1990s, productivity in the paper and allied industries has grown by approximately 2.5 percent per year.

In 1998, half of the leading industries in gross domestic product (GDP) per hour of labour were resource-based industries such as pipelines, petroleum and gas, gas and water utilities, quarry and sand pits, and mining. The creation of wealth per worker in the mineral and energy industries is unmatched in the Canadian economy.

Work Opportunities

NRCan is playing a significant role in facilitating the transition of rural, remote and Aboriginal communities to the knowledge-based economy, in diversifying their economic bases, and in improving their sustainability and adaptiveness. While the natural resources sector is rapidly becoming one of the most technologically skilled and knowledge-intensive industries in Canada, there are challenges in providing the rural, remote and Aboriginal resource communities with access to information**,** knowledge, technology and skills development so that they may participate in**,** and benefit from**,** decision-making about sustainable resource development.

Investment in resource-related S&T increases both skills and pay scales, and opens up new job opportunities in resource-related knowledge and service industries. Conversely, investment in technology can result in job losses in primary industries as new technologies reduce the demand for labor. The federal government is helping Canadians acquire the skills needed to use these new technologies, working in partnership with natural resources sector stakeholders.

NRCan's work opportunities initiative responds to the Government's commitment to foster a dynamic economy in the 21st century. Details on these initiatives are mostly included in Section III, Goal 2 starting on page 20.

Trade and Investment

Canada's foreign competitors are pushing hard to increase their market share in natural resources. NRCan, in partnership with Industry Canada, other government departments, and the provinces, is working

to create the conditions in which strong value-added industries can develop and prosper in Canada. While recognizing the intense competition faced by these industries in today's open trading environment, NRCan believes our producers can meet this challenge and contribute to Canada's prosperity.

The Department and its partners are developing an international trade and investment strategy to increase domestic and foreign investors' awareness of our potential and increase the ability of Canadian firms to support and service the global natural resources sector. The focus will be on small and medium-sized enterprises and the value-added sector. This strategy is intended to support the Government's broader agenda of seeking out new opportunities around the world. More information on this subject can be found in Section III, Goal 2, starting on page 20.

National Consensus

Making Canada the world's smartest natural resource steward, developer, user and exporter requires consensus and collaboration on how natural resources can best provide, to Canadians and the world, a wide array of economic, environmental and social benefits.

The Department will continue to collaborate closely with partners and stakeholders to engage Canadians in this essential dialogue. Consensus on principles, direction, and delivery for sustainable natural resource development and use continues to be the basis for enhancing existing resource-based benefits and building new opportunities in the knowledge-based economy. For example, public consultation and citizen engagement will be key factors in reaching consensus on federal action plans under the new National Forest Strategy and in bringing forward the Department's second Sustainable Development Strategy (see Section III, Goal 1, page 18 and Section IV, page 39).

Federal S&T Capacity

S&T plays a critical role in the health and well-being of Canadians, and in the country's ability to generate sustainable employment and economic growth. In this context, the government has outlined an approach to S&T, policies and programs that recognize the need to develop a national system of innovation, as well as partnerships and collaboration. There are a number of challenges to ensuring that federal S&T meets government needs and moves in the directions outlined in the Federal S&T Strategy. These challenges include: examining existing management practices; reviewing government capacities to deliver S&T (human resource issues, particularly recruitment, rejuvenation and retention); fostering collaboration among departmental science and policy communities to better integrate science advice in government decision-making; partnerships among federal science departments; and communicating and increasing the availability of information to Canadians.

NRCan allocates two thirds of every dollar it spends to S&T activities. We are committed to enhancing our science, policy and program capacity, and to upgrading our laboratory equipment and facilities. Details on departmental commitments can be found throughout Section III. For more information on NRCan S&T programs, consult our website at http://www.nrcan.gc.ca/dmo/spcb/stlinks/st_links_e.htm.

Key Co-Delivery Partners	Areas of Cooperation
Other Government Departments (OGDs)/Agencies • Agriculture and Agri-Food Canada • Canada Mortgage and Housing Corporation • Canadian International Development Agency • Climate Change Secretariat • Environment Canada • Finance Canada • Fisheries and Oceans Canada • Foreign Affairs and International Trade Canada • Health Canada • Human Resources Development Canada • Indian and Northern Affairs Canada • Industry Canada • Justice Canada • National Defence • National Research Council • Public Works and Government Services • Revenue Canada • Transport Canada **External** • Aboriginal Organizations • Academia • Industry • Non-Government Organizations • Provincial/Territorial/Municipal Governments • United Nations Agencies **Portfolio** • Atomic Energy Control Board • Atomic Energy of Canada Limited • Canadian Wheat Board[1] • Cape Breton Development Corporation • National Energy Board • Newfoundland and Nova Scotia Offshore Petroleum Boards	**Goal 1 - To enable Canadians to make balanced decisions regarding natural resources.** • sharing of knowledge • cooperation and consensus building • technology transfer • long-term research • development and implementation of policies, acts and fiscal, regulatory and voluntary approaches **Goal 2 - To sustain the economic and social benefits derived from natural resources for present and future generations.** • generating economic and social benefits • developing centres of excellence • expanding access to international markets • increasing Aboriginal and northern community capacity **Goal 3 - To manage the environmental impacts of natural resource development and use.** • climate change strategies and projects • technologies and stewardship practices • energy efficiency and effectiveness • help safeguard Canada's environment **Goal 4 - To contribute to the safety and security of Canadians.** • safeguarding Canadians from natural and man-made hazards • spatial positioning, mapping and boundary maintenance • safe use of explosives and pyrotechnics • enhancing safety and security in Canada's natural resource sector

[1] The Canadian Wheat Board is part of the Minister's portfolio but is not a co-delivery partner.

B. Chart of Key Results

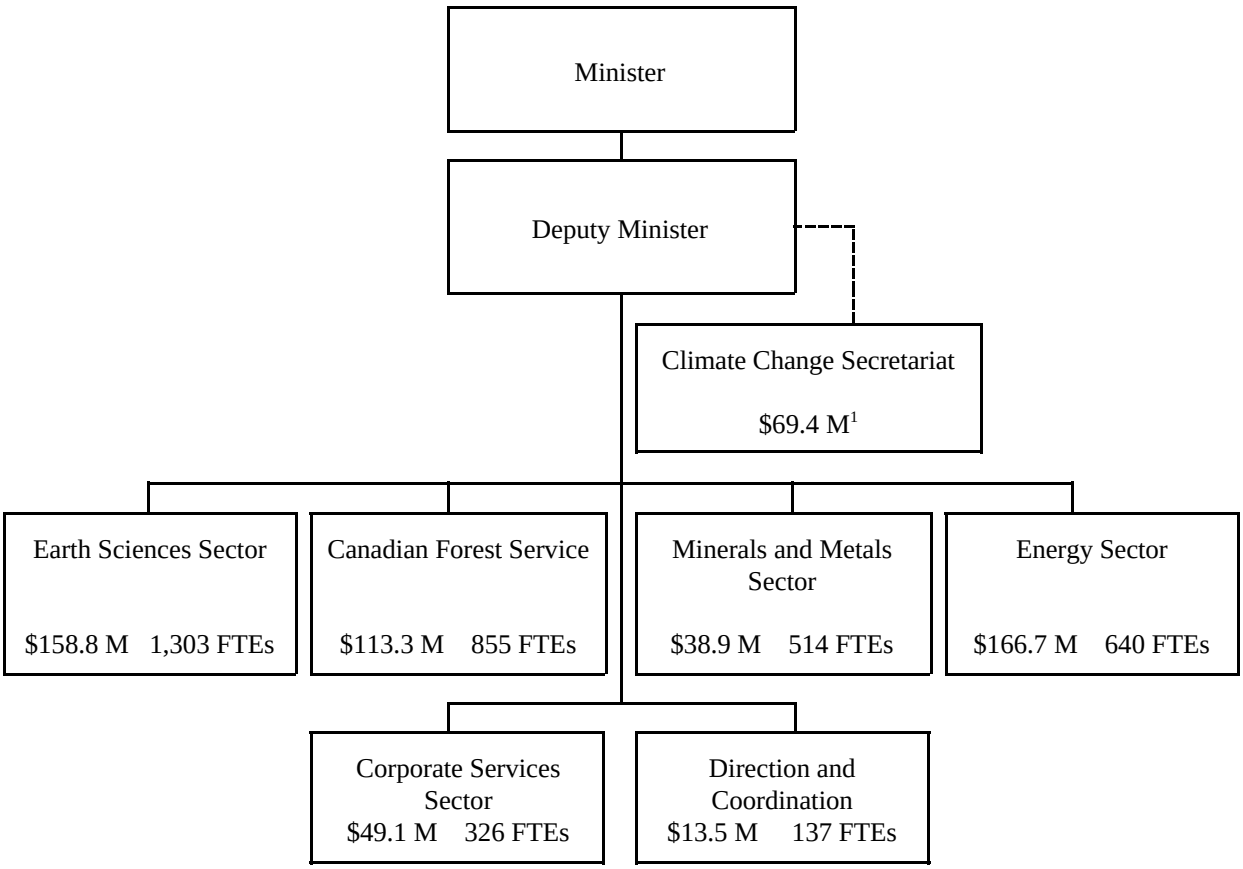
This Chart of Key Results consists of goals and objectives representing the basis for the Department's Planning, Reporting and Accountability Structure, Performance Measurement Framework, Sustainable Development Strategy and Departmental Performance Report. Anticipated accomplishments under these goals and objectives can be found in Section III of this report.

Goals	Objectives
1. To enable Canadians to make balanced decisions regarding natural resources. *Planned spending for 2000-2001: $152.5 million*	• Creating 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. • Promoting greater national and international cooperation and consensus on sustainable development issues, policies, goals and actions. • Developing and promoting fiscal, regulatory and voluntary approaches that encourage the sustainable development of natural resources.
2. To sustain the economic and social benefits derived from natural resources for present and future generations. *Planned spending for 2000-2001: $173.1 million*	• Creating economic opportunities and encouraging investment in innovative and higher-value uses of natural resources. • Maintaining and expanding access to international markets for Canadian resource-based products, knowledge, technologies and services. • Building the capacity of Aboriginal, rural and northern communities to generate sustainable economic activity based on natural resources.
3. To manage the environmental impacts of natural resource development and use. *Planned spending for 2000-2001: $257.9 million*	• Helping limit and adapt to climate change. • Promoting science, technology and stewardship practices that reduce environmental impacts, conserve biodiversity, and increase the efficiency of natural resource development and use. • Safeguarding Canada's environment from the risks associated with natural resource development and use.

Goals	Objectives
4. To contribute to the safety and security of Canadians. *Planned spending for 2000-2001: $35.5 million*	• Safeguarding Canadians from natural hazards. • Maintaining a national framework for spatial positioning, mapping and boundary maintenance. • Promoting the safe use of explosives and pyrotechnics. • Enhancing safety and security in Canada's natural resource sector.
5. To manage the Department efficiently and effectively. *Planned spending for 2000-2001: $47.7 million* (includes the central management of departmental facilities)	• Managing NRCan's resources responsibly. • Continuously improving NRCan products, services and operations. • Using leading-edge environmental management tools and practices for NRCan operations. • Reducing wastes from NRCan operations. • Increasing the efficiency of energy and other resource use in NRCan operations. • Promoting the use of goods and services that are eco-efficient.

C. Accountability

The Deputy Minister of Natural Resources Canada is accountable for the achievement of the results and goals identified in this document. The Assistant Deputy Ministers and Corporate Directors General are accountable to the Deputy Minister for the delivery of the anticipated results within their assigned areas of responsibility.



The **Climate Change Secretariat**, in cooperation with the provinces and territories, coordinates the development of the National Implementation Strategy on Climate Change, acts as a focal point for developing the federal government's domestic policy and programming on climate change, and manages the Climate Change Action Fund. The Secretariat reports to the Deputy Ministers of NRCan and Environment Canada.

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[1] The Climate Change Secretariat (CCS) coordinates the allocation of resources from the Climate Change Action Fund. The funds are allocated as follows: $51.9 million in NRCan, $12.5 million in Environment Canada and $5 million in Industry Canada. In 2000-2001, NRCan will undertake an evaluation study to address the issues identified in individual Climate Change Action Fund (CCAF) frameworks, as well as the accountability and coordination mechanisms in place among the CCS, the CCAF's activities, and other participants in the program. NRCan will also audit the management of the fund to ensure the funds and program are managed cost-effectively.

The **Earth Sciences Sector** provides the comprehensive geoscience and geomatics knowledge base to support public sector activities in Canada and investment decisions and operations by the Canadian private sector at home and overseas. It extends logistics support to Arctic science through the Polar Continental Shelf Project. Geomatics Canada provides geographical information, topographic maps and aeronautical charts, legal surveys of Canada Lands, geodesy for accurate positioning, and applications of remotely sensed earth observation data. Through the Geological Survey of Canada, the Sector provides the framework for mineral and petroleum exploration and helps Canadians mitigate the impact of hazards such as earthquakes and toxic substances in the environment.

The **Canadian Forest Service** promotes the sustainable development of Canada's forests and the competitiveness of the Canadian forest sector for the well-being of present and future generations of Canadians. As the premier forestry science and technology (S&T) research and national policy coordination agency in Canada, the Canadian Forest Service plays a pivotal role in building a consensus on key forest issues, shaping national and international forest agendas, and generating and transferring knowledge through its world-class forestry research. Its policy development and S&T research programs are delivered through a headquarters establishment and ten national science research networks operating out of five forestry research centres located across Canada.

The **Minerals and Metals Sector** promotes the sustainable development of Canada's minerals and metals resource industries by integrating economic, social and environmental objectives. It provides policy advice, S&T, and commodity and statistical information to support decision-making. It is also the federal government's primary source of expertise on explosives regulations and technology. The Sector promotes globally the safe use of minerals and metals, as well as the application of sound science to decisions involving minerals and metals, and facilitates the development of domestic and international partnerships to address important challenges concerning the responsible development and use of minerals, metals and their products.

The **Energy Sector** fosters the sustainable development and responsible use of Canada's energy resources to meet the present and future needs of Canadians. It focuses on S&T, policies, programs, knowledge and international activities in the areas of energy efficiency, renewable energy, alternative transportation fuels, and conventional energy to further sustainable development. Through its work, the Sector helps address the climate change challenge, promotes better environmental and consumer choices, contributes to technical innovation, job creation and economic growth, facilitates environmental protection and increased public safety and security, and helps to ensure competitively-priced, reliable and secure energy supplies for Canadians.

The Corporate Services Sector provides central financial, administrative, information management, real property and human resource services.

Direction and Coordination provides services to the Department's Executive Offices as well as strategic planning and coordination, legal, communications, and audit and evaluation services.

D. Financial Spending Plan

(millions of dollars)	Forecast Spending 1999-2000	**Planned Spending 2000-2001**	Planned Spending 2001-2002	Planned Spending 2002-2003
Budgetary Main Estimates (gross)	563.0	**630.6**	580.6	565.7
Less: Respendable Revenue	38.5	**39.5**	38.8	39.0
Budgetary Main Estimates	**524.5**	**591.1**	**541.8**	**526.7**
Non-Budgetary Main Estimates	39.4	**7.8**	-	-
Total Reference Levels	**563.9**	**598.9**	**541.8**	**526.7**
Adjustments to Planned Spending[1&2]	122.8	**67.8**	88.3	74.1
Sub-total Planned Spending	**686.7**	**666.7**	**630.1**	**600.8**
Less: Non-respendable revenue	2.0	**12.1**	12.6	12.6
Plus: Cost of Services received without charge	27.6	**22.5**	22.5	22.5
Total Planned Spending	**712.3**	**677.1**	**640.0**	**610.7**
Full-Time Equivalents (FTEs)[3]	**3,736**	**3,775**	**3,748**	**3,745**

1 Reflects the best forecast of total planned spending to the end of the fiscal year.

2 Adjustments reflect items approved in the 1999-2000 Supplementary Estimates (A) and (B) (including amounts reprofiled from 1999-2000 to future years) and announcements made in the 2000 Budget Speech. For example, NRCan will provide $62.5 million in 1999-2000 for community initiatives, $50 million in 2000-2001 for the Sustainable Development Technology Fund (SDTF), and an additional $60 million in each of 2001-2002 and 2002-2003 for the Climate Change Action Fund and energy efficiency initiatives.

3 Human resources consumption reported in this document is measured in terms of employee full-time equivalents (FTEs). This is a measure based on the amount of time normally worked by a person during a 12-month period. The FTE takes into account the utilization of full- and part-time workers.

III Anticipated Results and Resources

Introduction

This section summarizes NRCan's anticipated results by the Department's five goals and supporting objectives. Its structure is based on NRCan's Planning, Reporting and Accountability Structure (PRAS) which was approved by Treasury Board on August 25, 1999.

As one of eleven pilot departments for this year's Report on Plans and Priorities, the Department has opted to present its anticipated results in the form of an integrated policy-science storyline over the planning period. This storyline reflects the horizontal management of the Department, presents examples of key anticipated results that support its five goals, and integrates information from planned reviews and regulatory/legislative initiatives. Information about anticipated results not appearing in this report can be found on the various web sites shown on pages 55-57 and is also available within sectors as part of their business and operational plans.

NRCan's anticipated results will be delivered in collaboration with other federal departments, provincial governments, industry, academia and key stakeholders (see page 8). Associated costs have been factored into the storyline, where available.

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Goal 1

To enable Canadians to make balanced decisions regarding natural resources

Planned Spending for 2000-2001: $152.5 million

Operating Environment and Importance

Sustainable development is about balanced decision-making that takes into account the views of all levels of government, non-government organizations, industry, and local communities. The Department's contribution to this challenging dynamic is its ongoing pursuit of knowledge through its world-class scientific research, policy and program initiatives along with a strong commitment to excellence and information sharing. Our goal is to help Canadians achieve a better understanding of the evolving and complex nature of the economic, environmental and social factors affecting Canada's natural resources development and use, and to integrate these in

a form that permits balanced decision-making. NRCan is strongly committed to the development and expansion of its science, technology, program and policy knowledge base, integrating and re-shaping its information holdings, and giving Canadians a way of accessing these holdings in a user-friendly manner.

As Canada's premier department in leading-edge natural resources research, and through advancements in technology, NRCan pursues different delivery mechanisms in getting its information out to Canadians. NRCan views technology, and in particular, the development and use of the information highway, as an opportunity to pursue public education and outreach programs in Canadian communities, and advance the departmental roles of: shaping Canada's national and international natural resources agenda; generating and transferring knowledge; building consensus; and promoting fiscal, regulatory and voluntary approaches that encourage the sustainable development and use of Canada's natural resources.

****

1.1 Easily Accessible and Integrated Knowledge – *creating 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*

"By 2004, our goal is to be known around the world as the government most connected to its citizens" (Speech from the Throne, 1999). In support of this direction, NRCan is committed to integrating and sharing its information holdings and knowledge and to ensuring that clients have a single window access to public information on natural resources through its knowledge management initiatives.

ResSources is about enabling Canadians to obtain current and relevant world class data on Canada's landmass and natural resources, and the economic, environmental, and social dimensions of their use. By fall 2000, its Discovery search engine will enable users to search hundreds of databases across all 160 departmental servers, as well as new knowledge inventories that will come online in the future (http://ressources.nrcan.gc.ca).

Equally important will be the continued management and refinement of sector-specific databases based on client and legislative needs. SoftAccess, as well as a series of interactive web sites, will continue to be extended to provide integrated minerals and metals information to national and international stakeholders; the National Energy Use Database will continue to provide key information on energy use and energy efficiency to help Canadians address climate change; CORDlink, a collaborative geoscience knowledge network, will become an Internet-based digital library system that will deliver complex geological knowledge customized to meet the needs of scientific and industry experts and the general public; and with a combined estimated expenditure of $1.85 million over the planning period, the National Forest Database, State of Canada's Forest annual report to Parliament and the development of the National Forest Information System will ensure up-to-date forest science and policy information.

Increased access and use of geospatial information has a growing impact on Canadian society as we become more technology driven. Through the development of GeoConnections (http://cgdi.gc.ca), a national partnership initiative for which $30 million has been allocated over the planning period, NRCan and other government departments (OGDs) and agencies will provide geospatial information to Canadians for areas such as 911 response disaster management, climate change, property mapping and environmental assessments. Important milestones for 2001 include: (i) a common window Internet access infrastructure; (ii) the establishment of inter-governmental accords on the development, implementation and sharing of geospatial information; and (iii) the establishment of national geospatial framework data to simplify data integration.

Over the planning period, NRCan will conduct a study of *ResSources* to assess how the Department delivers its products and services; it will also develop performance frameworks for *ResSources* and GeoConnections to help identify key measures and expected results.

NRCan's knowledge-based initiatives also incorporate the transfer of knowledge and technologies to stakeholders and users. For example, through the technology transfer activities of NRCan's Mine Environment Neutral Drainage (MEND) 2000 Program, a further reduction in the environmental liability of acidic drainage in Canada is expected. This will build on the success of the original MEND which helped Canadian mining companies and provincial and federal departments reduce the liability due to acidic drainage by at least $400 million – an impressive return on an investment of $17.5 million over 8 years.

BEFORE MEND 2000:
acid tailings in the Eastern Townships, Québec

AFTER MEND 2000:
water cover as a rehabilitation for the same site

As a key partner in GEOIDE (a national centre of excellence in geomatics research), the Department will be funding six geomatics and geoscientific initiatives including fourteen universities for wetland monitoring, high resolution satellite data for mapping, precision farming methods and coastal zone management systems ($200 thousand annually).

NRCan will continue to assess land management practices and the impact of climate change on the sustainable use of natural resources based on a variety of S&T and socio-economic research products including for example: models, tools, forestry impact studies, and criteria and indicators for sustainable forest

management. A similar approach for measuring sustainability is also being developed for the energy and minerals and metals sectors.

1.2 Cooperation and Consensus are Key to Sustainable Development – *promoting greater national and international cooperation and consensus on sustainable development issues, policies, goals and actions*

The first step in preparing national and international responses to challenges is to secure a broad base of cooperation and consensus among stakeholders on how best to meet those challenges. Consensus on sustainable development will be important in making progress and building new opportunities in the knowledge-based economy.

One such initiative will be the National Implementation Strategy (NIS) on Climate Change which will be presented to the Ministers of Energy and the Environment in the spring and fall of 2000. The strategy, developed by the federal government, the provinces and stakeholders, will detail how Canada can most cost-effectively reduce its greenhouse gas emissions and get on a path to achieving our Kyoto commitment without asking any region to bear an unreasonable burden. As well, the NIS will provide a framework for delivering essential knowledge on climate science, the impact of climate change on Canadians, and the adaptations needed to respond. More detailed initiatives are highlighted under Objective 3.1 of this section.

Did You Know?

Under the Climate Change Action Fund (CCAF), the Technology Early Action Measures Initiative (TEAM) provides an excellent demonstration of the cooperative engagement of federal expertise and resources across federal departments.

NRCan has a responsibility to share its expertise and knowledge among governments, the private sector and non-government organizations, to demonstrate Canadian leadership and to promote the sustainable development of the natural resources sector internationally. In this context, NRCan will participate in a number of conferences and workshops such as Mining Millennium 2000 in spring 2000, as well as host both the fifth annual Mines Ministers of the Americas Conference and Canada's second National Energy Efficiency Conference in October 2000 ($800 thousand for the energy conference).

By 2001, a renewed Intergovernmental Geoscience Accord will ensure the ongoing delivery of efficient federal, provincial and territorial collaborative geoscience programs and studies. The Accord will address regional priorities and will contribute to a better quality of life for Canadians by providing them with the knowledge to evaluate resource potential for land-use planning, and to avoid or reduce risks from natural hazards. In addition, a new five-year federal, provincial and territorial cooperative project to acquire Landsat 7 satellite imagery for the production of topographical mapping will be an integral part of the delivery of geomatics knowledge to Canadians.

Accurate information is critical to the sustainable use of Canada's freshwater resources. In this context, a national program to map aquifer architecture and model water flows for addressing national and international water supply issues will be established with partners over the planning period. Remote sensing information, collected through RADARSAT data, will also contribute to the mapping and monitoring of water resources.

NRCan is committed to demonstrating Canada's progress towards sustainable forest management. In April 2000, Canada (NRCan) will release its first national report on sustainability using indicators for sustainable forest management; in collaboration with 11 partnering countries involved in the "Montreal Process", it will also release a progress report on the implementation of the international Criteria and Indicators (C&I) framework during the 8th session of the United Nations Commission on Sustainable Development (UNCSD). The international C&I report will also be released at the 12th World Forestry Congress in Quebec City, 2003 – a $10 million four year initiative co-sponsored by NRCan and the Quebec Ministry of Natural Resources. NRCan will contribute an estimated $1.75 million over the four year period.

In pursuing Canada's commitment toward sustainable forest management, the *Action plans of the federal government in response to the National Forest Strategy - Sustainable Forests: A Canadian Commitment, 1999* will be implemented. It consists of 79 action plans prepared by some 20 federal departments and agencies. A mid-term evaluation of the strategy will be undertaken in 2000 by an independent body ($1 million over 5 years).

As Canada's Model Forest Program completes its third year of Phase II, its successes in developing effective approaches to sustainable forest management are becoming widely recognized. This will continue to be further demonstrated within the program's ongoing, aggressive outreach activities underway for the coming year. During the 4th year, an evaluation of the program and of each site will be completed as part of the overall program assessment and planning.

Did You Know?

As part of the Bas-Saint-Laurent Model Forest partnership, 26 forest tenant farms were established, bringing in as many families and more than $1 million in yearly income in two rural communities. With the collaboration of a large industrial owner, the Model Forest demonstrated the concept of forest tenant farmers as a means to achieve sustainable forestry through enhancing the forest ecosystem while bringing innovative economic and social benefits to a rural region.

NRCan will continue to push for the establishment of a legally binding international forest convention in an effort to integrate the different components of international forest debate under one international governance structure, establishing common rules for sustainable forest management and the associated trade. An international consensus favoring a convention would mark a turning point in promoting a level playing field for industry as well as providing a fair chance for the economic stability of forest dependent communities in a sustainable environment. This was discussed during the 1999 Costa

Rica-Canada Initiative which provided a neutral forum for 134 countries and interested parties to express their views on this issue. The Intergovernmental Forum of Forests is expected to table its recommendations in this respect at the April 2000 UNCSD meeting.

1.3 Fiscal, Regulatory and Voluntary Approaches – *developing and promoting fiscal, regulatory and voluntary approaches that encourage the sustainable development of natural resources*

If Canadians are to play a meaningful role in making sustainable development decisions, NRCan has a responsibility to make an efficient choice of policies, programs and instruments available. NRCan, in cooperation with the interdepartmental and intergovernmental working groups on regulatory reform for mining, is compiling an inventory of practices related to environmental assessments with a focus on mining. For example, NRCan is currently involved, as a responsible authority, in the Voisey's Bay Mine and Mill Project, the Diavik Diamonds Project and the Prosperity Gold-Copper Project at Fish Lake. This will provide NRCan the opportunity to advance regulatory efficiency for mining and to strengthen its role as federal facilitator for mineral development projects also located south of 60 degrees North latitude.

As tax treatment is a key component of our investment climate, NRCan will continue to work with Revenue, Finance and Justice Canada in the administration of Canada's resource taxation regime. The Department will continue to provide the technical basis for clear interpretation of tax provisions in federal statutes, assist in eliminating ambiguities in tax legislation, and provide expert advice in situations where litigation becomes necessary.

A regulatory framework for the development of offshore minerals must be founded on strong scientific information and on an understanding of the geology of Canada's coastal and offshore regions. Over the planning period, NRCan will investigate the possibility of establishing an offshore mineral management regime with partners under the Offshore Minerals Management Initiative. The Department will also conduct research to provide the baseline information required to understand the seabed, its processes and stability for possible environmental constraints to development.

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Goal 2

To sustain the economic and social benefits derived from natural resources for present and future generations

Planned Spending for 2000-2001: $173.1 million

Operating Environment and Importance

The natural resources sector is a cornerstone of our economy – integral to job creation and community development. About 650 rural, remote and Aboriginal communities are home to more than 3.5 million Canadians who rely on the energy, forests and minerals and metals industries for their economic well-being. Direct and indirect employment accounts for almost 1.5 million jobs, thus providing a major source of economic opportunity.

A world-wide emergence of socio-economic trends and issues are creating new opportunities as well as challenges. These are: changing producer and consumer behavior patterns through advancements in technology and "green consumerism"; the expansion of freer trading zones in North America and Europe; the emergence of lower-cost competitors in Canada's traditional export markets; and, increasing public involvement in natural resources decision-making.

In response to these issues, NRCan, in collaboration with clients and stakeholders, is focusing on three primary challenges. It is working to demonstrate that Canada's natural resources are being managed responsibly so that Canada can enhance its trading position and maintain its national and international reputation as a world leader in sustainable development; it is working to enhance industry competitiveness in a global economy through market diversification and in the development of innovative products; and it is providing support to rural and Aboriginal communities in the form of programs and targeted projects designed to enhance their economic and social well-being.

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2.1 Economic and Social Benefits – *creating economic opportunities and encouraging investment in innovative and higher-value uses of natural resources*

NRCan recognizes that expert S&T, policy advice and innovation are essential if Canada is to maintain and expand its market share in the global economy. In this context, the Department will work with the natural resource industries to enhance their competitiveness while maintaining a strong thread of environmental responsibility.

For example, a project to develop electro-hydraulic drilling equipment for narrow-vein mining operations is expected to save about 33 percent in energy use, reduce vibration and reduce the level of noise by about 10 decibels; this technology will be manufactured in Canada for the North and South American markets where sales may exceed 2000 drills a year ($600 thousand for 2001); in addition, the 3-year $2.5 million Narrow Vein Mining Research Program will identify the potential of automating the extraction of gold from narrow veins in order to reduce mining costs and remove operators from potentially hazardous mining conditions.

Given that current diesel-powered vehicles are responsible for 90 percent of underground handling of ore production, NRCan is developing a technology that uses hydrogen fuel cell power as an alternative to diesel fuel in mining operations. This innovative technology has the potential of significantly reducing the mining sector's carbon dioxide emissions, decreasing mine ventilation costs and significantly improving vehicle productivity (i.e., hydrogen fuel cell power systems are twice as efficient in delivering power as compared to conventional diesel equipment); six projects, the first of which is an underground locomotive, are planned to address the cost-benefit, safety and utilization standards as well as vehicle design and testing issues ($18 million for the six projects - NRCan $225 thousand - cost recovery anticipated).

NRCan will continue to provide funding to Forintek Canada Corp. to conduct R&D for value-added wood products. The technical data developed from this program is made available to small- and medium-sized enterprises through provincial technology transfer programs in the provinces of British Columbia and Quebec. Research information from this program has facilitated the decision of a small Quebec company to invest $20 million to build a new plant producing engineered wood products which, once operational, will employ 50 people.

Growing Canadian and U.S. demand for oil products provides Canada with a unique economic opportunity given its bitumen, heavy oil and conventional oil resources. In order to extend and diversify Canada's offshore oil and gas production and the conversion to refined petroleum products, NRCan will invest $9.3 million annually (industrial and provincial partners $10.3 million annually) in S&T that could result in a 250,000 barrels per day increase in the production and export of bitumen, and a 10 percent reduction in greenhouse gas emissions by the year 2010.

Did You Know?

Plans to expand oil sands bitumen and extra heavy oil (XHO) production will double Canadian synthetic crude oil and XHO production, making it equivalent to today's total for Canadian crude oil. However, without upgrading, quality constraints limit their value and ability to compete in export markets. Through the work of the National Centre for Upgrading Technology (NCUT) federal-provincial-industry consortium, these resources will be upgraded. Estimated gross potential benefits, based on results already achieved by one of NCUT's three programs, will exceed $600 million to Canada over the long term.

NRCan's geoscience maps and associated knowledge underpin the sustainable development of natural resources. Recognizing the importance of this work, NRCan has been allocated $15 million, over

the planning period, to ensure that Canada's geological information infrastructure continues to be state-of-the-art. This initiative is part of the Department's resource innovation strategy.

Under the National Geoscience Mapping Program (NATMAP), scientific results from projects in the Northwest Territories (NWT), Nunavut, Western Canada, Ontario, Manitoba, Quebec and Atlantic Canada will provide critical information for mineral, oil and gas development and exploration, for agricultural and forestry industry issues (i.e., crops and drought) and address watershed land uses.

Did You Know?

Information resulting from geological maps and studies published in the 1970s is now leading to important gas discoveries at Liard in southwestern NWT, and in multi-billion dollar investments in gas pipeline extensions.

Current studies being carried out in the NWT will provide further breakthroughs in the understanding of the origin and evolution of the earth. For example, scientific results from previous studies have already stimulated exploration of diamond-bearing kimberlites resulting in the discovery of the Ekati mine which has created over 600 new jobs.

The 3-year EXTECH III initiative (Exploration, Science and Technology) will build on the success of EXTECH II by potentially reinvigorating investment in gold exploration and development in the Yellowknife Belt (NRCan $250 thousand annually with equal combined contribution from the Government of the Northwest Territories and Indian and Northern Affairs Canada (INAC). Release of comprehensive results under the EXTECH II Initiative stimulated exploration investment in Bathurst, New Brunswick by an estimated $10 to $15 million.

The implementation of a new seismic imaging technique, currently under development with Canadian mining companies and universities, could provide a technological breakthrough in base metal mineral exploration in Canada. The goal is to better target mineral deposits at depth, rather than relying on expensive surface drilling. This technique could potentially reduce the number of exploration boreholes by 50 to 80 percent, while substantially increasing the success rate of discovering new mineral deposits (NRCan and industry $105 thousand each).

The Department will continue to support programs for solar and other emerging renewable energy sources. In support of job creation, the $5.3 million Renewable Energy Deployment Initiative (REDI) will offer incentives and will support S&T and marketing efforts to accelerate the deployment of relevant technologies. NRCan anticipates that the initiative will provide the momentum for 20 to 30 new private and public sector projects on renewable energy.

In consultation with the Minister of Finance, the Minister of NRCan will oversee a process to privatize the operations of the Cape Breton Development Corporation (DEVCO). Final approval of any sales agreement, expected to be completed in 2000, will require the approval of DEVCO's Board of Directors. DEVCO will require legislative authority from Parliament to sell all its assets.

In addition, the Department and the Atlantic Canada Opportunities Agency/Entreprise

Cape Breton Corporation will implement a strategy for investing and delivering an approved $68 million of federal funding for economic development in Cape Breton.

2.2 Expanded Access to International Markets – *maintaining and expanding access to international markets for Canadian resource-based products, knowledge, technologies and services*

The Speech from the Throne stated that "In the knowledge-based economy, the advantage goes to countries that are innovative, have high levels of productivity, quickly adopt the latest technology, invest in skills development for their citizens, and seek out new opportunities around the world". In support of this statement, NRCan and its partners are developing an international trade and investment strategy to increase domestic and foreign investors' awareness of Canada's natural resources potential and increase the ability of Canadian firms to support and service the global natural resources sector. The focus of the strategy will be on SMEs and the value-added sector. For example, the Minister's February 2000 China, South Korea and Japan Mission, included 70 companies who laid the groundwork for new long-term business partnerships with some of the most potentially dynamic economies in the world.

To strengthen exports of Canadian mining environmental technology and standards, NRCan will implement year 3 of the Environmental Capacity Building Project in Guyana. This 4-year, $3.75 million project is financed by the Canadian International Development Agency (CIDA). A similar 4-year project, scheduled to start in fall 2000, will take place in Zambia (CIDA - $4 million). The Department will also collaborate with a Brazilian mining research organization on mine site rehabilitation work (CIDA - $1 million). NRCan anticipates cost recovery for these projects.

It is estimated that a departmental presence in Buenos Aires should increase business opportunities for Canadian companies in geomatics and geoscience technology in South America by $30 million over the planning period. Furthermore, expansion into the Asian market is anticipated with the opening of a Canadian trade post in Singapore in August 2000 with estimated equal business opportunities. Upcoming missions to Iran and Mexico with participating Canadian companies will also seek new opportunities to promote and expand these technologies. These missions are beneficial to strengthening Canada's geomatics exports. For example, the Department is completing a $9 million mapping project in Saudi Arabia with industry, and is currently seeking projects with potential benefits to Canadians over $10 million for contracts in Mozambique and Tunisia.

Did You Know?

Research performed by NRCan on behalf of the Canadian Coal Research Association contributed to the survival of the Canadian coking coal industry and resulted in increased coal exports of $140 million annually.

NRCan will contribute to the resolution of domestic and international trade disputes in order to create an environment that is conducive to investment and trade. Through its work in various international fora such as the Asia-Pacific Economic Cooperation (APEC), the Hemispheric Energy Initiative, and the World Trade Organization (WTO), the

Department will advance free market principles and level the playing field for Canadian companies wishing to invest or do business abroad. For example, NRCan has developed the Canadian position toward the immediate elimination of burdensome trade barriers (i.e., tariff and non-tariff barriers upon accession for potash and sulphur in multilateral trade agreement for China's accession to the WTO). In this particular context, NRCan will contribute relevant S&T to the development of international metals classification criteria.

2.3 Increased Community Capacity – *building the capacity of Aboriginal, rural and northern communities to generate sustainable economic activity based on natural resources*

The natural resources sector is a major employer, providing direct and indirect jobs for almost 1.5 million Canadians. Rural, northern and Aboriginal communities, in particular, depend greatly on resource development. NRCan recognizes the importance of strengthening the natural resource base and the capacity of these communities to participate in new resource sector opportunities and initiatives.

As First Nations prepare to assume increasing land management authorities under self-government agreements, NRCan will fulfil its responsibilities under the *Canada Lands Surveys Act* by providing legal surveying courses in partnership with community colleges. These will assist Aboriginal communities in providing technical and support services associated with land management.

By 2001, a strategy for developing a partnering framework and action plan for Aboriginal Participation in Sustainable Mineral Development will be launched. This initiative will enhance and increase the number of Aboriginal and mineral industry partnerships.

NRCan will continue to provide coordinated cost-effective support in the Arctic through the Polar Continental Shelf Project. Over the next three years, an estimated 450 research programs will be supported to advance science research in the North. This research is critical to addressing Canada's environmental, social and economic dimensions of sustainable development ($5.5 million).

Polar Continental Shelf Project
Resolute Base, Nunavut

As the First Nation Forestry Program (FNFP) completes its 4th year, NRCan and Indian and Northern Affairs Canada will be developing direction and opportunities for the future of the program beyond 2001, building on the strengths of the first five years. In addition, NRCan will be making efforts to expand the scope of current Aboriginal outreach initiatives to include forest-based economic development opportunities for Métis and off-reserve Aboriginals. In this context, the Department will be exploring the possibility of

developing a program framework in collaboration with OGDs and Métis communities.

Did You Know?

Since 1996, the FNFP has enhanced the capacity of First Nations to operate and participate in forest-based businesses, increased the opportunities for working experience and acquired skill in forestry (32,000 person weeks of employment), levered $27.8 million for a federal investment of $14.6 million, held 32 training workshops and conferences, prepared 99 business plans and 45 management plans, and enhanced the capacity of First Nations to sustainably manage reserve forests.

NRCan will promote the growth of the renewable energy industry by facilitating access to markets where renewable energy technologies are cost competitive, such as remote communities. The RETScreen™ Software, downloadable free from the Internet and accessed by 5,000 users in 136 countries, allows for the reduction of costs, time, risks and errors associated with preparing renewable energy project pre-feasibility studies. The 2000 version will include new modules on solar air heating, biomass heating, wind energy and small hydro, as well as considerations of greenhouse gases.

As part of its Work Opportunities Initiative, NRCan is developing a Community Capacity Building Strategy in partnership with all levels of government, Aboriginal groups, volunteer organizations and other non-government organizations. This strategy, which will be implemented over the planning period, will help communities define their needs in terms of work opportunities, economic diversification, and decision-making related to sustainable resource development and use. In addition, it will fulfill those needs through facilitating access to federal information and services, and building partnerships with other federal departments and levels of government.

Through its Sustainable Communities Initiative (a component of GeoConnections) and other strategies, NRCan will enable communities to use geoscientific and geospatial knowledge toward the sustainable development of natural resources and improved opportunities for youths in the field of information technology. Twelve additional pilot communities projects are planned in 2000-2001. For example, a land use planning project with the Liidlii Kue First Nation in the Northwest Territories will help provide information and tools to make informed decisions on land use related to traditional harvesting, cultural preservation, and ecological integrity while identifying lands suitable for a diverse set of economic development opportunities that include tourism, forestry, mining, and oil and gas extraction.

NRCan is also conducting projects under the Local Environmental Applications Program for the development of remote sensing and geomatics tools and methods that will be integrated with traditional knowledge for environmental monitoring and resource management ($190 thousand annually).

In addition, the Department will work in partnership with the Government of Nunavut to increase its geoscience knowledge base and to build community capacity to use geoscience information (NRCan $1.7 million over the planning period).

Goal 3

To manage the environmental impacts of natural resource development and use

Planned Spending in 2000-2001: $257.9 million

Operating Environment and Importance

The environment is constantly undergoing change as a result of natural processes and human activity. We know that the environment can adjust to both human and natural stresses provided these stresses occur within an ecosystem's limit of adaptation. This places the onus on Canadians to develop natural resources in a way that respects and protects the integrity of natural ecosystems.

Environmental considerations are an important part of the Department's S&T and policy research since a clean environment provides Canadians with many social and economic benefits and opportunities, and ensures resources for the future. From a social context, the protection of Canada's land, air and water improves our quality of life and demonstrates to the world our commitment to environmental stewardship. Economically, protecting the environment brings many new economic opportunities and risks since market access is becoming increasingly dependant on the development of natural resources products in an environmentally sustainable manner.

Towards this end, the Department conducts leading-edge S&T and policy research to minimize the negative impacts of both human and natural activity on the environment. NRCan's primary objective is to ensure that all Canadians understand the dynamics of ecosystems and that clients and stakeholders are equipped with knowledge and the proper decision-making tools needed for sound decisions about natural resources and land management. Because energy production and use account for about 85 percent of the world's greenhouse gas emissions, the Department also plays a special role in developing Canada's position on climate change – a central feature of the government's strategy in transforming Canada's energy economy and in meeting Canada's climate change commitment made at Kyoto in December 1997.

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3.1 Climate Change -- *helping limit and adapt to climate change*

As a leader on Canada's domestic climate change strategy, NRCan, in partnership with Environment Canada and the Climate Change Secretariat, will play a key role in designing Canada's response options, which are central to the federal government's mitigation and adaptation strategy.

NRCan is working closely with its federal partners, and in consultation with other stakeholders, to prepare Canada's international negotiating position for the Sixth Conference of the Parties to be held in the Netherlands in November 2000. Canada's reduction targets were agreed to in Kyoto with the understanding that unfettered access to international emissions trading, as well as joint implementation and clean development mechanism projects, would be part of the suite of possible responses to meeting our targets. Decisions are expected on a number of key issues including the flexible market-based mechanisms, greenhouse gas sinks, and compliance. Canada will be seeking clear rules on these issues to allow countries to achieve their greenhouse gas emissions targets in the most cost-effective manner, and will work to have a broad suite of tools made available to countries committed to lowering emissions.

On the domestic side, NRCan will work with its partners to review viable measures emerging from the National Climate Change Consultation Process and to ensure their appropriate implementation. The most prospective of these measures will be rolled out under Phase I of the National Implementation Strategy (NIS) on Climate Change, which will be presented to the Joint Meeting of the Ministers of Energy and the Environment (JMM) in March 2000. A more developed strategy document will then be presented to JMM in the fall 2000.

In tandem with the development of the NIS, the federal government has undertaken a set of immediate activities under the Climate Change Action Fund (CCAF). NRCan plays a lead role with Environment Canada in the delivery of CCAF initiatives on public education and outreach, science, impact and adaptation, and TEAM. The TEAM initiative has secured a total technology project investment of $640 million, based on a TEAM investment of $60 million to date for this initiative.

The strategy is also the framework under which NRCan's work in the areas of energy efficiency, renewable energy and alternative transportation fuels will make a significant contribution to advancing Canada's climate change objectives as shown below.

Did You Know?

As a result of energy efficiency improvements between 1990 and 1997 in the residential, commercial, industrial and transportation sectors, Canadians have saved about $5 billion per year in energy costs and reduced carbon dioxide emissions by 5.6 percent.

Transportation

The Canadian transportation sector is responsible for 29 percent of the end-use energy demand in Canada (hence 25 percent of the emissions of greenhouse gases, 60 percent of nitrous oxides, 40 percent of volatile organic compounds, and 10 to 14 percent of particulate emissions) and this demand is projected to increase by approximately 15 percent over the next ten

years. To reduce these emissions, NRCan will invest $6.3 million annually (partners $7.75 million annually) on S&T that could result in a 50 percent reduction in emissions of the non-greenhouse gas pollutants, a 10 percent improvement in fuel economy, and a 30 percent increase in sales of emission control technologies within the next five years.

A key factor in improving vehicle efficiency is its weight – for every 10 percent reduction in weight, there is a 5-7 percent improvement in fuel efficiency. In this regard, NRCan will continue to lead the joint government-industry Canadian Lightweight Materials Research Initiative which is developing lightweight materials, high-strength steels and materials processing technologies for lighter weight vehicles ($450 thousand in 2000-2001).

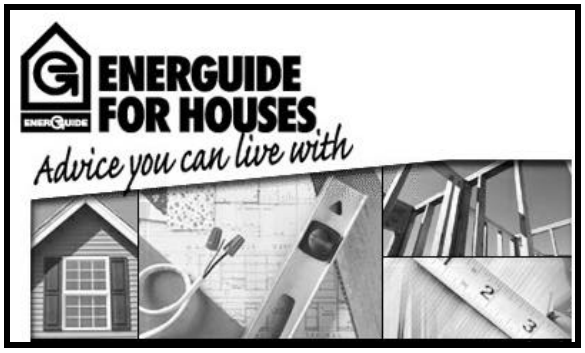
Did You Know?

For over 15 years, NRCan supported the development of fuel cells in Canada which led to Canadian global leadership in fuel cell technology, as exemplified by Ballard's recent successes. Ford has also recognized NRCan's contribution in making the P2000 Fuel Cell Vehicle an "outstanding success".

Concurrent with the above S&T activities, NRCan's EnerGuide for Vehicles program ($1 million in 2000-2001) will seek to increase the market share of the 25 percent most fuel efficient light duty vehicles within each vehicle class. By 2001, the Department aims for a compliance rate in using the new voluntary EnerGuide label of 95 percent for manufacturers and 80 percent for dealers. In addition, the Auto$mart program will encourage motorists to be more energy efficient in how they buy, drive and maintain their vehicles. In 2000-2001, NRCan plans to have an additional 25,000 students enrolled in the energy efficiency module of student driver education programs ($780 thousand in 2000-2001).

Residential Buildings and Communities

Through its EnerGuide for Houses program, Reno$ense Initiative and R-2000 Home Program, NRCan will seek to achieve more efficient use of energy in houses, both through the renovation of existing houses and through the construction and purchase of new R-2000 houses ($3 million, $150 thousand and $800 thousand, respectively). For example, in 2000-2001, the EnerGuide for Houses Program will aim to provide 10,000 home-owners with personalized analyses and recommendations on possible energy efficiency improvements.



posters and ads to promote the energy efficiency analysis of houses

Energy consumption in the residential and commercial sectors accounts for 30 percent of end-use energy demand, and produces 75 megatons of greenhouse gas emissions annually. To reduce the overall energy intensity of Canada's building and community systems, NRCan will invest $6.7 million annually (private sector $6.8 million annually) in S&T that could increase energy efficiency by between 20 and 50 percent, and could also increase the number of buildings designed and constructed with sustainable options

(90 percent for public buildings and 40 percent for commercial). For example, with TEAM support, a community energy system is to be developed for Sudbury as part of this initiative, and is expected to result in a reduction of 21,000 tonnes of carbon dioxide emissions per year. Full expansion of the system could reduce emissions by up to 51,000 tonnes per year.

Commercial, Institutional and Municipal Buildings

NRCan's Commercial Building Incentive Program will provide financial incentives to builders and developers who incorporate energy efficient technologies and practices into the design and construction of new commercial, institutional and multi-unit residential buildings. In 2000-2001, this program will contribute to 250 projects ($10 million in 2000-2001).

Moreover, NRCan's Energy Innovators Plus Initiative will increase energy efficiency in existing institutional buildings by funding pilot retrofit projects and developing energy efficiency benchmarks and best practices ($3 million). By March 2001, this initiative could increase the number of organizations with action plans registered in VCR Inc., the Voluntary Challenge and Registry, up to a level representing 15 percent of total energy consumption by the commercial and institutional sector. In addition, NRCan will work with the Federation of Canadian Municipalities to establish a Municipal Building Retrofit Program to help Canadian municipalities improve the efficiency of energy use in their operations ($540 thousand).

Industry

The industrial sector is responsible for 41 percent of Canadian energy end-use demand, and emits 225 megatons of greenhouse gas emissions annually. The energy needs of this sector will continue to grow, and in light of its economic significance and of Canada's Kyoto commitments, NRCan will invest $9 million annually (partners $14 million annually) in energy efficiency technologies that will lead to increased quality and quantity of biomass fuels, a greater than 10 percent reduction in steel-manufacturing energy intensity by the year 2010, a 20 to 40 percent energy performance improvement in heat management systems, and greenhouse gas reductions of 10 percent by the year 2008.

Primary energy demand for the generation of electricity is expected to grow by 12 percent through to the year 2010 and greenhouse gas emissions in this area exceed an annual 111 megatons of carbon dioxide equivalent. In order to reduce environmental impacts, NRCan will invest $4 million annually (partners $4 million annually) in S&T toward efficiency improvements and cost reductions. This S&T will also increase renewable-based electricity generation by 25 percent within five years for wind, small hydro, biomass systems, and carbon dioxide capture and storage technologies.

NRCan will help decrease greenhouse gas emissions by establishing performance requirements for additional equipment (incandescent reflector lamps, lamp ballasts and electric distribution transformers) under the authority of the *Energy Efficiency Act*.

To add to the short- and medium-term initiatives mentioned above, NRCan's Energy Technology Futures project will provide Canadians with an integrated view of the economic, environmental and social aspects of four possible energy systems for Canada in 2050. The scenarios will help identify the most promising greenhouse gas mitigation

technologies and influence priorities for research and development activities within the Climate Change Strategy (http://www.nrcan.gc.ca/es/etf).

The production and use of cement is a significant contributor to the production of carbon dioxide. For example, the manufacture of one tonne of Portland cement produces the equivalent in carbon dioxide. Through its International Centre for Sustainable Development of Cement and Concrete, NRCan should help countries reduce greenhouse gas emissions by 100 million tonnes per year by 2010 through the use of supplementary cementing materials.

In an effort to further support the climate change initiative, NRCan's forest S&T research will focus on developing models, scenarios, tools, and developing sustainable forest management options to measure carbon dioxide transfers. Research will also include mapping Canada-wide carbon sink and source distribution using satellite-derived information. R&D is also under way on relevant technologies for carbon capture from fossil fuel power plants.

The Department's geoscientific research will enable Canada to better understand the relationships between climate and earth systems and human activity to assess the potential impacts and adaptation options to future climate change and extreme climate events. Consequent changes in climate will have economic and social impacts that will vary across Canada. The Prairie Adaptation Research Cooperative (PARC) in Saskatchewan will promote and facilitate research conducted through a collaborative network in the Prairie provinces. The results will be directed at addressing related climate change adaptation policy issues (Climate Change Action Fund $2 million for 2000-2001 for the PARC).

3.2 Technologies and Stewardship Practices – *promoting science, technology and stewardship practices that reduce environmental impacts, conserve biodiversity, and increase the efficiency of natural resource development and use*

A large portion of energy R&D activities are supported by the interdepartmental Program of Energy Research and Development ($60 million annually), which funds and coordinates energy-related R&D activities in 11 federal departments and agencies, aims to reduce energy intensity, greenhouse gases and other emissions. The program will also improve standards and regulations related to the production and use of energy and promote the use of alternative and renewable sources for long-term sustainability. For example, NRCan and its partners are seeking to reduce the fossil energy intensity and emissions of Canada's agricultural and agri-food, fishing, forest and forest products, and mining and metals industries to maintain their economic and environmental sustainability ($3 million annually for a period of three years).

The 2000 Federal Budget provided an initial $100 million for the creation in 2000-2001 of a Sustainable Development Technology Fund (SDTF) to focus on environmental technologies, in particular those related to climate change and air-quality solutions. With respect to climate change, the aim of the SDTF is to address the development and demonstration of new and emerging climate-friendly technologies that hold the potential to reduce greenhouse gas emissions. It is envisaged that the SDTF will be administered by a third-party foundation. The implementation mechanisms and

accountability framework will be developed by NRCan and Environment Canada, in consultation with Industry Canada.

NRCan is cognizant of its stewardship role to reduce environmental impact and conserve biodiversity. In this regard, the Department intends to develop a biodiversity stewardship initiative in cooperation with Industry Canada. The initiative, which builds on the Speech from the Throne commitments, will focus on developing educational materials and gaining commitment from the industry to voluntarily conserve wildlife and habitat.

NRCan and its partners will be involved in the development of a multitude of technologies for the prevention and treatment of mine, mill and metallurgical effluents. In addition, NRCan's Metals in the Environment program will enable the Department to come up with better risk assessments and management strategies related to human health and ecosystems as well as providing valuable information on the nature and movement of metals in the environment.

a forestry technician measuring the diameter of tiny yew seedlings

As a signatory to the United Nations Convention on Biological Diversity and the Canadian Biodiversity Strategy, NRCan is committed to promoting forest biodiversity science in Canada and to incorporating biodiversity conservation strategies. NRCan will develop harvesting strategies and systems, establish social indicators and produce national biodiversity data in support of national sustainable forest management initiatives.

Within the framework of the Canadian Biotechnology Strategy for which $8.9 million has been allocated over the planning period, NRCan will complete proofs-of-concepts for genetic engineering of trees for resistance to pest and for the engineering of insect viruses. In 2000-2001, an internal review will be carried out to measure progress toward achieving expected results.

The Department will produce national data to support the registration and commercialization of biopesticides and will continue to support the development and competitiveness of Canadian-made environmentally-friendly pesticides. It will also be developing various application strategies and alternatives to a broad spectrum of insecticides.

3.3 Safeguarding Canada's Environment – *safeguarding Canada's environment from the risks associated with natural resource development and use*

Central to our quality of life is a clean and healthy environment. It is also vital to Canada's long-term economic and social well-being. In this regard, NRCan will develop tools to predict environmental effects of forest harvesting practices and fire dynamics, and to control the spread of major forest insect pests. Furthermore, the Department will complete an environmental impact assessment of experimental trials with

transgenic trees (genetically-modified organisms) and pest control products ($5.9 million over 2000-2003).

Through the provision of knowledge on landslide hazards, permafrost, ice scour distribution, sediment transport, and pipeline corrosion failures, NRCan assists the industry in the location and routing of pipeline structures, cables, highways, railways and production platforms, and helps to ensure the long-term viability of existing infrastructure. For example, in the province of Alberta – which has over half of Canada's pipelines and experiences daily corrosion-related failures (i.e. pinholes and cracks) – NRCan's advancing technologies are helping reduce the frequency and severity of these failures through enhanced products development and ongoing assessment of methodologies for predicting performance of pipeline materials and coatings.

NRCan recognizes that radioactive waste management is an important issue for Canadians. In this context:

- NRCan will ensure that the long-term management and disposal of nuclear waste is carried out in a safe, environmentally sound, comprehensive, cost-effective and integrated manner in accordance with the 1996 Government Policy Framework for Radioactive Waste ($1 million in 2000-2001);

- the Department expects the Low-Level Radioactive Waste Management Office to complete the clean up of radioactive contaminated sites in Surrey, B.C. by spring 2000 ($2.3 million);

- over the planning period, NRCan will participate in federal environmental assessments of the proposed decommissioning of the Cluff Lake mining site and of the proposed Cigar Lake ore processing site; the Department will also continue to negotiate a Memorandum of Agreement with Saskatchewan on the decommissioning of the Gunnar and Lorado abandoned uranium mine sites in northern Saskatchewan.

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Goal 4

To contribute to the safety and security of Canadians

Planned Spending in 2000-2001: $35.5 million

Operating Environment and Importance

Opinion polls regularly confirm that Canadians view environmental protection and public safety and security issues as intrinsically linked activities. To this end, the Department supports three main areas of public safety and security. It provides timely and effective responses to both human-induced and natural disasters in the form of technical advice, funding support, and transferred technology; plays an important role in securing national, territorial and economic sovereignty, and helps safeguard Canadians who work in or are affected by the natural resources sector.

There are a variety of departmental products and services that contribute to these streams in an increasingly integrated way. They include, as examples, maintaining a national geospatial positioning framework, providing legal surveys to support effective land management, scientific expertise regarding the safe use of explosives and pyrotechnics, maintaining a national fire management information system (Fire M3) for monitoring and reporting fire conditions on a daily basis; aeronautical charts; topographical maps for search and rescue-related activities and emergency planning; and initiatives to improve worker safety in the mining and offshore energy industries.

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4.1 Natural Hazards -- *safeguarding Canadians from natural hazards*

Canadians expect leadership from their government to mitigate and improve resilience to future disasters. NRCan is proud to respond to this challenge.

Safeguarding Canadians from natural hazards requires a detailed knowledge of our country and its resources. In this context, NRCan has the ability to provide state-of-the-art technology, information and expertise in response to natural disasters such as earthquakes, floods and forest fires occurring nationally and internationally, as well as for human-induced tragedies and events.

Results from hazard monitoring, assessment and research contribute to mitigation policies, information services and response to emergencies and disasters. The following are examples where results will have a direct impact on decisions regarding safety and security:

- by 2003, new values for earthquake hazard will be included in the Canada Building Code;
- as part of an effort to upgrade flood protection, the long-term flooding history of

the Red River and the geological controls relevant to the flooding will be investigated during the planning period; results will provide a basis for assessing risks, and will support decision-making on long-term remediation measures and land uses;

- remote sensing data will be used to track floods, monitor forest fires, and other emergency situations;

Did You Know?

NRCan has implemented its world-unique Fire Monitoring, Mapping and Modeling System (Fire M3). This technology monitors forest fires and provides fire managers and community leaders with the right information to make million-dollar decisions and save lives.

- topographical mapping services, web-based daily reports, and tables generated from the Canadian Wildland Information System will continue to be provided in response to emergencies.

NRCan will also continue to define operational requirements and decision support tools for fire management strategies, and produce forest management adaptation and mitigation strategies for community protection and fuel management options for forest fires under climate change scenarios.

4.2 Spatial Positioning, Mapping and Boundary Maintenance – *maintaining a national framework for spatial positioning, mapping and boundary maintenance*

Through the Canadian Spatial Reference System, as the foundation for all spatial positioning, the Department will ensure consistent reference information for applications ranging from positioning, mapping and Geographic Information System to navigation and resource management. Given the emerging importance of precise positioning, NRCan is working with its provincial counterparts to provide a national Global Positioning System correction service.

The Department will also continue to produce timely aeronautical products to ensure aviation safety over Canada ($3.3 million annually) as part of agreements with Nav Canada and Defence.

4.3 Explosives Safety – *promoting the safe use of explosives and pyrotechnics*

NRCan is the Government's primary source of expertise on explosives regulations and technology. In that context, the Department has a responsibility to educate users of display fireworks and special effects pyrotechnics given that there has been a fivefold increase in the use of these materials in the last decade.

In addition, to ensure the safety of its clientele and the Canadian public, NRCan will perform research to gain enhanced understanding and better predictive capabilities of explosives properties. The Department will also continue to study the effectiveness of adding marking agents to enhance detectability of explosives and conduct hazard assessments of polymer batteries intended primarily for electric vehicles.

In order to meet Canada's international obligations in support of anti-crime and counter-terrorism efforts with the Organizations of American States and with future United Nations efforts, NRCan is tasked with improving the security of explosive storage, sale and transit in Canada. With respect to transportation, NRCan will evaluate

the appropriateness or adequacy of existing evacuation distance requirements for motor vehicle accidents involving packaged explosives-laden vehicles ($272 thousand over 2000-2002).

4.4 Safety and Security – *enhancing safety and security in Canada's natural resource sector*

NRCan has an important role to play in ensuring the well-being of all Canadians who work or are affected by the natural resources sector.

NRCan will work on projects to further safeguard Canadians from the risks associated with mine development. For example, it will work with the industry on technologies for the safer conveyance of miners and ore in underground mines such as the testing of a new in-service wire rope non-destructive testing system; this technology will locate and gauge the extent of faults while the wire rope remains in full service (industry $150 thousand cost-recovered by NRCan).

In addition, NRCan's diesel emissions control laboratory will be upgraded by late 2000 ($800 thousand). This will allow the measurement of nano-size particulates (less than one-billionth of a metre in diameter) which can be potentially hazardous to mine workers. Diesel exhaust from new mine engines and other after-treatment devices will be assessed through NRCan's certification and evaluation programs ($120 thousand in cost recovery expected from manufacturers). This new knowledge will be useful in discussions with provincial regulators with respect to regulations for improved air quality for mine workers.

The three-year Diesel Emissions Evaluation Program (DEEP) will officially terminate in March 2000, although two major projects will continue into 2001 to search for more effective ways to drastically reduce diesel particulate matter exposures – greater than 80 percent of total carbon particulates – in underground mining (NRCan $94 thousand - partners $738 thousand over 2.5 years). NRCan will undertake an evaluation of the contribution to the Canadian Mining Industry Research Organization in support of this program. The impact of the design, evaluation and implementation of diesel emissions control strategies to reduce worker exposure to diesel emissions and oil mist in mine environments will be assessed.

In the third year of the four-year Deep Mining Project, NRCan will develop an improved understanding of rock behavior processes and develop tools to optimize miners' safety. Total NRCan funding over the four years is $1.9 million of which $510 thousand will be spent in 2000-2001. Partner contributions to date total $465 thousand.

In an effort to better protect Canadians under the *Nuclear Liability Act*, the Department will propose revisions to the Act by the end of 2000. These revisions will provide for improved victim compensation in the event of a nuclear accident, will clarify definitions in the Act and the responsibilities of the federal government, and will make the Act more reader-friendly.

NRCan will also amend the Newfoundland and Nova Scotia Offshore Accord Acts in the fall 2000 to include new health and safety regulations that incorporate up-to-date approaches such as health and safety committees, and right to work refusal, which form part of current provincial safety regimes.

Goal 5

To manage the Department efficiently and effectively

Planned Spending for 2000-2001: $47.7 million[1]

Operating Environment and Priorities

Today's climate of continual change gives rise to several management and organizational challenges which need to be identified and properly managed. This goal is about sound departmental management and effective decision making. Our involvement in the modern comptrollership initiative – of which we are a pilot – will help the Department address these and other important issues.

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5.1 Managing Departmental Resources – *managing NRCan's resources responsibly*

NRCan recognizes that the achievement of sustainable development goals need to be supported with similar achievements in good governance. Allocating scarce resources and obtaining better value for money are leading NRCan to search for innovative approaches to management and accountability. A review of partnerships, governance arrangements and delivery mechanisms will complement the work undertaken by the Auditor General. Criteria for well-functioning mechanisms will be developed in areas such as accountabilities, resource allocation, results measurement and reporting, and intellectual property arrangements.

NRCan will recover, where possible, part or all of the costs of programs or services from those users who benefit most directly. Cost recovery encourages NRCan to take a more business-like approach in the delivery of its programs by improving management accountability and minimizing operational costs. In that context, NRCan anticipates recovering $22 million annually from its net voted revenue authority and an additional $18.6 million from its revolving fund authority over the next three years.

Similarly, through the government-wide Financial Information Strategy (FIS), NRCan will improve sound decision making and accountability through the use of better financial information. The initiative involves new accrual accounting policies, new central (Public Works and Government Services Canada) and departmental systems, and the development of people around a new approach to how we record and report financial information. Accrual-based information,

[1] This amount includes the central management of departmental facilities.

similar to that used by private sector businesses, will improve program costing, capital asset management, make-versus-buy analysis, and inventory management. NRCan plans to be FIS compliant by April 1, 2001 ($833 thousand in 2000-2001). A review of FIS will assess the Department's implementation plan, its progress to date and identify potential risks.

Did You Know?

The results of the Public Service Employee Survey confirmed that NRCan's employees have a high level of professionalism, dedication and commitment to their work. At the same time, the survey identified specific areas that can be improved. Management intends to build on NRCan's strengths by working with employees through open, honest consultations to develop realistic and concrete solutions to make NRCan an employer of choice.

In parallel with the above initiatives, NRCan is committed to attracting and retaining a highly skilled and knowledgeable workforce, addressing potentially high retirement rates over the next five years, and supporting employees in their continuous learning and career development. To achieve these goals, the Department will continue implementing a Retention, Rejuvenation and Recruitment (3R) Strategy ($690 thousand from 1999-2004). In addition, the implementation of the Universal Classification Standard (UCS) will be a priority for the coming year. Recognizing the impact UCS will have on mobility, organization of work and organizational structures, NRCan is committed to facilitating change management to assist its managers and employees in adapting to this new human resources regime. This major initiative will simplify human resource management systems and continue the renewal of the public service. Related sector-specific programs will encourage strengthened interaction and synergy with natural resource sector communities, including OGDs, universities, industry and international communities.

NRCan's capacity to deliver its S&T programs is contingent upon having suitable equipment and facilities. Over the next five years, NRCan will develop a real property framework to guide investments required to recapitalize its real property infrastructure with program-responsive, energy-efficient, environmentally-responsible facilities. The Department will also begin implementing its new *Departmental Occupational Safety and Health Policy* and will conduct reviews in its real property portfolio to identify and manage health and safety risks. NRCan has been allocated a notional budget of $50 million over the next five years to respond to these pressing issues.

To respond to the demands created by rapidly evolving information technology/information management and the need to work within a more sophisticated electronic business environment (e.g. web-based tools, e-commerce), NRCan will develop and implement an IT infrastructure Capacity Management Plan. In doing so, this will enable NRCan to more effectively deliver on its strategic priorities and mandate.

5.2 Products, Services and Operations – *continuously improving NRCan products, services and operations*

Modern Comptrollership is about sound management of resources and effective decision-making. As one of the original six pilot departments, NRCan has completed an assessment of its comptrollership capacities. The Department will implement an action plan over the planning period which will include the development of a risk management framework, including practical tools, and building awareness of and creating

opportunities for dialogue on shared values and ethics into decision-making ($140 thousand each). An internal review of this initiative, scheduled for 2000-2001, will assess the progress of its implementation.

Leading by Example

5.3 – *using leading-edge environmental management tools and practices for NRCan operations*

5.4 – *reducing wastes from NRCan operations*

5.5 – *increasing the efficiency of energy and other resource use in NRCan operations*

5.6 – *promoting the use of goods and services that are eco-efficient*

The way NRCan operates its facilities, manages its fleet, disposes of its waste, purchases goods and services, and demonstrates environmental leadership can influence other federal department's abilities to achieve their sustainable development goals.

In 2000-2001, building on past environmental operational achievements, NRCan will begin to implement its new *Departmental Environmental Policy*. This policy provides a departmental management framework for taking action under the Greening of Government and the Federal House-in-Order initiatives. In line with NRCan's Sustainable Development Strategy (see page 42), the focus will be on environmental training and compliance monitoring during the course of the year.

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IV Sustainable Development Strategy

The successful implementation of sustainable development depends on every Canadian. As advanced in the October 1999 Speech from the Throne, each of us has a part to play in building a higher quality of life for all Canadians. NRCan's Sustainable Development Strategy (SDS), *Safeguarding our Assets — Securing our Future*, continues to be a critical tool for advancing change and for leading the way on sustainable development.

NRCan's Sustainable Development Strategy, tabled in Parliament on December 10, 1997, sets out a framework to assess the Department's work in advancing change. In this regard, NRCan's work can be assessed by stakeholders at three different levels. At the most basic level, through regular reporting on action commitments, stakeholders will have a clear indication of whether the Department is meeting its commitments. At a more objective level, through the use of indicators and targets, NRCan's performance can be measured against the Strategy's objectives. At a broader level, Canada's overall progress in the sustainable development of its natural resources can be assessed through indicators dealing with sustainable development practices and procedures in the areas of forest management, energy and minerals and metals. These indicators are a key action commitment in NRCan's Sustainable Development Strategy.

In 1999, NRCan released *Sustainable Development: From Commitment to Action — A Report on the Progress of the Natural Resources Canada Sustainable Development Strategy*. The report describes the progress made toward implementing NRCan's Sustainable Development Strategy over the first sixteen months of the three-year implementation period (i.e., from December 10, 1997 to March 31, 1999). Less than halfway through the three-year action plan, we have achieved almost 60 percent of the 125 measurable targets – 10 percent of these ahead of schedule. It is through incremental change that we are advancing the broader sustainable development yardsticks. Moreover, the report addresses the progress achieved on three levels: action commitments, indicators against the strategy's objectives, and development of indicators of Canada's overall progress in the sustainable development of its natural resources.

The following table identifies the action commitments and targets scheduled for completion over fiscal years 1999-2000 and 2000-2001. NRCan will be working with stakeholders to develop new action commitments and targets for inclusion in the second Natural Resources Canada Sustainable Development Strategy – to be tabled in Parliament by December 2000.

The complete list of action commitments and associated targets, as well as the reports referenced above are available on the NRCan sustainable development web site at http://www.nrcan.gc.ca/dmo/susdev.

Sustainable Development Strategy: Action Commitments and Targets scheduled for completion by March 31, 2001

Goal 1*: Enabling Canadians to make balanced decisions regarding natural resources.
▸ Produce first report on Sustainable Management of Forests in Canada, to be tabled at the United Nations Commission on Sustainable Development on April 15, 2000 (objective 1.2 page 18).
▸ Identify values that are relevant to the environmental, social and economic impacts of the minerals and metals sector activities and products as a step to the development of credible sustainable development indicators (objective 1.1 page 17).
▸ Undertake national dialogue on key sustainable development issues facing the natural resource sectors, such as climate change, energy futures and technology, and value-added industries (objective 1.2 page 17 and Goal 3, starting on page 26).
▸ Finalize, with DFAIT and CIDA, Canada's position for the fourth session of the Intergovernmental Forum on Forests (objective 1.2 page 19).

Goal 2*: Sustaining the economic and social benefits from natural resources for present and future generations
▸ Analyze the links and opportunities between environmental industries and the resource sectors.
▸ Develop new technologies and incremental improvements to existing technologies in oil sands and heavy oil, extraction and processing, and upgrading (objective 2.1 page 21).
▸ Publish in the Canada Gazette Part I, the revised Offshore Safety Regulations.
▸ Publish in the Canada Gazette Part II, Omnibus Amendments to regulations in response to comments received from the Standing Joint Committee for the Scrutiny of Regulations.
▸ Develop draft regulations for: combined Drilling, Production and Conservation; update Diving; Offshore Installation Manager; Offshore Pipeline; Certificate of Fitness; and consequential amendments to related regulations.
▸ The Minister of Natural Resources will lead a Team Canada international trade mission.
▸ Negotiate provisions for the sound management of minerals and metals in the “Prior Informed Consent Convention,” and the UNEP (United Nations Environment Program) sponsored global convention on ‘persistent organic pollutants’.

*The goals described in this section are consistent with NRCan’s SDS, which was tabled in Parliament on December 10, 1997. The goals presented throughout this document reflect continuous refinements to the Department’s performance measurement framework which integrates the goals of the SDS.

Goal 2 (continued)

- Possible participation of Canadian experts to the series of fora entitled World Forum on Forests (part of World Exposition 2000, Hanover, Germany).
- Pending the enactment of appropriate legislation, regulatory amendments should be completed in one to two years for a new definition of "waste" that will not restrict the recycling of low risk, metal-containing materials.
- Deliver the First Nations Forestry Program, in partnership with Aboriginal people, to enhance self-reliance in forest management, develop forest-based businesses, and provide economic and traditional land-use opportunities on and off-reserve (objective 2.3 page 24).
- Manage the delivery of the land claims survey program.

Goal 3*: Minimizing the impacts of natural resource development and use on the environment and the safety of Canadians.

- Produce an interactive multi-media CD-ROM presenting results of Geological Survey of Canada reports on the Palliser Triangle in both official languages.
- Report on options to control the harmful effects of air emissions from copper and zinc smelters, as identified under the Priority Substances List (PSL-2) process.
- Initiate evaluation process of Canada's Model Forest Program (objective 1.2 page 18).
- Publish report on costs and benefits of partial cutting as an alternative to clear-cutting in Canada's forested ecozones, with a client advisory committee.
- Through Forintek Canada Corporation, conduct a study to increase the use of bark waste in wood composite material (objective 2.1 page 21).
- Develop with communities a solution for the Port Hope, Ontario area wastes and review options with Cabinet.
- Complete the assessment of the Surrey Siting Task Force report on a disposal solution for the Surrey, British Columbia wastes and begin to implement recommendations (objective 3.3 page 32).
- Produce a natural geological hazards atlas summarizing information on natural hazards in Canada (e.g. earthquakes, landslides) (objective 4.1 page 33).

*The goals described in this section are consistent with NRCan’s SDS, which was tabled in Parliament on December 10, 1997. The goals presented throughout this document reflect continuous refinements to the Department’s performance measurement framework which integrates the goals of the SDS.

Goal 4*: Establishing NRCan as a leader in the federal government in managing its operations in line with the principles of sustainable development.

- Review and upgrade NRCan's Environmental Management System to be compatible with international standards (ie, ISO 14000 series) (objective 5.3 page 38).
- Measure the change in employee environmental awareness.
- Review and update the Departmental Environment Assessment Manual.
- Conduct four training sessions on environmental responsibility awareness each year.
- Conduct four environmental assessment evaluations each year.
- Conduct four environmental health and safety audits each year.
- Complete an assessment of NRCan partnerships with environmental organizations to identify and promote best practices.
- Survey one laboratory facility per year for wastewater compliance.
- Convert one of the six remaining large chiller systems containing chlorofluorocarbons (CFCs) to a non-ozone depleting potential system. This will reduce NRCan’s CFC inventory to 1 tonne.
- Dismantle and appropriately dispose of the two remaining large halon-containing fire extinguishing systems.
- Ensure that 50 percent of NRCan’s fleet inventory will be comprised of lower emissions, alternative fuel vehicles.
- Reduce water consumption by 30 percent over 1994-95 levels.

*The goals described in this section are consistent with NRCan’s SDS, which was tabled in Parliament on December 10, 1997. The goals presented throughout this document reflect continuous refinements to the Department’s performance measurement framework which integrates the goals of the SDS.

V FINANCIAL INFORMATION

The following tables display information by departmental goals which results in a better integration of textual and financial information for a more complete planning picture. Planned spending by organizational structure and departmental spending information can be found on pages 11 and 13.

5.1 Summary of Transfer Payments

Grants and contributions make up 19.1 percent of the budgetary expenditures of the Department (2000-2001 Main Estimates). The figures below summarize all grants and contributions planned spending.

($ millions)	Forecast Spending 1999-2000	**Planned Spending 2000-2001**	Planned Spending 2001-2002	Planned Spending 2002-2003
GRANTS				
Information Dissemination and Consensus Building	0.2	**0.2**	0.2	0.2
Economic and Social Benefits	0.3	**0.2**	0.2	0.2
Environmental Protection and Mitigation	0.1	**0.0**	0.0	0.0
Safety and Security of Canadians	0.0	**0.0**	0.0	0.0
Sound Departmental Management	0.1	**0.1**	0.1	0.1
Total Grants	**0.7**	**0.5**	**0.5**	**0.5**
CONTRIBUTIONS				
Information Dissemination and Consensus Building	11.3	**15.7**	13.2	13.5
Economic and Social Benefits	29.4	**51.8**	80.6	70.3
Environmental Protection and Mitigation	33.7	**41.3**	5.4	4.9
Safety and Security of Canadians	2.3	**3.7**	3.7	3.7
Sound Departmental Management	-	**-**	-	-
Total Contributions	76.7	**112.5**	102.9	92.4
Sub-Total Grants and Contributions	77.4	**113.0**	103.4	92.9
Plus: Adjustments to Planned Spending[1]				
Grants	62.6	**50.0**	-	-
Contributions	21.9	**2.4**	32.0	32.0
Total Planned Grants and Contributions	**161.9**	**165.4**	**135.4**	**124.9**

[1] Adjustments reflect items approved in the 1999-2000 Supplementary Estimates (A) and (B) (including amounts reprofiled from 1999-2000 to future years) and announcements made in the 2000 Budget Speech. For example, NRCan will provide grants of $62.5 million in 1999-2000 for community initiatives, $50 million in 2000-2001 for the Sustainable Development Technology Fund (SDTF), and contributions totaling $32 million in each of 2001-2002 and 2002-2003 for the Climate Change Action Fund and energy efficiency initiatives.

5.2 Source of Respendable and Non-Respendable Revenues (Excludes the Geomatics Canada Revolving Fund)

Respendable Revenues[1]

($ millions)	Forecast Revenue 1999-2000	**Planned Revenue 2000-2001**	Planned Revenue 2001-2002	Planned Revenue 2002-2003
Information Dissemination and Consensus Building	2.6	**2.6**	2.3	2.3
Economic and Social Benefits	10.7	**9.6**	9.6	9.6
Environmental Protection and Mitigation	7.0	**7.8**	7.3	7.6
Safety and Security of Canadians	2.0	**2.2**	2.2	2.2
Sound Departmental Management	0.1	**0.1**	0.1	0.1
Total Respendable Revenues	**22.4**	**22.3**	**21.5**	**21.8**

Non-Respendable Revenues[2]

($ millions)	Forecast Revenue 1999-2000	**Planned Revenue 2000-2001**	Planned Revenue 2001-2002	Planned Revenue 2002-2003
Information Dissemination and Consensus Building	0.2	**0.2**	0.2	0.2
Economic and Social Benefits	1.6	**10.0**	10.5	10.5
Environmental Protection and Mitigation	0.1	**0.1**	0.1	0.1
Safety and Security of Canadians	0.1	**1.8**	1.8	1.8
Sound Departmental Management	0.0	**0.0**	0.0	0.0
Total Non-respendable Revenues	2.0	**12.1**[3]	12.6	12.6
Total Respendable and Non-respendable Revenues	24.4	**34.4**	34.1	34.4

1 As per 2000-2001 Annual Reference Levels Update.
2 As per 2000-2001 Annual Reference Levels Update.
3 Increase derived from Nova-Scotia and Newfoundland Offshore Royalties.

5.3 Net Cost of Program for the Estimates Year 2000-2001

($ millions)	**Total NRCan**
Planned Spending (Budgetary, Non-Budgetary plus adjustments)	
Information Dissemination and Consensus Building	152.5
Economic and Social Benefits	173.1
Environmental Protection and Mitigation	257.9
Safety and Security of Canadians	35.5
Sound Departmental Management	47.7
Sub-Total Planned Spending	**666.7**
Plus: Services Received without Charge	
Accommodation provided by Public Works and Government Services Canada (PWGSC)	9.5
Contributions covering employers' share of employees insurance premiums and expenditures paid by TBS	11.9
Workmen's compensation coverage provided by Human Resources Development Canada	0.5
Salary and associated expenditures of legal services provided by Justice Canada	0.6
Total Services Received without Charge	**22.5**
Less: Non-respendable Revenue	*12.1*
2000-2001 Net Program Cost (Total Planned Spending)	**677.1**

5.4 Geomatics Canada Revolving Fund Statement of Operations and Changes in Financial Position

($ millions)	Forecast 1999-2000	**Planned 2000-2001**	Planned 2001-2002	Planned 2002-2003
Revenues				
Products	12.6	**13.2**	13.2	13.2
Services	4.9	**3.8**	3.8	3.8
Consulting	1.7	**1.6**	1.6	1.6
Total revenues	**19.2**	**18.6**	**18.6**	**18.6**
Expenditures (includes cost of goods sold)	18.7	**17.9**	17.9	17.9
Operating Surplus (deficit)[1]	**0.5**	**0.7**	**0.7**	**0.7**
Changes in Working Capital	0.2	**0.2**	0.2	0.2
Capital acquisition	(0.2)	**(0.1)**	(0.1)	(0.1)
Other items	0.3	**0.3**	0.3	0.3
Cash requirements	**0.8**	**1.1**	**1.1**	**1.1**

[1] Reflects Accrual Based Accounting.

5.5 Projected Use of Geomatics Canada Revolving Fund Authority

($ millions)	
Authority April 1, 1994	8.0
Drawdown:	
Anticipated Use at end of Fiscal year 1999-2000	0.8
Estimated Use for 2000-2001	(1.1)
Anticipated Authority Balance at the end of fiscal year 2000-2001	**8.3**

5.6 Outstanding Loans

($ millions)	Balance April 1st 2000	Receipts and Other Credits	Payments and Other Charges	Balance March 31st 2001
Atomic Energy of Canada Ltd.				
Housing	0.1	-	-	**0.1**
Heavy Water Inventory	8.5	(1.0)	-	**7.5**
Hibernia Development Project	118.8	(13.2)	-	**105.6**
Nordion International Inc.	92.2	(2.0)	7.8	**98.0**

VI Other Information

A. Performance Measurement Framework

NRCan has developed a Performance Measurement Framework (PMF) that articulates a clear set of goals, objectives and performance indicators. The performance indicators will help Canadians assess the Department's progress in achieving its goals and objectives in the context of sustainable development and good governance. The framework provides the foundation for all departmental planning and reporting documents. In this regard, the framework addresses reporting and performance requirements of the Department's Sustainable Development Strategy, the Federal S&T Strategy, and internal management practices.

NRCan showcased its distinct approach to reporting on performance indicators in the Departmental Performance Report (DPR) – tabled in Parliament in October 1999. Each indicator – one for each of the Department's five goals – reported on four elements to communicate NRCan's story (i.e., graphic representation, interpretation of graph, description of NRCan's contribution and next steps). The information provided included a mix of numerical targets, directional targets (i.e., to maintain or improve on existing performance), and trend analysis and monitoring (i.e., when it is too difficult to attribute the Department's contribution to a 'macro' indicator, even though the indicator is of high importance to NRCan).

Did You Know?

The U.S. National Partnerships for Re-Inventing Government – led by Vice President Al Gore – identified NRCan's Performance Measurement Framework as a best practice in the August 1999 report, *Balancing Measures – Best Practices in*

Building on the initial reporting of indicators, NRCan has prepared a schedule for reporting over the next three years. The following table presents NRCan's Performance Measurement Framework and also identifies a reporting date for each performance indicator – for publication in NRCan's Departmental Performance Report over the period 2000 to 2003. The schedule for reporting will inform Canadians of the time frame for assessing the Department's progress in achieving its goals and objectives through the use of specific indicators.

The Performance Measurement Framework and schedule for reporting are also available on the NRCan sustainable development web site at: http://www.nrcan.gc.ca/dmo/susdev/epms.htm.

Goal 1: To enable Canadians to make balanced decisions regarding natural resources.

Objectives	Performance Indicators	Targets and Approaches	Reporting Date*
1.1 Creating 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.	1.1.1 User satisfaction with relevance, accessibility and quality of information.	Maintain or improve current levels of use and satisfaction.	2000
	1.1.2 Public awareness of the importance and relevance of the natural resource sectors, its issues, and NRCan's S&T.	Maintain or improve awareness.	2001
	1.1.3 Adoption of NRCan-supported technology and practices.	Not applicable.	2002
1.2 Promoting greater national and international cooperation and consensus on sustainable development issues, policies, goals and actions.	1.2.1 Participation in, and influence on, national and international multi-stakeholder approaches to SD issues.	Maintain or improve participation and influence.	2001
	1.2.2 Degree of leveraging by NRCan from shared S&T projects.	Maintain or improve total funds and in-kind support leveraged.	2000
1.3 Developing and promoting fiscal, regulatory and voluntary approaches that encourage the sustainable development of natural resources.	1.3.1 Participation in, and influence on, fiscal, regulatory and voluntary sustainable development initiatives.	Maintain or improve participation and influence.	2002
	1.3.2 Influence of NRCan's S&T-based recommendations on regulatory regimes.	Not applicable.	2003

Reporting Date indicates which Performance Indicators will be presented in the fall DPR for the year indicated.

Goal 2: To sustain the economic and social benefits derived from natural resources for present and future generations.

Objectives	Revised Performance Indicators	Targets and Approaches	Reporting Date
2.1 Creating economic opportunities and encouraging investment in innovative and higher-value uses of natural resources.	2.1.1 Economic influence of NRCan S&T.	Trend analysis and monitoring.	2002
	2.1.2 Employment levels and productivity in resource and resource-related industries.	Trend analysis and monitoring.	2000
	2.1.3 Contribution of the natural resource sector to the GDP.	Trend analysis and monitoring.	2001
	2.1.4 Capital investment in resource and resource-related industries.	Trend analysis and monitoring.	2002
2.2 Maintaining and expanding access to international markets for Canadian resource-based products, knowledge, technologies and services.	2.2.1 Value and percent of exports of resource-based products.	Trend analysis and monitoring.	2003
2.3 Building the capacity of Aboriginal, rural and northern communities to generate sustainable economic activity based on natural resources.	2.3.1 Number of shared projects and funds leveraged with rural, Aboriginal and northern communities.	Trend analysis and monitoring.	2001
	2.3.2 Employment level of Aboriginal peoples and northern residents in resource sectors.	Trend analysis and monitoring.	2003

***Reporting Date** indicates which Performance Indicators will be presented in the fall DPR for the year indicated.

Goal 3: To manage the environmental impacts of natural resource development and use.

Objectives	Revised Performance Indicators	Targets and Approaches	Reporting Date
3.1 Helping limit and adapt to climate change.	3.1.1 a) GHG emissions compared to Kyoto protocol b) GHG emissions to GDP ratio compared to other countries.	Canada's Kyoto protocol target is to reduce GHG emissions to 6% below the 1990 level between the years 2008 and 2012.	2000
	3.1.2 Trends in use of renewable energy.	Trend analysis and monitoring.	2002
	3.1.3 Trends in energy efficiency.	After the energy efficiency index has been developed a desired directional target will be stated and a quantitative target will be considered.	2000
	3.1.4 GHG emissions from federal operations.	By the year 2005, reduce GHG emissions from federal operations by 20% below 1990 levels.	2003
	3.1.5 Progress towards the identification of impacts and adaptation measures.	To be determined.	2001
3.2 Promoting science, technology and stewardship practices that reduce environmental impacts, conserve biodiversity, and increase the efficiency of resource development and use.	3.2.1 Environmental influence of NRCan's science, technology and stewardship practices.	Maintain or improve NRCan`s influence.	2001
3.3 Safeguarding Canada's environment from the risks associated with natural resource development and use.	3.3.1 Progress towards addressing hazards associated with resource development and use.	Maintain or improve safeguards - hazard specific.	2002

***Reporting Date** indicates which Performance Indicators will be presented in the fall DPR for the year indicated.

Goal 4: To contribute to the safety and security of Canadians.

Objectives	Revised Performance Indicators	Targets and Approaches	Reporting Date
4.1 Safeguarding Canadians from natural hazards.	4.1.1 Impact of NRCan`s S&T on the identification, mitigation and response to natural hazards.	Hazard specific.	2000
4.2 Maintaining a national framework for spatial positioning, mapping and boundary maintenance.	4.2.1 User satisfaction with aeronautical charts, the Canada Lands Survey System and the Canadian Spatial Reference System.	Service standards exist in all 3 areas. Meet cycle deadlines 100% of the time. Maintain standards.	2001
4.3 Promoting the safe use of explosives and pyrotechnics.	4.3.1 Accident and incident rate in the explosives and pyrotechnic industries in Canada.	Zero accidents, no incidents.	2002
4.4 Enhancing safety and security in Canada's natural resource sector.	4.4.1 Impact of regulatory frameworks for energy transmission, offshore development, and Canada's uranium and nuclear industry.	Improvements to regulations and guidelines.	2003

***Reporting Date** indicates which Performance Indicators will be presented in the fall DPR for the year indicated.

Goal 5: To manage the Department efficiently and effectively.

Objectives	Revised Performance Indicators	Targets and Approaches	Reporting Date
5.1 Managing NRCan's resources responsibly.	5.1.1 Employee satisfaction with NRCan management practices.	Trend monitoring and analysis with corrective action as necessary.	2000
	5.1.2 Progress towards maintaining and enhancing NRCan's program integrity.	To be determined.	2001
	5.1.3 Savings realized from streamlining administrative processes, innovative service delivery, electronic commerce, improved facilities management, and information technology bulk purchasing and contracts.	To be determined on a project-by-project basis.	2003
5.2 Continuously improving NRCan products, services, and operations.	5.2.1 Implementation of recommendations from audits, evaluations, and other studies of NRCan management and operations.	To be determined.	2001
	5.2.2 Progress towards the implementation of leading-edge management practices.	Sector specific.	2003
5.3 Using leading-edge environmental management tools and practices for NRCan operations.	5.3.1 Progress of the department`s Environmental Management System (EMS) towards the implementation of ISO 14000 series of standards.	By 2000, NRCan will be compatible with the ISO 14000 series of standards.	2003
	5.3.2 Progress towards the implementation of environmental health and safety audits and environmental assessment evaluation of NRCan operations.	100% implementation with action items stemming from findings of audit and evaluations.	2001

Goal 5 (continued)

Objectives	Revised Performance Indicators	Targets and Approaches	Reporting Date
5.4 Reducing wastes from NRCan operations.	5.4.1 Amount of solid non-hazardous waste from NRCan operations per capita per year.	By 2000, 50% reduction in solid non-hazardous waste from level measured in 1995-96 audits.	2002
5.5 Increasing the efficiency of energy and other resource use in NRCan operations.	5.5.1 Portion of fleet converted to alternative fuels.	By 2004, 75% of fleet converted to alternative fuels where technically and operationally feasible.	2002
5.6 Promoting the use of goods and services that are eco-efficient.	5.6.1 Rate of purchasing by NRCan of Green Power.	10,000 MWH of power purchased per annum.	2001

***Reporting Date** indicates which Performance Indicators will be presented in the fall DPR for the year indicated.

B. Contacts for further information, Internet Addresses and Statutory Annual Reports

Natural Resources Canada

Headquarters Library
Public Enquiries
Main Floor, 580 Booth Street
Ottawa, ON, K1A 0E4
Telephone:(613) 995-0947
Fax: (613) 992-7211
E-mail:questions@NRCan.gc.ca

Statutory Annual Reports:

1. **The State of Canada's Forests**
   http://www.nrcan.gc.ca/cfs/proj/ppiab/sof/

2. **State of Energy Efficiency in Canada**
   http://oee.nrcan.gc.ca/seec/exec.summ.htm

Headquarters and Sector Internet Sites:

Natural Resources Canada Home Page	http://www.nrcan.gc.ca
Canadian Forest Service	http://www.nrcan.gc.ca/cfs
Climate Change – Government of Canada	http://climatechange.gc.ca/english/html
Climate Change – NRCan	http://www.climatechange.nrcan.gc.ca/english/html/index.html
Climate Change Secretariat	http://climatechange.gc.ca/english/html/feature/feature.html
Corporate Services Sector	http://www.nrcan.gc.ca/css/css-pe.html
Earth Sciences Sector	http://www.nrcan.gc.ca/ess
Energy Sector	http://www.nrcan.gc.ca/es
Minerals and Metals Sector	http://www.nrcan.gc.ca/mms
ResSources	http://www.nrcan.gc.ca/ressources
Statutes and Regulations	http://www.nrcan.gc.ca/dmo/spcb/regiss_e.html
Sustainable Development	http://www.nrcan.gc.ca/dmo/susdev

Earth Sciences Sector Internet Sites:

Aeronautical and Technical Services	http://aero.nrcan.gc.ca
Canada Centre for Remote Sensing	http://www.ccrs.nrcan.gc.ca
Canadian Earth Observation Network	http://ceonet.cgdi.gc.ca
Canadian Geoscience Publications Directory	http://ntserv.gis.nrcan.gc.ca
Canadian Geospatial Data Infrastructure	http://cgdi.gc.ca
Canadian National Earthquake Hazards Program	http://www.seismo.nrcan.gc.ca
Canadian National Geomagnetism Program	http://www.geolab.nrcan.gc.ca/geomag
Centre for Topographic Information	http://maps.nrcan.gc.ca
Centre for Topographic Information-Sherbrooke	http://www.ccg.nrcan.gc.ca
Earth Sciences Information Centre	http://www.nrcan.gc.ca/ess/esic
GeoConnections	http://cgdi.gc.ca
Geodetic Survey	http://www.geod.nrcan.gc.ca
Geological Survey of Canada	http://www.nrcan.gc.ca/gsc
Geomatics Canada	http://www.geocan.nrcan.gc.ca
Legal Surveys Division	http://www.geocan.nrcan.gc.ca/lsd
National Air Photo Library	http://airphotos.nrcan.gc.ca

Earth Sciences Sector (continued)

National Atlas of Canada	http://www-nais.ccrs.nrcan.gc.ca
National Atlas on SchoolNet	http://atlas.gc.ca/legacy/schoolnet
National Geoscience Mapping Program (NATMAP)	http://ntserv.gis.nrcan.gc.ca/natmap
Polar Continental Shelf Project	http://polar.nrcan.gc.ca
ResSources GSC	http://rgsc.nrcan.gc.ca

Canadian Forest Service Internet Sites:

CFS Atlantic Forestry Centre	http://www.fcmr.forestry.ca
CFS Great Lakes Forestry Centre	http://www.glfc.forestry.ca
CFS Laurentian Forestry Centre	http://www.cfl.forestry.ca
CFS Northern Forestry Centre	http://www.nofc.forestry.ca
CFS Pacific Forestry Centre	http://www.pfc.cfs.nrcan.gc.ca
Costa Rica-Canada Initiative	http://www.nrcan.gc.ca/cfs/crc/
Criteria and Indicators (C&I)	http://www.NRCan.gc.ca:80/cfs/proj/ppiab/ci/
First Nation Forestry Program	http://www.fnfp.gc.ca/
Model Forest Network	http://mf.ncr.forestry.ca/
Montreal Process C&I	http://www.mpci.org/
National Forest Strategy	http://www.nrcan.gc.ca/cfs/nfs/strateg/control_e.html
United Nations Framework Convention on Climate Change (english only)	http://www.unfccc.de/

Minerals and Metals Sector Internet Sites:

Aquatic Effects Programme	http://www.nrcan.gc.ca/mets/aete/
Annual Conference of the Mines Ministers of the Americas (CAMMA)	http://www.camma.org
Biominet	http://www.nrcan.gc.ca/mets/biominet/
Business Climate for Mineral Investment	http://mmsd1.mms.nrcan.gc.ca/business
Canadian Explosives Research Laboratory	http://www.nrcan.gc.ca/mms/explosif/cerldireng.htm
Canadian Certified Reference Materials Project (CCRMP)	http://www.nrcan.gc.ca/mets/ccrmp
Canadian Lightweight Materials Research Initiative (CLiMRI)	http://climri.nrcan.gc.ca
Canadian Minerals Yearbook	http://www.nrcan.gc.ca/mms/cmy/index_e.html
Canadian Mining Technology Network (CMT-Net)	http://cmt-net.nrcan.gc.ca
CANMET Environment Laboratory	http://envirolab.nrcan.gc.ca
CANMET Experimental Mine (Val-d'Or)	http://www.nrcan.gc.ca/mms/canmet-mtb/valdor/menu_e.htm
CANMET Materials Technology Laboratory	http://www.nrcan.gc.ca/mms/canmet-mtb/mtl
CANMET Mineral Technology Branch	http://www.nrcan.gc.ca/mms/canmet-mtb
CANMET Mining and Mineral Sciences Laboratories	http://www.nrcan.gc.ca/mms/canmet-mtb/mmsl.htm
Certifying Agency for Nondestructive Testing	http://ndt.nrcan.gc.ca
Economic and Financial Analysis Branch	http://www.nrcan.gc.ca/mms/efab/
Explonet (Pilot under Construction)	http://www.nrcan.gc.ca/mms/efab/mmsd/explonet/which.htm

Minerals and Metals Sector (continued)

Explosives Regulatory Division	http://www.nrcan.gc.ca/mms/explosif/
Mine Environment Neutral Drainage (MEND 2000)	http://www.nrcan.gc.ca/mets/mend/
Minerals and Metals – A World to Discover	http://www.nrcan.gc.ca/mms/school/e_mine.htm
Minerals and Mining Statistics Division	http://www.nrcan.gc.ca/mms/efab/mmsd/
Mining and Mapping MMS Knowledge	http://mmsd1.mms.nrcan.gc.ca/maps/
Mining Taxation World	http://www.nrcan.gc.ca/ms/efab/tmrd/
Proficiency Testing Program for Mineral Analysis Laboratories (PTP-MAL)	http://132.156.144.82/ptp/main.asp

Energy Sector Internet Sites:

Auto$mart and EnerGuide for Vehicles	http://autosmart.NRCan.gc.ca/online_E.htm
CANMET Energy Diversification Research Laboratory	http://cedrl.mets.nrcan.gc.ca/
CANMET Energy Technology Branch	http://www.nrcan.gc.ca/es/etb
CANMET Energy Technology Centre	http://nrcan.gc.ca/es/etb/cetc/cetchome.htm
CANMET Information Centre	http://www.nrcan.gc.ca/es/msd/cic/cicintro.htm
CANMET Western Research Centre	http://www.nrcan.gc.ca/es/etb/cwrc/wrcehome.html
EnerGuide for Houses	http://energuide.nrcan.gc.ca/houses/
Energy Policy Branch	http://www.nrcan.gc.ca/es/new/enquir2.htm
Energy Resources Branch	http://www.nrcan.gc.ca/es/erb/erb/index.html
Energy Technology Data Exchange	http://nrcan.gc.ca/es/msd/cic/cdnetde.htm
Energy Technology Futures	http://www.nrcan.gc.ca/es/etf
National Energy Use Database	http://oee.nrcan.gc.ca/neud/
Nuclear energy, uranium and radioactive waste	http://nuclear.nrcan.gc.ca:80/english.pdf
Office of Energy Efficiency	http://www.oee.nrcan.gc.ca
Office of Energy Research and Development	http://www.nrcan.gc.ca/es/new/oerd.htm
Renewable Energy Deployment Initiative	http://www.nrcan.gc.ca/es/erb/reed/redi_e.htm
RETScreen™	http://cedrl.mets.nrcan.gc.ca/e/index_e.html

C. Subject Index