



Ressources naturelles
Canada

Natural Resources
Canada



Natural Resources Canada

2010-11

Departmental Performance Report

The Honourable Joe Oliver
Minister of Natural Resources

Canada 

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Minister's Message

It is my pleasure to present the Departmental Performance Report for Natural Resources Canada (NRCan) for the reporting period ending March 2011.

Canada remains well positioned to face global economic challenges, due in part to the strength of its natural resource sectors. The contributions of the energy, mining and forest sectors to Canada's economy continue to be significant. In 2010, they accounted for 11.3 percent of real gross domestic product (GDP) and directly employed about 755,000 Canadians across the country. In terms of international trade, natural resources represented 53 percent of Canada's total merchandise exports that same year.

Our Department's implementation of the Government's Economic Action Plan (EAP) commitments has helped position the country's natural resource sectors to create high-paying jobs for Canadians, increase business investment and contribute to overall economic growth. NRCan also continued to promote and accelerate energy efficiency and clean technologies that are providing energy and environmental benefits to Canadians. Our commitment to the sustainable development of our vast energy resources has enhanced our status as a global energy leader.

The mining sector represents an important source of job creation, as Canada maintained its ranking among the largest producers of metals and mineral products. Our commitment to innovation has provided the geoscience knowledge necessary for private sector exploration and investment decisions and contributed to a better understanding of Canada's North.

We continued to work toward a more effective and efficient regulatory process for major resource projects. The Major Projects Management Office (MPMO) took further steps to strengthen the alignment of federal and provincial regulatory processes, moving closer to the objective of one-project, one-review.

NRCan also helped Canadian wood producers diversify export market opportunities in key economies, including those of China and South Korea. Our investment in transformative technologies supported innovation and new product development that helped improve the environmental performance and competitiveness of Canada's forest industry and secured a more prosperous future for communities that depend on the forest sector.

In Canada's North, our geomapping and geoscience capacity contributed to prosperity and job creation for communities and Canada's sovereignty. The Department also provided expertise to support Canada's international efforts to extend jurisdiction over our continental shelf.

Guided by its vision to improve the quality of life of Canadians by creating a sustainable resource advantage, NRCan continues its commitment to strengthening Canada's future.



The Honourable Joe Oliver
Minister of Natural Resources

Section I: Organizational Overview

Raison d'être

NRCan's vision is to improve the quality of life of Canadians by creating a sustainable resource advantage. It seeks to fulfill this vision by working to: improve the competitiveness of the natural resource sectors; enable the sustainable development of Canada's resources; and enhance the safety and security of citizens.

Responsibilities

The Minister of Natural Resources is specifically responsible for, or has responsibilities under, more than 30 [Acts of Parliament](#)¹. The Minister's core powers, duties and functions are set forth in the [Department of Natural Resources Act](#)², the [Resources and Technical Surveys Act](#)³, and the [Forestry Act](#)⁴. NRCan also works in areas of shared responsibility with the provinces.

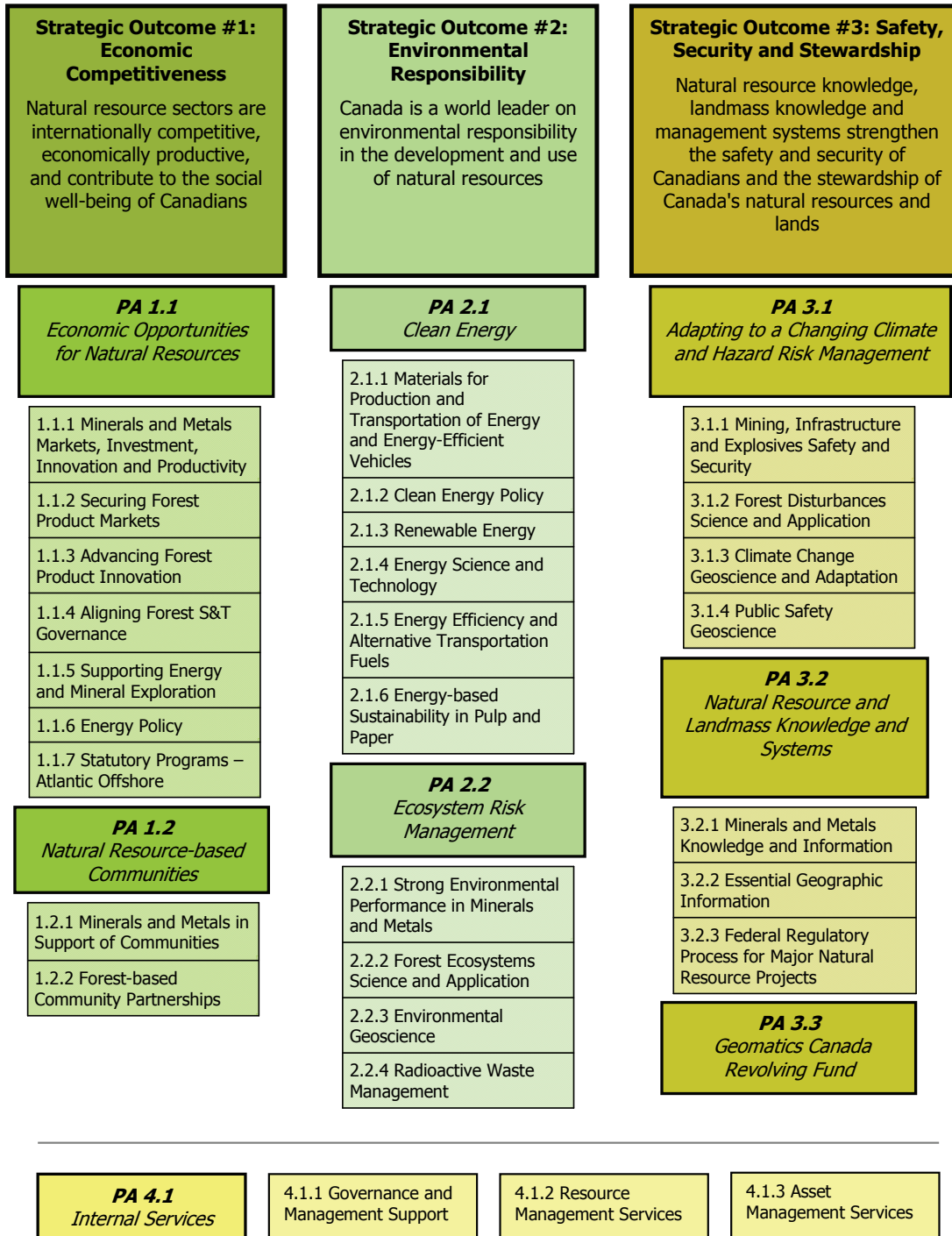
Within the Government of Canada, the Minister of Natural Resources also has responsibilities for the [natural resources portfolio](#)⁵, which includes the following:

- [Atomic Energy of Canada Limited](#)⁶;
- Two independent regulators: the [National Energy Board](#)⁷ and the [Canadian Nuclear Safety Commission](#)⁸;
- Two offshore petroleum boards: the [Canada-Newfoundland and Labrador Offshore Petroleum Board](#)⁹ and the [Canada-Nova Scotia Offshore Petroleum Board](#)¹⁰;
- [Sustainable Development Technology Canada](#)¹¹, the [Energy Supplies Allocation Board](#)¹², and the [Northern Pipeline Agency](#)¹³.

To deliver on its responsibilities, NRCan relies on a number of tools. It uses science and technology (S&T) to help address priorities and plan for the future. It develops policies, programs, and regulations that help create a sustainable resource advantage, supporting strong, competitive natural resource sectors that are environmentally and socially responsible. NRCan uses partnerships and international collaboration to help drive progress on natural resources issues that are important to Canadians. More broadly, the Department plays a critical role in Canada's future, contributing to high-paying jobs, business investment and overall economic growth.

Strategic Outcomes and Program Activity Architecture

As outlined in its 2010-11 Program Activity Architecture, NRCan managed its program delivery through three Strategic Outcomes and seven Program Activities designed to achieve expected results, support Government of Canada priorities, and deliver benefits to Canadians.



Departmental performance discussed in this report is measured using specific indicators that were developed for the above Strategic Outcomes and Program Activities. In some cases, minor improvements have been made to these indicators (and one new indicator has been added) since the publication of NRCan’s [2010-11 Report on Plans and Priorities](#)¹⁴. Descriptions of these changes will appear in the associated endnotes.

At the Strategic Outcome level, NRCan tracks a range of key national macroeconomic and technological indicators that are influenced by departmental programs and activities. At the Program Activity level, performance is assessed against three classes of indicators:

- Narrow socio-economic and technical measures;
- Measures of knowledge and innovation¹⁵; and,
- Service standards.

In cases where the Department is reporting on highly specific outcomes (e.g., data on natural hazards), activity-specific performance targets have been established.

Organizational Priorities

NRCan’s [2010-11 Report on Plans and Priorities](#)¹⁶ identified seven (7) priorities seen as critical to meeting the Department’s Strategic Outcomes and supporting the Government of Canada’s priorities. Together, these priorities have guided the Department’s policy direction, science and technology initiatives, and program development and delivery. NRCan also successfully delivered on the Government of Canada’s [Economic Action Plan](#)¹⁷ (see page 36 for details).

The success in delivering each priority is determined by assessing achievements against plans and commitments presented in the 2010-11 Report on Plans and Priorities. The rating criteria provided by the Treasury Board Secretariat are used to establish the status of each priority:

- **Exceeded:** More than 100 percent of the expected level of performance for the priority identified in the corresponding RPP was achieved during the fiscal year.
- **Met All:** 100 percent of the expected level of performance for the priority identified in the corresponding RPP was achieved during the fiscal year.
- **Mostly Met:** 80 to 99 percent of the expected level of performance for the priority identified in the corresponding RPP was achieved during the fiscal year.
- **Somewhat Met:** 60 to 79 percent of the expected level of performance for the priority identified in the corresponding RPP was achieved during the fiscal year.

Improving the Performance of the Regulatory System for Project Reviews	Type ¹⁸ : Ongoing	PAA Linkages: Strategic Outcome 3
<p>Status: Met all</p> <p><i>Major resource projects are an important driver of long-term economic growth and job creation for Canada. A federal review process for major resource projects that is timely, predictable, transparent and accountable is critical to the resource sectors’ ability to secure investments for resource development, while maintaining strong environmental protection for Canada.</i></p> <p>Key achievements for this priority in 2010-11 include:</p> <ul style="list-style-type: none"> ▪ Developing a whole-of-government strategy to modernize the regulatory review process for natural resource projects. ▪ Overseeing 70 major resource project reviews. The target of delivering 80% of the reviews within 8 weeks of their targeted timelines was met (collective target for the various departments and agencies involved). Projects being reviewed represented over \$120 billion in 		

potential new investment in Canada and included several high profile projects such as the [Northern Gateway Pipeline](#)¹⁹, the [Prosperity Gold-Copper Mine](#)²⁰ and the [Darlington New Nuclear Power Plant](#)²¹.

- Supporting the implementation of amendments to the [Canadian Environmental Assessment Act](#)²² that have resulted in simpler, clearer review processes that improve environmental protection and provide greater certainty to industry.
- Creating new Participant Funding Programs for the National Energy Board and Canadian Nuclear Safety Commission that allow for more timely and meaningful engagement of the public and Aboriginal groups.
- Advancing two pilot projects (the [Line Creek Coal Mine Expansion](#)²³ and the Northwest Transmission projects) with the province of British Columbia to help identify opportunities to improve the integration of federal and provincial review processes.

Competitive Resource Sectors	Type: Previously Committed	PAA Linkages: Strategic Outcomes 1, 2 and 3
<p>Status: Met all</p> <p><i>The current and future competitiveness of Canada's natural resource sectors is dependent on their ability to access markets, increase investments and develop innovative products and processes. Competitive sectors mean jobs in Canada and an improved trade balance.</i></p> <p>Key achievements for this priority in 2010-11 include:</p> <ul style="list-style-type: none"> ▪ Contributing to a 119% increase in wood exports to China (valued at \$834 million) and a 47% increase in exports to South Korea (valued at \$145 million) through the Canada Wood Export Program²⁴. ▪ Directly influencing, through the North American Wood First Initiative²⁵, the use of wood in 256 non-residential construction projects in Canada and the United States. This represents an estimated wood sales value of \$190 million. ▪ Supporting, by means of the Large Scale Wood Demonstration Initiative, 7 domestic and 3 offshore wood demonstration projects to showcase the innovative use of wood in commercial and residential applications. An example is the construction of a bio-energy plant on the University of British Columbia campus, which represents the first large-scale wood project constructed from cross-laminated timber in North America. ▪ Providing \$25.5 million in funding to FPInnovations²⁶ to carry out research on new and emerging transformative forest products and technologies and \$35.4 million to undertake pilot scale demonstrations of new transformative technologies. Fourteen pilot scale demonstration projects were launched in mills across Canada. ▪ Inaugurating in February 2011 NRCan's CANMET Materials Technology Laboratory²⁷ at a new state-of-the-art facility in Hamilton, Ontario. This strategic location positions the Department to enhance partnerships and collaboration on research and innovation in Canada's industrial sector, particularly in our automotive and manufacturing industries. ▪ Spurring green mining innovation across Canada through the Green Mining Initiative²⁸. The program led to significant progress on a number of key R&D projects, including for example the development of a technology that allows for the recovery of gold without the use of cyanide (patenting is currently underway). Further work was done on the use of biomass crops on mine tailings, the feasibility of which continues to be demonstrated. 		

Clean Energy	Type: Previously Committed	PAA Linkages: Strategic Outcomes 1 and 2
<p>Status: Met all</p> <p><i>The adoption of energy-efficient products and processes by consumers and industries as well as the development of new technologies are critical to position Canada as a global leader on environmental responsibility, ready to compete in a low-carbon economy.</i></p> <p>Key achievements for this priority in 2010-11 include:</p> <ul style="list-style-type: none"> ▪ Receiving over 510,000 grant applications over the life of the ecoENERGY Retrofit – Homes²⁹ program, surpassing its target of 460,000. The ecoENERGY Retrofit – Homes program helps Canadian homeowners make their homes more energy efficient and reduce their energy-related expenses. Since its inception, the program has led to a reduction of approximately 1.75 megatonnes in GHG emissions, exceeding the target of 1.29 to 1.66 megatonnes. ▪ Meeting or surpassing the 2010-11 targets for similar programs such as the ecoENERGY for Buildings and Houses. Overall in 2010-11, NRCan’s energy efficiency programming resulted in energy savings which represent a cumulative annual reduction of more than 5 megatonnes of GHG emissions. ▪ Surpassing the objectives of the ecoENERGY for Renewable Power program by signing a total of 104 contribution agreements representing 4458 megawatts (MW) of new renewable power capacity over the life of the program. Under the program, the annual GHG emissions reductions for full-year operation for the 104 projects are expected to be about 6 megatonnes. ▪ Installing 523 solar thermal systems in the commercial and institutional sectors and 575 solar water systems in the residential sector under the ecoENERGY for Renewable Heat program, leading to GHG emissions reduction of 10.4 kilotonnes (kt) per year from the 2010-11 installations. In total, this initiative supported 1,120 commercial and institutional projects and 1,154 residential projects, which will lead to GHG emission reductions of 27.7 kt per year. ▪ Supporting the research, development and demonstration of cutting-edge clean energy technologies through the ecoENERGY Technology Initiative³⁰ and the Clean Energy Fund³¹. In particular, focus was put on demonstration projects for Carbon Capture and Storage, with 3 large-scale projects in the design phase. ▪ Signing contribution agreements for 66 projects with 21 pulp and paper companies across Canada under the Pulp and Paper Green Transformation Program³², which are expected to generate 1.7 million MWh/year of new renewable energy (electricity and steam), save 6.8 million GJ/year and reduce GHG emissions. 		

Managing Nuclear Issues	Type: Ongoing	PAA Linkages: Strategic Outcomes 1 and 2
<p>Status: Met all</p> <p><i>Nuclear energy plays a critical role in Canada’s energy mix. Managing nuclear issues rests upon established policy objectives, involving meeting Canada’s energy and environmental needs safely, economically and reliably; reducing costs and risks for taxpayers while maximizing returns on Canada’s investments in nuclear; and positioning Canada’s nuclear industry to seize domestic and global opportunities.</i></p> <p>Key achievements for this priority in 2010-11 include:</p> <ul style="list-style-type: none"> ▪ Implementing Atomic Energy of Canada Limited (AECL) Restructuring – leading notably to an agreement in June 2011 to sell the CANDU Reactor Division to the Montreal-based engineering firm SNC-Lavalin Group Inc. (with the transaction closing by October 2011). While this was 		

achieved shortly after the end of the fiscal year, the transaction process was managed during 2010-11 and involved successive phases. The transaction outcome meets the Government's policy objectives, amid challenging domestic and international developments, and is consistent with the Government's approach to fiscal responsibility.

- Continuing to provide funding to AECL to meet its funding requirements for its commercial operations, including the development of new reactor technology and for the safe and reliable operation of its laboratories.
- Exploring options for restructuring the Nuclear Laboratories.
- Continuing our work with Health Canada, as part of the Isotope Supply Initiative (ISI), to ensure that the best possible information on medical radio-isotopes was made available to the medical community in Canada in support of health care mitigation measures.
- Finalizing four project agreements with collaborators under the [Non-reactor-based Isotope Supply Contribution Program](#)³³ (NISP) to advance the development of new isotope production technologies, increase the security of supply of medical isotopes and reduce the production of nuclear waste.

Sustainable Resource Development in the North	Type: Ongoing	PAA Linkages: Strategic Outcomes 1 and 3
<p>Status: Met all</p> <p><i>The development of Canada's North will allow Canadians to realize the vast potential of this region, ensuring prosperity and job creation for Northern communities and strengthening Canada's sovereignty while creating a sustainable resource future for generations of Canadians.</i></p> <p>Key achievements for this priority in 2010-11 include:</p> <ul style="list-style-type: none"> ▪ Providing the geoscience knowledge (maps, databases, publications) necessary to inform effective investment and land-use decisions through the Geo-mapping for Energy and Minerals³⁴ (GEM) Program. Industry uptake – such as new discoveries of prospective mineralization and exploration - has been documented in GEM project areas. ▪ Providing expertise to support Canada's submission to extend our continental shelf³⁵ under the United Nations Convention on the Law of the Sea (UNCLOS). This extension would give Canada the exclusive rights to explore the resources found within its continental shelf. The program remains on track to complete the data collection phase by the end of 2011 and to have the submission prepared by the 2013 deadline. ▪ Meeting our targets related to survey and international boundary work, including 668 km of the Nunavut/Northwest Territories boundary, where a significant number of mineral claims and exploration activities are taking place. ▪ Successfully delivering the Polar Continental Shelf Program³⁶, which supports Canadian and international scientists and research teams by providing them with logistical support in the Canadian Arctic. This included efforts to upgrade and expand the Program's facilities in Resolute as part of Canada's Economic Action Plan. 		

Integrated Management Excellence	Type: Ongoing	PAA Linkages: Program Activity 4.1
<p>Status: Met all</p> <p><i>Timely and cost-effective internal services are critical to support the performance of the overall organization.</i></p> <p>Overall, NRCan is a well managed organization, as evidenced by the results of the Management</p>		

Accountability Framework, an assessment by the Treasury Board Secretariat of key management functions in departments.

Key achievements for this priority in 2010-11 include:

- Implementing decisions made as part of Strategic Review, and setting medium-term corporate priorities and directions to develop capacity and ensure responsiveness and resilience. This will ensure the Department is well positioned to maximize its contribution to the Government of Canada and to Canadians.
- Further refining our planning process, notably through changes to its approach for the identification and management of risks. The 2011-14 Integrated Business Plan was released in spring 2011.
- Launching the Integrated Risk Management Policy Framework, which sets the parameters for an enterprise-wide risk management approach, with a view of improving management and performance excellence.
- Revising our governance structure to streamline, improve efficiency and ensure accountability.
- Making significant improvements to the Program Activity Architecture and Performance Measurement Framework to better align program results, improve performance monitoring and allow senior management to make strategic resource (re)allocations.
- Supporting the Departmental Audit Committee (DAC) in completing its planned work, covering the eight core areas of responsibility and providing strategic advice in priority areas.
- Launching the Key NRCan Competencies to translate the departmental vision and mission into individual behaviours and actions.

Modernizing Infrastructure and Systems	Type: Ongoing	PAA Linkages: Program Activity 4.1
<p>Status: Met all</p> <p><i>NRCan's ability to successfully deliver on its mandate and operational priorities is also dependent upon timely financial information and access to adequate facilities.</i></p> <p>Key achievements for this priority in 2010-11 include:</p> <ul style="list-style-type: none"> ▪ Implementing a new financial system (SAP/Felix), which was launched on April 1st 2011. ▪ Modernizing 12 of NRCan's laboratories as part of the Modernizing Federal Laboratories Program³⁷, an Economic Action Plan initiative. The projects undertaken were delivered on time and within budget and have led to an improvement in the overall portfolio condition index from poor to fair. ▪ Receiving the GTEC Gold Medal³⁸ for the e-functionality of our back office functions. 		

Risk Analysis

As a large and diverse organization, NRCan prepares for and manages a wide range of risks and opportunities. The Department identifies and responds to these risks via an Integrated Risk Management Policy Framework, which was updated in 2010-11.

The Policy Framework recognizes that NRCan's ability to achieve its strategic outcomes may be impacted by a range of risks, some of which are outside of its direct control, and sets the scope of risk management measures required. It also identifies a broad range of instruments involved in the management of risk, and specifies the related roles, responsibilities, definitions, and guiding principles.

In 2010-11, the Department managed a wide range of risks, as outlined in its Corporate Risk Profile. Some of these risks are discussed below.

Global Economy

While the global economic outlook remains uncertain, Canada has emerged from the economic downturn in a relatively better position than other G-8 countries, due in part to the country's large and diverse natural resource endowment and its stable investment climate.

Despite this encouraging outlook for Canada, the uneven and uncertain global growth, notably in the US, remains a key risk for our natural resource sectors, and one that NRCan has been managing in 2010-11.

Canada's Economic Action Plan (EAP) was directly targeted at supporting and helping Canada's economy remain strong. NRCan was a key contributor of the EAP, delivering more than \$650 million in programs for the natural resource sectors that had a direct impact on Canadians and the Canadian economy (for more details on the performance of NRCan's EAP programs, see page 36).

To ensure that the EAP programs would be delivered on time and within budget, NRCan put in place robust governance and monitoring systems. During 2010-11, two audits of EAP programs were performed and concluded that the programs were properly managed. All ensuing recommendations were addressed, including those related to the improvement of some aspects of the management controls.

Important, longer-term NRCan programs are also directed toward strengthening the resiliency and competitiveness of the Canadian resource sectors and contribute to supporting the natural resource sectors to mitigate economic uncertainties. These include, for example, the [Transformative Technologies Program](#)³⁹ for forest products, the [Clean Energy Fund](#)⁴⁰, the [Green Mining Initiative](#)⁴¹, and the development and implementation of a whole-of-government strategy to modernize the regulatory system for project reviews.

Capacity Management

NRCan manages several high-profile programs that have a limited lifespan; in 2010-11, the majority of the Department's programs were of this kind. These sunseting programs require the Department to manage long-lived capital assets and highly qualified personnel in an environment where funding is time-limited. While this ensures that NRCan's programs are reviewed on a regular basis and that any new programs are aligned to the government's priorities, there are risks associated with managing in this context.

NRCan managed these risks by strengthening its management practices to ensure proper planning and responsiveness capacity. For example, in 2010-11 the planning and monitoring functions were strengthened by further integrating human resources planning and by enhancing the process for reviewing financial and non-financial performance information on a quarterly basis. All senior committees were tasked with examining approaches to increase the effectiveness and efficiency of their respective areas and to find opportunities to streamline operations. The objective is to ensure that the Department and its corporate infrastructure remain robust, resilient and flexible. Finally, NRCan worked to ensure the continued relevance of its programs: it received more than \$660 million in new funding in the federal Budget 2011.

Program-Specific Risks

NRCan monitored on an ongoing basis the progress of all of its programs, notably through the financial and non-financial quarterly reviews. Particular attention was given to high-risk programs such as the restructuring of Atomic Energy of Canada Limited (AECL). Various steps were taken to manage these risks, including continuing to provide funding to AECL to ensure the safe and reliable operations of its laboratories. In June 2011, an agreement was reached to sell the CANDU Reactor Division, which will dramatically reduce the risks and costs to taxpayers.

Natural resources provided significant benefits to Canadians in 2010

- 11.3 percent of Canada's gross domestic product (GDP)
- Directly employed more than 755,000 Canadians across the country
- Accounted for 23.5 percent of Canada's total new capital investment

Source: Statistics Canada

Summary of Performance

Departmental overview

2010–11 Financial Resources (\$ millions)			
	Planned Spending	Total Authorities	Actual Spending
Program Spending	2,756.3	2,859.7	2,253.7
Statutory Programs - Atlantic Offshore Accords	1,696.4	2,103.3	2,103.3
TOTAL	4,452.7	4,963.0	4,357.0

2010–11 Human Resources (FTEs)		
Planned	Actual	Difference
4,571	4,630	56

Performance by Strategic Outcome

Strategic Outcome 1: Natural resource sectors are internationally competitive, economically productive and contribute to the social well-being of Canadians

Performance Indicator ⁴²	Results
Canada's rank of resource-based world trade	<p style="text-align: center;">Canada's Trade Performance Index Ranking</p> <p>■ Wood, Wood Products, and Paper ■ Minerals (includes energy and power)</p>
Target	
Favourable 5-year trend in rank position	
Status	
Mostly Met	<p>Canada's ranking relative to other countries has experienced a slightly positive trend over the 2005 to 2009 period (the most recent year for which data is available).</p> <p>In 2010, natural resources represented 53% of Canada's total merchandise exports. This is up from the pre-recession share of 43%. The US remains Canada's most important trade partner, particularly in energy and forestry. China is now Canada's 2nd most important trading partner.</p> <p>The Trade Performance Index (TPI) is defined and reported by the International Trade Centre of UNCTAD/WTO.</p>

Program Activity	2009–10 Actual Spending	2010–11 ⁴³ (\$ millions)				Alignment to Government of Canada Outcomes ⁴⁴
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
1.1 Economic opportunities for natural resources	274.2	248.1	248.1	263.2	248.7	Strong Economic Growth
1.2 Natural resource-based communities	10.9	11.8	11.8	14.1	12.7	Strong Economic Growth
Total – Strategic Outcome 1*	285.1	259.9	259.9	277.3	261.4	

* The total for Strategic Outcome 1 does not include the Statutory Programs for the Atlantic Offshore Accords.

Strategic Outcome 2: Canada is a world leader on environmental responsibility in the development and use of natural resources

Performance Indicator A	Results
Canada's total annual energy savings due to efficiency. ⁴⁵	<p>Canada's Energy Savings Due to Efficiency</p> <p>From 2004 to 2008 (the most recent year for which data is available) energy savings due to efficiency in Canada have increased by 11%, from 1086 to 1206 petajoules (PJ) per annum.</p> <p>The reduction in energy savings from 2006 onwards can be explained in part by the influence of the oil and gas sector, whose energy consumption in this sector has increased from 8% to 22% of industrial energy consumption, and by the economic downturn impact on manufacturing and merchandise transportation.</p> <p>Long term trends (more than 10 years) for energy efficiency in Canada remain positive, with an improvement in energy efficiency of 18% between 1990 and 2008. For more information please see the report Efficiency trends in Canada – 1990-2008⁴⁶.</p>
Target	
Favourable 5-year trend in Petajoules (PJ) saved	
Status	
Met All	

Performance Indicator B	Results											
<p>NRCan's contribution to advancement of innovative and environmentally responsible resource practices in the resource sector measured by uptake of knowledge, technologies, and demonstration projects.</p>	<p>Innovative and Environmentally Responsible Practices in the Resource Sector - Scientific & Technical Papers</p> <table border="1"> <caption>Data for Innovative and Environmentally Responsible Practices in the Resource Sector - Scientific & Technical Papers</caption> <thead> <tr> <th>Year</th> <th>Number of publications</th> </tr> </thead> <tbody> <tr> <td>2006</td> <td>295</td> </tr> <tr> <td>2007</td> <td>270</td> </tr> <tr> <td>2008</td> <td>276</td> </tr> <tr> <td>2009</td> <td>319</td> </tr> </tbody> </table>		Year	Number of publications	2006	295	2007	270	2008	276	2009	319
Year	Number of publications											
2006	295											
2007	270											
2008	276											
2009	319											
Target												
<p>Favourable long-term trend in number of publications</p>												
Status												
<p>Met All</p>	<p>Over the most recent four-year period for which comparable data are available (2006-2009), NRCan's production of peer-reviewed scientific and technical papers in these areas has increased by 8%, from 295 to 319 publications.</p> <p>Innovation is critical to improve the environmental performance of the natural resource sectors and of Canada. Furthermore, the environmentally and socially responsible development of natural resources is increasingly seen as a corporate advantage as the world is transitioning to a low-carbon economy.</p> <p>NRCan supports innovation in this area by working with industries and academia to assume parts of the initial Research, Development and Demonstration (RD&D) costs, producing knowledge on innovation that is aligned with the priorities of stakeholders and relieving the natural resource sectors of some of the initial RD&D risks and costs that can sometimes be high.</p>											

Program Activity	2009-10 Actual Spending	2010-11 ⁴⁷ (\$ millions)				Alignment to Government of Canada Outcomes
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
2.1 Clean Energy	802.5	1,926.4	1,918.7	1,895.2	1,329.6	A Clean and Healthy Environment
2.2 Ecosystem Risk Management	156.5	194.7	205.7	203.0	198.3	A Clean and Healthy Environment
Total – Strategic Outcome 2	959.0	2,121.1	2,124.4	2,098.2	1,527.9	

The variance between the planned and actual spending is mainly attributable to the reprofiling of the funding for key programs such as the Pulp and Paper Green Transformation Program and the Clean Energy Fund. Other changes include the reduction of expenditures associated with the Biofuels Producer Incentive Program. These reprofiling have not affected NRCan's ability to deliver results in 2010-11, as evidenced by the positive performance of its non-financial indicators for Strategic Outcome 2 presented above.

Strategic Outcome 3: Natural resource knowledge, landmass knowledge and management system strengthen the safety and security of Canadians and the stewardship of Canada’s natural resources and lands.

Performance Indicator A	Results																								
Contribution to the safety and security of Canadians, and the effectiveness of federal land stewardship and regulatory processes.	<p style="text-align: center;">Quality (timeliness and accessibility) of Geoscience Data for Emergency Management, Planning, and Response</p> <table border="1"> <caption>Data for Quality of Geoscience Data</caption> <thead> <tr> <th>Year</th> <th>Geomagnetic (%)</th> <th>Seismic (%)</th> <th>Remote Sensing (%)</th> </tr> </thead> <tbody> <tr> <td>2006-07</td> <td>92.4%</td> <td>98.8%</td> <td>99.8%</td> </tr> <tr> <td>2007-08</td> <td>93.2%</td> <td>97.7%</td> <td>99.8%</td> </tr> <tr> <td>2008-09</td> <td>91.9%</td> <td>97.0%</td> <td>99.8%</td> </tr> <tr> <td>2009-10</td> <td>93.6%</td> <td>98.3%</td> <td>99.8%</td> </tr> <tr> <td>2010-11</td> <td>92.9%</td> <td>98.2%</td> <td>99.9%</td> </tr> </tbody> </table> <p>From 2006-07 to 2010-11, NRCan consistently exceeded its 90% target for timeliness and accessibility of landmass and natural hazard system data, as indicators of the quality of its data and knowledge sharing.</p> <p>The provision of this information helps other levels of government, including international government bodies, the private sector and professional organizations to prepare for and mitigate natural disasters and make decisions for the effective management of Canada’s natural resources and lands.</p>	Year	Geomagnetic (%)	Seismic (%)	Remote Sensing (%)	2006-07	92.4%	98.8%	99.8%	2007-08	93.2%	97.7%	99.8%	2008-09	91.9%	97.0%	99.8%	2009-10	93.6%	98.3%	99.8%	2010-11	92.9%	98.2%	99.9%
Year		Geomagnetic (%)	Seismic (%)	Remote Sensing (%)																					
2006-07		92.4%	98.8%	99.8%																					
2007-08		93.2%	97.7%	99.8%																					
2008-09	91.9%	97.0%	99.8%																						
2009-10	93.6%	98.3%	99.8%																						
2010-11	92.9%	98.2%	99.9%																						
Target																									
Greater than 90% of landmass and natural hazard data meets timeliness and accessibility standards																									
Status																									
Exceeded																									

Performance Indicator B	Results										
Contribution to the safety and security of Canadians, and the effectiveness of federal land stewardship and regulatory processes.	<p style="text-align: center;">Knowledge Advancements in Safety, Security, and Geoscience - Scientific & Technical Papers</p> <table border="1"> <caption>Data for Knowledge Advancements in Safety, Security, and Geoscience - Scientific & Technical Papers</caption> <thead> <tr> <th>Year</th> <th>Number of publications</th> </tr> </thead> <tbody> <tr> <td>2006</td> <td>175</td> </tr> <tr> <td>2007</td> <td>196</td> </tr> <tr> <td>2008</td> <td>187</td> </tr> <tr> <td>2009</td> <td>238</td> </tr> </tbody> </table> <p>Over the most recent four-year period for which comparable data are available (2006-2009), NRCan’s production of peer-reviewed scientific and technical papers in these areas has increased by 36%, from 175 to 238 publications.</p> <p>NRCan’s scientific activities and the dissemination of knowledge on climate change, forest disturbances, geoscience and adaptation, public safety geoscience, as well as explosives inform decision-making by industry and various levels of government. Risks can be better assessed and mitigation strategies put in place to ensure the safety and security of Canadians (e.g. mitigation and adaptation strategies related to forest pests, forest fires, climate change, earthquakes, tsunamis, etc.). The information is also used to inform decision-making on the stewardship of Canada’s lands, for example Canada’s North.</p>	Year	Number of publications	2006	175	2007	196	2008	187	2009	238
Year		Number of publications									
2006		175									
2007		196									
2008	187										
2009	238										
Target											
Favourable long-term trend in number of publications											
Status											
Met All											

Program Activity	2009–10 Actual Spending	2010–11 (\$ millions)				Alignment to Government of Canada Outcomes
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
3.1 Adapting to a Changing Climate and Hazard Risk Management	62.9	68.6	68.6	67.6	60.8	An Innovative and Knowledge-based Economy
3.2 Natural Resource and Landmass Knowledge for Canadians	113.5	103.7	103.6	98.9	95.5	An Innovative and Knowledge-based Economy
3.3 Geomatics Canada Revolving Fund	0.5	1.9 (1.9)	1.9 (1.9)	7.3	(0.3)	An Innovative and Knowledge-based Economy
Total	176.9	172.3	172.2	173.8	156.0	

Internal Services

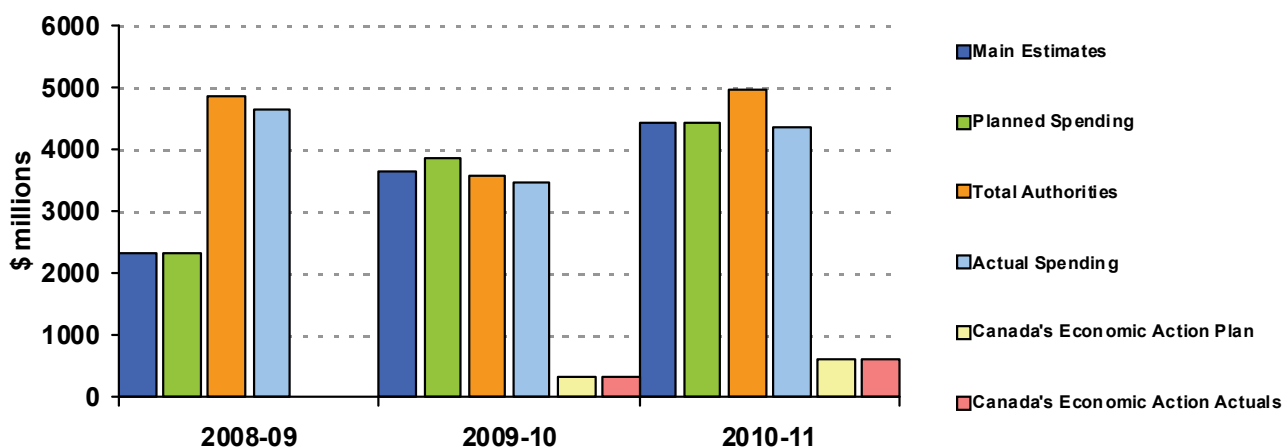
Program Activity	2009–10 Actual Spending	2010–11 (\$ millions)			
		Main Estimates	Planned Spending	Total Authorities	Actual Spending
4.1 Internal Services	306.9	223.0	223.3	310.4	308.4

The variance between the planned and actual spending can be explained by transfers from departmental programs to internal services as part of the corporate costing model, as well as increased costs associated with the Employee Benefit Plan.

Expenditure Profile

The graph below compares the Department’s three-year spending trend for estimates, planned spending, total authorities and actual spending, as well as for Canada’s Economic Action Plan Initiatives.

Departmental Spending Trends



NRCan’s total actual spending for 2010-11 was \$4.357 billion.

- This included \$2.103 billion for the statutory programs for the Atlantic Offshore Accords. NRCan receives royalties for offshore oil and gas production and subsequently pays an equal amount to the provinces of Nova Scotia and Newfoundland and Labrador.

NRCan’s spending increased from previous years – a \$1,068.8 million and \$526.4 million increase from 2008-09 and 2009-10 levels respectively. This is attributable to:

- Increased funding to deliver on Canada’s Economic Action Plan (with programs such as ecoENERGY Retrofit Homes and the Clean Energy Fund – see p. 36 for more information on NRCan’s Economic Action Plan programs).
- Increased funding for other key NRCan programs such as the Pulp and Paper Green Transformation Program.

Estimates by Vote

For information on our organizational votes and/or statutory expenditures, please see the [2010–11 Public Accounts of Canada](#)⁴⁸ (Volume II) publication.

Voted and Statutory Items (\$ millions)

Voted or Statutory Items	Truncated Vote or Statutory Wording	Actual Spending 2008-09	Actual Spending 2009-10	Main Estimates 2010-11	Actual Spending 2010-11
Vote 1	Operating Expenditures	719.2	869.7	805.9	819.6
Vote 2	Capital Expenditures		8.9	15.1	21.2
Vote 5	Grants and Contributions	382.0	780.5	1 877.6	1346.5
Statutory	Minister of Natural Resources – Salary and Motor Car Allowance	0.1	0.1	0.1	0.1
Statutory	Contributions to Employee Benefit Plans	58.3	67.1	57.6	66.1
Statutory	Canada-Nova Scotia Development Fund	--	--	0.0	0.0
Statutory	Infrastructure costs relating to the exploration, development, production or transportation of oil and gas in the offshore area of Nova Scotia	0.6	1.3	0.0	0.0
Statutory	Canada-Newfoundland and Labrador Offshore Petroleum Board	4.1	4.9	6.5	6.3
Statutory	Canada-Nova Scotia Offshore Petroleum Board	2.8	2.2	3.4	2.2
Statutory	Payments to the Nova Scotia Offshore Revenue Account	577.4	109.4	295.3	225.2
Statutory	Payments to the Newfoundland Offshore Petroleum Resource Revenue Fund	2,351.0	1,180.9	1,371.2	1227.7
Statutory	Grant to the Canada Foundation for Sustainable Development	19.0	0.0	20.0	0.0
Statutory	Newfoundland and Labrador Fiscal Equalization Offset Payments	556.7	465.3	0.0	641.9
Statutory	Grants in Support of Energy Costs Assistance Measures	0.0	0.0	0.0	0.0
Statutory	Spending of proceeds from the disposal of Crown Assets	0.4	0.5	0.0	0.5
Statutory	Refund of amounts credited to revenues in previous years	0.0	0.0	0.0	0.0
Statutory	Grant to the University of Calgary, Institute for Sustainable Energy, Environment, and Economy	5.0	0.0	0.0	0.0
Statutory	Geomatics Canada Revolving Fund - Operational expenditures - Respendable revenue	0.9	0.5	0.0	(0.3)
Total Spending		4,677.5	3,491.3	4,452.7	4,357.0

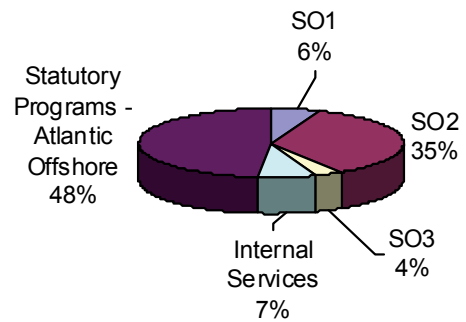
Section II: Analysis of Program Activities by Strategic Outcome

This section provides performance information on the delivery of programs that were critical to the realization of our strategic outcomes and priorities in 2010-11. During the reporting period, NRCan monitored and tracked progress through quarterly reviews, which enabled early detection of problem areas and, wherever possible, the implementation of corrective actions to deliver expected results in accordance to plans, timelines and budgets.

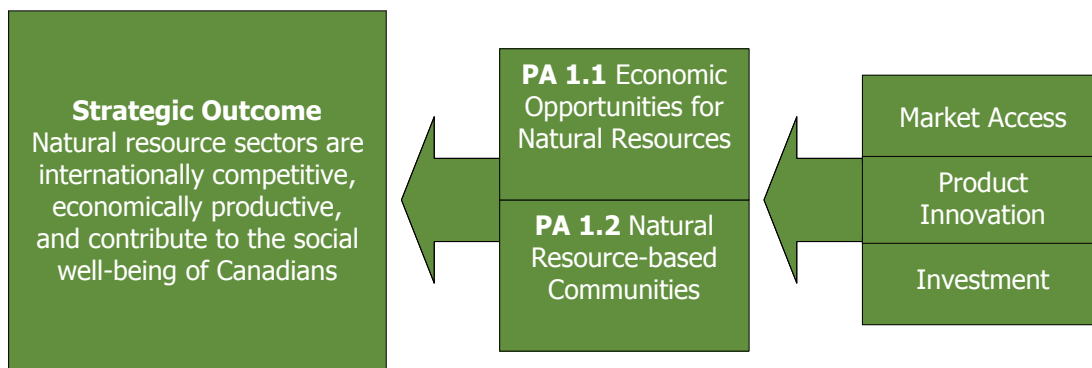
NRCan also updated its performance indicators in order to support improved performance management and decision-making, and provide more accurate and balanced performance information to Parliament and Canadians. As a result, performance indicators in this document differ slightly from those published in the corresponding [2010-11 Report on Plans and Priorities](#).⁴⁹

More information about these programs and initiatives, as well as supporting evidence from internal evaluation and audit reports, can be found on our [website](#).⁵⁰

Percentage of NRCan Spending by Strategic Outcome in 2010-11



Strategic Outcome 1: Economic Competitiveness



NRCan works to contribute to the economic competitiveness of natural resources by:

- Increasing access to new and existing markets by contributing to the reduction of trade barriers and ensuring that regulations are up-to-date;
- Maximizing productivity and decreasing dependency on the sale of traditional products by encouraging natural resources sectors to adopt new technologies and processes and develop new products; and,
- Encouraging investments in the natural resource sectors by decreasing the risk of development and increasing knowledge on opportunities.

Program Activity 1.1: Economic Opportunities for Natural Resources

Expected Result: Competitive national and international markets, stable economic opportunity, and investment in natural resources

The program activity contains programs designed to promote innovation, investment, and the enhancement of the competitiveness of Canada's natural resources and related products industries through the provision of know-how and tools, including base geo-science information, along with trade promotion and market acceptance, at home and abroad. This group of programs also delivers policies, regulations and legislative work to manage federal responsibilities associated with Canada's oil and natural gas supply, protecting the critical energy infrastructure, and managing statutory programs for the Atlantic offshore.

	2010–11 Financial Resources (\$ millions)			2010–11 Human Resources (FTEs)		
	Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
Program	248.1	263.2	248.7	835	904	(69)
Statutory Programs – Atlantic Offshore Accords	1676.4	2103.3	2103.3			

Performance Indicator A	Results																																			
Capital investments and exploration investments in the resource sector	<p>Resource Sector Capital Investments</p> <table border="1" style="display: none;"> <caption>Resource Sector Capital Investments (Billions)</caption> <thead> <tr> <th>Year</th> <th>Forest</th> <th>Energy</th> <th>Mining</th> <th>Total</th> </tr> </thead> <tbody> <tr><td>2005</td><td>3.4</td><td>59.3</td><td>7.3</td><td>70.0</td></tr> <tr><td>2006</td><td>3.0</td><td>70.3</td><td>8.3</td><td>81.6</td></tr> <tr><td>2007</td><td>2.6</td><td>72.4</td><td>10.2</td><td>85.2</td></tr> <tr><td>2008</td><td>2.3</td><td>81.4</td><td>12.1</td><td>95.8</td></tr> <tr><td>2009</td><td>1.4</td><td>60.8</td><td>9.8</td><td>72.0</td></tr> <tr><td>2010</td><td>1.6</td><td>65.3</td><td>12.6</td><td>79.5</td></tr> </tbody> </table>	Year	Forest	Energy	Mining	Total	2005	3.4	59.3	7.3	70.0	2006	3.0	70.3	8.3	81.6	2007	2.6	72.4	10.2	85.2	2008	2.3	81.4	12.1	95.8	2009	1.4	60.8	9.8	72.0	2010	1.6	65.3	12.6	79.5
Year		Forest	Energy	Mining	Total																															
2005		3.4	59.3	7.3	70.0																															
2006		3.0	70.3	8.3	81.6																															
2007	2.6	72.4	10.2	85.2																																
2008	2.3	81.4	12.1	95.8																																
2009	1.4	60.8	9.8	72.0																																
2010	1.6	65.3	12.6	79.5																																
Target																																				
Favourable 5-year trend in billions of dollars																																				
Status																																				
Mostly Met	<p>The performance target for this indicator is Mostly Met, as the trend for resource sector capital investments has been stable over the last five years, despite the impacts of the global economic recession that has led to reduced investments in Canada in 2009 and 2010 (as shown) and abroad.</p> <p>As Canada is emerging from the global downturn, capital investments in the natural resource sectors are continuing to increase. In 2010, new capital investments in the natural resource sectors accounted for 23.5% of the total capital investments in our economy.</p> <p>The longer term trend for resource sector capital investments is also positive, with data for the 2000-10 period showing an overall favourable trend.</p>																																			

Performance Indicator B	Results													
Diversity of Canada's wood products export markets (as measured by the Herfindahl index for markets)	<div style="text-align: center;"> Diversity of Canada's Wood Products Export Markets <table border="1" style="margin: 10px auto;"> <caption>Data for Diversity of Canada's Wood Products Export Markets</caption> <thead> <tr> <th>Year</th> <th>Herfindahl Index</th> </tr> </thead> <tbody> <tr> <td>2006</td> <td>0.74</td> </tr> <tr> <td>2007</td> <td>0.67</td> </tr> <tr> <td>2008</td> <td>0.60</td> </tr> <tr> <td>2009</td> <td>0.54</td> </tr> <tr> <td>2010</td> <td>0.47</td> </tr> </tbody> </table> </div> <p>The diversity of Canada's wood product export markets has increased steadily since 2006. This clear and positive 5-year trend demonstrates Canada's success in diversifying end markets for Canadian wood products to a broader number of countries, notably in Asia.</p> <p>Over the period, Canadian wood exports to China have rapidly increased, from less than \$50 million in 2000 to more than \$834 million in 2010.</p> <p>The diversity of export markets increases the resiliency of the forest sector and allows it to adapt more easily to changing market conditions.</p> <p>The Herfindahl Index presented here is supported by data from Statistics Canada <i>World Trade Atlas</i>. A value of 1.0 indicates only a single receiving country for all of Canada's exports; as the value moves towards zero, the more Canada has diversified its dependency on one receiving country.</p>		Year	Herfindahl Index	2006	0.74	2007	0.67	2008	0.60	2009	0.54	2010	0.47
Year			Herfindahl Index											
2006			0.74											
2007			0.67											
2008	0.60													
2009	0.54													
2010	0.47													
Target														
Favourable 5-year trend														
Status														
Met All														

Performance Summary and Analysis of Program Activity

The level of investment in Canada's natural resource sectors is a leading indicator of the natural resource sectors' competitiveness. This Program Activity includes programs aimed at increasing market access, innovation and investments, three critical dimensions of competitiveness. By reducing trade and policy barriers, promoting Canadian products abroad, optimizing the use of our natural resources, increasing productivity and encouraging investments, NRCan is supporting the competitiveness of our natural resource sectors.

The economic downturn of 2008 and 2009 slowed down growth and investments in natural resources. By mid-2009, however, Canada was showing signs of economic recovery and natural resources have proven to be a strong engine of this growth. In fact, 2010 has witnessed an increase in investments in oil and gas and in mining, with capital and exploration investments increasing more than 10% from the 2009 levels. The forest sector is also showing signs of recovery after years of structural and cyclical shocks. Canada's natural resources will continue to be key contributors to the country's economy, and the growing demand for natural resources, coupled with higher commodity prices (oil, mineral and metals), is expected to lead to a positive long term trend in investments in natural resources.

Key achievements in 2010-11 include:

- In support of the forest sector, NRCan's efforts to diversify export markets for Canadian wood products has helped cushion Canada's forest sector from what has been a severe contraction over the past few years in its traditional export markets. Programs such as the [Canada Wood Export Program](#)⁵¹ and the [North American Wood First Initiative](#)⁵² have contributed to the diversification of wood export markets, and have led to an increase in wood exports. Programs such as the [Value to Wood Program](#)⁵³ and the Leadership for Environmental Advantage in Forestry have contributed to productivity gains and an increase in the environmental credentials of Canada's forest products.

- The [Geo-mapping for Energy and Minerals](#)⁵⁴ (GEM) program and the [Targeted Geoscience Initiative](#)⁵⁵ have led to the discovery of prospective exploration sites. By reducing the exploration risk, these programs are stimulating new mining and energy exploration and development and encouraging investments in Canada’s natural resources.
- Finally, through various regulatory, trade promotion, and policy activities, NRCan promoted investment and competitiveness in the oil and gas sector, which is now the highest revenue-generating sector in the Canadian economy.

Lessons Learned

An [evaluation](#)⁵⁶ of the Forest Innovation and Forest Research Institutes Initiative was completed in 2010. In particular, it included an assessment of the integration of Canadian forest research institutes into the world’s largest forest research organization, [FPInnovations](#)⁵⁷. Findings indicated that these programs are cost-effective, relevant to federal and NRCan priorities, and successful in meeting their expected results. FPInnovations developed a five-year *Innovation Strategy* in response to a recommendation included in the evaluation to update the long-term research plan for the forest sector in consultation with appropriate stakeholders.

While NRCan’s GEM program was generally successful at ensuring Northerners were involved in all stages of project planning and implementation, improvements were made in 2010-11 to better incorporate community-based knowledge into project planning. Collaborative engagement sessions were held in consultation with regional advisory groups and communities to exchange information and incorporate local knowledge, enhancing program efficiencies and addressing local interests, customs and environmental concerns, such as migration patterns.

Program Activity 1.2: Natural Resource-Based Communities

Expected Result: **Increased knowledge, skills and capacity to benefit from the evolving natural resource economy within resourced-based communities (both Aboriginal and non-Aboriginal)**

This program activity is targeted to increase Canada's knowledge of the impacts of the resource sectors on communities that have a substantial reliance on resource-based industries and to improve the capacity and knowledge for increasing the number of opportunities through value-added products and services. This group of programs is designed to improve the social well-being of Canadians. It is also about promoting Aboriginal and non-Aboriginal participation, improving skills, capacity and community stability through, for example, the Forest Community Program, the First Nations Forestry Program, and the Mines Ministers federal/provincial and territorial Framework for Action.

2010–11 Financial Resources (\$ millions)			2010–11 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
11.8	14.1	12.7	62	41	11

Performance Indicator C	Results									
Percentage of programs achieving expected results within plans, timelines and budgets ⁵⁸	<p>Performance against Plans, Timelines, Budgets for programs within PA 1.2</p> <table border="1" style="margin: 10px auto;"> <caption>Overall Success Rate Data</caption> <thead> <tr> <th>Year</th> <th>Overall Success Rate</th> </tr> </thead> <tbody> <tr> <td>2008-09</td> <td>92.2%</td> </tr> <tr> <td>2009-10</td> <td>96.8%</td> </tr> <tr> <td>2010-11</td> <td>100.0%</td> </tr> </tbody> </table>		Year	Overall Success Rate	2008-09	92.2%	2009-10	96.8%	2010-11	100.0%
Year			Overall Success Rate							
2008-09			92.2%							
2009-10			96.8%							
2010-11	100.0%									
Target										
100% of programs delivered on plan, on time, and within budget										
Status	<p>Performance analyses of the two sub-activities that support this Program Activity indicate that expected results and outputs were delivered on time and on budget. This trend has been increasing since 2008-09.</p>									
Met All										

Performance Summary and Analysis of Program Activity

Natural resources are central to the economy of many rural communities across Canada, and the natural resource sectors are among the largest private employers of Aboriginal peoples. While recent economic conditions and broader forest sector restructuring have led to job losses, NRCan is working with natural resources-based communities across Canada to help mitigate and alleviate the short term economic effects of forest sector transition and reduced investments in natural resources. This will strengthen the resiliency of natural resource-based communities and increase their capacity to benefit from an evolving natural resource economy. NRCan supports this through:

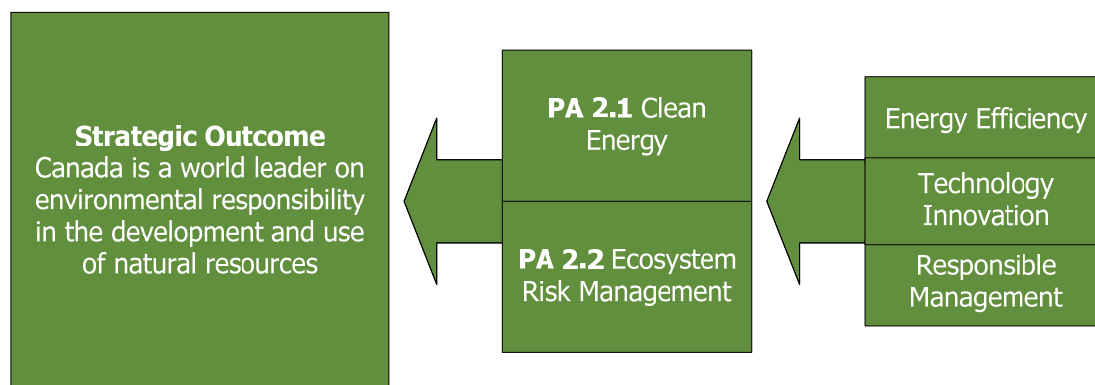
- The development and implementation of innovative / leading-edge community economic development projects to help ensure long term economic sustainability;
- Outreach activities in communities to support capacity-building and help create a more positive investment climate; and,
- The development and dissemination of knowledge and information tools about the natural resource sectors and their contribution to the well-being of communities - including Aboriginal engagement - which helps inform decision-making.

For example, the [First Nations Forestry Program](#)⁵⁹ supported partnership projects across Canada in all aspects of sustainable forest management, knowledge and technology transfer, business opportunity facilitation and training support for specialized forestry technical training and work experience. The program successfully leveraged investments from communities and other partners, exceeding the program’s target of generating 1:1 contributions from other funding partners.

The [Forest Communities Program](#)⁶⁰ supported more than 100 community-based economic development projects and initiatives at 11 forest community sites across Canada, with projects ranging from innovative bio-energy/biomass research, development and implementation to youth training and skills development initiatives. The program has also been successful in leveraging investments from partners, exceeding its target of generating 1:1 contributions from other funding partners.

NRCan worked with provincial partners and led a collaborative, multi-stakeholder research project to examine the economic, social and environmental performance of the mining sector in Canada. The report that ensued, [Mining Sector Performance Report 1998-2008](#)⁶¹, can be used by communities to understand the opportunities, challenges and risks associated with resource development and provides a baseline to measure future progress.

Strategic Outcome 2: Environmental Responsibility



NRCan works to ensure that natural resources are developed and used in an environmentally responsible manner by:

- Encouraging and enabling energy consumers and producers to adopt cleaner and more efficient technologies, products, services and practices;
- Encouraging academia, industry and the public sector to research, develop and demonstrate innovative solutions to environmental challenges; and,
- Enabling government departments, regulatory bodies and industry to understand the risks to our environment, assess environmental impacts and protect our resources.

Program Activity 2.1: Clean Energy

Expected Result: Increased energy efficiency, increased production of low-emission energy, and reduced environmental impacts associated with energy production and use

The program activity includes the development and delivery of energy science and technology, policies, programs, legislation and regulations to mitigate air emissions and to reduce other environmental impacts associated with energy production and use. One of the major programs includes the suite of initiatives on clean energy announced under the banner of ecoENERGY, which is intended to increase production of low impact renewable energy; encourage and assist Canadians to improve their energy use in all of the major end-use sectors; and to accelerate the development and market readiness of technology solutions to reduce environmental impacts associated with the production and use of energy.

2010–11 Financial Resources (\$ millions)			2010–11 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
1,918.7	1,895.2	1,329.6	969	966	3

The variance between the planned and actual spending is mainly attributable to the reprofiling of the funding for key programs such as the Pulp and Paper Green Transformation program and the Clean Energy Fund. These reprofiling have not affected NRCan’s ability to deliver results in 2010-11, as evidenced by the positive performance of its non-financial indicators for Strategic Outcome 2 presented above.

Performance Indicator A	Results																
<p>Clean energy production and greenhouse gas (GHG) reductions attributable to NRCan programming (in megatonnes of carbon dioxide (CO₂) equivalents)</p>	<p>GHG Reductions Attributable to NRCan Programming</p> <table border="1"> <caption>GHG Reductions Attributable to NRCan Programming (Mt)</caption> <thead> <tr> <th>Year</th> <th>ecoENERGY efficiency</th> <th>ecoENERGY renewables</th> </tr> </thead> <tbody> <tr> <td>2007-08</td> <td>0.8</td> <td>0.7</td> </tr> <tr> <td>2008-09</td> <td>2.5</td> <td>1.4</td> </tr> <tr> <td>2009-10</td> <td>3.9</td> <td>2.9</td> </tr> <tr> <td>2010-11</td> <td>6.2</td> <td>4.5</td> </tr> </tbody> </table>		Year	ecoENERGY efficiency	ecoENERGY renewables	2007-08	0.8	0.7	2008-09	2.5	1.4	2009-10	3.9	2.9	2010-11	6.2	4.5
Year	ecoENERGY efficiency	ecoENERGY renewables															
2007-08	0.8	0.7															
2008-09	2.5	1.4															
2009-10	3.9	2.9															
2010-11	6.2	4.5															
Target																	
<p>Favourable long-term trend in megatonnes of CO₂ equivalents</p>	<p>Since 2007-08, NRCan programming has increased substantially its contribution to GHG reductions in Canada. Reductions attributable to the ecoENERGY efficiency programs have risen by 675% (from 0.8 to 6.2 megatonnes of CO₂ or equivalents), while reductions attributable to the ecoENERGY renewables program have risen by 543% (from 0.7 to 4.5 megatonnes of CO₂ or equivalents).</p>																
Status																	
<p>Exceeded</p>	<p>This strong performance reflects the significant investments made by the government during that period in initiatives as part of Canada's Economic Action Plan and other programs. Given a percentage increase of more than 500%, the performance status of <i>Exceeded</i> has been attributed to this indicator.</p> <p>GHG reductions attributable to NRCan's ecoENERGY efficiency and ecoENERGY renewables programming are reported through the horizontal ecoACTION initiative administered by Environment Canada.</p>																

Performance Indicator B	Results											
<p>Natural Resources Canada's contribution to advancement of clean energy knowledge, and uptake of innovative clean energy solutions (as measured by number of peer-reviewed publications by NRCan in this field)</p>	<p>Advancement of Clean Energy Knowledge - Scientific & Technical Papers</p> <table border="1"> <caption>Advancement of Clean Energy Knowledge - Scientific & Technical Papers</caption> <thead> <tr> <th>Year</th> <th>Number of publications</th> </tr> </thead> <tbody> <tr> <td>2006</td> <td>21</td> </tr> <tr> <td>2007</td> <td>22</td> </tr> <tr> <td>2008</td> <td>34</td> </tr> <tr> <td>2009</td> <td>38</td> </tr> </tbody> </table>		Year	Number of publications	2006	21	2007	22	2008	34	2009	38
Year	Number of publications											
2006	21											
2007	22											
2008	34											
2009	38											
Target												
<p>Favourable long-term trend in number of publications</p>	<p>Over the most recent four-year period for which comparable data are available (2006-2009), NRCan's production of peer-reviewed scientific and technical papers in these areas has increased by 81%, from 21 to 38 publications.</p> <p>NRCan's scientific research on clean energy is highly specialized and well regarded in the world. Some of the ideas and concepts developed will evolve in new products and practices which, when adopted by industry and consumers, will help Canada meet its environmental targets.</p>											
Status												
<p>Met All</p>	<p>By funding R&D on clean energy, NRCan is sharing with industry the risks of the development of new or promising technology solutions that may otherwise not be explored or developed.</p>											

Performance Summary and Analysis of Program Activity

In support of energy efficiency, NRCan encouraged and enabled energy consumers and producers to adopt more efficient technologies, products, services and practices. To enable technology innovations, NRCan conducted S&T activities and encouraged academia, industry and the public sector to research, develop and demonstrate innovative solutions to environmental challenges encountered in the natural resource sectors. The objective is to increase energy efficiency, reduce energy costs for Canadians, reduce the emissions of GHGs and other air contaminants and toxic substances arising from energy production, and increase the production and efficient use of renewable energy. In 2010-11, this was achieved through:

- Successful and popular programs under the ecoENERGY Efficiency Initiative (e.g. ecoENERGY Retrofit, ecoENERGY for Buildings and Houses, ecoENERGY for Industry, ecoENERGY for Equipment, ecoENERGY for Fleets and ecoENERGY for Personal Vehicles) which have promoted smarter energy use by Canadians and Canadian firms, thereby reducing GHG emissions. Overall in 2010-11, NRCan's energy efficiency programming resulted in energy savings of approximately 82 petajoules, which represents a cumulative annual reduction of more than 6 megatonnes of GHG emissions.
- Other programs under the ecoENERGY banner (e.g. ecoENERGY for Biofuels, ecoENERGY Heat and ecoENERGY Power) have contributed to an increased production of renewable heat and power and increased use of alternative fuels. The renewables programming contributed to reducing GHG emissions by more than four and a half megatonnes in 2010-11. Through the [ecoENERGY for Biofuels](#)⁶² program, 31 contribution agreements were signed to both reduce GHG emissions resulting from fuel use and provide new market opportunities for agricultural producers and rural communities. Similarly, with support of the ecoENERGY for Renewable Power program, more than 4,458 megawatts of new renewable power generating capacity will contribute to reducing the GHG emissions resulting from electricity generation and to providing local economic opportunities.
- Research, Development and Demonstration activities, in part funded through the [Clean Energy Fund](#)⁶³, focussed on a limited set of priorities in the areas of clean fossil fuels; clean integrated electricity including clean coal, carbon capture and storage, distributed power generation, next generation nuclear; bio based energy systems; low emission industrial systems; clean transportation systems; and the built environment, several of which encompass renewable energy. Progress on specific projects this year include:
 - Undertaking the design work on three large-scale Carbon Capture and Storage demonstration projects;
 - Providing expert advice to develop regulations under the Canadian Environmental Protection Act to limit greenhouse gas emissions from coal-fired power plants (final publication is expected in 2011-12); and,
 - Publishing [Canada's Electric Vehicle Technology Roadmap](#)⁶⁴, which focuses on the development and adoption of electric vehicles in Canada, while building a robust industry.
- The development and testing of new materials, such as high-strength steels and magnesium technologies, with a view of increasing energy efficiency and clean air in the automotive and nuclear sectors (through the [Vehicle Structural Materials Program](#)⁶⁵ and the [Materials for Nuclear and Conventional Energy Program](#)⁶⁶). In the long term, adoption of new lightweight materials for automotive applications will result in a reduction of GHG emissions (lighter vehicles meaning less energy consumed, and less GHG emitted).
- The [Pulp and Paper Green Transformation Program](#)⁶⁷, which works to improve environmental performance of Canada's pulp and paper sector. By investing in capital projects with measurable environmental benefits, the Department is contributing to the generation of a significant amount of new renewable energy, improved energy efficiency for the mills and reduced greenhouse gas emissions in mills across Canada. In addition, by improving the environmental performance of

Canadian pulp and paper mills, the program enhances the long-run sustainability on which this industry, and the communities in which it operates, depend.

Lessons Learned

NRCan completed a robust [assessment](#)⁶⁸ of the effectiveness of its clean energy and energy efficiency initiatives. Overall it concluded that the programs were relevant, making progress towards achieving their expected results, and that they were consistent with government priorities and NRCan's mandate to support environmentally-responsible natural resources use and reduce GHGs and other air contaminants. Programs were found to have generated significant GHG reductions, created employment and leveraged investments from the provinces and territories.

Conclusions from the assessment formed the basis for developing the next generation of measures, which were announced as part of the 2011 Federal Budget. Building on lessons learned, improvements were made in the planning and design phase of the new measures, including broader communication and consultation with key stakeholders.

Furthermore, several program-specific evaluations were completed, including in the transportation energy efficiency area. Most of the findings indicated that the programs in this area were relevant and were achieving their expected results. To address recommendations from the evaluation, NRCan clarified its performance measurement strategy to better track its results and ensure proper reporting on outcomes.

In addition, the [evaluation](#)⁶⁹ of the NRCan's renewable energy programs concluded that Wind Power Production Incentive (WPPI) and the ecoENERGY for Renewable Power Program have contributed to the growth of the renewable power industry. The ecoENERGY for Renewable Heat Program may have increased the capacity of the industry to deliver quality renewable heat systems into the Canadian market but the industry remains small, without many of the attributes of a mature industrial sector.

The [evaluation](#)⁷⁰ of the Energy Efficiency for Industry, Housing and Buildings initiatives found the ecoENERGY Retrofit – Homes program to be highly effective at expanding or modifying the energy retrofit activities of homeowners, leading to program participants undertaking double the number of retrofits originally planned, with 60% being motivated to undertake further measures outside of the program. The program was found to be relevant and responding to the priorities of government, and had the unintended outcomes of creating jobs in the energy consultant sector and triggering the creation of energy-efficient housing programs in several provinces.

NRCan also completed an [audit](#)⁷¹ of the Pulp and Paper Green Transformation Program, which concluded that the program's management and control were operating well. Recommendations were made to implement the Program's recipient audit strategy and formally develop and promulgate service standards. NRCan responded to this recommendation by completing the Program recipient audit strategy and establishing service standards that have been communicated to proponents.

Program Activity 2.2: Ecosystem Risk Management

Expected Result: Canada understands and mitigates risks to natural resource ecosystems and human health

The program activity includes programs that help to understand the risks to our environment. A major program is the National Forest Inventory, which is designed to provide information to provinces, territories, other collaborators and the public on the state of Canada’s forests, demonstrating how forest attributes are changing over time through an internet application.

2010–11 Financial Resources (\$ millions)			2010–11 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
205.7	203.3	198.3	396	295	101

Performance Indicator A	Results																														
<p>NRCan's contribution to federal environmental assessments, forest, mineral and energy resource assessments for proposed protected areas on federal lands and waters, and related reporting processes⁷²</p>	<div style="text-align: center;"> <p>NRCan's Contribution to Federal Environmental Assessment & Reporting Processes</p> <table border="1"> <caption>Data for NRCan's Contribution to Federal Environmental Assessment & Reporting Processes</caption> <thead> <tr> <th>Year</th> <th>Panel Reviews</th> <th>Comprehensive Studies</th> <th>Mineral & Energy Resource Assessments</th> <th>Northern Regime Projects</th> </tr> </thead> <tbody> <tr> <td>2006-07</td> <td>11</td> <td>18</td> <td>1</td> <td>0</td> </tr> <tr> <td>2007-08</td> <td>8</td> <td>15</td> <td>3</td> <td>0</td> </tr> <tr> <td>2008-09</td> <td>9</td> <td>10</td> <td>3</td> <td>0</td> </tr> <tr> <td>2009-10</td> <td>11</td> <td>16</td> <td>4</td> <td>0</td> </tr> <tr> <td>2010-11</td> <td>11</td> <td>18</td> <td>6</td> <td>5</td> </tr> </tbody> </table> </div> <p>NRCan continued to meet its target of being a major contributor to federal environmental assessment and reporting processes—including both Panel Reviews and Comprehensive Assessments – as required under the Canadian Environmental Assessment Act. In a similar fashion, NRCan contributed its expertise to Mineral and Energy Resource Assessments for the potential establishment of national parks and other protected areas.</p>	Year	Panel Reviews	Comprehensive Studies	Mineral & Energy Resource Assessments	Northern Regime Projects	2006-07	11	18	1	0	2007-08	8	15	3	0	2008-09	9	10	3	0	2009-10	11	16	4	0	2010-11	11	18	6	5
Year	Panel Reviews	Comprehensive Studies	Mineral & Energy Resource Assessments	Northern Regime Projects																											
2006-07	11	18	1	0																											
2007-08	8	15	3	0																											
2008-09	9	10	3	0																											
2009-10	11	16	4	0																											
2010-11	11	18	6	5																											
Target																															
Fulfilling on-demand requirements																															
Status																															
Met All																															

Performance Indicator B	Results											
<p>NRCan's contribution to advancement of ecosystem knowledge, and innovative ecosystem risk management solutions (as measured by number of peer-reviewed publications by NRCan in this field)</p>	<p>Advancement of Ecosystem Knowledge, and innovative ecosystem risk management solutions</p> <table border="1"> <caption>Number of Publications (2006-2009)</caption> <thead> <tr> <th>Year</th> <th>Number of Publications</th> </tr> </thead> <tbody> <tr> <td>2006</td> <td>276</td> </tr> <tr> <td>2007</td> <td>248</td> </tr> <tr> <td>2008</td> <td>244</td> </tr> <tr> <td>2009</td> <td>281</td> </tr> </tbody> </table>		Year	Number of Publications	2006	276	2007	248	2008	244	2009	281
Year	Number of Publications											
2006	276											
2007	248											
2008	244											
2009	281											
Target												
<p>Favourable long-term trend in number of publications</p>												
Status												
<p>Met All</p>	<p>Compared to 2006, NRCan's production of peer-reviewed scientific and technical papers in these areas has increased by 2%, from 276 to 281 publications.</p> <p>Greater knowledge of risks and environmentally responsible practices can help prevent and reduce the environmental impacts of past, present and future natural resource development. By developing and sharing knowledge in this area, NRCan is enabling government departments, regulatory bodies and industry to assess these impacts to the environment; and develop, monitor and maintain resources or clean up wastes responsibly.</p>											

Performance Summary and Analysis of Program Activity

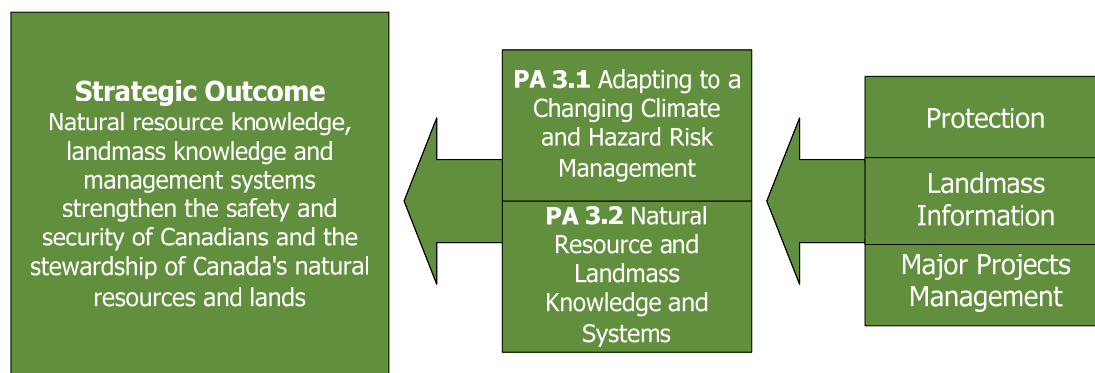
NRCan contributed to risk management for natural resource ecosystems and human health by creating and disseminating knowledge that is critical to decision-making on environmental stewardship, conservation and protection. This contributed to the health and quality of life of Canadians, as well as the sustainability of their natural resources. NRCan achieves this by:

- Contributing to federal environmental assessment and reporting processes, including the provision of geoscience and mining S&T knowledge and expertise to ensure that environmental impacts are identified and mitigated on major resource project environmental assessments.
- Partnering with key stakeholders to protect ecosystems through the advancement of green mining technologies and the Green Mining Initiative.
- Advancing Canada's forest-related interests relative to the [United Nations Framework Convention on Climate Change](#)⁷³ by, for example, further developing and applying the [Carbon Budget Model](#)⁷⁴, which is now being used both within Canada and internationally to monitor and forecast changes in forest carbon at the national and sub-national level.
- Mapping and assessing key aquifers in Canada to support the responsible development of Canada's natural resources and inform decision-making on groundwater management issues.
- Ensuring waste management, environmental restoration, and decommissioning priorities at AECL sites through the [Nuclear Legacy Liabilities Program](#)⁷⁵, which aims to safely and cost-effectively reduce legacy liabilities and associated risks at these sites.

Lessons Learned

An [audit](#)⁷⁶ of the Nuclear Legacy Liabilities Program was completed. Overall it was found that the program was well managed and well controlled. Opportunities for improvement were noted in the areas of public consultations and reporting requirements. To address this, NRCan completed public consultations and began work with AECL to streamline reporting and strengthen program management.

Strategic Outcome 3: Safety, Security and Stewardship



NRCan works to ensure the safety and security of Canadians and the stewardship of their natural resources by:

- Enabling the government, communities and the private sector to reduce the risks from natural and man-made hazards by providing regulation and knowledge, fulfilling legislated responsibilities, and ensuring capacity;
- Providing clearly-defined legal boundaries, a robust property system framework, authoritative geographic infrastructure and fundamental geospatial information on Canada’s landmass in order to support the Canadian public and stakeholders in location-based decision-making; and,
- Provide oversight of major natural resource projects, including proper environmental protection.

Program Activity 3.1: Adapting to a Changing Climate and Hazards Risk Management

Expected Result: Canada adapts to a changing climate and has the knowledge and tools to manage risks associated with natural hazards and hazards arising from human activities

The program activity provides geoscience and geospatial information that contributes to the reduction of risks from natural hazards, such as earthquakes, tsunamis and flood, as well as hazards arising from human activities, and works with front-line responders to provide geographical information in the event of an emergency. The program activity also provides information that will help Canadians mitigate and adapt to the effects of a changing climate and administers and enforces the *Explosives Act*.

2010–11 Financial Resources (\$ millions)			2010–11 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
68.6	67.6	60.8	576	491	85

Performance Indicator A	Results											
NRCan's contribution to the safe and secure use of explosives in Canada	<p style="text-align: center;">Advancement of Knowledge in Explosives Science & Technology - Scientific & Technical Papers</p> <table border="1" style="margin-top: 10px;"> <caption>Advancement of Knowledge in Explosives Science & Technology - Scientific & Technical Papers</caption> <thead> <tr> <th>Year</th> <th>Number of publications</th> </tr> </thead> <tbody> <tr> <td>2006</td> <td>2</td> </tr> <tr> <td>2007</td> <td>4</td> </tr> <tr> <td>2008</td> <td>4</td> </tr> <tr> <td>2009</td> <td>4</td> </tr> </tbody> </table>		Year	Number of publications	2006	2	2007	4	2008	4	2009	4
Year			Number of publications									
2006			2									
2007			4									
2008	4											
2009	4											
Target												
Favourable long-term trend in number of publications												
Status												
Met All	<p>Over the most recent four-year period for which data are comparable (2006-2009), NRCan's production of peer-reviewed scientific and technical papers in this area has been limited, albeit increasing.</p> <p>Explosives are essential to many economic activities, but are inherently dangerous. Knowledge, combined with strict controls, increase the protection of Canadians from incidents that could result in death, serious injuries and/or economic or environmental harm.</p>											

Performance Indicator B	Results											
NRCan's contribution to climate change adaptation and natural hazard risk management as measured by the uptake of adaptation knowledge	<p style="text-align: center;">Advancement of Knowledge in climate change adaptation and natural hazard risk management - Scientific & Technical Papers</p> <table border="1" style="margin-top: 10px;"> <caption>Advancement of Knowledge in climate change adaptation and natural hazard risk management - Scientific & Technical Papers</caption> <thead> <tr> <th>Year</th> <th>Number of publications</th> </tr> </thead> <tbody> <tr> <td>2006</td> <td>142</td> </tr> <tr> <td>2007</td> <td>160</td> </tr> <tr> <td>2008</td> <td>140</td> </tr> <tr> <td>2009</td> <td>186</td> </tr> </tbody> </table>		Year	Number of publications	2006	142	2007	160	2008	140	2009	186
Year			Number of publications									
2006			142									
2007			160									
2008	140											
2009	186											
Target												
Favourable long-term trend in number of publications												
Status												
Met All	<p>Over the most recent four-year period for which data are comparable (2006-2009), NRCan's production of peer-reviewed scientific and technical papers in these areas has increased by 31% from 142 publications in 2006 to 186 publications in 2009.</p> <p>NRCan's scientific activities and the dissemination of knowledge on climate change adaptation and natural hazard risk management serve to inform decision-making by industry and various levels of government. Risks can be better assessed and mitigation strategies put in place to ensure the safety and security of Canadians (e.g. mitigation and adaptation strategies related to climate change, earthquakes, tsunamis, geomagnetic storms, etc.).</p>											

Performance Indicator C	Results																		
Target	<p style="text-align: center;">Canadian Hazard Information Service Data Quality</p> <table border="1"> <caption>Canadian Hazard Information Service Data Quality Data</caption> <thead> <tr> <th>Fiscal Year</th> <th>Geomagnetic (%)</th> <th>Seismic (%)</th> </tr> </thead> <tbody> <tr> <td>2006-07</td> <td>92.4%</td> <td>98.8%</td> </tr> <tr> <td>2007-08</td> <td>93.2%</td> <td>97.7%</td> </tr> <tr> <td>2008-09</td> <td>91.9%</td> <td>97.0%</td> </tr> <tr> <td>2009-10</td> <td>93.6%</td> <td>98.3%</td> </tr> <tr> <td>2010-11</td> <td>92.9%</td> <td>98.2%</td> </tr> </tbody> </table>	Fiscal Year	Geomagnetic (%)	Seismic (%)	2006-07	92.4%	98.8%	2007-08	93.2%	97.7%	2008-09	91.9%	97.0%	2009-10	93.6%	98.3%	2010-11	92.9%	98.2%
Fiscal Year		Geomagnetic (%)	Seismic (%)																
2006-07		92.4%	98.8%																
2007-08	93.2%	97.7%																	
2008-09	91.9%	97.0%																	
2009-10	93.6%	98.3%																	
2010-11	92.9%	98.2%																	
Status																			
Exceeded																			

NRCan has contributed to management of natural hazards through the posting of [geomagnetic](#)⁷⁸ and [seismic](#)⁷⁹ information on external websites. Since 2006-07, NRCan has consistently exceeded targets for timeliness and accessibility.

The provision of this information helps other levels of government, including international government bodies, the private sector and professional organizations to prepare for and mitigate natural disasters and make

decisions for the effective management of Canada's lands.

Performance Summary and Analysis of Program Activity

NRCan contributed to the increase of scientific knowledge on explosives, climate change adaptation and natural hazard risk management, contributing to the safety and security of Canadians and the effectiveness of the stewardship of our land and resources. NRCan accomplished this by:

- Supporting the collaboration of key decision-makers across Canada in assessing the impacts, risks and opportunities of climate change on Canada's forests and lands. This information is used to develop mitigation and adaptation strategies with partners and stakeholders. The [Regional Adaptation Collaborative](#)⁸⁰ Program, for example, facilitates the development of region-specific adaptation policies and strategies, and brings together provincial and territorial agencies representing different climate-sensitive policy areas.
- Developing strategies, in collaboration with partners, for the management and mitigation of forest disturbances including wildland fires (through the enhanced [Canadian Forest Fire Danger Rating System](#)⁸¹) and pests (through the [National Forest Pest Strategy](#)⁸²).
- Continuing to update Canada's explosives regulations to reflect modern industrial practices (with an expected publication date in late 2011 or early 2012).
- Providing natural hazard data that informs Canadians and technical specialists of important geophysical parameters, with a view of improving the understanding and management of hazards arising from natural causes, such as earthquakes, and potential interferences with power transmission and telecommunications due to solar storms.
- Publishing the results of its scientific activities and ensuring the dissemination of knowledge on explosives, climate change adaptation and natural hazard risk management. NRCan's scientific output in these areas was more often cited than the world average, outlining the Department's scientific impact, as reported in a study conducted by Science-Metrix in 2011.

Lessons Learned

NRCan completed an [evaluation](#)⁸³ of the Explosives Safety and Security Branch. Most of the findings revealed that the Branch is achieving its expected results and has demonstrated a high level of

effectiveness and efficiency. Recommendations were made to improve performance measurement and to establish strategic partnerships with respect to the security-related aspects of the Branch's mandate. To address this, the Branch developed a Performance Measurement Framework and established a formal partnership with Defence Research Development Canada to improve cooperation between the two organizations on security-related issues.

NRCan also completed an [evaluation](#)⁸⁴ of various programs relating to the mitigation of forest disturbances including the National Forest Pest Strategy Program. Overall, findings indicated that the programs are being delivered in an efficient manner and are achieving expected results. Recommendations were made to address attrition of scientific staff and fill research gaps in order to update decision-making tools. NRCan has recognized the need to fill these gaps and ensure the dissemination and exchange of knowledge with its various stakeholders, which it will address through the development of a revised Strategic Plan for Forest Disturbances.

A [report](#)⁸⁵ to Parliament by the Commissioner of the Environment and Sustainable Development examined the ability of various departments, including NRCan, to adapt to climate change impacts. Impacts are most evident in Canada's North where, for example, thawing permafrost is affecting the stability of roads, buildings, pipelines, and other infrastructure. Recommendations were made for departments to identify the adaptation measures necessary to respond to climate change risks within their areas of responsibility, based on an assessment of risks. NRCan undertook a Climate Change Sensitivity Assessment in 2009 and 2010 and continues to monitor risks and changes on an ongoing basis.

Program Activity 3.2: Natural Resources and Landmass Knowledge and Systems

Expected Result: Government has the necessary natural resources and landmass knowledge and systems required to both govern the country and position Canada to play a leadership role in federal/provincial/territorial and international fora

This program activity carries out the Minister's obligation to provide a property rights infrastructure on all lands for which the Department has this responsibility, along with the provision and access to accurate and precise geographic information on the Canadian landmass. The program activity also includes the Major Projects Management Office which, along with other programs, provides relevant accurate, timely and accessible knowledge with a view to increasing collaborative efforts with other jurisdictions in key areas (i.e. regulatory efficiency) to generate improved approaches to shared issues and lead significant benefits to advance the interests of the natural resources sector both domestically and at the international level.

2010–11 Financial Resources (\$ millions)			2010–11 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
103.6	98.9	95.5	670	636	34

Performance Indicator A	Results										
NRCan's contribution to the development and security of Canada through advancements in landmass knowledge and systems.	<p style="text-align: center;">Advancements in Natural Resources and Landmass Knowledge and Systems - Scientific & Technical Papers</p> <table border="1"> <caption>Number of publications (2006-2009)</caption> <thead> <tr> <th>Year</th> <th>Number of publications</th> </tr> </thead> <tbody> <tr> <td>2006</td> <td>47</td> </tr> <tr> <td>2007</td> <td>49</td> </tr> <tr> <td>2008</td> <td>69</td> </tr> <tr> <td>2009</td> <td>77</td> </tr> </tbody> </table> <p>Over the most recent four-year period for which data are comparable (2006-2009), NRCan's production of peer-reviewed scientific and technical papers these areas has increased by 64%, from 47 to 77 publications.</p> <p>NRCan's scientific expertise in this area is well known and recognized around the world: its publications are more often cited than the world average (as reported in a study commissioned by NRCan from <i>Science-Metrix</i>). Furthermore, the knowledge produced is used to support various location-based applications (such as GPS) and decision-making (such as the preparation of Canada's submission to UNCLOS).</p>	Year	Number of publications	2006	47	2007	49	2008	69	2009	77
Year		Number of publications									
2006		47									
2007		49									
2008	69										
2009	77										
Target											
Favourable long-term trend in number of publications											
Status											
Met All											

Performance Indicator B	Results
NRCan's contribution to the development and security of Canada through advancements in boundary management, surveys and supporting systems for secure land tenure of Canada Lands.	<p style="text-align: center;">Canada Lands Surveys, Geographic Information, Boundary Management</p> <p>The Department met the requirements of Canada Lands Survey System⁸⁶ and remote sensing imagery (RADARSAT)⁸⁷ (there is no quantitative target because variations in demand are beyond NRCan's control).</p> <p>The outputs of these programs and activities are used by Aboriginal groups, land management specialists, other government departments and Canadians in support of sustainable land use management.</p>
Target	
Fulfilling on-demand requirements	
Status	
Met All	

Performance Indicator C	Results							
<p>Effective management of the federal regulatory process for major natural resource projects as measured by adherence to target timelines and service standards by all federal departments and agencies.</p>	<p>Federal Regulatory Process for Major Natural Resource Projects</p> <table border="1"> <caption>Data for Federal Regulatory Process for Major Natural Resource Projects</caption> <thead> <tr> <th>Year</th> <th>Percentage of Projects on Time or Within 8 Weeks of Target Timelines</th> </tr> </thead> <tbody> <tr> <td>2009-10</td> <td>81%</td> </tr> <tr> <td>2010-11</td> <td>80%</td> </tr> </tbody> </table>		Year	Percentage of Projects on Time or Within 8 Weeks of Target Timelines	2009-10	81%	2010-11	80%
Year	Percentage of Projects on Time or Within 8 Weeks of Target Timelines							
2009-10	81%							
2010-11	80%							
Target	<p>NRCan met its target of 80% for active and/or completed projects that were on time or within eight weeks of their target timelines. Over that period, NRCan managed the federal review process for 70 projects – a 24% increase from the previous year. Effective and efficient project reviews are critical to ensure the responsible development of Canada’s natural resources and lands, including strong environmental protection.</p>							
<p>Greater than 80% of active or completed MPMO projects are within eight weeks of target timeline</p>								
Status								
<p>Met All</p>								

Performance Summary and Analysis of Program Activity

NRCan’s programs provide clearly defined legal boundaries, a robust property system framework, authoritative geographical infrastructure and fundamental geospatial information on Canada’s landmass. These frameworks and information are essential to the Canadian economy, environment and standard of living. Equally important is NRCan’s work to improve the performance of the federal regulatory system. This was achieved in 2010-11 by:

- Providing accurate and accessible [geographic information](#)⁸⁸ to facilitate land tenure and boundary management. For example, by working with the United States Geological Survey, NRCan rendered accessible online current and historic (as far back as 1984) [LANDSAT](#)⁸⁹ imagery, free of charge. This information will enable a more comprehensive analysis of Canada’s lands and coastlines for a variety of economic, environmental and social development activities.
- Mapping and surveying the Arctic seabed to support Canada’s submission to extend its continental shelf beyond the customary 200 nautical miles, as per the United Nations Convention on the Law of the Sea (UNCLOS). Data collection is proceeding on schedule and current funding levels are projected to be fully adequate.
- Overseeing major resource project reviews (through the [Major Projects Management Office](#)⁹⁰) to strengthen accountability and ensure transparent and timely project reviews as well as implementing system-wide improvements to facilitate investments for resource development while maintaining strong environmental protection. In particular, efforts were made this year to:
 - Develop a whole-of-government strategy to modernize the regulatory review process for natural resource projects;
 - Support the implementation of targeted amendments to the [Canadian Environmental Assessment Act](#)⁹¹ that have resulted in simpler, clearer review processes that improve environmental protection and provide greater certainty to industry;

- Create new Participant Funding Programs for the National Energy Board and Canadian Nuclear Safety Commission that allow for more timely and meaningful engagement of the public and Aboriginal groups;
- Implement additional policy and operational measures to align the Crown’s Aboriginal consultations activities with the Government of Canada’s [Updated Guidelines for Federal Officials on Aboriginal Consultation and Accommodation](#)⁹²; and,
- Advancing two pilot projects (the [Line Creek Coal Mine Expansion](#)⁹³ and the Northwest Transmission projects) with the province of British Columbia to help identify opportunities to improve the integration of federal and provincial review processes.

Lessons Learned

An [evaluation](#)⁹⁴ of NRCan’s national geographic databases was completed. Findings indicated that most of the database components have achieved their intended outcomes and performance targets. Recommendations were made to develop a strategy to implement a comprehensive rights management system (marine cadastre) for offshore Canada Lands. To address this, NRCan is currently performing a feasibility study and stakeholder consultations, which are expected to be completed in March 2012.

NRCan also completed an [evaluation](#)⁹⁵ of GeoConnections (Phase II). Findings indicated that the program has made progress towards achieving its expected results. Recommendations were made to ensure that the local expertise currently being developed by the program can be sustained and transferred to a broader federal and/or provincial-territorial (FPT) level. To address this, NRCan has ensured that future GeoConnections initiatives will involve the coordination of FPT organizations that support the transfer of knowledge.

Program Activity 3.3: Geomatics Canada Revolving Fund

Expected Result: The demand by NRCan, other government departments and industrial clients for revolving fund products and services is met through full cost

The Geomatics Canada Revolving Fund was established under *Appropriation Act No. 3 in 1993-94*. The fund allows Geomatics Canada to shift the costs from taxpayers at large to specific users who benefit directly from the goods and services provided. This revenue retention mechanism gives Geomatics Canada the ability to recover full costs from Canadian customers and the freedom to charge market prices for international clients. It presents the opportunity to provide an increasing volume of products and services in response to the needs of Canadian clients as well as supporting the Canadian geomatics industry through the knowledge and expertise necessary to be competitive in the international market. As part of the Revolving Fund, NRCan produces accurate aeronautical charts and publications for NavCanada as an essential contribution to the safety and security of the traveling public and Canadians.

2010–11 Financial Resources (\$ millions)			2010–11 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
1.9 (1.9)	7.3	(0.3)*	0	10	(10)

* Actual spending for Geomatics Canada Revolving Fund was a surplus of \$0.3M

Performance Indicator A	Results												
Percentage rate of service and production costs fully recovered ⁹⁶	<p>Service and Production Costs Recovery</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Percent Rate</th> </tr> </thead> <tbody> <tr> <td>2006-07</td> <td>11.5%</td> </tr> <tr> <td>2007-08</td> <td>-34.3%</td> </tr> <tr> <td>2008-09</td> <td>-35.3%</td> </tr> <tr> <td>2009-10</td> <td>-4.6%</td> </tr> <tr> <td>2010-11</td> <td>1.5%</td> </tr> </tbody> </table>	Year	Percent Rate	2006-07	11.5%	2007-08	-34.3%	2008-09	-35.3%	2009-10	-4.6%	2010-11	1.5%
Year		Percent Rate											
2006-07		11.5%											
2007-08		-34.3%											
2008-09		-35.3%											
2009-10	-4.6%												
2010-11	1.5%												
Target													
Full cost recovery													
Status													
Met All	<p>For 2010-2011, NRCan has met its target as a result of the continued success of the Satellite line of business and a successful transition to a new mapping business model. From 2007 to 2010, Geomatics Canada Revolving Fund invested its accumulated surplus to implement a more cost-effective and efficient service and product delivery model.</p>												

Program Activity 4.1: Internal Services

This program activity regroups three sub-activities which assist NRCan in delivering on its mandate and priorities: governance and management support, resource management services, and asset management services. The key to the effectiveness and efficiency of this program activity has been the ability of internal services to adjust and respond to evolving business priorities and requirements. This has allowed the Department to better align its priorities to those of Canadians, its activities to its priorities, and its resources to its activities. It has also increased its capacity to monitor the financial and non-financial performance of its activities and programs.

In 2010-11, the Department established four medium-term corporate priorities: Asserting our policy leadership, Mobilizing our science, Transforming our business and Growing our human capital. These will ensure that the Department focuses on developing its capacity, responsiveness and resilience to maximize its contribution to the Government of Canada and to Canadians.

2010–11 Financial Resources (\$ millions)			2010–11 Human Resources (FTEs)		
Planned Spending	Total Authorities	Actual Spending	Planned	Actual	Difference
223.0	310.4	308.4	1,063	1,287	(224)

The variance between the planned and actual spending can be explained by transfers from departmental programs to internal services as part of the corporate costing model, as well as increased costs associated with the Employee Benefit Plan.

Delivering on Canada's Economic Action Plan (EAP)

NRCan received funding for new and expanded initiatives to deliver on Canada's EAP, as part of Budget 2009. Total funding received for 2010-11 for EAP initiatives was \$657.5 million, of which the Department spent \$625.5 million, or 97 percent. EAP initiatives, along with their respective budget and expenditures as of March 31, 2011, are presented below.

Expected Results	Indicators	2010-11 (\$ million)	
		Budget	Actual
Expanding Market Opportunities (Canada Wood Exports (CWEP), Value to Wood, North American Wood First (NAWFP) Programs)			
Increase market opportunities for Canadian wood product producers through market development, branding, and technology development and transfer activities	Diversified markets for Canadian wood products; use of wood in North American, non-residential construction new markets for Canadian manufacturers of value-added wood products	20.7	18.7
<p><i>Performance status:</i> In 2010-11, the Canada Wood Export Program⁹⁷ continued to successfully expand Canadian wood exports to emerging offshore markets. Wood exports to China, for example, rose 119% to \$834 million while exports to South Korea rose 47% to reach \$145 million. For its part, the North American Wood First Initiative⁹⁸ influenced the use of wood in 256 non-residential construction projects in Canada and the United States. These projects had an estimated wood sales value of \$190 million. The Value to Wood Program⁹⁹ funded 25 research projects in 2010-11 at five research organizations across Canada that are focused on developing new and improved products and manufacturing processes. As part of the program's technology transfer component, 694 mill visits and technical assessments were performed, which resulted in 249 technical projects that provided direct problem solving support to wood product firms across Canada.</p>			
Expanding Market Opportunities (Support large-scale demonstrations of Canadian-style use of wood in offshore and domestic markets)			
Support initiatives to increase market opportunities for Canadian wood product producers in international (e.g., CWEP) and domestic (e.g., NAWFP) markets	Demonstration projects support initiatives to increase non-traditional uses of wood in offshore and domestic markets	5.7	5.2
<p><i>Performance Summary:</i> In 2010-11, the Large Scale Wood Demonstrations Initiative¹⁰⁰ supported seven domestic wood demonstration projects (three in British Columbia, one in Ontario, and three in Quebec), with a view to showcase the innovative use of wood in commercial and residential applications. The Initiative also completed four offshore demonstration projects (one in Italy, three in China) that were started in 2009-10. These projects include the construction of wood/concrete hybrid buildings, commercial mid-rise buildings, and buildings which demonstrate the energy efficiency gained by using wood frame construction.</p>			
Promoting Forest Innovation and Investment (Development of demonstration-scale pilot projects of new products for use in commercial applications)			
Construction of demonstration-scale pilot projects brings research to the next stage towards commercialization	Operating pilot plants to prove the scalability of new technologies from laboratory to commercial application	37.0	35.4
<p><i>Performance Summary:</i> Research under the Transformative Technologies Program¹⁰¹ (TTP) is advancing the commercialization of new and innovative forest products. The goal of the demonstration-scale pilot program is to move TTP research from the laboratory to the marketplace, a critical step in achieving its employment and economic potential. In 2010-11, fourteen pilot scale demonstration projects were implemented at forest product</p>			

Expected Results	Indicators	2010-11 (\$ million)	
		Budget	Actual
manufacturing mills across Canada, in partnership with both industry proponents and provincial partners.			
Promoting Forest Innovation and Investment (Contributions to FPInnovations for its Transformative Technologies Program)			
To develop emerging and breakthrough technologies related to forest biomass utilization, nanotechnology and next generation forest products	New products and processes adopted by industry; new demonstration/pilot projects and trials; in-kind contributions leveraged from stakeholders; research institute consolidation	43.5	43.1
<p><i>Performance Summary:</i> Federal contributions in 2010-11 enabled the completion of the merger of three separate forestry research institutes into FPInnovations,¹⁰² resulting in a strong and integrated public-private partnership for innovation in the forest sector. Federal funding also supported research under the TTP, which looks to develop new technologies and processes which have the potential to create significant employment opportunities for Canada's forest sector and other manufacturing industries. The resulting knowledge from this research is being published, presented, and transferred to sector stakeholders. The program also successfully leveraged \$3.3 million (or 13%) in funding from other sources (i.e., provinces, industry and other federal partners) to deliver on collaborative projects and establish and support research networks.</p>			
Clean Energy Fund			
Support the development and demonstration of clean energy technologies	Number of demonstrated technologies that meet or surpass current best technologies; number of knowledge products made available to codes and developed standards; number of technology demonstrations leading to commercialization (long-term outcome)	121.5	114.2
<p><i>Performance Summary:</i> Design work has commenced on the 3 large-scale Carbon Capture and Storage (CCS) demonstration projects announced in 2009-10. The first of these projects is currently under construction and expected to start-up operations in 2012, while the other 2 are expected to start construction in 2012-13 and to start-up operations in 2015. These CCS projects are part of Canada's contribution to the G8 Leaders' goal of launching 25 such projects in the future. In addition, 19 small-scale renewable and clean energy projects are underway. As part of the global effort to advance CCS technology, Canada is participating in a number of initiatives, including project knowledge sharing, public outreach, and regulatory development, and is sharing information widely with other governments, including the US (via the Canada-US Clean Energy Dialogue) the EU, Australia, etc. These projects are expected to provide short and medium term economic stimulus and are being tracked as part of Canada's Economic Action Plan.</p>			
ecoENERGY Retrofit – Homes program			
To encourage homeowners to improve the energy efficiency of their homes and reduce their greenhouse gas (GHG) emissions	Grant applications received; grant amounts paid; number of grants paid; GHG emission reductions; pre-retrofit assessments	351.8	351.0
<p><i>Performance Summary:</i> As of March 31, 2011, the ecoENERGY Retrofit – Homes¹⁰³ program had received over 510,000 grant applications from Canadian homeowners, surpassing the program target of 460,000. Overall, a reduction of approximately 1.75 Mt in GHG emissions has been achieved by program participants, exceeding the program's target range of 1.29 to 1.66 Mt. In order to respect budget limits, entrance into the program ended March 31, 2010 and a cushion of funding was used to meet high end-of-program demand. Over the course of the program, more than \$700 million in grants was paid out to homeowners.</p>			

Expected Results	Indicators	2010-11 (\$ million)	
		Budget	Actual
Modernizing Federal Laboratories			
Maintenance and modernization of NRCan laboratories across Canada	Percentage of program funding contracted/awarded or out to tender for bids; percentage of funding not yet contracted/awarded nor out to tender	30.7	30.5
<p><i>Performance Summary:</i> The Modernizing Federal Laboratories initiative allowed NRCan to address key maintenance and science delivery deficiencies in its major research centres across Canada. The projects were delivered on time and within budget, concurrently improving the overall portfolio condition index from poor to fair, providing economic stimulus and improving conditions for the continuing scientific research undertaken at NRCan.</p>			
Accelerating the Federal Contaminated Sites Action Plan			
Conducting site assessments, remediation and risk management activities on federal contaminated sites	Number of assessment projects planned, underway or completed; number of remediation/risk management projects planned, underway or completed	12.7	9.1
<p><i>Performance Summary:</i> The Booth Street Complex was a known contaminated site registered in the Federal Contaminated Sites Inventory (FCSI). With the Federal Contaminated Sites Action Plan¹⁰⁴ (FCSAP), NRCan was able to remediate the site, improve the environment, reduce environmental liability and stimulate the economy for Canadians. The project was delivered on-time within the two year time frame and was under the expected budget.</p>			
Maintaining or upgrading existing Arctic research facilities			
Modernized and expanded logistics base in Resolute to support increased demands for Arctic logistics	Percentage of improved and upgraded logistics base completed	9.0	9.0
<p><i>Performance Summary:</i> The Arctic Research Infrastructure Fund and Modernizing Federal Laboratories initiative have been completed on schedule and on budget. The Arctic facility is operational and has already hosted the Department of National Defence's annual Arctic Operators Advisor course.</p>			
Investments in Forest Industry Transformation (IFIT)			
Support forest industry transformation by investing in projects deploying innovative technologies that lead to a more diversified, higher-value product mix including bio-energy and renewable power, as well as biomaterials, bio-chemicals, and next generation building products.	Program funds committed to selected projects, total number of proposals received, total number of project proposals approved, number of new installations built or modified OR number of new technologies/innovative applications in place at pilot or commercial scale, percentage of project proposals that involve collaboration with other sectors, number of contribution agreements in place, funds leveraged from other sources.	24.9	11.0
<p><i>Performance Summary:</i> The IFIT program was initiated in the summer of 2010. The program's first call for proposals round received 64 project applications and was highly oversubscribed. Four innovative projects proposing new technologies leading to production of higher value products (bio-energy solid & liquid, bio-chemicals, renewable power and advanced engineered wood products) were selected for implementation. Contribution agreements were developed with two projects and program funding was provided. Further due diligence steps were required on the larger, more complex projects. The projects selected will also demonstrate new partnerships and business models in the forest industry.</p>			

Section III: Supplementary Information

Financial Highlights

Condensed Statement of Financial Position

As at March 31, 2011 (in thousands of dollars)

	% Change	2010-11	2009-10 (Restated)
Total assets	28%	1,334,403	1,043,425
Total liabilities	81%	2,144,583	1,183,444
Equity of Canada	479%	-810,180	-140,019
	28%	1,334,403	1,043,425

Total assets have increased by \$291 million. A new Treasury Board requirement to report the Due from the Consolidated Revenue Fund (CRF) on the financial statements results in an increase of \$183 million and represents cash which the Department is entitled to draw from without further appropriations to discharge its liabilities. \$117 million of the increase is attributable to changes to the tangible capital assets, due to a new asset in the form of a capital lease of a building, as well as building betterments associated with the Accelerated Infrastructure Program. In addition, there is an increase of \$43 million in transfer payment prepayments. There has been a decrease of \$57 million in accounts receivable and inventories. Total liabilities have increased by \$961 million. The increase is mainly attributable to the increase in the environmental liability of \$756 million, due to revised estimated costs related to the management and remediation of contaminated sites. There is also an increase of \$144 million in accounts payable to external parties. In addition, NRCan entered into a capital lease agreement for a building which has resulted in a lease obligation of \$78 million.

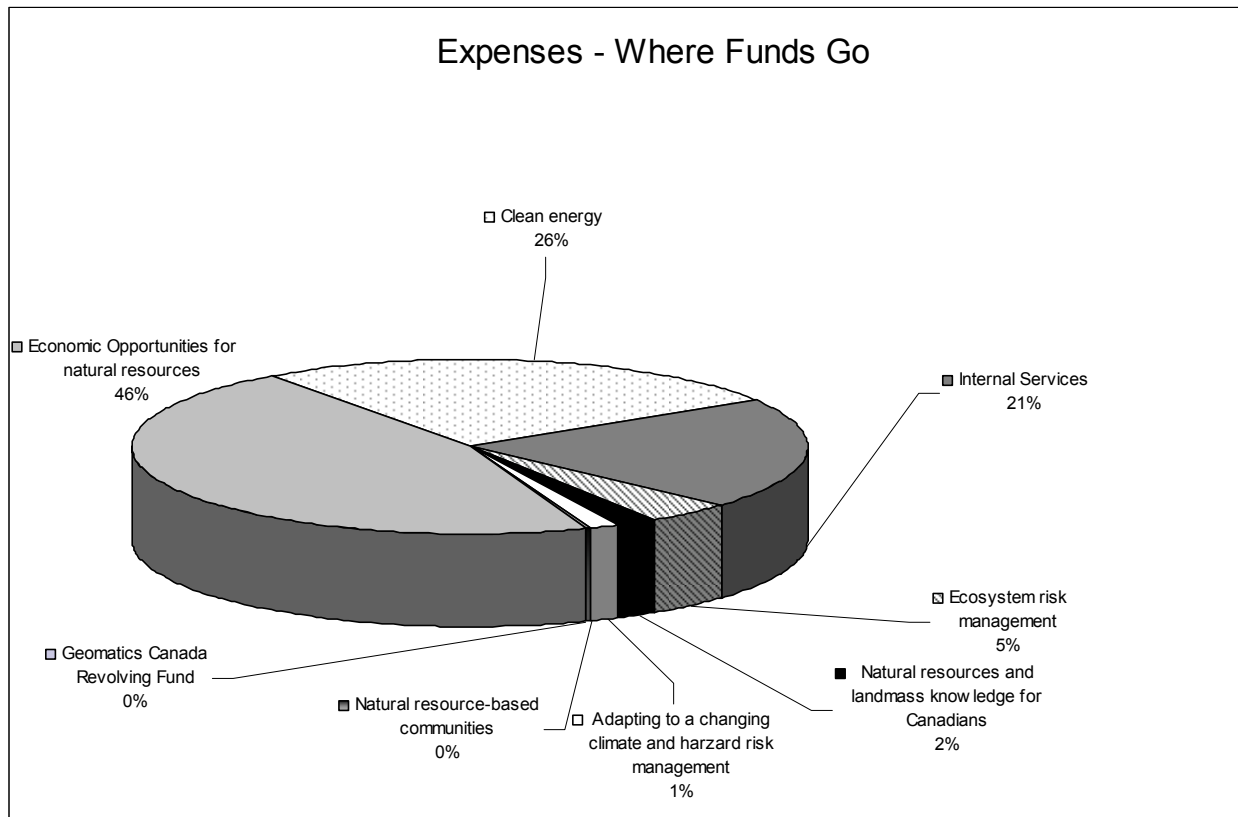
Condensed Statement of Operations

For the year ended March 31, 2011 (in thousands of dollars)

	% Change	2010-11	2009-10 (Restated)
Total expenses	50%	5,095,610	3,404,826
Total revenues	12%	1,672,109	1,493,475
Net cost of operations	79%	3,423,501	1,911,351

The Net Cost of Operations increased by \$1.5 billion from the previous fiscal year. Expenses increased by \$1.7 billion. This increase is primarily within the transfer payment programs (increase of \$920 million). Payments from statutory authorities, such as the Newfoundland Fiscal Equalization Offset Payments, the Newfoundland Offshore Petroleum Resource Revenue Fund, the Nova Scotia Offshore Revenue Account, as well as contribution programs such as the Pulp and Paper Green Transformation Program, the Clean Energy Fund, and the Forest Sector Initiative have increased in 2010-11. In addition, the environmental liability expense increased by \$756 million. Revenues have increased by \$179 million. This is due to an increase in revenues from rights and privileges of \$58 million, related to offshore programs in Nova Scotia and Newfoundland and Labrador. Fluctuations in these programs are attributable to the increase in the rate of production and in the value of crude oil. As well, interest revenues have increased by \$118 million due to an increase in the Net Profit Interest revenues from the Hibernia Offshore Oil project.

The following chart presents a distribution of Natural Resources Canada’s total expenses in 2010-11 by program activity. Total expenses amounted to \$5,095,610,000.



The Condensed statement of Financial Position, complete NRCan financial statements, and that of the Geomatics Canada Revolving Fund can be found on [Natural Resources Canada's](http://www.nrcan.gc.ca) website.

Financial Statements

NRCan’s financial statements for 2010-11 are available online at: <http://www.nrcan.gc.ca/com/resoress/dprmr/dprmr-eng.php?acr=56>

List of Supplementary Information Tables

Sources of Respendable and Non-Respendable Revenue

User Fees / External Fees

Details of Transfer Payment Programs (TPP)

Up-Front, Multi-Year Funding

Horizontal Initiative – Improving the Performance of the Federal Regulatory System for Major Natural Resource Projects

Green Procurement

Response to Parliamentary Committees and External Audits

Internal Audits and Evaluations

These tables can be found on the Treasury Board Secretariat's [website](#)¹⁰⁶.

Section IV: Other Items of Interest

Contributions to the Federal Sustainable Development Strategy

The first Federal Sustainable Development Strategy (FSDS) was tabled in Parliament in October 2010. In accordance with the Federal Sustainable Development Act, NRCan developed a Departmental Sustainable Development Strategy that identified its contributions to the FSDS. The departmental strategy has been fully integrated into NRCan's 2011-12 Report on Plans and Priorities (RPP) and will be fully integrated into the 2011-12 Departmental Performance Report (DPR).

For the 2010-11 DPR, NRCan committed to report on programs that were contributing to the FSDS but that ended as of March 31, 2011. This information is available on NRCan's [sustainable development website](#)¹⁰⁷.

Endnotes

¹ <http://www.nrcan.gc.ca/com/resoress/actacte-eng.php>

² <http://laws-lois.justice.gc.ca/eng/acts/N-20.8/>

³ <http://laws-lois.justice.gc.ca/eng/acts/R-7/>

⁴ <http://laws-lois.justice.gc.ca/eng/acts/F-30/>

⁵ <http://www.nrcan.gc.ca/com/deptmini/portf-eng.php>

⁶ <http://www.aecl.ca/>

⁷ <http://www.neb-one.gc.ca/clf-nsi/rcmmn/hm-eng.html>

⁸ <http://nuclearsafety.gc.ca/eng/>

⁹ <http://www.cnlopb.nl.ca/>

¹⁰ <http://www.cnsopb.ns.ca/>

¹¹ http://www.sdte.ca/index.php?page=home&hl=en_CA

¹² <http://www.appointments.gc.ca/prflOrg.asp?OrgID=ESR&lang=eng>

¹³ <http://www.appointments.gc.ca/prflOrg.asp?OrgID=NPA&lang=eng>

¹⁴ <http://www.tbs-sct.gc.ca/rpp/2010-2011/index-eng.asp?acr=1594>

¹⁵ Knowledge and innovation indicators are presented in this report under SOs 2 & 3, and PAs 2.1, 2.2, 3.1 and 3.2 as the sum of peer-reviewed scientific and technical papers published by NRCan in a range of research areas from 2006 to 2009. Data comes from a study conducted by the firm *Science-Matrix*, and commissioned by NRCan in 2011. 2010 data is not shown due to the incomplete nature of the dataset during the study period.

¹⁶ <http://www.tbs-sct.gc.ca/rpp/2010-2011/inst/rsn/rsn00-eng.asp>

¹⁷ <http://www.actionplan.gc.ca/eng/index.asp>

¹⁸ Type is defined as follows: 'Previously committed' – committed to in the first or second fiscal year before the subject year of the report; 'Ongoing' – committed to at least three fiscal years before the subject year of the report; and 'New' – newly committed to in the reporting year of the DPR.

¹⁹ <http://www2.mpmo-bggp.gc.ca/MPTracker/project-projet-01.aspx?pid=82>

²⁰ <http://www2.mpmo-bggp.gc.ca/MPTracker/project-projet-01.aspx?pid=72>

²¹ <http://www2.mpmo-bggp.gc.ca/MPTracker/project-projet-01.aspx?pid=85>

²² <http://laws-lois.justice.gc.ca/eng/acts/C-15.2/>

²³ <http://www2.mpmo-bggp.gc.ca/mptracker/project-projet-03.aspx?pid=136>

²⁴ <http://cfs.nrcan.gc.ca/pages/265>

²⁵ <http://cfs.nrcan.gc.ca/pages/266>

²⁶ <http://www.fpinnovations.ca>

²⁷ <http://www.nrcan.gc.ca/mms-smm/mate-mate/mtl-ltm-eng.htm>

²⁸ <http://www.nrcan.gc.ca/mms-smm/high-poin/20091127-eng.htm>

²⁹ <http://www.ecoaction.gc.ca/ecoenergy-ecoenergie/retrofithomes-renovationmaisons-eng.cfm>

³⁰ <http://www.ecoaction.gc.ca/ecoenergy-ecoenergie/technology-technologie-eng.cfm>

³¹ <http://www.nrcan.gc.ca/eneene/science/ceffep-eng.php>

³² <http://cfs.nrcan.gc.ca/subsite/pulp-paper-green-transformation>

³³ <http://www.nrcan.gc.ca/eneene/sources/uranuc/isotopes-nisp-eng.php>

³⁴ http://gsc.nrcan.gc.ca/gem/index_e.php

³⁵ <http://www.international.gc.ca/continental/limits-continental-limités.aspx?view=d>

³⁶ http://polar.nrcan.gc.ca/index_e.php

³⁷ <http://www.plandaction.gc.ca/initiatives/eng/index.asp?mode=3&initiativeID=143>

³⁸ <http://www.qtec.ca/awards/2010-distinction-awards-medalists.php>

³⁹ <http://canadaforests.nrcan.gc.ca/article/transformativetechnologies>

⁴⁰ <http://www.nrcan.gc.ca/eneene/science/ceffep-eng.php>

⁴¹ <http://www.nrcan.gc.ca/com/elements/issues/47/initiative-eng.php>

⁴² In order to provide a more thorough and accurate performance story, this document will rely on the performance indicators and targets developed as part of NRCan's 2011-12 Report on Plans and Priorities.

⁴³ Commencing in the 2009–10 Estimates cycle, the resources for Program Activity: Internal Service is displayed separately from other program activities; they are no longer distributed among the remaining program activities, as was the case in previous Main Estimates. This has affected the comparability of spending and FTE information by Program Activity between fiscal years.

⁴⁴ <http://www.tbs-sct.gc.ca/ppg-cpr/frame-cadre-eng.aspx>

⁴⁵ Canada's total energy savings due to efficiency are measured by the difference between energy use without energy efficiency improvements and energy use with energy efficiency improvements as defined and reported in

Energy Efficiency Trends in Canada, 1990-2007. No data are available past 2007. The data are referenced to a 1990 baseline. This indicator responds to NRCan's activities over the longer term, but may respond to other influences (e.g., domestic economic conditions) more immediately.

⁴⁶ <http://oee.nrcan.gc.ca/publications/statistics/trends10/factsheet/summary.cfm?attr=0>

⁴⁷ Ibid note 45.

⁴⁸ <http://www.tpsgc-pwgsc.gc.ca/recgen/txt/72-eng.html>

⁴⁹ <http://www.tbs-sct.gc.ca/rpp/2010-2011/inst/rsn/rsntb-eng.asp>

⁵⁰ <http://www.nrcan.gc.ca>

⁵¹ <http://cfs.nrcan.gc.ca/pages/265>

⁵² <http://cfs.nrcan.gc.ca/pages/266>

⁵³ <http://www.valuetowood.ca/html/english/index.php>

⁵⁴ http://gsc.nrcan.gc.ca/gem/index_e.php

⁵⁵ http://ess.nrcan.gc.ca/tqi/index_e.php

⁵⁶ <http://www.nrcan.gc.ca/evaluation/reprap/2010/e20100727-eng.php>

⁵⁷ <http://www.fpinnovations.ca/>

⁵⁸ Note that indices of success were newly developed indicators for 2009-10. Data shown for the 2009-10 and 2010-11 indices of success illustrate actual performance, whereas data for 2008-09 are best estimates. There is insufficient data available for fiscal year 2007-08 and earlier. The performance status is assigned as follows: Met All: 99% and above; Mostly Met: 80-98%.

⁵⁹ <http://cfs.nrcan.gc.ca/pages/236>

⁶⁰ <http://cfs.nrcan.gc.ca/pages/233>

⁶¹ <http://www.nrcan.gc.ca/mms-smm/pubr-pubr/mspr-rpsm-eng.htm>

⁶² <http://ecoaction.gc.ca/ecoenergy-ecoenergie/biofuelsincentive-icitatifsbiocarburants-eng.cfm>

⁶³ <http://www.nrcan.gc.ca/eneene/science/ceffep-eng.php>

⁶⁴ http://canmetenergy-canmetenergie.nrcan-nrcan.gc.ca/eng/transportation/hybrid_electric_vehicles/evtrm.html

⁶⁵ <http://www.nrcan.gc.ca/smm-mms/mate-mate/mat-mat-eng.htm>

⁶⁶ <http://www.nrcan.gc.ca/mms-smm/mate-mate/nce-enc-eng.htm>

⁶⁷ <http://cfs.nrcan.gc.ca/subsite/pulp-paper-green-transformation/home>

⁶⁸ <http://www.nrcan.gc.ca/evaluation/reprap/2010/etr201010-eng.php>

⁶⁹ <http://www.nrcan.gc.ca/evaluation/reprap/2010/e20100927-eng.php>

⁷⁰ <http://www.nrcan.gc.ca/evaluation/reprap/2010/e20100915-eng.php>

⁷¹ <http://www.nrcan.gc.ca/audit/reprap/2010/au1107-eng.php>

⁷² The indicator measures NRCan's contribution on an on-demand basis to: 1) federal environmental assessment and reporting processes; and 2) Mineral and Energy resource Assessments (MERA) for the potential establishment of national parks and other protected areas.

⁷³ <http://unfccc.int/2860.php>

⁷⁴ <http://canadaforests.nrcan.gc.ca/article/carbonbudgetmodel>

⁷⁵ <http://www.nrcan.gc.ca/eneene/sources/uranuc/wasdec/nllrnh-eng.php>

⁷⁶ <http://www.nrcan.gc.ca/audit/reprap/2010/au1018-eng.php>

⁷⁷ This performance indicator includes two measures: 1) Percent of target geomagnetic data posted to the web after quality control by the Canadian Hazard Information Service (CHIS); and, 2) Percent of target seismic data posted to the web after quality control review by CHIS.

⁷⁸ <http://www.spaceweather.gc.ca/index-eng.php>

⁷⁹ <http://earthquakescanada.nrcan.gc.ca/hazard-alea/index-eng.php>

⁸⁰ http://www.adaptation.nrcan.gc.ca/collab/abosuj_e.php

⁸¹ http://cwfis.cfs.nrcan.gc.ca/en_CA/background/summary/fdr

⁸² <http://canadaforests.nrcan.gc.ca/article/peststrategies>

⁸³ <http://www.nrcan.gc.ca/evaluation/reprap/2010/e20100705-eng.php>

⁸⁴ <http://www.nrcan.gc.ca/evaluation/reprap/2011/e20110318-eng.php>

⁸⁵ http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201012_03_e_34426.html

⁸⁶ As measured by: Number of new cadastral parcels added to the Canada Lands Survey System. Please see:

⁸⁷ <http://clss.nrcan.gc.ca/index-eng.php>

⁸⁸ As measured by: Remote sensing scene production and client downloads of remote sensing data. Please see:

⁸⁹ <http://www.asc-csa.gc.ca/eng/satellites/radarsat/ecosystem.asp>

⁹⁰ http://sqb.nrcan.gc.ca/index_e.php

⁹¹ <http://geogratis.cgdi.gc.ca/geogratis/en/index.html>

⁹² <http://www.mpmo-bggp.gc.ca/index-eng.php>

⁹³ <http://laws-lois.justice.gc.ca/eng/acts/C-15.2/>

⁹⁴ <http://www.ainc-inac.gc.ca/ai/arp/cnl/ca/intqui-eng.asp>

⁹³ <http://www2.mpmo-bggp.gc.ca/mptracker/project-projet-03.aspx?pid=136>

⁹⁴ <http://www.nrcan.gc.ca/evaluation/reprap/2010/e20100415-eng.php>

⁹⁵ <http://www.nrcan.gc.ca/evaluation/reprap/2010/e20100107-eng.php>

⁹⁶ The Fund's 'Recovery' is calculated as the total of Revenues earned in a given year, excluding the "Cost of Sales – Products", minus the total of "Direct and Indirect Expenses", including the "Cost of Sales – Products". This calculation differs slightly from the one used in 2009-10, which had deducted the "Cost of Sales – Products" from Revenues prior to calculating the Fund's recover.

⁹⁷ <http://cfs.nrcan.gc.ca/pages/265>

⁹⁸ <http://cfs.nrcan.gc.ca/pages/266>

⁹⁹ <http://www.valuetowood.ca/html/english/index.php>

¹⁰⁰ <http://cfs.nrcan.gc.ca/>

¹⁰¹ <http://canadaforests.nrcan.gc.ca/article/transformativetechologies>

¹⁰² <http://www.fpinnovations.ca/>

¹⁰³ <http://www.ecoaction.gc.ca/ecoenergy-ecoenergie/retrofithomes-renovationmaisons-eng.cfm>

¹⁰⁴ http://www.federalcontaminatedsites.gc.ca/fcsap_pascf/index-eng.aspx

¹⁰⁵ <http://www.nrcan.gc.ca/com/resoress/pubpub-eng.php>

¹⁰⁶ <http://www.tbs-sct.gc.ca/dpr-rmr/2010-2011/index-eng.asp>

¹⁰⁷ <http://www.nrcan.gc.ca/sd-dd/index-eng.php>