

2001



Report of the
**Commissioner of the
Environment and
Sustainable Development**
to the House of Commons

Follow-up
Chapter 6
Climate Change and Energy Efficiency:
A Progress Report

The 2001 Report of the Commissioner of the Environment and Sustainable Development comprises seven chapters, The Commissioner's Perspective—2001, and a Foreword. The main table of contents is found at the end of this publication.

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© Minister of Public Works and Government Services Canada 2001
Cat. No. FA1-2/2001-6E
ISBN 0-662-31023-3



Chapter

6

**Climate Change and Energy
Efficiency**

A Progress Report

The follow-up work reported in this chapter was conducted in accordance with the legislative mandate, policies, and practices of the Office of the Auditor General of Canada. These policies and practices embrace the standards recommended by the Canadian Institute of Chartered Accountants.

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Climate Change and Energy Efficiency

A Progress Report

Main Points

Climate change

6.1 Canada has committed to reduce its emissions of certain greenhouse gases to six percent below 1990 levels in the period 2008 to 2012 (Canada's Kyoto target). However, from 1995 to 1999, Canada's greenhouse gas emissions increased from 9 to 15 percent above 1990 levels. Therefore, the gap related to achieving Canada's Kyoto target widened while the time remaining to achieve it narrowed.

6.2 Since our 1998 audit, the federal government has made some important progress in rethinking its implementation strategy on climate change, and in changing the management structure for dealing with climate change by establishing a national climate change process. It has increased funding to address climate change and has launched the Government of Canada Action Plan 2000 on Climate Change, which is intended to take Canada a third of the way toward its Kyoto target. It is still too early to tell whether changes in the implementation strategy on climate change will reverse the upward trend of Canada's greenhouse gas emissions.

6.3 As part of Action Plan 2000, a new Federal House-in-Order Strategy has been announced. While 11 key departments and agencies have been assigned reduction targets for greenhouse gas emissions, all other federal entities will be invited to participate voluntarily. To demonstrate environmental leadership to the rest of Canada, the federal government will need to ensure adequate participation by federal entities.

6.4 From the recent sustainable development strategies and other documents tabled in Parliament, it remains very difficult to get a clear picture of the federal government's response to climate change. We continue to believe that Parliament's ability to provide effective oversight is hampered by the continued lack of consolidated summary-level reporting to Parliament on both the federal government's and Canada's response to climate change.

6.5 Despite the progress made to date, the federal government still needs to do a great deal of work to engage partners to take action on climate change. Given the important health, economic, environmental, and social benefits of taking action, we believe Canada cannot afford to let its efforts to date fall by the wayside.

Background and other observations

6.6 International scientists claim that greenhouse gas emissions will have to be cut by more than half by the end of the century to avoid some of the more severe impacts of climate change. In Canada, these impacts could include adverse effects on Canada's North, agriculture and agri-food, forestry, and fisheries, as well as increases in floods, droughts, forest fires, and severe storms.

6.7 In December 1997, Canada and 160 other countries adopted the Kyoto Protocol that established Canada's Kyoto target. Canada signed the Kyoto Protocol in April 1998. Like most other developed countries, it has not yet ratified the Protocol. Decisions on some key mechanisms or tools and other issues of the Protocol have not been finalized and are the subject of ongoing international negotiations. During the interim between signature and ratification, countries are obliged under international law to refrain from doing anything to frustrate the intent of the Protocol. Once this Protocol enters into force, it will legally bind countries who have ratified it to meet their greenhouse gas emission commitments.

Environment Canada and Natural Resources Canada responded to our recommendation and agreed to annually review the participation of federal entities in the Leadership Challenge component of the Federal House-in-Order Strategy. In their joint comment on our climate change follow-up work, Environment Canada and Natural Resources Canada outlined some of the government's recent accomplishments and acknowledged that there are a number of important matters that remain unresolved.

Energy efficiency

6.8 Natural Resources Canada (NRCan) has made satisfactory progress in addressing our 1997 recommendations associated with its energy efficiency initiatives. Since then, NRCan has provided greater clarity in the performance expectations for these initiatives, made considerable progress in measuring and assessing their performance, and significantly increased its efforts to link changes in energy use to changes in greenhouse gas emissions. It has also provided improved performance information in its reporting to Parliament on these initiatives.

Background and other observations

6.9 The production and consumption of fossil fuels such as oil, natural gas, and coal (the main sources of energy in Canada) cause most of Canada's greenhouse gas emissions. Using energy more efficiently will generally help reduce these emissions.

6.10 In our 1997 audit of energy efficiency, we concluded that NRCan's performance information, on both expectations and achievements, was not sufficient to determine the overall success of its energy efficiency initiatives in terms of the contribution they were making to Canada's climate change

commitments. We also identified opportunities to enhance the transparency of the energy efficiency initiatives and departmental accountability by better reporting to Parliament on expectations and achievements.

Preface

6.11 Climate change refers to a change in the climate or average weather that a given region experiences over a period of time. International scientists are increasingly concerned that human activities have increased the concentration of greenhouse gases in the atmosphere and that these are possibly linked to climate change. They claim that greenhouse gas emissions will have to be cut by more than half by the end of the century to prevent dangerous human-induced interference in the climate system.

6.12 The rate and magnitude of long-term changes have many implications for the ecosystem. Given the potential costs and impacts of doing nothing—adverse effects on Canada's North, agriculture and agri-food, forestry, and fisheries, as well as increases in floods, droughts, forest fires, and severe storms—climate change is a challenge that needs to be addressed. It is a global challenge that requires a global response, as some of these impacts are already being felt.

6.13 The federal government believes that addressing climate change is one of the greatest environmental and economic challenges ever undertaken by Canada and other countries. Climate change also has significant implications for sustainable development. Canada's response requires the co-operation of all levels of government, given that environmental matters are shared among jurisdictions.

6.14 A key component of Canada's response to climate change is increasing energy efficiency. Using less energy can also provide certain secondary or co-benefits such as reducing pollutants that cause smog and acid rain.

Focus of the follow-up

6.15 Our follow-up outlines the work Environment Canada and Natural Resources Canada undertook to address the observations and recommendations of the following two audits:

- Responding to Climate Change—Time to Rethink Canada's Implementation Strategy, 1998 Report of the Commissioner of the Environment and Sustainable Development, Chapter 3; and
- Natural Resources Canada—Energy Efficiency, 1997 Report of the Auditor General, Chapter 10.

6.16 We are reporting on our follow-up of these two audits together because the production and consumption of fossil fuels such as oil, natural gas, and coal (the main sources of energy in Canada) cause most of Canada's greenhouse gas emissions. Using energy more efficiently will generally help reduce these emissions.

6.17 Further details on the objectives and scope of our work are in About the Follow-up at the end of this chapter.

Climate Change

Introduction

The 1998 audit issues

6.18 Our 1998 audit of climate change reviewed the federal government's management of the implementation of Canada's domestic policy commitments on climate change. We felt that its failure to meet Canada's climate change commitments had been mainly the result of poor planning and ineffective management. We suggested that it was time to rethink Canada's implementation strategy.

6.19 In its response to our 1998 chapter, Natural Resources Canada (NRCan) committed to take the lead in developing and co-ordinating Canada's domestic implementation strategy. Environment Canada committed to lead the development of Canada's international agenda on climate change. The response also indicated that the federal government was taking steps to establish a new national climate change process that would, among other things, guide the development and implementation of a national public awareness and education program on climate change.

Canada's commitments

6.20 In 1992 Canada signed and ratified the United Nations Framework Convention on Climate Change (FCCC). The ultimate objective of the FCCC is the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous human-induced interference with the climate system. Under the convention, the interim objective was for Annex I parties (mainly developed and Eastern European countries—see Appendix A) to aim to reduce their greenhouse gas emissions to 1990 levels by the year 2000. The FCCC also obligated Canada to create programs that would support improved understanding of climate science and impacts and facilitate the development of adaptation strategies for climate change. The parties to the FCCC agreed to hold follow-up meetings, referred to as the Conferences of the Parties, to assess their progress toward the FCCC's objectives. The FCCC came into force in 1994, and all countries that ratified it became legally bound by its provisions.

6.21 In December 1997, at the Third Conference of the Parties (CoP 3), Canada and 160 other countries adopted the Kyoto Protocol. This Protocol, once in force, would legally bind most Annex I parties to greenhouse gas emission obligations. These include a commitment by Canada to reduce emissions of certain greenhouse gases to six percent below 1990 levels in the commitment period 2008 to 2012 (Canada's Kyoto target). The Protocol includes mechanisms or tools to assist parties in meeting their commitments. Canada signed this Protocol in April 1998 to demonstrate its commitment to moving forward, domestically and internationally, on meeting its minus-six-

percent goal. In the interim between signature and ratification, countries are obliged under international law to refrain from doing anything to frustrate the intent of the Protocol.

6.22 In October 1999, the federal Speech from the Throne reaffirmed that Canada would work with other governments and citizens to meet Canada's commitment under the Kyoto Protocol to reduce greenhouse gas emissions. The January 2001 federal Speech from the Throne announced that the government will ensure that Canada does its part in reducing greenhouse gas emissions and will work with its provincial and territorial partners to carry out the First National Climate Change Business Plan (see paragraph 6.39). The federal government has also repeatedly stated that Canada intends to achieve the majority of its emission reductions at home because of the economic, competitiveness, and clean air benefits.

Canada's greenhouse gas emissions increasing

6.23 In our 1998 audit, we noted that total Canadian greenhouse gas emissions in 1995 (the most recent year for which data were then available) were about 9 percent higher than in 1990. We also reported that, in 1997, NRCan estimated that greenhouse gas emissions could increase to about 11 percent above 1990 levels by the year 2000.

6.24 Federal officials have informed us that total emissions of all greenhouse gases in 1999 (the most recent year for which data are now available) were 15 percent above 1990 levels.

6.25 Changes in emissions vary widely among sectors of the Canadian economy. For example, Environment Canada reported that for 1998, emissions in the industrial processes, manufacturing, and construction sectors were slightly below 1990 levels, whereas emissions in the electricity (including the energy industries) and transportation sectors were significantly above 1990 levels—28 and 20 percent respectively.

International developments since 1998

6.26 Since our 1998 audit there have been three additional Conferences of the Parties to the FCCC. In November 2000, the first part of the Sixth Conference of the Parties (CoP 6) was held in The Hague, Netherlands. Decisions on some key issues of the Protocol, such as an international emissions trading system, a clean development mechanism to help developing countries reduce their greenhouse gas emissions, rules for counting emission reductions from carbon sinks, a compliance regime, and assistance to developing countries, were unresolved at that time. (We have provided a description of selected Kyoto issues in Appendix B.) CoP 6 resumed in Bonn, Germany in July 2001 where a broad political agreement on the rules to implement the Protocol was reached. The parties also developed some detailed decisions on the political agreement. However, several other decisions still require some additional work to be translated into legal text. These are expected to be finalized and adopted at CoP 7, as a package with

the decisions developed in Bonn. CoP 7 is to take place in Marrakech, Morocco from 29 October to 9 November 2001.

6.27 Eighty-four countries had signed the Kyoto Protocol by 9 May 2001. Thirty-four countries, mainly small island states and developing countries and one Annex I party, Romania, had ratified the Protocol (see Appendix C). Canada and other parties to the FCCC are still negotiating the rules of the Protocol prior to the ratification by other Annex I parties. These rules will determine how governments and industry will work together to achieve the Kyoto targets.

The science of climate change

6.28 The Intergovernmental Panel on Climate Change (IPCC) is a United Nations body established in 1988 to provide authoritative, international, and science-based assessments of the state of knowledge about climate change. In January 2001, it released the science contribution to its Third Assessment Report. The IPCC now states that in the light of new evidence and taking into account the remaining uncertainties, most of the observed warming over the last 50 years is likely due to the increase in greenhouse gas concentrations caused mainly by burning fossil fuel.

6.29 The federal government's current position is that the science behind climate change is increasingly compelling, and the human impacts are increasingly evident. It believes that the scientific understanding of climate change is sound and leaves no doubt that it is essential to take action now to reduce greenhouse gas emissions. The government acknowledges the need to better quantify impacts on different sectors and regions of Canada, provide a basis for decisions on adaptation measures, and identify areas to reduce emissions further.

Canada's strategy for dealing with climate change has evolved

6.30 During our 1998 audit, the federal government had begun to recognize the need to enhance its relationship with other jurisdictions in Canada and with stakeholders to better deal with the climate change issue. Accordingly, the Government of Canada set as a main objective an inclusive process of engagement with interested parties that would result in commitments from all appropriate parties to take action on climate change.

6.31 In December 1997, one day after Canada adopted the Kyoto Protocol, the first ministers directed their ministers of energy and the environment to establish a national climate change process. The process was to examine the impacts, costs, and benefits of carrying out the Protocol and the various implementation options open to Canada.

6.32 As a first step in this national process, the federal government established the Federal Climate Change Secretariat in February 1998, although it was not fully operational until later in the year. The 1998 federal Budget announced the Climate Change Action Fund (CCAF) to support projects and studies that would help Canada meet its commitments in the

Kyoto Protocol. The Federal Secretariat was to co-ordinate the federal effort and manage the CCAF, which has four components that are described in Appendix D.

6.33 At the April 1998 Joint Meeting of Ministers of energy and the environment from federal, provincial, and territorial governments, ministers approved the creation of a National Climate Change Secretariat. The National Secretariat manages and supports the national engagement process and the development of Canada's national implementation strategy as part of Canada's response to climate change. The Secretariat consists of representatives from federal and provincial governments and operates as a virtual office with staff working from their existing locations.

6.34 Central to the national climate change process was the creation of 16 issue tables/working groups comprising 450 participants from federal, provincial, territorial, and municipal governments; industrial sectors and businesses; the academic community; and environmental groups. From 1998 to 2000, each table and group identified, analyzed, and assessed implementation options for its designated issue. Appendix E provides a list of these issue tables and working groups and their respective mandates.

6.35 **New federal action plan.** The Government of Canada Action Plan 2000 on Climate Change was released on 6 October 2000. Action Plan 2000 reflects the Government of Canada's contribution to the First National Climate Change Business Plan (see paragraph 6.39) and its intention to work with provincial and territorial governments and stakeholders to fine-tune measures and to seek partnerships and contributions. Action Plan 2000 indicates that it targets key sectors and, when fully carried out, is intended to take Canada a third of the way toward its Kyoto target. The federal government has stated that contributions from the provincial and territorial governments to the National Implementation Strategy will take Canada even closer to its goal. Action Plan 2000 indicates that actions in future plans will address the rest of Canada's Kyoto target.

6.36 **National Implementation Strategy agreed to.** The options from the issue tables and working groups served as a basis for developing a national implementation strategy, and the first national business plan to implement the strategy, as part of the national response to climate change. On 17 October 2000, ministers of energy and the environment from the federal government and all provinces and territories, except Ontario, agreed on Canada's National Implementation Strategy on Climate Change.

6.37 The National Implementation Strategy (NIS) identifies different phases of progressive action. Phase One is expected to remain in effect until Canada ratifies an international agreement with climate change commitments. The NIS describes this phase as supporting actions that are the most cost-effective while delivering important health, economic, environmental, and social benefits, and laying the groundwork and building momentum for further action.

6.38 According to the NIS, future phases depend on Canada's decisions about its response to climate change and the nature of international commitments. The NIS also states that the decision to move to Phase Two is linked to greater international certainty of the ratification of the Kyoto Protocol, the actions of Canada's major trading partners, and greater domestic clarity on the major policy approaches and actions required to carry out an agreement. For example, if Canada ratifies the Kyoto Protocol, Phase Two is expected to cover the period from ratification until the beginning of the first commitment period, in 2008. Phase Three is expected to cover Canada's commitment period (2008–12), reducing emissions further and responding to evolving domestic and international circumstances. If the ultimate objective of the FCCC is to be attained, future phases will be needed to address future commitment periods.

6.39 First National Climate Change Business Plan launched. On 17 October 2000, ministers of energy and the environment from the federal government and all provinces and territories, except Ontario, also agreed on Canada's First National Climate Change Business Plan. This National Business Plan focusses on five themes: to enhance awareness and understanding, to promote technology development and innovation, to lead by example, to invest in knowledge and build the foundation, and to encourage action. Each theme contains a series of objectives and actions that have been approved, are being considered, or are already in place. Actions by all jurisdictions, except Ontario and Quebec, are included in the Plan. When this National Business Plan was announced, some jurisdictions (British Columbia, Ontario, and Quebec) provided details of their actions in documents appended to the Plan.

6.40 The National Business Plan notes that it will evolve annually and look forward on a three-year basis. As each year of the Plan is completed, an additional year will be added. The ministers of energy and the environment are expected to approve a second business plan in 2002.

Observations and Recommendation

6.41 Since our 1998 audit, Canada's overall greenhouse gas emission curve has not moved downward. In the last three years, the gap related to achieving Canada's Kyoto target has widened and the time for achieving it has narrowed, making the target even harder to reach. The National Business Plan indicates that, in the absence of new (post-1999) policy and program initiatives by Canadian governments, Canada would need to reduce greenhouse gas emissions by 25 percent to meet its Kyoto target by 2010. Because of the time lag in obtaining the necessary information on Canada's greenhouse gas emissions, it is too early to tell whether recent changes in Canada's implementation strategy on climate change will affect the direction of these emissions. However, the Government of Canada projects that once Action Plan 2000 is fully carried out, Canada will still need to reduce its greenhouse gas emissions by 18 percent to meet its Kyoto target.

Federal leadership has increased but many areas are under development

6.42 Changes made in the management structure but roles and responsibilities not defined. We noted that Canada has revised its management process for dealing with climate change. The first ministers directed the ministers of energy and the environment to establish a new national climate change process. This included the creation of a National Climate Change Secretariat to co-ordinate the process. Outputs from the national climate change process included the National Implementation Strategy and the National Business Plan, agreed to by 13 of 14 jurisdictions, the exception being Ontario.

6.43 A Federal Climate Change Secretariat was set up within the federal government. The head of this Federal Secretariat reports to the deputy ministers of Environment Canada and Natural Resources Canada (NRCan), as the ministers of these two departments continue to co-manage the federal response to climate change. Unlike in 1998, both Environment Canada and NRCan now provide information on the nature of their co-leadership role in departmental documents submitted to Parliament. For example, each states in its 2000–01 *Report on Plans and Priorities* and *Performance Report* for the period ending 31 March 2000 that they co-manage the federal initiatives under the Climate Change Action Fund (CCAF), an important program for addressing climate change. They also play a lead role in developing Canada's climate change strategy.

6.44 In our 1998 chapter, we noted that the roles and responsibilities of other federal players had not been specified. We described the Interdepartmental Assistant Deputy Ministers Core Committee on climate change and noted that it did not have documented terms of reference. Three new members were added to this committee since our 1998 audit. The federal Deputy Ministers Steering Committee on climate change was established in 1998. Government officials gave us a copy of the terms of reference for these two committees. These referred only to the roles and responsibilities of the federal players as they relate to the CCAF and did not include other federal climate change activities. The terms of reference did not list the departments and agencies that made up the committees, but government officials gave us a list of the memberships (see Exhibit 6.1). The roles and responsibilities of federal departments and agencies for the CCAF are stated in a series of memoranda of understanding between the Federal Climate Change Secretariat and various departments and agencies.

6.45 In their 2001–02 reports on plans and priorities, both NRCan and Environment Canada refer to their role in managing and carrying out the Government of Canada Action Plan 2000 on Climate Change in co-operation with others. We also reviewed the 2001–02 reports on plans and priorities for the other nine operating entities participating on the Deputy Ministers Steering Committee on climate change to obtain information on their roles and responsibilities for Action Plan 2000. This review excluded the Privy Council Office and the Treasury Board Secretariat (which are not among the operating agencies) and the Federal Climate Change Secretariat

(which does not report to Parliament directly). Except for Transport Canada, we found no clear indication of the roles and responsibilities of these entities in carrying out Action Plan 2000.

Exhibit 6.1 Membership of federal climate change committees

Organization	Interdepartmental Assistant Deputy Ministers Core Committee on Climate Change	Deputy Ministers Steering Committee on Climate Change	Interdepartmental Assistant Deputy Ministers Management Committee ¹
Co-leaders			
Environment Canada	✓	✓	✓
Natural Resources Canada	✓	✓	✓
Others			
Agriculture and Agri-Food Canada	✓	✓	✓
Canadian International Development Agency	✓	✓	
Department of Finance	✓	✓	✓
Department of Foreign Affairs and International Trade	✓	✓	✓
Department of Justice	✓ ²		
Federal Climate Change Secretariat	✓	3	✓
Fisheries and Oceans	✓ ²		
Health Canada	✓ ²	✓	
Indian and Northern Affairs Canada			✓
Industry Canada	✓	✓	✓
National Defence		✓	
Privy Council Office	✓	✓	✓
Public Works and Government Services Canada		✓	
Transport Canada	✓	✓	✓
Treasury Board Secretariat	✓	✓	

Notes

¹ This committee is responsible for the overall management of the Government of Canada Action Plan 2000 on Climate Change. Committee membership can be expanded to include other government departments as required to address specific departmental issues.

² Joined Committee after our 1998 audit.

³ Attends the committee meetings as part of its co-ordinating role in domestic implementation for climate change.

6.46 With the development of Action Plan 2000, the management structure for the federal response to climate change continues to evolve. The ministers of Environment Canada and NRCan will have lead responsibility and accountability for carrying out the Action Plan in collaboration with five other line ministers (Agriculture and Agri-Food, Foreign Affairs and International Trade, Indian and Northern Affairs, Industry, and Transport). The Federal Climate Change Secretariat, which has an oversight function in managing the Action Plan, plans to set up a series of memoranda of understanding with federal departments. The memoranda of understanding are expected to include a description of the roles, responsibilities, and accountabilities for programs and activities funded by the Action Plan.

6.47 Overall management of Action Plan 2000 will be the responsibility of the Interdepartmental Assistant Deputy Ministers Management Committee (IMC). The IMC is expected to report regularly on the Action Plan's progress and performance. The Directors General Operations Committee will report to the IMC and will have membership common to both the Action Plan and the CCAF, providing a link between the two initiatives (see Exhibit 6.1).

6.48 In our opinion, while changes have been made to the management structure, its effectiveness cannot yet be determined in terms of achieving the desired result of reducing Canada's greenhouse gas emissions. While federal players are becoming increasingly involved in the climate change issue, their roles and responsibilities have not been clearly defined in writing.

6.49 **A federal-provincial/territorial framework agreement has not been finalized.** In 1998 we reported that a federal-provincial/territorial co-ordinating framework and a related national co-ordinating mechanism were in place. However, we noted that there were no clear and transparent agreements or arrangements between the federal government and the provinces and territories that specifically defined their respective roles and responsibilities for achieving Canada's climate change commitments.

6.50 The national co-ordinating mechanism has not changed significantly since our audit. However, at the March 2000 Joint Meeting of Ministers of energy and the environment, ministers directed officials to draft a high-level agreement that would formalize the nature of the federal, provincial, and territorial partnership for responding to climate change. A draft federal-provincial/territorial framework agreement on climate change was discussed at the October 2000 Joint Meeting of Ministers. All the ministers, except those from Ontario, agreed to submit the draft framework agreement on climate change for approval by their respective governments in order to ratify it at the next Joint Meeting of Ministers.

6.51 At the time of writing, this agreement had not been finalized. Hence, there was still no written agreement between the federal and provincial/territorial governments on specific roles and responsibilities in achieving Canada's climate change commitments.

6.52 **Financial support has increased considerably.** Over the years, several federal departments have had various programs that have contributed to

Canada's response to climate change. Programs have focussed on information, public education, direct spending, tax programs, and research and development. Since our 1998 audit, the federal government has adopted or announced several new domestic measures to address climate change and other air issues as well as to promote energy efficiency in Canada. These new measures involve additional spending of about \$1 billion (see Exhibit 6.2).

Exhibit 6.2 Major new domestic federal spending initiatives on climate change and energy efficiency

Funding*	Description
February 2000 Federal Budget	
\$150 million (\$50 million per year for three years beginning in April 2001)	To extend the Climate Change Action Fund (CCAF). Initially announced in the February 1998 Budget with a funding level of \$150 million (\$50 million per year for three years beginning in April 1998).
\$60 million (\$20 million per year for three years beginning in April 2001)	To extend funding for four energy efficiency and renewable energy programs: Commercial Building Incentive Program, Energy Innovators Plus, EnerGuide for Houses, and Renewable Energy Deployment Initiative. Initially announced in the February 1997 Budget with a funding level of \$60 million (\$20 million per year for three years beginning in April 1998).
\$25 million (over five years)	To establish a Green Municipal Enabling Fund: a five-year endowment fund to help support or cost-share feasibility studies of projects designed to reduce greenhouse gas emissions and improve air and water quality, as well as to encourage the sustainable use of renewable and non-renewable resources. To be administered through the Federation of Canadian Municipalities. The funds will operate at arm's length from the federal government.
\$100 million	To establish a Green Municipal Investment Fund: an endowment fund to operate in perpetuity to provide loans, loan guarantees, and grants to enable recipients to carry out direct energy efficiency measures such as retrofitting of buildings and public transit systems, which will result in reduced greenhouse gas emissions. To be administered through the Federation of Canadian Municipalities. The funds will operate at arm's length from the federal government.
\$100 million	To establish the Sustainable Development Technology Fund: a fund to focus on environmental technologies, in particular, those for climate change and air quality solutions. To be administered through a separate not-for-profit organization (the Canadian Foundation for Sustainable Development Technology), which will operate at arm's length from the federal government.
\$60 million	To establish the Canadian Foundation for Climate and Atmospheric Sciences to carry out science research in climate change, extreme weather, and air quality. To be administered through a separate not-for-profit corporation (the Canadian Foundation for Climate and Atmospheric Sciences), which will operate at arm's length from the federal government.
\$15 million	To provide funds to expand federal purchases of "green power" (power generated in a sustainable fashion from renewable energy sources).
October 2000 Economic Statement	
\$500 million (over five years)	Government of Canada's contribution to the First National Climate Change Business Plan, as part of the National Implementation Strategy on Climate Change, to reduce greenhouse gas emissions by investing in specific actions.
\$1.01 billion	TOTAL

*Excludes existing funding to federal departments and tax expenditure measures.

6.53 One of these measures was the extension of the Climate Change Action Fund (CCAF). It was to build a policy foundation and to initiate early action for initiatives related to climate change. The 1998 federal Budget provided the CCAF with \$50 million a year over three years beginning in April 1998. The Fund was extended for an additional three years at \$50 million per year as announced in the 2000 Budget—a total of \$300 million over six years. Where possible, the CCAF provides for leveraging and cost sharing with provinces, municipalities, and the private sector. Through the Fund, the government has undertaken, among other things, initiatives to raise Canadians' awareness of climate change and of actions they can take to reduce emissions. On behalf of the Federal Climate Change Secretariat, NRCan is conducting a midterm evaluation of the four components of the CCAF (see Appendix D). NRCan expects to complete its evaluation by August 2001.

6.54 Four other funds or foundations were part of the 2000 Budget: Green Municipal Enabling Fund, Green Municipal Investment Fund, Sustainable Development Technology Fund, and the Canadian Foundation for Climate and Atmospheric Sciences (see Exhibit 6.2). The federal government has allocated \$285 million to these funds and foundations to address the challenges of climate change as well as other issues such as air and water quality. The government has stated that these funds or foundations will operate at arm's length from the federal government. We refer to this as a delegated arrangement—where program management has shifted to an organization outside the government.

6.55 Our Office is currently auditing the governing frameworks that the sponsoring departments have put in place for these four environmental funds to determine whether they contain appropriate elements of reporting, accountability, transparency, and protection of the public interest. We will include the results of this audit in the April 2002 Report of the Auditor General. We are also auditing the CCAF as part of a government-wide audit of grants and contributions, the results of which will be included in the December 2001 Report of the Auditor General.

6.56 **New Federal House-in-Order Strategy has been announced, leaving participation voluntary for many federal entities.** Federal departments and agencies are working to get their own house in order to reduce their greenhouse gas emissions. As noted in our 1998 audit, the federal government issued its first plan to reduce greenhouse gas emissions in 1995. This plan, Emission Reductions from Federal Operations, called for reductions of at least 20 percent from 1990 levels by 2005. The federal government submitted this plan to the Climate Change Voluntary Challenge and Registry (VCR) Program in 1995. The VCR Program, now operated through a not-for-profit corporation (Canada's Climate Change Voluntary Challenge and Registry Inc., or VCR Inc.), challenges organizations in all sectors of the economy to voluntarily accept greater accountability for their greenhouse gas emissions. It maintains a public registry that records the actions planned and executed by the registrants.

6.57 As part of the Government of Canada Action Plan 2000 on Climate Change, Environment Canada and NRCan are co-leading the development of a new Federal House-in-Order Strategy to reduce greenhouse gas emissions from federal operations. A stated objective of this strategy is to demonstrate environmental leadership to the rest of Canada (that is, all other levels of government and all sectors of the economy). Action Plan 2000 states that since 1990 the federal government has already reduced its greenhouse gas emissions by 19 percent and that by 2010 it will reduce its emissions by another 12 percent—a total of 31 percent from 1990 levels. The federal government has assigned specific targets to 11 key departments and agencies responsible for 95 percent of greenhouse gas emissions in federal departments and agencies. These 11 entities will be required to report on their progress annually in their departmental performance reports. At the time of writing, the federal government had not announced specific departmental targets for reducing greenhouse gas emissions (see paragraph 6.91).

6.58 In 1998 we noted that the plan the federal government had submitted to the VCR Program in 1995 excluded Crown corporations; they are responsible for submitting their own action plans, if they choose to participate. Almost all Crown corporations could contribute to reducing greenhouse gas emissions in their own operations—for example, by green procurement and waste recycling and by improving energy efficiency in their own operations. Only two Crown corporations had submitted action plans to VCR Inc. by early May 2001—Atomic Energy of Canada Limited and Via Rail Canada Inc. Although Via Rail is listed in VCR Inc.’s challenge registry, it provided the same information as The Railway Association of Canada.

6.59 The new Federal House-in-Order Strategy, like its 1995 predecessor, also excludes Crown corporations as part of the target-setting exercise. However, Crown corporations have been included in the Leadership Challenge component of the new strategy. This component of the strategy will challenge all other federal entities, which have not been assigned specific targets, to voluntarily reduce their greenhouse gas emissions. All federal entities will be invited through their responsible minister to subscribe to the House-in-Order initiative via a letter to be sent by the lead ministers (Environment and Natural Resources).

6.60 Through a standard commitment document, any department, agency, or Crown corporation that voluntarily participates will agree to undertake a program of its own design, based on a code of best practices, and to report progress annually. Decisions on specific courses of action, timetables, and standards will rest with the individual departments, agencies, and Crown corporations. These entities will report on progress in their organization’s departmental performance reports (or, in the case of Crown corporations, in their annual reports). All participating entities will be provided with a reporting template for guidance.

6.61 The federal government expects 25 federal entities to join the Leadership Challenge in fiscal year 2001–02. By 2005–06, it expects that 75 percent of all federal entities will have joined the Leadership Challenge.

6.62 Given the voluntary nature of the Leadership Challenge, it will be important for the federal government to monitor closely the participation of federal entities that are not part of the target-setting exercise. If such federal entities fail to accept the invitation to participate in the Federal House-in-Order Strategy, the federal government will have missed an opportunity to demonstrate environmental leadership to the rest of Canada—the stated objective of the strategy.

6.63 Recommendation. To demonstrate environmental leadership, the federal government should monitor which federal entities are not participating in the Leadership Challenge component of the Federal House-in-Order Strategy and, based on the nature and size of their operations, assess whether this is reasonable or whether an alternative course of action is required.

Environment Canada's and Natural Resources Canada's response: As part of the Leadership Challenge, Environment Canada and Natural Resources Canada will annually review the number of departments, agencies, and Crown corporations that have signed on to the Leadership Challenge.

Information is currently being compiled on the size and nature of the operations of all federal entities. Those with significant greenhouse gas emissions that have not committed to a plan of action will be encouraged through the Leadership Challenge Office at Environment Canada to implement a strategy to reduce emissions and report on these efforts annually.

The Leadership Challenge Office will work with federal entities to develop a plan of action that suits the size and nature of their operations.

When necessary, senior management at Environment Canada and Natural Resources Canada will encourage their colleagues in other federal entities to participate in the Leadership Challenge.

Working toward broad participation

6.64 As part of the national climate change process, 16 issue tables/working groups were established by July 1998. With funding from the foundation analysis component of the Climate Change Action Fund, these issue tables/working groups first prepared foundation papers that analyzed the status of their respective sectors or issues, including challenges and opportunities. Then they developed options reports consisting of sector-specific and cross-cutting analyses that identified opportunities and barriers for reducing greenhouse gas emissions. These reports identified reduction and adaptation options for consideration in the development of Canada's national implementation strategy on climate change.

6.65 In June 2000, a discussion document on certain options presented by the issue tables was published. This document consisted of those options suitable for Phase One of the National Implementation Strategy on Climate Change. It served as reference material for national stakeholder sessions on climate change that took place in major cities across Canada during the summer of 2000. These sessions sought input from a regional perspective on

the proposed objectives and actions (based on the options reports of the issue tables) to implement a national business plan.

6.66 Increased emphasis on public education but too early to determine whether this will meet the commitment to a national program. In 1998 we commented on Canada's commitment to a national public awareness and education program on climate change. We indicated that numerous information programs were not considered an adequate substitute for such a national program, since they were designed to support specific actions rather than to raise awareness in general. We concluded that this national program had not yet been delivered. Since then, the federal government and the national climate change process have undertaken a number of related initiatives. Appendix F shows some new sources of information on climate change.

6.67 A component of the Climate Change Action Fund (CCAF) is public education and outreach, which is expected to motivate positive behavioural change. It consists of two parts. One part supports the distribution of information to build the public's awareness and understanding of climate change and to influence Canadians to take more action. Information distributed to date has included publications and information kits, a climate change Web site, newspaper supplements, and print and radio advertising.

6.68 The second part provides funding to support projects that emphasize taking early action to reduce greenhouse gas emissions. The CCAF's public education and outreach has funded many projects. By 5 January 2001, over 150 projects had been approved to receive federal contributions from the CCAF totalling over \$17 million. The contributions were used to support actions the public can take to reduce greenhouse gas emissions and to increase its understanding of the Kyoto Protocol and Canada's implementation actions. This support is additional to other federal contributions from departmental program funds and from partners outside the federal government.

6.69 As previously noted, a theme for the National Business Plan is enhancing awareness and understanding. As a key method of implementation, the federal and provincial governments and non-government and private sector partners are establishing a co-ordinated national network and regional hubs or centres that will focus on raising the public's awareness of climate change. It is too early to determine whether this will meet the commitment to a national public awareness and education program on climate change and lead to the desired behavioural change.

Gaps in the modelling of impacts of climate change measures need to be addressed

6.70 In 1998 we reported that work had been done in Canada on identifying various options that could be used to respond to climate change. However, federal and provincial/territorial governments could not reach agreement on a broad portfolio of measures designed to achieve Canada's climate change commitments.

6.71 As part of the national climate change process, the Analysis and Modelling Group (AMG) conducted an integrated analysis of the economic and environmental implications of achieving Canada's Kyoto target. This is called the roll-up analysis. The main objective of the AMG was to provide policy makers with "order of magnitude" guidance on some fundamental issues for achieving the Kyoto target.

6.72 The roll-up analysis involved evaluating the integrated impact of the options analyzed by the other issue tables/working groups, along with other paths or policy packages to attain the Kyoto target. A federal-provincial committee, the National Air Issues Co-ordinating Committee, specified these other paths. Over 100 issue table measures or options were used in the roll-up analysis. The analysis considered the impacts, under different scenarios or sets of assumptions, of possible decisions about the Kyoto mechanisms (or tools) and the consequent response of Canada's trading partners, in particular, the United States.

6.73 The AMG published its findings in November 2000. The report cautions the reader not to view the roll-up results as a plan of action for carrying out the Kyoto Protocol. It notes that the findings are too general and many of the major assumptions are too speculative for such an interpretation.

6.74 The AMG analysis provides some important insights into the economic and environmental implications of achieving the Kyoto target. For example, the findings suggest the potential for substantial variability in impacts on gross domestic product across industries. They suggest that the greatest potential for reducing emissions appears to reside in the electricity generation sector. The AMG findings also indicate that measures and actions to achieve the Kyoto target will reduce sulphates, ozone, and other atmospheric pollutants. This reduction will lead to additional benefits by improving air quality and human health.

6.75 In its report, the AMG identified gaps in its understanding and areas where future analysis could yield useful insights. It cited the need for the following:

- greater effort to measure welfare benefits and costs;
- a better understanding of the impacts on Canada's competitiveness;
- more analysis of the implications of the various approaches to the design of an emissions trading system;
- more province-specific analysis; and
- further analysis of the quantitative co-benefits of improved air quality associated with the actions to reduce greenhouse gas emissions.

6.76 As a result of the October 2000 Joint Meeting of Ministers of energy and the environment, the ministers directed that, among other things, analytical work continue to address many of the gaps and examine possible provincial/territorial or sectoral allocation of any Canadian target. The work was also to examine how any resulting burden would be shared.

6.77 In our opinion, given the general and speculative nature of the AMG findings, more work needs to be done to obtain a clearer understanding of the impacts, including costs and benefits, of potential measures for addressing climate change.

Some progress on identifying a broad portfolio of measures, but much remains to be done

6.78 In 1998 we stated that the federal government had an extensive range of policy instruments within its own jurisdiction that it could use to meet its policy objectives. We also noted that it had chosen to employ only a limited number of policy measures and had favoured voluntary measures. We recommended that the federal government, in consultation with other levels of government and major stakeholders, increase its efforts to develop a federal portfolio of measures to help meet Canada's climate change commitments. We also recommended that the federal government, together with other levels of government and major stakeholders, make a concerted effort to reach agreement on a broad national portfolio of measures designed to achieve Canada's climate change commitments.

6.79 The federal government has made some progress in identifying the federal portfolio of measures it plans to take to help meet Canada's climate change commitments. The Government of Canada Action Plan 2000 on Climate Change identifies actions that either build on existing federal government measures or represent new measures. The co-operation of other levels of government and other stakeholders is generally required to fully implement the measures.

6.80 Action Plan 2000 outlines expected reductions in greenhouse gas emissions by various sectors of the Canadian economy in order to take Canada a third of the way toward its Kyoto target. It does not provide any targets or performance expectations for the individual measures within each sector that would make it possible to assess future performance. However, the federal government is finalizing performance expectations for these individual measures. It is too early to determine whether these measures, when fully carried out, will take Canada a third of the way toward its Kyoto target, as the government anticipates. The remaining two thirds of the target await future developments.

6.81 While the National Business Plan provides objectives and actions and, in most cases, an implementation timeframe, most of the actions are stated in general terms, such as "increase awareness" or "reduce emissions." They do not include clear and concrete targets or expected performance against which government officials can monitor and assess progress.

6.82 The AMG report recognizes that the Kyoto agreement would probably be implemented in Canada through a package of measures. While some elements of that package would be aimed at reducing emissions, others would be aimed at reducing the uneven impact of emissions-reductions measures across sectors and regions. While Action Plan 2000 identifies specific targets, by sector, that are intended to take Canada a third of the way toward its

Kyoto target, the sectoral or regional sharing of the full Kyoto target remains to be considered. Federal officials have indicated that the issue of fair burden-sharing will be considered over the next two years.

6.83 The AMG analysis mainly considered measures to reduce emissions. The overall impact of a complete policy package has yet to be analyzed. Thus, an agreement on a broad national portfolio of measures to achieve the full Kyoto target remains outstanding.

Reporting to Parliament still needs to be enhanced

6.84 Many federal players may be called upon to address climate change issues within their specific mandate areas and within their own operations. In our 1998 audit, we included a high-level review of the 1997 sustainable development strategies of Environment Canada and NRCan as well as other documents tabled in Parliament. We concluded that reporting to Parliament on Canada's response to climate change was fragmented and piecemeal and that summary-level information was incomplete. We expressed concern that the lack of consolidated summary-level reporting could hinder Parliament's ability to provide effective oversight of Canada's response to climate change. We recommended that the federal government enhance its reporting to Parliament on the sectoral response to climate change by assigning a lead department to prepare a consolidated, summary-level report on a periodic basis.

6.85 **Concerns about sustainable development strategies.** Following amendments to the *Auditor General Act* in 1995, federal departments and certain agencies are required to periodically submit to Parliament sustainable development strategies outlining their objectives and plans of action to further sustainable development. The first strategies were tabled in Parliament in 1997. These strategies were a first attempt by departments and agencies to systematically consider their policy, program, and operational impacts on sustainable development.

6.86 Given the increased number of departments actively engaged in the response to climate change, we decided to expand our review of the strategies in this follow-up to include all 11 operating entities participating on the Deputy Ministers Steering Committee on climate change (see paragraph 6.44 and Exhibit 6.1).

6.87 The first round of strategies followed Canada's 1992 ratification of the United Nations Framework Convention on Climate Change. However, they predated the adoption of the Kyoto Protocol, which set specific targets to reduce greenhouse gas emissions for various countries, including Canada. We noted that 8 of the 11 key operating entities made one or more references to climate change in their first strategies.

6.88 The second round of sustainable development strategies was tabled in Parliament in February 2001. A high-level review of the same 11 entities revealed that all of them referred to climate change in their current strategies.

6.89 As previously noted, Action Plan 2000 does not provide specific information on what individual departments and agencies are expected to contribute toward this plan. Similarly, the National Business Plan assigns implementation action for various activities to the federal government and to specific provinces or territories. Therefore, we expected to see in the strategies cross-references to these plans and more detailed information on the contributions of individual departments and agencies.

6.90 Although all 11 federal entities referred to climate change in their current strategies, we found that these references varied from general terms (Environment and Health) to more detailed statements (NRCan and Transport). We also found that only five departments (Environment, Finance, Industry, NRCan, and Transport) had made a cross-reference in their strategies to Action Plan 2000 or the National Business Plan. Of the five, one (Environment Canada) did not provide details on its specific contributions. The other six key entities that lacked a cross-reference provided their readers with limited information on their climate change activities. Therefore, we found it difficult to obtain a clear picture from the strategies of the federal government's response to climate change.

6.91 Our review of the current strategies revealed that of the 11 entities, all of those with a house-in-order target referred to the Federal House-in-Order Strategy (see paragraphs 6.56 to 6.63). Several other entities also made reference to this strategy. We noted that the government produced a guidance document in June 2000, *Sustainable Development in Government Operations: A Co-ordinated Approach*, to assist departments and agencies in co-ordinating their approach to, among other things, reducing greenhouse gas emissions. The document states that federal organizations will have to commit in their sustainable development strategies to meeting specific targets to reduce greenhouse gas emissions. However, no such commitments were in the February 2001 strategies. Federal officials informed us that agreement among departments and agencies on reduction targets for greenhouse gas emissions was reached in March 2001. As previously noted, these targets have not been announced.

6.92 Concerns about other documents tabled in Parliament. We reviewed the 2001–02 reports on plans and priorities and the performance reports for the year ending 31 March 2000 for the same 11 key entities. We found that these documents refer to various federal initiatives on climate change and provide general information on them. The documents do not generally provide an overview of the activities of the federal government, or Canada as a whole, on climate change. An exception is NRCan's 2000 *Performance Report*, which shows trends in greenhouse gas emissions for Canada.

6.93 The October 2000 announcements on the National Implementation Strategy (NIS) and the National Business Plan identified new reporting requirements. The NIS commits that each annually updated National Business Plan will be monitored and progress will be reported publicly. The National Business Plan states that there is a requirement to monitor progress against objectives and to report findings to stakeholders and the

public. The Government of Canada Action Plan 2000 is silent on whether or how progress to Parliament will be reported.

6.94 Enhanced reporting to Parliament still outstanding. As in 1998, there is a large amount of information on climate change that is reported to Parliament by federal entities. However, it continues to be reported in isolated segments scattered in several places throughout several documents. In our view, this fragmented and piecemeal reporting makes it difficult for Parliament to oversee the climate change sectoral activity.

6.95 There are numerous other documents prepared by federal entities that provide general information on climate change and information on Canada's related initiatives. These documents are not tabled in Parliament but are in the public domain. Appendix F lists some of these documents.

6.96 To a certain degree, the issue is not a lack of information on climate change at the operational level for various federal entities. Rather, it is a lack of information for the federal government overall, or Canada as a whole, on the federal climate change commitments. We continue to believe that to facilitate Parliament's oversight, it is important that the federal government periodically provide Parliament with meaningful and complete summary-level information on the federal government's and Canada's response to climate change, and that this be co-ordinated by a lead department. Such information will become increasingly important should Canada ratify the Kyoto Protocol.

6.97 It is too early to expect any formal reporting on progress under the NIS or the National Business Plan. We would expect the federal government to report to Parliament on Canada's response to climate change. Once the federal government has finalized performance expectations for the individual measures covered by Action Plan 2000, we would also expect it to report its progress or achievements against these expectations.

6.98 From our review of recent documents tabled in Parliament, we still do not have a clear picture of the federal government's response to climate change. Reporting to Parliament remains fragmented and piecemeal, and summary-level information is still incomplete. Therefore, we conclude that unsatisfactory progress has been made in addressing our 1998 findings in this area.

Conclusion

6.99 From 1995 to 1999, Canada's greenhouse gas emissions increased from 9 to 15 percent above 1990 levels. Over this period, the gap for achieving Canada's Kyoto target widened while the time remaining to achieve it narrowed. It is still too early to tell whether recent changes in Canada's implementation strategy on climate change will affect the direction of these emissions.

6.100 In our 1998 audit, we felt that the failure to meet Canada's climate change commitments had been mainly the result of poor planning and ineffective management. We suggested that it was time to rethink Canada's implementation strategy. Since then, the federal government has made some important progress by changing the management structure for dealing with climate change. Overall, it has shown increased leadership in Canada on the climate change issue. It has done so, in part, by establishing the national climate change process together with the provinces and territories. This process, which included broad consultation with other stakeholders, has produced Canada's National Implementation Strategy on Climate Change and Canada's First National Climate Change Business Plan.

6.101 As the federal contribution to the National Business Plan, the federal government launched the Government of Canada Action Plan 2000 on Climate Change that, when fully implemented, is expected to take Canada a third of the way to achieving its Kyoto target. However, this Action Plan lacks specific performance expectations for the individual measures. Targets for 11 specified departments and agencies under the Federal House-in-Order Strategy, an element of Action Plan 2000, have been assigned but have not been announced. Under the Leadership Challenge component of the Federal House-in-Order Strategy, all other federal entities will be invited to participate in this initiative. Given the voluntary nature of the Leadership Challenge, it will be important for the federal government to monitor closely the participation of federal entities that are not part of the target-setting exercise, in order not to miss an opportunity to demonstrate environmental leadership to the rest of Canada.

6.102 The federal government has also devoted considerable funds in recent years to its response to climate change, including \$300 million for the Climate Change Action Fund. Through this fund, the federal government has, among other things, undertaken a range of initiatives to raise Canadians' awareness of climate change and of actions they can take to reduce emissions. Although some progress has been made to promote increased public awareness and to further educate the public on climate change, it is still too early to determine whether this will meet the prior commitment for a national public awareness and education program.

6.103 Uncertainties remain. Although Canada has signed the Kyoto Protocol, and the federal government has stated its commitment to the process, ratification remains outstanding. Canada and the other parties to the United Nations Framework Convention on Climate Change are still negotiating the Protocol's rules prior to ratification. They have not finalized decisions on some key issues of the Protocol. The federal government has said that it will consider ratifying the Protocol once the international rules are agreed upon, once there have been further consultations with provinces and territories, and once there is a clearer indication of the actions other countries plan on taking. The federal government has repeatedly stated that Canada intends to achieve the majority of its emission reductions at home; therefore, resolution of international negotiations need not hold up progress on domestic action.

6.104 Although some additional analytical and modelling work has been done, many gaps remain. Further work on the economic, social, and environmental implications for Canada is required to reach an agreement on a broad federal and national portfolio of measures designed to achieve Canada's Kyoto commitments. While Action Plan 2000 identifies specific targets by sector that are intended to take Canada a third of the way toward its Kyoto target, the sectoral or regional sharing of the full Kyoto target remains to be considered. At the same time, it is important to carry out as quickly as possible the domestic actions outlined in both the federal and national plans to ensure that the improvements in the management process yield the desired results.

6.105 The federal government has missed an opportunity to demonstrate a fully co-ordinated approach to dealing with climate change in the sustainable development strategies tabled in February 2001. Only 5 of 11 key federal entities actively engaged in climate change made references to key federal and national climate change documents in their sustainable development strategies. In our opinion, the federal government still needs to provide Parliament with meaningful and complete summary-level information on both the federal government's and Canada's response to climate change to facilitate its oversight. Neither the sustainable development strategies nor other recent documents tabled in Parliament provide a clear picture of the federal government's response to climate change. Such information will become increasingly important should Canada ratify the Kyoto Protocol.

6.106 Despite the progress made to date, the federal government still needs to do a great deal of work to engage partners in dealing with the challenges of climate change. Considerable additional action is required to fully address our 1998 findings. The federal government believes that the scientific understanding of climate change is sound and leaves no doubt that it is essential to take action now to reduce greenhouse gas emissions. Given the important health, economic, environmental, and social benefits of taking action, we believe Canada cannot afford to let its efforts to date fall by the wayside.

6.107 Our assessment of progress made since our 1998 audit is summarized in Exhibit 6.3. We plan to provide future progress reports on the federal government's response to climate change.

Joint comment of Environment Canada and Natural Resources Canada:
Substantial progress has been made by Canada's federal, provincial, and territorial governments, and other stakeholders, in addressing the climate change issue. This is particularly notable considering that Canada's national climate change process was launched just three years ago, and in view of the inherent complexity of the climate change issue set against the dynamics of international and federal-provincial/territorial negotiations.

A number of important accomplishments have been realized. An effective management structure is in place at both the national and federal levels. A National Implementation Strategy and a First National Business Plan have been agreed to by

all but one jurisdiction (province) and that jurisdiction has submitted an action plan as its contribution to the National Plan.

A broad range of federal measures to reduce greenhouse gas emissions has been developed and is now being implemented. The \$1.1 billion set of programs under Budget 2000 and Action Plan 2000 together constitutes a substantial federal investment in addressing the challenge of climate change. Further measures are under active development since it is recognized that more will have to be done.

There are other important matters that remain unresolved. A federal-provincial/territorial framework agreement has not been finalized. However, significant progress has been made. Furthermore, the lack of such an agreement has not slowed progress on the National Implementation Strategy or action by jurisdictions. Reporting to Parliament on climate change on an integrated basis has not yet been formalized, but this will happen under Action Plan 2000 starting next year. Precise definition of roles and responsibilities will be completed as Action Plan 2000 is implemented.

On balance, the federal government has shown considerable leadership in addressing climate change and marshalling support from a broad spectrum of interested parties to take action on climate change. Other jurisdictions, industry, and environmental stakeholders and the Canadian public have been, and will continue to be, engaged in the development of climate change responses.

Exhibit 6.3 Summary of follow-up findings, Responding to Climate Change—Time to Rethink Canada's Implementation Strategy, 1998













1998 recommendations and observations	Our assessment	2001 follow-up comments
<p>Federal roles and responsibilities</p> <p>Clarify federal roles and responsibilities for achieving Canada's climate change commitments (paragraph 3.92).</p>		<p>Federal leadership on climate change has generally increased, along with involvement of various federal players. However, the roles and responsibilities of these federal players in achieving Canada's climate change commitments are still being developed through a series of memoranda of understanding (paragraphs 6.44 to 6.48).</p>
<p>Management structure</p> <p>Develop an effective management structure to respond to climate change (3.93).</p>		<p>A new management structure has been put in place through the establishment of the federal and national climate change secretariats to develop a national implementation strategy and associated action plans. However, the effectiveness of the management structure in achieving the desired results cannot yet be determined (6.42 to 6.43, 6.46 to 6.48).</p>
<p>Partnering arrangement</p> <p>Set up a partnering arrangement between the federal and provincial/territorial governments on roles, responsibilities, and contributions in meeting Canada's climate change commitments (3.94).</p>		<p>A federal-provincial/territorial framework agreement has been drafted but not yet finalized (6.49 to 6.51).</p>
<p>Public awareness and education</p> <p>Develop and implement a national public awareness and education program on climate change (3.105 and 3.106).</p>		<p>Some progress has been made to promote increased public awareness and to further educate the public on climate change. A national network and regional hubs or centres to raise public awareness on climate change are also being established; however, it is too early to determine whether this will meet the commitment to a national public awareness and education program on climate change (6.66 to 6.69).</p>
<p>Costs and benefits</p> <p>Obtain clearer understanding of the costs and benefits of inaction in dealing with climate change, and possible measures to address climate change (3.118 and 3.119).</p>		<p>Additional efforts have been made, such as the issue tables/working groups. However, further analysis is required in a number of areas as identified by the Analysis and Modelling Group (6.70 to 6.77).</p>
<p>Federal portfolio of measures</p> <p>Develop a federal portfolio of measures to help meet Canada's climate change commitments (3.120).</p>		<p>The Government of Canada Action Plan 2000 on Climate Change is expected to take Canada a third of the way toward its Kyoto target, and performance expectations for individual measures are being finalized. Actions in future plans are expected to address the remainder of Canada's Kyoto target (6.79 to 6.82).</p>


Exhibit 6.3 Summary of follow-up findings, Responding to Climate Change—Time to Rethink Canada's Implementation Strategy, 1998

1998 recommendations and observations	Our assessment	2001 follow-up comments
<p>National portfolio of measures</p> <p>Obtain agreement on a national portfolio of measures designed to meet Canada's climate change commitments (3.121).</p>		<p>The federal government and all provinces, except Ontario, have agreed to Canada's First National Climate Change Business Plan. With respect to the full Kyoto target, sectoral or regional sharing remains to be considered, and an agreement on a broad national portfolio of measures remains outstanding (6.81 and 6.83).</p>
<p>Implementation plan</p> <p>Develop a formal, results-based implementation plan with performance expectations designed to achieve Canada's climate change commitments (3.152).</p>		<p>The federal government and all provinces except Ontario have agreed to a three-phased National Implementation Strategy on Climate Change. Phase One of this strategy is being implemented through the National Business Plan. However, this plan does not provide a clear indication of performance expectations to facilitate monitoring and assessment of progress (6.36 to 6.38 and 6.81).</p>
<p>Reporting to Parliament</p> <p>Enhance reporting to Parliament on the climate change activity through a consolidated, summary-level report on a periodic basis (3.162).</p>		<p>It remains very difficult to get a clear picture of the federal government's response to climate change from documents tabled in Parliament. Reporting to Parliament remains fragmented and piecemeal, and summary-level information is still incomplete. The Government of Canada Action Plan 2000 on Climate Change is silent on whether or how progress to Parliament will be reported (6.84 to 6.98).</p>

 **Fully addressed.** The original audit finding has been fully addressed and there is no need to take additional action. Our Office will not follow up further.

 **Satisfactory progress.** Substantial progress has been made in addressing the original audit finding, but some additional action is still required. Our Office will do further follow-up work.

 **Some progress.** Some progress has been made in addressing the original audit finding, but considerable additional action is still required to achieve the desired results. Our Office will do further follow-up work.

 **Unsatisfactory progress.** Progress has not been made in addressing the original audit finding, and action remains outstanding. Our Office will do further follow-up work.

Energy Efficiency

Introduction

The 1997 audit issues

6.108 Our 1997 audit of Natural Resources Canada (NRCan) assessed whether the purposes of its energy efficiency initiatives were in line with government policy and departmental objectives; whether it was measuring and reporting the performance of these initiatives; and the extent to which NRCan had adopted and implemented energy efficiency measures in its own operations.

6.109 We concluded that NRCan's performance information, on both expectations and achievements, was not sufficient to determine the overall success of its energy efficiency initiatives in terms of the contribution they were making to Canada's climate change commitments. We also identified opportunities to enhance the transparency of the energy efficiency initiatives and departmental accountability by better reporting to Parliament on expectations and achievements. In addition, we noted that NRCan had begun to lay the foundation to improve the energy efficiency of its own operations.

6.110 In its response to our 1997 chapter, NRCan committed to:

- further developing performance expectations and improving the performance information on the achievements of its energy efficiency initiatives;
- expanding its efforts to assess the contribution made by its set of energy efficiency initiatives to Canada's climate change commitments; and
- improving the performance information in its reports to Parliament under the *Energy Efficiency Act*.

The state of energy efficiency in Canada

6.111 The federal government has stated that continuing to improve energy efficiency is an important part of Canada's effort to reduce greenhouse gas emissions, which contribute to climate change.

6.112 In its October 2000 report, *The State of Energy Efficiency in Canada*, NRCan indicates that in 1998, Canadians used about 9 percent more energy than in 1990 to heat and cool their homes and workplaces and to operate their appliances, vehicles, and facilities, including the energy used to generate electricity. The report also indicates that greenhouse gas emissions associated with this energy use increased by about 10 percent. NRCan attributes this increase mainly to growth in economic activity in each end-use sector of the Canadian economy (residential, commercial, industrial, transportation, and agriculture) and to changes in the mix of activities that consume energy—in

particular, a shift toward more energy-intensive industries and modes of transportation.

6.113 Still, NRCan has demonstrated analytically that the increases would have been greater if not for improvements in energy efficiency. NRCan estimates that by using energy more wisely, the Canadian economy has improved energy efficiency by six percent since 1990, resulting in greenhouse gas emissions that are five percent below what they would have been otherwise.

Office of Energy Efficiency established

6.114 Soon after the Kyoto Conference, the Minister of Natural Resources announced in December 1997 the creation of the Office of Energy Efficiency (OEE) to deliver all of NRCan's new and existing energy efficiency initiatives. The OEE was formally established in April 1998, with a mandate to renew, strengthen, and expand Canada's commitment to energy efficiency and to address the challenges of climate change, with specific emphasis on the Kyoto Protocol. The OEE is responsible for preparing the annual report, *The State of Energy Efficiency in Canada*; for organizing an annual conference on energy efficiency, the first of which was held in May 1999; and for preparing an annual report to Parliament under the *Energy Efficiency Act*.

National Advisory Council on Energy Efficiency established

6.115 The National Advisory Council on Energy Efficiency was established in 1998 to provide advice and guidance to the OEE. The Council includes energy efficiency specialists and leaders from various segments of society and all regions of the country, including provincial representation. It advises on the OEE's strategic direction in meeting federal policy objectives; on business planning and programs; on performance measurement and progress reports; and on other long-term issues. This Council has met every few months since its creation.

Energy Efficiency Index developed

6.116 To track changes in energy efficiency, the OEE has developed an Energy Efficiency Index to replace aggregate energy intensity (the ratio of gross domestic product to energy use). Energy intensity is influenced by changes in weather, in economic growth or activity, and in the mix of activities that consume energy, as well as in energy efficiency. The OEE index normalizes these influences to more closely reflect changes in energy efficiency in the Canadian economy.

Financial support increased

6.117 NRCan's expenditures on its 16 energy efficiency initiatives covered by our 1997 audit were about \$16.5 million in 1995–96. For 2001–02, the federal government has allocated \$54.5 million to the OEE. This current-year funding includes \$15.5 million in “sunset” funds for programs dealing with

commercial and residential energy efficiency. These “sunset” funds are scheduled to cease on 31 March 2004. The current-year funding also includes \$22 million annually for new and expanded measures under the Government of Canada Action Plan 2000 on Climate Change. This funding for Action Plan 2000 is scheduled to cease on 31 March 2006.

6.118 The OEE also administers temporary special funds. These include funding of \$315,000 in 2001–02 from the Climate Change Action Fund (CCAF) for public education and outreach on energy efficiency initiatives.

Energy Efficiency Regulations amended

6.119 At the time of our 1997 audit, we reported that Canada's Energy Efficiency Regulations regulated 20 residential products, accounting for 60 percent of residential energy use. Amendments to these regulations have increased the minimum energy performance levels for selected products. Also, additional residential energy-using products are now being regulated. These regulations now apply to energy-using products that account for over 75 percent of residential energy use.

Observations

6.120 The OEE has an ongoing effort to improve performance information on both expectations and achievements, based on the guidelines and criteria developed by the Office of the Auditor General.

Greater clarity in performance expectations

6.121 In our 1997 audit, we reported that many of NRCan's energy efficiency initiatives lacked clear performance expectations (information outlining the performance that is targeted or is expected to occur in the future). Since then, the OEE has identified clear and concrete performance expectations (output and outcome targets) for all of its market transformation programs. These expectations are outlined in the OEE's annual business plan. The energy efficiency initiatives generally have multiple outcome targets of an intermediate and long-term nature. In a few instances the specific outcome target will not be established until data gathering and analysis, or surveys to establish baseline information, have been completed.

Progress on performance achievements

6.122 In 1997, we stated that NRCan did not have many outcome measurements for its energy efficiency initiatives and that it needed to do more work to measure and assess their performance. In our follow-up, we found that NRCan has made considerable progress in addressing this issue and has adopted new performance indicators. These performance indicators are designed to measure progress toward clearly stated goals and objectives and to support continual improvement in performance.

6.123 The Department recognizes the difficulty in determining the incremental effects of its energy efficiency initiatives because other factors, such as changes in energy prices, also have an influence. The challenge for NRCan is to continue improving the coverage and quality of information on the performance of its energy efficiency initiatives over time. It also needs to further quantify their contribution to improved energy efficiency.

Working toward linking impact of programs to Canada's climate change commitments

6.124 In 1997 we noted that the impact of NRCan's energy efficiency initiatives was not clearly linked to Canada's climate change commitments. In recent years, the OEE has significantly increased its efforts to link changes in energy use to changes in greenhouse gas emissions by analyzing trends in energy use and by monitoring performance. It also links energy efficiency to reduced greenhouse gas emissions in its promotional material.

6.125 For example, the OEE is conducting some program-specific surveys in an effort to determine the extent to which program initiatives have helped to change consumer behaviour. These surveys are expected to help the OEE quantify more clearly the influence of its initiatives on energy use in the market. The OEE is also undertaking additional surveys and enhancing its analysis with a view to improving estimates of its program impacts on energy efficiency and greenhouse gas reductions.

6.126 Improving performance information is an ongoing process, and while considerable progress has been achieved since our 1997 audit, many of the issues raised are long-term. The work undertaken by the OEE to date is essential to identifying and collecting performance information for all of its energy efficiency initiatives.

Improved reporting to Parliament

6.127 In 1997 we noted a need for NRCan to improve its reporting to Parliament on the performance expectations and achievements of its energy efficiency initiatives. We found in our follow-up that it has made satisfactory progress.

6.128 For example, in its 1997–1999 *Report to Parliament under the Energy Efficiency Act* tabled in March 2000, NRCan describes more fully the relationship between energy use and greenhouse gas emissions for each end-use sector of the Canadian economy. This report also presents performance data for almost all of the OEE's market transformation programs. NRCan's 2000 *Performance Report* also provides information on trends in greenhouse gas emissions and in energy efficiency.

6.129 Opportunities still exist for NRCan to enhance the coverage and quality of its energy efficiency performance information and thus further improve its reporting to Parliament on the performance expectations and achievements of these initiatives.

Conclusion

6.130 Overall, NRCan has made satisfactory progress in addressing our 1997 recommendations on its energy efficiency initiatives, although many of these issues are long-term. While progress continues, our follow-up work noted improvements in the performance information (both expectations and achievements) as well as an increased effort to link changes in energy use to changes in greenhouse gas emissions. This has also correspondingly improved its reporting to Parliament on its energy efficiency initiatives.

6.131 Our assessment of progress made since our 1997 audit is summarized in Exhibit 6.4.

Exhibit 6.4 Summary of follow-up findings, Natural Resources Canada—Energy Efficiency, 1997

1997 recommendations and observations	Our Assessment	2001 follow-up comments
<p>Performance expectations</p> <p>Develop performance expectations with clear and concrete outcomes (10.53).</p>		<p>While NRCan has developed clear and concrete performance expectations for its energy efficiency initiatives, a few outcome targets remain to be established (6.121).</p>
<p>Performance achievements</p> <p>Improve performance information on the achievement of individual energy efficiency initiatives (10.60).</p>		<p>NRCan has adopted new performance indicators that provide additional information on performance. However, because of the difficulties with incrementality and attribution, the challenge for NRCan is to continue to improve the coverage and quality of its performance information over time (6.122 to 6.123).</p>
<p>Link to commitments</p> <p>Expand information on the nature and extent of the contribution to Canada's climate change commitments (10.69).</p>		<p>NRCan has made efforts to link changes in energy use to changes in greenhouse gas emissions through energy-use trend analysis and program performance monitoring, and in its promotional material (6.124 to 6.126).</p>
<p>Reporting to Parliament</p> <p>Enhance reporting to Parliament through improved performance and other information (10.82).</p>		<p>While NRCan has improved its reporting, we believe opportunities for improvement still exist (6.127 to 6.129).</p>

Fully addressed. The original audit finding has been fully addressed and there is no need to take additional action. Our Office will not follow up further.

Satisfactory progress. Substantial progress has been made in addressing the original audit finding, but some additional action is still required. Our Office will do further follow-up work.

Some progress. Some progress has been made in addressing the original audit finding, but considerable additional action is still required to achieve the desired results. Our Office will do further follow-up work.

Unsatisfactory progress. Progress has not been made in addressing the original audit finding, and action remains outstanding. Our Office will do further follow-up work.

About the Follow-up

Objectives

The objectives of this follow-up were to determine:

- the extent to which the federal government has made progress on rethinking its climate change implementation strategy since the 1998 Report of the Commissioner of the Environment and Sustainable Development, Chapter 3, Responding to Climate Change – Time to Rethink Canada’s Implementation Strategy;
- the extent to which the sustainable development strategies for key departments and agencies provide specific information on their contribution to addressing climate change; and
- whether recommendations made in the 1997 Report of the Auditor General, Chapter 10, Natural Resources Canada—Energy Efficiency have been addressed. We also wanted to provide information to Parliament on progress made in addressing our recommendations.

Scope

Our follow-up work on Responding to Climate Change—Time to Rethink Canada’s Implementation Strategy was conducted at Environment Canada, Natural Resources Canada, and the Federal Climate Change Secretariat. Due to the large number of changes that have occurred as a result of the national climate change process, our work covered a description of new activities and changes that have occurred in the federal government’s response to climate change since our original audit. We did not audit the national climate change process, which includes the issue tables/working groups, the Government of Canada Action Plan 2000 on Climate Change, Canada's National Implementation Strategy on Climate Change, or Canada's First National Climate Change Business Plan.

Our work on sustainable development strategies concentrated on the second round of strategies, tabled in February 2001, but also involved a high-level review of the first round of strategies, tabled in 1997. We examined the strategies for the following departments and agencies: Agriculture and Agri-Food, Canadian International Development Agency, Environment, Finance, Foreign Affairs and International Trade, Health, Industry, National Defence, Natural Resources, Public Works and Government Services, and Transport.

Our follow-up work on Natural Resources Canada—Energy Efficiency focussed on performance information (expectations and achievements) related to NRCan's energy efficiency initiatives, their link to Canada's climate change commitment, and reporting to Parliament.

The quantitative information in this chapter has been drawn from the various government sources indicated in the text. Although this quantitative information has been checked for reasonableness, it has not been audited.

Audit Team

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Appendix A—Annex I countries under the United Nations Framework Convention on Climate Change

Countries that have signed but not ratified the Kyoto Protocol		
Australia	Germany	Norway
Austria	Greece	Poland
Belgium	Ireland	Portugal
Bulgaria	Italy	Russian Federation
Canada	Japan	Slovakia
Croatia	Latvia	Slovenia
Czech Republic	Liechtenstein	Spain
Denmark	Lithuania	Sweden
European Union	Luxembourg	Switzerland
Estonia	Monaco	Ukraine
Finland	Netherlands	United Kingdom of Great Britain and Northern Ireland
France	New Zealand	United States of America
Country that has signed and ratified the Kyoto Protocol		
Romania		
Countries that has not signed the Kyoto Protocol		
Belarus*	Iceland	Turkey*
Hungary		

*Does not have greenhouse gas obligations under the Kyoto Protocol.

Source: United Nations Framework Convention on Climate Change Web site as of 9 May 2001

Appendix B—A description of selected Kyoto issues

Issue	Description
Kyoto Mechanisms	
Clean development mechanism	To enable industrialized countries to finance emission-reduction projects in developing countries and to obtain emission-reduction credits for doing so.
International emissions trading	To permit industrialized countries to buy and sell emission-reduction credits among themselves.
Joint implementation	Refers to joint projects among industrialized countries that have Kyoto targets and permits the sharing of emission-reduction credits.
Other Issues	
Carbon sinks	Refers to the removal of carbon from the atmosphere by forests and by good management of agricultural soils. Can be used by countries to offset their emission targets.
Compliance measures	To ensure that countries live up to the rules and play fairly.
Financial support	To provide financial resources to developing countries for the implementation of the Protocol.
Technology transfer	To promote, facilitate, and finance the transfer of environmentally sound technologies, particularly to developing countries.

Source: Climate Change Information Tool Kit: Backgrounder – Following Through on Kyoto: Challenges and Opportunities, United Nations Framework Convention on Climate Change Web site, and Government of Canada Press Releases, 2000

Appendix C—Countries that had ratified the Kyoto Protocol by 9 May 2001

Antigua and Barbuda	Guinea	Palau
Azerbaijan	Honduras	Panama
Bahamas	Jamaica	Paraguay
Barbados	Kiribati	Romania*
Bolivia	Lesotho	Samoa
Cyprus	Maldives	Trinidad and Tobago
Ecuador	Mauritius	Turkmenistan
El Salvador	Mexico	Tuvalu
Equatorial Guinea	Micronesia (Federal States of)	Uruguay
Fiji	Mongolia	Uzbekistan
Georgia	Nicaragua	
Guatemala	Niue	

*Annex I country with greenhouse gas emissions obligations.

Source: United Nations Framework Convention on Climate Change Web site

Appendix D—Components of the Climate Change Action Fund

Component	Description
Technology Early Action Measures	To support cost-effective technology projects that will lead to reductions in greenhouse gas emissions.
Foundation Analysis	To support the sound analysis of options for implementing the Kyoto Protocol.
Science, Impacts and Adaptation	To improve our knowledge of the climate system and to assess the impact of climate change on the regions of Canada and the options for adaptation.
Public Education and Outreach	To inform and engage Canadians on climate change and to form partnerships with other governments, communities, the private sector, and other organizations in early action measures.

Source: Government of Canada Press Release: Federal Government Takes Concrete Action on Climate Change, 1998

Appendix E—Issue tables and working groups and their respective mandates

Issue tables and working groups	Mandate
Agriculture and Agri-Food Table	To propose a sectoral contribution to a national post-Kyoto climate change strategy including the development of options to reduce sectoral emissions and to adapt to the effects of changing growing conditions.
Analysis and Modelling Group	<p>To address issues surrounding the data, analytical and modelling needs in developing a national climate change implementation strategy including:</p> <ul style="list-style-type: none"> • ensuring the coherency of baseline data used in evaluating various measures/options to address climate change, • providing an analytical framework to ensure consistency and comparability of methodologies and approaches in evaluating various measures/options to address climate change and their implications, and • directing the "roll-up" analysis and modelling of various implementation scenarios built on various combinations of specific measures/options.
Buildings Table	To contribute to the development of a national implementation plan addressing climate change that takes into account regional concerns, opportunities and trends, and socio-economic interests of the commercial/institutional building owner/operator, and tenant, home owner, and industry stakeholders.
Credit for Early Action Table	<p>To assess options and to recommend program designs and implementation plans for an early credit system for Canada.</p> <p>To serve as a focal point on domestic emissions trading, in particular for analytical work on voluntary approaches.</p>
Electricity Table	<p>To study the generation, transmission and distribution elements of the electricity industry including the potential contribution that could be made by the electricity and cogeneration industries, including renewable energy, towards greenhouse gas reductions.</p> <p>To develop a common, agreed upon understanding of the present situation (a Foundation Paper) and then assess the choices available to the electricity industry, policy makers and governments.</p> <p>To identify where practicable, drawing on existing information, the economic, environmental and social impacts at provincial and national levels along with the estimated reductions associated with each option and develop recommendations.</p> <p>To consider full cycle greenhouse gas emissions and in addition, based on existing information, other environmental impacts, trade with U.S., and the changing industry structure.</p>
Enhanced Voluntary Action Table	<p>To recommend options to address barriers/disincentives to voluntary action and provide input to the development and implementation of recognition programs, with a view to increasing the effective participation in, and the effectiveness of, voluntary actions to reduce greenhouse gas emissions.</p> <p>The Table will focus on voluntary actions by industries, commercial organizations and institutions and work with other tables to address voluntary actions by consumers and the public at large. It is important that the Table address voluntary measures, which include, but are not limited to, an enhanced Voluntary Challenge and Registry (VCR Inc.).</p>
Forest Sector Table	To analyze and evaluate forest sector options for contributing to Canada's national climate change response and their impacts on the broadly defined forest sector. The Table is to provide an integrating mechanism for all aspects of the climate change challenge for the forest sector and to explore issues not covered by other tables but of importance to the forest sector (e.g., forest-based communities, traditional uses, sector employment, forestry industry specific analysis).

Issue tables and working groups	Mandate
Industry Table	<p>To develop a broader understanding of the challenges and opportunities facing industry in responding to climate change, from an environmental, economic, technological and competitiveness perspective.</p> <p>To evaluate a range of options for reducing greenhouse gas emissions in the context of the national implementation strategy, including those developed by both the Industry Table and other Tables, to assure a clear and broadly shared understanding of the implications for Canada's competitiveness and for impact by region/sector.</p>
Kyoto Mechanisms Table	To address "international emissions trading and related flexibility mechanisms such as the Clean Development Mechanism, Joint Implementation and related domestic trading issues."
Municipalities Table	To coordinate development and analysis of options for the reduction of greenhouse gases in the municipal sector for consideration in the national implementation strategy.
Public Education and Outreach Table	<p>To develop a long-term public outreach strategy, based on sound research, as part of the National Implementation Strategy on Climate Change that will encourage the public to take action on climate change.</p> <p>To provide strategic and practical advice to other issue tables on public outreach.</p>
Science, Impacts and Adaptation Group	To bring together information on the science of climate change, its impacts, and potential adaptation options.
Sinks Table	<p>To identify the state of knowledge, gaps and challenges surrounding the issue of biological sinks as they relate to forestry and agriculture and any other biological sinks that may be identified.</p> <p>To provide technical input and advice to governments to ensure that the necessary information and analyses are available to support a decision regarding the ratification and implementation of the Kyoto Protocol as it relates to sinks.</p>
Technology Table	<p>To develop options for consideration by ministers regarding the advancement of the role of technology to achieve two primary goals:</p> <ul style="list-style-type: none"> • contribute to the reduction of greenhouse gas emissions through development and commercialization of innovative technologies; and • to enhance capabilities and opportunities for Canadian companies in providing environmentally responsive technologies in domestic and international markets.
Tradeable Permits Working Group	To manage work relating to options, which would involve mandatory permit requirements for at least some sources of greenhouse gases.
Transportation Table	<p>To identify specific measures to mitigate greenhouse gas emissions from Canada's transportation sector.</p> <p>The Table will identify and analyze a range of potential measures to reduce greenhouse gas emissions. The analysis of these measures should include their greenhouse gas impacts during the budget period 2008-2012 and up to 2020, and their costs and benefits (see details of Options Paper).</p> <p>The Table includes all aspects of Canada's transportation system: all modes (road, rail, marine, air); transportation fuels; passenger transport (intercity passenger; urban passenger); transportation equipment (excluding emissions from manufacturing); transportation infrastructure; freight transport; urban transit; vehicle technology and standards; intermodal transportation; and transportation demand management.</p>

Source: National Climate Change Process Web site

Appendix F—Some new key sources of information on climate change¹

Information		Source
Telephone		
1-800-0-Canada (622-6232)		Government of Canada
1-800-959-9606		Government of Canada
Web sites		
www.nccp.ca		National Climate Change Process
www.climatechange.gc.ca		Government of Canada
www.ec.gc.ca/climate		Environment Canada
www.climatechange.nrcan.gc.ca		Natural Resources Canada
Documents²		
1998	An Agenda to Address Climate Change	Natural Resources Canada
1998-2000	Foundation Papers and Option Papers from Issue Tables/Working Groups	National Climate Change Process
1999	Global Climate Change: Taking Action on Climate Change	Natural Resources Canada and Environment Canada
1999	Climate Change Information Tool Kit	Government of Canada
1999	Eleven backgrounders on topics such as: <ul style="list-style-type: none"> • Addressing Climate Change • Greenhouse Gas Emissions: Outlook to 2010 • Meeting Climate Change Challenges: Canadian Successes • Meeting our Kyoto Commitment: Challenges and Opportunities • The Climate Change Action Fund • The Federal Government: Leading by Example on Climate Change • The Impacts of Climate Change • The Regional Impacts of Climate Change • Towards a National Climate Change Strategy • Understanding the Science of Climate Change • What Canadians Can Do About Climate Change 	Natural Resources Canada and Environment Canada
1999	Ten fact sheets on climate change: agriculture; coastal zones; economy; energy; fishery; forests; human health; science; technology; and transportation	Natural Resources Canada and Environment Canada
1999	Canada's Perspective on Climate Change: A Compendium of Canadian Initiatives - Science, Impacts and Adaptation: Taking on the Challenge	Environment Canada
1999	Canada's Emissions Outlook: An Update for 2010	National Climate Change Process
2000	Emission Reductions from Federal Operations. Progress Report to Canada's Climate Change Voluntary Challenge and Registry Inc.	Government of Canada
2000	Distillation of Phase One Proposals from Issue Tables	National Climate Change Process
2000	Canada's Greenhouse Gas Inventory 1990-1998	Environment Canada
2000	Government of Canada Action Plan 2000 on Climate Change	Government of Canada

Information		Source
2000	Canada's National Implementation Strategy on Climate Change	National Climate Change Process
2000	Canada's First National Climate Change Business Plan	National Climate Change Process
2000	Office of Energy Efficiency - Energy Efficiency Trends in Canada 1990 to 1998: A Review of Secondary Energy Use, Energy Efficiency and Greenhouse Gas Emissions	Natural Resources Canada
2000	A Compendium of Canada's Initiatives: Taking Action on Climate Change	National Climate Change Process
2000	An Assessment of the Economic and Environmental Implications for Canada of the Kyoto Protocol, Analysis and Modelling Group report	National Climate Change process

¹ Excludes provincial sources of information on climate change.

² At the time of our follow-up, most of these documents could be found on one of the Web sites mentioned above.

Report of the Commissioner of the Environment and Sustainable Development to the House of Commons—2001

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