

Building on Success
Climate Change Action Fund (CCAF)
2003-2004 Annual Report

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Building on Success Climate Change Action Fund (CCAF) 2003-2004 Annual Report

EXECUTIVE SUMMARY

The Government of Canada established the Climate Change Action Fund (CCAF) in the 1998 federal budget, allocating \$150 million over three years to help develop a national implementation strategy and support early actions to respond to climate change. The second three-year phase was announced in Budget 2000, with a further \$150 million in funding.

Building on Success, The Climate Change Action Fund 2003-2004 Annual Report, is designed to provide information on results and activities for the fiscal year ending in March 2004. The CCAF operates on principles that include: building, where possible, on existing initiatives and mechanisms; leveraging and sharing costs with provinces/territories and the private sector; ensuring there are concrete milestones and demonstrable results; and, establishing transparent processes that engage all federal departments, as well as agencies and external stakeholders.

Since ratification of the Kyoto Protocol, Building for the Future funds were used partly for policy development and analysis, including a review of existing Action Plan 2000 measures and Budget 2003 initiatives, and have contributed to rebuilding federal-provincial-territorial cooperation on climate change, primarily through bilateral relationships. As well, through its discussions with industry, provinces and territories, and other stakeholders, Natural Resources Canada's Large Final Emitters Group will lead the development of a framework that will enable the creation of a greenhouse gas emission trading market in Canada.

The International component continued its contribution to Canada's global climate change objectives in the international negotiations process. Canada's influence has continued to grow with Developing and Least Developed Countries. Preparatory work began on a future global climate change regime in the Annex I Expert Group of the OECD and research studies commissioned on the most probable longer-term scenarios.

The Public Education and Outreach program was active with advertising activities and the funding of numerous projects through Hubs and four streams of partnered project delivery (General Public, Youth and Educators, Communities and Business and Industry). Projects included outreach in Canada's academic communities, workplace campaigns that increase employee awareness and television documentaries demonstrating impacts and mitigation measures. Tracking research completed in the spring of 2003 indicates that public education and outreach activities are contributing to greater awareness of and concern about climate change, and an increased sense of personal responsibility among Canadians. Acknowledgement by 78 percent of Canadians that there is something they can do to help address climate change has increased compared to 54 percent in 1998. This increased sense of responsibility is seen across all age, income and education groups.

In the area of science, accomplishments included: funding for three new climate scenarios projects; support for the Third International Geosphere Biosphere Program Congress in Banff Alberta; support for the International Arctic Climate System Study (ACSYS) and Climate and Cryosphere (CLIC) Project Office; completion, printing and posting on the web of fact sheets on the themes of climate system monitoring, climate modelling and the Arctic; and monitoring of all ongoing projects in the areas of climate modelling, climate system processes, and scenarios.

The Impacts and Adaptation program has placed more focus on understanding the process of adaptation. Work continued on 43 projects led by university, government and private sector researchers across the country focussing on water resources, agriculture, fisheries, human health, forestry, and coastal management. Several completed projects on important impacts and adaptation areas include boundary and transboundary water management assessment, water level

adaptation measures for the St. Lawrence River, as well as human health vulnerability and public health adaptation methods.

TEAM has continued to successfully harness the long-term R&D efforts of various federal departments into a climate change mitigation focus. A key indicator of TEAM's successful role has been the major subsequent private investments made in several companies that have collaborated with the long-term federal R&D enterprise. An estimated \$50 million and \$300 million in follow-on commercial investments have been made in public and private funds, respectively, subsequent to the completion of TEAM projects. This current year is a wind-down period for projects funded and therefore only two new projects were launched.

Under the CCAF Reserve, funding has helped BIOCAP Canada to coordinate national, university-based research networks with federal scientists and others to address questions surrounding biosphere greenhouse gas management. The Prairie Farm Rehabilitation Administration (PFRA) worked to help producers understand agricultural sources of greenhouse gases and mitigate the effects of climate change. GLOBE 2004 brought together 1800 conference delegates from around the world to discuss recent developments in corporate sustainability, energy policy and climate change and the business of building sustainable cities. A study was conducted to assess the health risks and benefits associated with the widespread use of ethanol as a blending ingredient in automotive gasoline.

Climate Change Action Fund: History and Mandate

Recognizing that climate change is among the most serious environmental challenges of our time, and further recognizing that such serious challenges require a variety of actions and approaches, the Government of Canada established the Climate Change Action Fund (CCAF) in the 1998 federal budget.

Under the CCAF, \$150 million was allocated over three years to help develop a national implementation strategy and to support early actions to respond to climate change. Meeting these goals involved building on existing programs, and establishing partnerships on climate change with provinces, territories, stakeholders and others.

During the 1998-2001 period, CCAF had four integrated components: Foundation Building; Technology Early Action Measures (TEAM); Science, Impacts and Adaptation (SIA); and Public Education and Outreach (PEO).

There were a number of accomplishments in the first three years, such as:

- The development and launch of the *National Implementation Strategy*, the *First National Climate Change Business Plan* and the *Government of Canada Action Plan 2000 on Climate Change*;
- Analysis and modelling to evaluate the economic and environmental implications, for Canada, of various approaches to achieving the Kyoto target and to assist in the development of a future course of action;
- Practical and visible demonstrations of climate change technologies that support sustainable economic development through TEAM, where an initial investment of \$60 million leveraged an additional \$500 million from private sector partners;
- Funding of cost-shared climate science, impacts and adaptation research that engaged scientists and stakeholders while significantly increasing the knowledge base on climate system functions, potential impacts and adaptation techniques; and,
- Reaching over two million Canadians to increase awareness of the issue.

Given the success of the first three years, the Government of Canada moved to a second phase of CCAF in Budget 2000 with \$150 million in funding in a three-year mandate that ended in fiscal year 2003-2004.

Details on results and activities during the third year of that mandate are provided in this report: *Building on Success, The Climate Change Action Fund 2003-2004 Annual Report*.

CCAF Structure and Administration

The central administration of the CCAF is undertaken by the federal Climate Change Secretariat (CCS). There are lead departments for each component, and some components have different sub-categories involving a large number of federal departments.

Environment Canada and Natural Resources Canada are overall lead departments for the CCAF. Substantial contributions are made, and resources committed, by Transport Canada, Agriculture and Agri-Food Canada, Statistics Canada, Department of Finance, Health Canada, Industry Canada, the Department of Foreign Affairs, Fisheries and Oceans Canada, the Canadian International Development Agency (CIDA) and Indian and Northern Affairs Canada.

The CCAF operates on the basis of the following principles: to build, where possible, on existing initiatives and mechanisms; to leverage and share costs with provinces/territories and the private sector; to ensure there are concrete milestones and demonstrable results; and to establish transparent processes that engage all federal departments, as well as agencies and external stakeholders.

These operating principles underscore the five components for the 2001-2004 period:

Building for the Future: Building for the Future is designed to support domestic efforts across sectors, governments and society to address climate change, to position Canada to take future policy decisions on approaches and options for achieving climate change commitments, and to assist in meeting international reporting obligations on greenhouse gas emissions. In this component, there is support to both the federal coordination and the federal/provincial/territorial climate change processes; investments are made in data gathering, analysis, modelling and policy development; and there are public consultations and communications activities.

International Policy and Related Activities: The International component helps Canada maximize its ability to meet its Kyoto emissions reduction commitment at the lowest cost through use of the Kyoto mechanisms. It helps to secure favourable terms for sinks and other measures, and contributes to global climate change objectives by advocating the engagement of all countries to deal with global emissions reductions in a future climate change regime. It ensures a level playing field with Canada's competitors by maximizing participation of key developed and developing economies in the Kyoto Protocol, and maximizes opportunities for Canadian business in international projects and initiatives aimed at addressing climate change.

Public Education and Outreach: Public Education and Outreach (PEO) is designed to raise Canadians' awareness of climate change, and promote action in each province and territory. It funds a variety of projects, such as Internet sites, museum displays and classroom materials. Within this component are the Hub Network (provincial/territorial centres of PEO information and coordination) and project funding. The partnered projects are in four streams: Communities (to encourage municipal action and community greenhouse gas reduction strategies); Youth and Educators (to increase teaching of climate change in kindergarten through grade 12, and to engage the energy and values of youth as a catalyst for action); Business and Industry (to encourage management and employees to reduce greenhouse gas emissions); and the Public (to increase Canadians' understanding of climate change and to encourage them to take individual action).

Science, Impacts and Adaptation: Science, Impacts and Adaptation is designed to assist in advancing knowledge of the magnitude, rate and regional distribution of climate change and its impact on Canada, and to increase the country's capacity to adapt. Examples of activities are global and regional-scale climate modelling; production of climate scenarios for impacts and adaptation researchers; research on the key climate system processes of importance to Canada; assessment, evaluation, coordination and communication of climate system science; impacts and adaptation research to provide new insights on Canada's vulnerability to climate change in areas such as water resources, health, and food supply in all regions of the country; and contributing to the development of adaptation strategies. The latter is especially important in regions and sectors where impacts are currently being felt, and where decisions taken now have long-term implications.

Technology Early Action Measures (TEAM): TEAM is an interdepartmental technology investment program that directs funds toward late stage development and first demonstration of greenhouse gas reducing technologies, nationally and internationally, while sustaining economic and social development. TEAM is a key player in the technology innovation process, and brings together partners from industry, communities and all levels of government.

In addition, the CCAF Reserve is used to fund projects that fall beyond the scope or budgets of the five core components.

Over the final year of the CCAF, an extensive project database was established that covers the full 6 years of the initiative. This database details over 600 projects including brief descriptions of the work conducted, the CCAF component/block that the project was funded under, the amount of CCAF funding provided, project start and end date, project proponents and contact information and can be accessed at <http://www.climatechange.gc.ca/english/ccafdb/>.

REPORT ON 2003-2004 CCAF ACTIVITIES AND RESULTS

Activities and results are presented by CCAF component, and include a brief description, an overview of the past year and some highlights of specific activities.

Building for the Future

Building for the Future supports the National Climate Change Process and the development of federal policies to address climate change.

Building for the Future provides the primary source of support for the National Climate Change Process. This support for national and coordinated federal policy development work informs Canada's decisions on approaches and options for achieving climate change objectives; it supports greenhouse gas emissions inventory and reporting activities required to meet international reporting obligations; and includes broad climate change communications activities.

National Climate Change Process

Following through on the 1997 commitment of First Ministers, the National Climate Change Process (NCCP) was established in 1998 to develop a national response to climate change and to examine the consequences of the Kyoto Protocol to Canada. Managed jointly by the federal, provincial and territorial governments, the national process involves all levels of government as well as industry, environmental groups, communities, individuals and other stakeholders.

The federal government's contribution to the national process was accomplished through a variety of activities funded by CCAF aimed at the effective operation of national process mechanisms. Mechanisms include: the Joint Meeting of Ministers of Energy and Environment (JMM), a committee of federal-provincial-territorial energy and environment ministers; the deputy minister-level National Air Issues Steering Committee (NAISC); the National Air Issues Coordinating Committee - Climate Change (NAICC-CC); and a variety of working groups. These national working groups focused on issues such as analysis and modelling, domestic emissions trading, and targeted measures. The working group on impacts and adaptation continues to work on a National Adaptation Framework. The federal contribution to the national process involved coordination and development of federal positions, and provision of analysis, modelling and policy development expertise.

Since ratification of the Kyoto Protocol, many aspects of the NCCP have been in abeyance. The focus has been on rebuilding federal-provincial-territorial cooperation on climate change, primarily through bilateral relationships.

Highlights from the 2003-2004 period include:

- April 2003 invitation to provinces/territories to participate in the development of bilateral Memoranda of Understanding (MOUs) for Cooperation on Climate Change, which address mutual priorities for action to address climate change. MOUs were later signed with Nunavut, Prince Edward Island, Manitoba, and Ontario; two others are awaiting Ministerial signature, and negotiations are underway with other jurisdictions.
- Meeting with provinces and territories in November 2003 to discuss federal initiatives and funding on climate change, and to provide an update on MOU progress; and
- Meetings with interested stakeholders throughout this period.

Federal Policy and Coordination

A number of federal departments and agencies have climate change responsibilities, and work collaboratively in the development of federal climate change strategies. Coordination of these federal efforts, along with support for policy development and central management of horizontal and other climate change initiatives, were performed by the CCS. The CCAF also provided funding to central agencies, which:

- Managed and provided a secretariat function for the Ad Hoc Committee on Climate Change and the Cabinet process. This included chairing Deputy Minister and Assistant Deputy Minister processes needed to support Ministers;
- Provided strategic policy coordination, management and direction in particular on transition planning; and
- Worked on the development of a horizontal management and accountability framework for all climate change programming which will enable greater tracking, reviewing and reporting on the federal government's overall performance vis-à-vis its climate change commitments.

Domestic Emissions Trading (DET)

A domestic emissions trading system is one of the mechanisms that provide industry with flexible options for meeting greenhouse gas emission reduction targets in an economically efficient manner by promoting price discovery, rewarding innovation, supporting the competitiveness of Canadian industry and providing incentives for the development of low-emissions technologies.

The Large Final Emitters Group of Natural Resources Canada was established in late 2002 to work with other government departments and key industry sectors to implement the policy outlined in the Climate Change Plan for Canada, and to reduce annual greenhouse gas emissions from those industrial sectors. Through its discussions with industry, provinces and territories, and other stakeholders, the Large Final Emitters Group will lead the development of a framework that will enable the creation of a greenhouse gas emission trading market in Canada.

Key accomplishment in 2003-2004 include:

- Agreement by the Government of Canada and the Canadian Working Group on the Carbon Market, which includes leading Canadian corporations, as well as other stakeholders, to a set of principles for the design and functioning of a Canadian market for greenhouse gas emissions;
- The release of a number of discussion documents by the Large Final Emitters Group on options for the legislative structure that would provide the framework for the obligations of Large Final Emitters and for emission trading in Canada;
- The release of a number of discussion documents detailing permit definitions, permit distribution, and the operation of the domestic emission trading system; and
- Significant progress on an output-based allocation of permits to Large Final Emitters, as well as on compliance options that would be available to them.

Targeted Measures

The Targeted Measures Coordination Group, a federal-provincial-territorial working group under the NCCP, was charged with developing policy measures that could be simulated in national analytic efforts led by the Analysis and Modelling Group.

In previous modelling work, it was often difficult to understand the stand-alone impacts of various targeted measures because of the interactions between measures and model feedbacks, and because the results were often presented at a broad sectoral level. For these reasons, it was difficult to determine if models were simulating targeted measures correctly, or whether the measures themselves, at an individual level, were likely performing as anticipated.

The Coordination Group contracted with Policy Assessment Corporation and the Canadian Energy Research Institute for simulations of individual measures on a stand-alone basis using the Energy 2020 model. Provinces and territories were engaged in this work. The results allowed for refinements to modelling of individual measures that have been incorporated into other modelling processes. There is now a better overall sense of how effective various targeted measures might be.

Analysis and Modelling

Understanding the impacts of policy design and implementation of potential options to address Canada's climate change objectives was further advanced through work by federal departments.

In addition to furthering the work of the Targeted Measures Coordination Group in 2003-2004, federal departments have focused on enhancing the integrated modelling capacity needed to analyze and evaluate the economic and environmental consequences of climate change policy initiatives.

Highlights of work undertaken in 2003-04 include:

- Significant progress on Natural Resources Canada's new model, which is now in the final testing phase and is expected to be completed in late 2004. The new model will be used for subsequent energy and emissions projections and will provide the integrated framework for policy analysis;
- Continued improvements to Environment Canada's Energy 2020 and the Criteria Air Contaminants (CAC) economic model;
- Development of Agriculture and Agri-Food Canada's data warehouse for land use and land use management, with enhancements to its regional agricultural and emissions models;
- A number of initiatives by Transport Canada to gather data on vehicular activity, fuel consumption, and traffic congestion, as well as three modelling projects, relating to transport mitigation measures, congestion, and urban transit; and
- Improved Energy Supply-Demand Balances at Statistics Canada that are central to greenhouse gas calculations and policy development.

Northern Strategies

The CCAF provides cost-shared support to initiatives aimed at developing strategies and options to address climate change in Canada's north. Three multi-year initiatives, one in each of the territories, have been funded in the past. Only one of these initiatives remained active in 2003-04: that of ongoing operation of the Northern Climate Exchange (NCE), established to develop shared understanding and promote action on climate change in the Yukon and circumpolar north.

International Reporting Obligations

As a party to the *United Nations Framework Convention on Climate Change* (UNFCCC), Canada must meet international reporting obligations related to greenhouse gas emissions inventories, and carbon sources and sinks. Additional, more robust reporting came into force under the Kyoto Protocol. CCAF-supported activities to ensure that Canada can continue to meet its current and ongoing reporting obligations under both initiatives.

Greenhouse Gas Inventories

The national greenhouse gas inventory is the ultimate measure against which a country will be judged in reporting under the UNFCCC, and under the Kyoto Protocol. Progress will be measured through the use of a set of internationally agreed to inventory methodologies and reporting guidelines.

As an interim step towards a reporting system under the Kyoto Protocol, enhanced reporting requirements have been agreed to under the UNFCCC. Annex 1 Parties are now required to report and publish an annual National Inventory Report, consisting of an inventory of greenhouse gas emissions and removals as well as a report that includes sectoral trends analysis. In addition, there is a requirement to submit and publish an annual inventory report on Good Practice activities, which include appropriate quality assurance and control, internal verification procedures, uncertainty analyses, key source identification and trends correlation.

Efforts funded in 2003-2004 build on previously-funded CCAF activities and deal with scientific and technical work related to methods development, policy development, capacity building, international and domestic reporting obligations, international review activities and the provision of guidance in the areas of sources and sinks of greenhouse gases.

Key accomplishments included:

- The establishment and maintenance of a formal national greenhouse gas emission reporting system;
- The preparation and publication of a detailed and updated National Inventory Report, including a Trends Analysis;
- The implementation of appropriate internal verification procedures outlined in the recent Good Practice Guidelines for National Inventories;
- A submission to the UNFCCC on Forest Products Accounting, outlining Canada's views on how forest products accounting should be done;
- The representation by experts in international negotiations and fora, including the planning and development of the Land Use, Land-Use Change and Forestry (LULUCF) work program of the IPCC Task Force on National Greenhouse Gas Inventories;

- The continuation of work on a capacity building project with China to meet its UNFCCC National Communications reporting obligations; and,
- The continuation of work through the Greenhouse Gas Verification Centre to strengthen voluntary action across all sectors of the economy in order to pave the way for possible market-based instruments in the future.

Forest Carbon Stocks Measuring and Monitoring

Improvements to Canada's current information systems and data on forest carbon sources and sinks are needed to meet existing and future international reporting requirements. To this end, CCAF funds are directed towards: designing and implementing the National Forest Carbon Monitoring, Accounting and Reporting System (NFC MARS); establishing cost-sharing partnerships with provinces, territories and industry; methods and systems development; establishing operational pilots; identifying science gaps; and ensuring consistency in international reporting requirements.

The main components of the forest carbon stocks monitoring and measuring framework include: an upgraded Carbon Budget Model of the Canadian Forest Sector (CBM-CFS2); development of methods to monitor and track forest changes; and a new National Forest Inventory to provide consistent assessment of the extent, state and sustainable development of Canada's forests.

Key accomplishments during 2003-2004:

- New National Forest Inventory (NFI) contribution agreements were signed with Saskatchewan, Manitoba, Prince Edward Island, Newfoundland and Labrador and Northwest Territories. As well, NFI compilation procedures to summarize photo and ground plot data have been developed and documented;
- Substantial revisions to the Carbon Budget Model of the Canadian Forest Sector (CBM-CFS3) have been completed, including the development of an operational scale system, and further revisions in preparation of the model for its role in national forest carbon accounting are planned;
- The National Afforestation Inventory, a web-based system for collecting and reporting information on afforestation activities in Canada is under development. There have also been several provincial deforestation trials conducted and analysed; and,
- Several presentations have been given, including some at the World Forestry Congress in Quebec City (September 2003), on the design of Canada's NFC MARS.

Communications

CCAF communications aim to broaden public awareness on domestic action to address climate change, as well as international progress. Equally important are communications activities that help Canadians understand the role they can play in reducing greenhouse gas emissions.

Climate change communications continues to provide communications advice and support to domestic and international programs and activities aimed at reducing greenhouse gas emissions and addressing the impacts of climate change. Domestically, individual Canadians are being challenged to reduce their greenhouse gas emissions through the One-Tonne Challenge program. Internationally, Canada has ratified the Kyoto Protocol and communications continue to highlight Canada's efforts towards meeting its obligations under the Protocol.

Highlights of 2003 - 2004 include:

- The launch of the One-Tonne Challenge program to encourage Canadians to reduce their annual greenhouse gas emissions by 20 percent, or about one tonne;
- The production and distribution of two acclaimed documentary series on climate change: the National Film Board's award-winning five-part collection, Arctic Mission, already seen by an estimated twelve million viewers in Canada, the United States and France; and Stonehaven Productions' The Great Warming, a three-part documentary series filmed in eight countries on four continents;
- More than 50 events to highlight domestic action on climate change;
- Participation in a number of domestic and international climate change conferences; and
- Public opinion research to gauge Canadians' awareness and understanding of climate change, support for the Kyoto Protocol, and willingness to reduce greenhouse gas emissions.

This research has shown that support for ratification of the Kyoto Protocol by Canadians has increased somewhat, from 79 percent to 82 percent, from March 2003 to March 2004. Nearly two-thirds (63 percent) of Canadians believe that the Protocol is the best way to address the effects of climate change. More than 90 percent of Canadians believe they have a responsibility to the next generation to do all they can to correct climate change.

International Policy & Related Activities

The International component helps Canada maximize its ability to meet Kyoto commitments, contributes to global climate change objectives and maximizes opportunities for Canadian business in international projects and initiatives on climate change.

International Policy and Related Activities in climate change are delivered by the Department of Foreign Affairs, the Canadian International Development Agency, Environment Canada, Natural Resources Canada, Industry Canada, and Agriculture and Agri-Food Canada. Each has a special area of expertise and set of deliverables.

Following the historic deals reached at the Bonn and Marrakech Conferences of the Parties in 2001, Canada has continued to work constructively to defend Canadian interests and advocate Canadian negotiating priorities in an atmosphere where the international community grapples with the many thorny issues related to the modalities and shape of post-2012 architecture, with or without the entry into force of the Kyoto Protocol. This discussion has notably begun in specialized inter-governmental fora such as the OECD/IEA Annex I Experts Group (AIXG) as well as in a number of informal groups. Canada has been very active in these discussions and, notably, has worked closely with Japan and key developing country specialists and experts to further a shared agenda. In summary, Canada is well placed to take a leadership role in the future negotiations to be launched as early as 2005 under the Kyoto Protocol.

Another key achievement was the encouragement of world research by academic centres of excellence on a strategic analysis of the Kyoto Protocol as developed under the Bonn and Marrakech Accords. A series of studies were undertaken to initiate an international science-policy dialogue on options for an effective and equitable long-term global climate change regime with emphasis on mitigation and adaptation efforts.

Developing Countries

Developing country engagement activities now encourage more than fifty developing countries to better understand and support Canada's positions on climate change negotiations. Canada's influence within the G-77/China negotiations group, especially the Least Developed Countries (LDCs), the Francophone Group and the African group, has grown considerably. Canada contributed directly to the UN Framework Convention negotiations process by lending support to its Secretariat for activities and workshops.

To deal with developing country issues, Canada is a member of three expert bodies established by the international climate change process, namely, the UNFCCC Consultative Group of Experts (CGE) on non-Annex I national communications (Foreign Affairs); the UN Framework Convention Expert Group on Technology Transfer (EGTT) (Natural Resources Canada); and the Clean Development Mechanism (CDM) Executive Board (Foreign Affairs). Canada's membership in the Consultative Group of Experts (CGE) on non-Annex I national communications has raised Canada's profile and influence. As well, this active participation has contributed to the efforts to improve the quality of information that developing countries provide to the Convention institutions on greenhouse gas inventories, vulnerability and adaptation and other aspects of their national climate change programmes. Canadian expertise in the development and transfer of environmentally friendly technologies was also recognised this past year with the election of a Canadian Chairperson to the EGTT, as well as by serving as the regional representative for the Umbrella Group to the EGTT. At the recent COP 9, Canada successfully contributed to the drafting and approval of an ambitious 2004 Program of Work as part of Canada's broader efforts to foster the longer-term engagement of developing countries in addressing climate change.

In the Framework Convention negotiations, Canada advanced its objective of enhancing the engagement of developing countries through the successful establishment of a process for discussions on both adaptation and mitigation issues relevant to all Parties (in the past, adaptation discussions were limited primarily to non-Annex I issues, whereas mitigation was confined to Annex I agenda items). The opportunity has been seized to discuss mitigation issues with non-Annex I countries.

Canada also successfully argued for a process to strengthen the information base of the Convention, which will enhance multilateral engagement in the international climate change regime by building capacity of Parties to assess options and by enhancing the collective confidence of Parties in the data and tools used for analysis of future actions.

There were negotiations on the development of three new special funds. The Least Developed Countries Fund, the Special Climate Change Fund and the Kyoto Protocol Adaptation Fund are essential to gaining support from the G-77 and China for the conclusion of negotiations of the Buenos Aires Plan of Action (BAPA). The CIDA was heavily involved in the negotiations for the LDC Fund. CIDA also contributed to the development and adoption of guidelines for the preparation of National Adaptation Programmes of Action that allow LDCs to identify their urgent adaptation needs and access funding to address them.

Bilateral Relations

Canada has expanded and intensified bilateral engagement with key countries on climate change to support its climate change objectives. This bilateral approach is a key element of the International Policy program, aimed at paving the way for a future climate change regime featuring differentiated and convergent efforts to tackle climate change on the basis of capacities.

In particular, Canada and the United States reviewed progress accomplished under the bilateral Working Group on Climate Change, by holding a video conference meeting in May 2003 that saw the blessing of the inventory of joint activities related to climate change. Progress was reviewed with a view to exploring future or expanded areas of cooperation.

A Joint Statement on climate change was signed on the occasion of former Prime Minister Jean Chrétien's visit to China in October 2003. The first meeting of the Canada-China Joint Working Group was held in Vancouver in March 2004. The meeting's theme was renewable energy and energy efficiency. It resulted in the agreed on Action Plan for co-operation in 2004 in the following fields: sustainable urbanization; CDM; sustainable agriculture and rural development; technology co-operation; policy and science dialogue.

Enhanced cooperation and climate change ties have also been sought with other large emitter developing countries, such as India, and South Korea, with a view to engaging them on climate change action in the context of sustainable development.

Sinks and Forestry

International sinks analysis and sinks promotion activities supporting the implementation of Kyoto were undertaken to maximize the contribution that forest sinks could make to meet Canada's Kyoto target. This included supporting Kyoto negotiation positions, analysis and decision-making resulting from the international agreement, involvement in the IPCC processes, and, analysis and policy development related to implementing the Marrakech Accords.

On-going participation of Canadian Forest Service (CFS) scientists in the key work of the IPCC ensured that Canada's circumstances and forest characteristics would be reflected in the development of scientific guidance for measuring forest carbon. This work will influence first commitment period accounting as well as sinks negotiations related to second commitment period targets. The Government of Canada contributed to the IPCC by supplying a senior CFS scientist as a Coordinating Lead Author of the chapter in IPCC's Land Use, Land Use Change and Forestry (LULUCF) Good Practice Guidance (GPG) for Kyoto Protocol reporting. A second senior scientist was participating as a Review Editor of the GPG report as well as contributing to the development of definitions and methodologies for a report on revegetation and forest degradation. In a by-invitation only workshop, Canada was a participant in the work on separating direct human effects on sinks from natural and indirect effects.

CCAF funds also supported direct negotiations and analysis including incremental costs of participation in negotiations at the 9th Conference of the Parties of the UNFCCC and the 18th and 19th sessions of its subsidiary bodies. For instance, support was given for a workshop in Brazil on rules regarding afforestation and reforestation in the CDM that helped advance negotiations on this issue.

Three analytical studies were undertaken to assess the potential longer-term implications of including forest management (FM) in Canada's accounting (decision is due by 2006), and to support decision making on how to implement the internationally-agreed FM definition.

A variety of other activities were undertaken that related to improving general understanding of the Kyoto Protocol and Marrakech Accords, maximizing the contribution of forest sinks and reducing risk. Material on forest carbon sinks was prepared for the World Forestry Congress in September 2003 in Quebec City, and information and advice on forest carbon sinks projects was also provided. CCAF support facilitated progress on the collaborative workplan of the F/P/T National Forest Sinks Committee to improve understanding of forest carbon sinks and sources, including estimation of managed forest carbon stock changes and assessment of the risks and impacts of natural disturbance cycles. This work is needed both to better understand the implications of the international agreement on sinks and prepare for sinks-related negotiations for the second commitment period.

Cleaner Energy Exports

Canada has worked hard at the international table to seek credit for its exports of cleaner energy (CEE) (such as natural gas and hydroelectricity). These exports (which go to the United States – a non-party to the Kyoto Protocol) reduce emissions because they displace more-carbon intensive fuels that would otherwise be used in the United States. Despite the global benefits, Canada bears the burden of the associated production and consumption emissions. Over the past year, Canada continued its work to seek recognition for the global environmental benefits of its exports of cleaner energy to the United States. Despite significant opposition, Canada successfully maintained the issue of cleaner energy exports on the agendas of both the COP and its Subsidiary Body for Scientific and Technological Advice (SBSTA) for further consideration by Parties. The two CEE agenda items include Canada's request for credits and a proposal to study the role of CEE in meeting the goals of the UNFCCC.

Technology Transfer

Natural Resources Canada continued to foster the development and transfer of environmentally friendly technologies to developing countries in the past year. Highlights for 2003-04:

- Support for a study in Ghana to gather information on the productive application of previously installed sustainable energy technologies, including energy-related interventions that primarily targeted the rural poor. The study resulted in best practices and lessons learned that will help incorporate the needs of local users into the selection and uptake of climate change technologies.
- Sponsored and organised the March 2004 CTI seminar, "Technology Transfer and Diffusion in India" in New Delhi. This event brought together technology transfer specialists, government, industry and financial sector representatives to discuss their respective roles in the promotion, diffusion and implementation of climate-friendly technologies and projects.
- Organised Canadian industry and government participation in the International Climate Technology Bazaar (November 2003) in India to showcase a broad range of innovative energy and climate change related technologies. Canadian private sector awareness of the growing Indian energy and environmental technologies market was increased while Government of Canada presence at the event raised awareness of Canadian capabilities by Indian decision makers. Natural Resources Canada's participation was hailed as a great success amongst the Indian Government, Canadian private sector participants and others at the event. This resulted in potential business opportunities for Canadian companies, including an MOU signed between a Canadian and Indian company.

Public Education and Outreach (PEO)

Public Education and Outreach helps raise Canadians' awareness of climate change, and promotes action in each province and territory.

Public education and outreach (PEO) activities continued to help increase awareness and understanding of climate change among Canadians, and to encourage them to take action to reduce their greenhouse gas emissions at home, at work and on the road.

Government of Canada-Led Awareness

The Government of Canada's climate change web site continues to provide Canadians with information about the science and impacts of climate change. The site shows what the Government of Canada is doing and the roles that Canadians can play in this issue.

Highlights from 2003-2004:

- Approximately 700,000 publications on climate change were distributed to Canadians, in response to requests for information to 1-800 operators and the climate change website.
- Direct contact was made with over 29,000 people at various climate change PEO booths during major exhibits and conferences across Canada, including four exhibition events with Communication Canada (Pacific National Exhibition, Canadian National Exhibition, Expo-Québec and Fredericton Exhibition). Visitors were able to try an electronic quiz on climate change, an interactive game for the kids and also talk directly with the staff on various climate change issues.

Communities Stream

The Communities Stream is a key component of the CCAF-PEO as communities are both target audiences and important partners in implementing projects. Studies have shown that efforts at the local level are highly successful in stimulating action. The stream aims to encourage municipalities to establish and implement greenhouse gas reduction strategies, encourage community-driven energy and transportation demand management activities and to promote PEO best practices in municipal and community greenhouse gas reduction initiatives.

Highlights from 2003-2004:

- The S-M-A-R-T Movement Program (Save Money and the Air by Reducing Trips) from Pollution Probe is a workplace-based trip reduction program to help guide large organizations in reducing employee single occupant vehicle trips. The program is designed to help employers engage and encourage employees to use more sustainable modes of transportation to commute to work (i.e. public transit, carpooling, biking,) by increasing employee travel options through information resources and support services.
- The Alpine Club of Canada and various partners have launched an awareness program entitled "Melting Mountains", aimed at informing the outdoor community about the impacts of climate change on the alpine environment. The ultimate goal of the program is to inspire the targeted communities to take the *Peak Challenge*. The *Peak Challenge* is an innovative motivational tool that aligns individual actions to reduce greenhouse gas emissions with a set of steps to "reach the summit".

General Public Stream

The General Public Stream was designed to increase Canadians' understanding of climate change, including the science, national and regional impacts and the need for adaptation, as well as to motivate individual actions. Projects were funded for innovative and interesting information products, tools and initiatives to educate Canadians about climate change.

Highlights of 2003-2004:

- *The Great Warming*, a three-part television series was developed for airing on Discovery Channel and Canal D in April and May 2004. The three episodes focused on the science of climate change, the impacts for Canada and countries around the world, and current and

future solutions for addressing climate change. Alanis Morissette and Keanu Reeves narrated the three episodes and a website on *The Great Warming*, PSA's, media coverage, and gala screening events helped to build awareness for the series.

- CCAF-PEO contributed to the development of *Arctic Mission*, a series of five television documentaries on climate change that aired on CBC (January – April 2004) and TeleQuebec (November/December 2003). The series takes viewers on a journey through Canada's Arctic waters as it investigates the devastating effects global warming is having on the Arctic's ecosystem and the peoples who inhabit them. The series has been hugely successful in Quebec, and has raised interest internationally.
- Exhibits on climate change were developed in museums in cities across Canada including Whitehorse, Vancouver, Calgary, Fort Whyte, Sudbury, Ottawa, and Montreal. Topics ranged from exploring climate change from the last Ice Age to the present day, and looking to the future in a multi-media show that describes what is causing our climate to change and the impacts for Canada and other countries.

HUBS

The primary focus of the CCAF-PEO Hubs has been on activities and programs within, each province or territory, to build awareness of climate change, help Canadians understand climate change, its impacts on communities and people's lives and motivate them to take actions to adapt to and mitigate its impacts. The Hubs bring together all levels of government, business, academia, environmental groups and other stakeholders for climate change outreach activities. In addition, most Hubs have developed their own outreach programs (e.g., anti-idling campaign, climate change community awareness days, workshops, advertising and information kits, large-scale fairs, conferences and trade shows,) to build awareness and promote actions to reduce greenhouse gas emissions.

Each Hub has an Advisory Committee made up of local and regional stakeholders to help them develop and deliver their outreach activities. Federal officials from Environment Canada and Natural Resources Canada sit on these committees. The Hubs are linked nationally through the Hub Pilot Advisory Team (HPAT), where there is opportunity to share best practices and lessons learned about climate change outreach.

Highlights from 2003-2004:

- Nine Hub pilots are in place across Canada, except in Ontario, Quebec, North West Territories and Nunavut.
- The Prince Edward Island Hub increased awareness of climate change issues among Island youth through a Youth Climate ExChange Workshop, and distributed kits about the Climate Change Fair to Island intermediate and secondary schools and youth groups throughout the Island.
- Through an anti-idling campaign, community workshops on climate change, the Climate Change Connection (Manitoba Hub) has been able to distribute some 900+ pieces of climate change public education and outreach information, directly reach approximately 550 people, as well potentially touching 650,000 Manitobans indirectly through 28 publicity pieces in print, television and radio media.

Youth and Educators Stream

In Phase 2 of the CCAF-PEO Program, the Youth and Educators Stream funded eight projects at the regional, provincial and territorial level to increase the teaching of climate change in the K-12 classrooms. The CCAF-PEO Program also funded 13 projects involving youth (15 to 24 years) to engage their energy and values to work with their families, school and work colleagues, and friends to learn/inform about climate change and reduce greenhouse gas emissions.

Highlights from 2003-2004:

- The Fund partnered with BC Hydro to integrate climate change into its PowerSmart students program that is being taught at BC elementary and secondary schools.
- The *Ontario Eco-Schools* concept focussed on working through school boards, which are multi-stakeholder-based to develop and promote a new program. The program has a dual focus: curriculum component, developing classroom materials and a facility component, turning schools into laboratories for students to learn climate change support behaviour.

Business and Industry

The Business and Industry stream supports public education programs which largely consists of work-based campaigns designed to increase employee awareness of climate change solutions in the workplace, on the road and at home.

Highlights of 2003-04:

- Nature Action Quebec's partnership with Bell Canada involves an on-line employee awareness campaign about personal greenhouse gas emissions and provides employees with information on how to reduce their levels.
- Cool Shops, Greenest City, is an educational program for the small retail sector in Toronto. It identified and implemented in-store energy management measures that will yield lower costs for the businesses and lower emissions for the City of Toronto. To date, 25 energy audits have been performed in small retail stores, additional funds have been raised to support cool shop activities i.e. \$25,000 from Enbridge, \$30,000 from Natural Resources Canada to develop an Energuide for small businesses and \$30,000 from Ontario Ministry of Environment for seed money.

One-Tonne Challenge

While CCAF-PEO ended in March 2004, the program moved to a new initiative called the One-Tonne Challenge. In August 2003, the Government of Canada announced the One-Tonne Challenge – an initiative to engage Canadians in reducing their personal greenhouse gas emissions by one tonne, or about twenty percent. As part of the transition from the CCAF-PEO program to the new One-Tonne Challenge program, organizers began incorporating One-Tonne Challenge messages in awareness and outreach activities whenever possible.

Highlights of 2003-04:

- The Green Communities Association will contribute to the One-Tonne Challenge program by participating in the Community Support Network. The Green Communities Association will communicate and encourage its membership to become involved in the One-Tonne Challenge; and assist its members selected to participate in the One-Tonne Challenge communities pilot, and provide them with support for the first year of the pilot program;
- Business & Industry: The One-Tonne Challenge Corporate Challenge is an initiative coordinated by Pembina Institute to promote the One-Tonne Challenge by establishing a work-based campaign to encourage employees to join a friendly competition with other companies to reduce their personal greenhouse gas emissions. The companies that have participated include Petro-Canada, Suncor, Shell Canada and a recent addition, ConocoPhillips. To date, 253 employees have committed to reducing greenhouse gas emissions.

Science, Impacts and Adaptation (SIA)

Science, Impacts and Adaptation is designed to assist in advancing knowledge of the magnitude, rate and regional distribution of climate change and its impact on Canada, and to increase the country's capacity to adapt.

Science, Impacts and Adaptation is divided into two sections. The Science section is led by Environment Canada, while Impacts and Adaptation is led by Natural Resources Canada. CCAF projects and activities were funded in both areas.

Science

In the second phase of the CCAF, the Science section has targeted the themes of climate system processes, climate modelling, climate scenarios, and assessment/evaluation. During 2003-04, five new projects were initiated, bringing the total number of projects funded in the CCAF under Science to 26. University-based researchers led over one-third (11) of these projects, with 14 universities involved in all supported projects. In addition, support continued to be provided to university and government-based Canadian scientists involved in the work of the IPCC. BIOCAP Canada Inc., a not-for-profit organization based at Queen's University in Kingston, Ontario that is addressing scientific questions surrounding biosphere greenhouse gas management, also received support. For details on BIOCAP, see the section entitled "CCAF Reserve".

Accomplishments of the CCAF science sub-component during 2003/04 include:

- Continued funding of the Canadian Climate Impacts Scenarios Facility, with a financial commitment for 2004/05 as well. The Facility hosted a National Workshop on the Development of Scenarios of Climate Variability and Extremes in Victoria in October 2003, as well as scenarios training workshops for the user community in Quebec and Ontario.

- Other scenarios research was launched including the development of multiple high-resolution climate change scenarios, development of a climate change geographical information system for Canada, and an assessment of downscaling techniques for simulating extreme events.
- Financial support was provided for the convening of the Third Congress of the International Geosphere-Biosphere Programme, in Banff, Alberta, from 19-24 June 2003.
- Provision of financial support for the International Arctic Climate System Study (ACSYS) and Climate and Cryosphere (CliC) Project Office, or IACPO, at the Norwegian Polar Institute in Tromsø, Norway.
- Publication and posting on the web of three fact sheets - climate system monitoring, climate system modelling and the Arctic.
- On-going support to expand modelling expertise and capacity at the Canadian Centre for Climate Modelling and Analysis (CCCMA) at the University of Victoria. This includes climate-chemistry interactions and biogeochemical processes, as well as an improved ocean component and a better representation of aerosols and their interaction with radiation.
- Ongoing support and monitoring of projects investigating climate system processes.

Impacts and Adaptation

Reducing vulnerability to climate change, or capitalizing on benefits, requires knowledge of future impacts and the processes and means by which Canadians adapt. It also requires an understanding of the roles for individuals, the private sector and government. Projects funded by the Impacts and Adaptation section were designed to increase understanding of Canada's vulnerability to climate change, and to provide information for decision makers facing near-term adaptation decisions. In this phase of the CCAF, additional focus has been placed on understanding the process of adaptation.

Work continued on 43 projects led by university, government and private sector researchers across the country focusing on water resources, agriculture, fisheries, human health, forestry, and coastal management. Project leaders have used a variety of approaches to communicate information about the on-going projects to local decision-makers in communities, industries and governments.

Several projects were completed and delivered reports:

- *Climate Change Impacts on Boundary and Transboundary Water Management.* The research team, led by Jim Bruce (GCSI) and Gordon McBean (ICLR), examined the terms of existing treaties and agreements of 11 river basins between Canada and the United States and five inter-provincial river systems in light of the response of these basins and rivers to past climate variations and future changes. Their analysis concluded that water management agreements are vulnerable to climate change. The report provides detailed findings as well as recommendations for policy, monitoring and some additional research. The report is available at: <http://adaptation.nrcan.gc.ca> on the project database page.
- Development of an integrated approach to assessing vulnerability and directing measures for adaptation to water level variations in the St. Lawrence River. The project, led by Jennifer Milton (Environment Canada) focused on vulnerability and adaptation to variations in water levels of the St. Lawrence River in the Montréal/Lake Saint-Louis region. The project assessed the vulnerability of some socio-economic and environmental uses of the system, where flow is controlled for hydroelectric, flood control and shipping needs and

which is expected to experience a significant drop in water levels as climate changes. A final report will be available at <http://adaptation.nrcan.gc.ca>.

- Methods of assessing human health vulnerability and public health adaptation to climate change. This joint initiative of Health Canada, the World Health Organization, and the United Nations Environment Program resulted in the first publication that provides practical information for governments and health agencies to assist them in conducting national assessments of human health vulnerability to climate change. The publication is available from the WHO (publicationrequests@euro.who.int).

Technology Early Action Measures (TEAM)

TEAM is an interdepartmental technology investment program that directs funds toward late stage development and first demonstration of greenhouse gas technologies, nationally and internationally, while sustaining economic and social development. TEAM is a key player in the technology innovation process, and brings together partners from industry, communities and all orders of government.

TEAM continues to be one of the primary demonstration tools for implementing federal climate change policy. The program's unique approach, built on incremental financing and extensive networking, has brought together industry, community and international partners to encourage additional investment in innovative technology that reduces greenhouse gas emissions. TEAM operates under the leadership of Natural Resources Canada, Environment Canada and Industry Canada, with the participation of several other federal government departments.

In fiscal year 2003/04, TEAM continued to implement its mission to provide early action on climate change technologies through:

- Expanding its leadership role in the area of measurement of performance and impacts of greenhouse gas related projects, particularly related to the System of Measurement and Reporting for Technologies (SMART). TEAM established a working group to aid other programs and jurisdictions in building their own greenhouse gas capacities and in disseminating these tools to private sector partners. A process has been established on MERX whereby a list of SMART pre-qualified 3rd party service providers in 11 different technical areas will be established. Three SMART pilots have been conducted.
- Sustaining major subsequent private investments made in several companies that have collaborated with the long-term federal R&D enterprise. An estimated \$50 million and \$300 million in follow-on commercial investments have been made in public and private funds, respectively, subsequent to the completion of TEAM projects.
- Evaluation and approval of one industry and one community project in the transportation and agriculture sectors.
- TEAM projects in 64 Canadian cities, 10 provinces, 2 territories and 16 countries supported to date.
- Projects that have resulted in increased energy efficiency and domestic sources of renewable energy that will improve urban air quality and provide stability to energy supply. Smog and air pollution will also be addressed through TEAM's transportation-related projects, including those supporting a hydrogen economy.

Highlights of technical results for 2003/04

- Cooperative 750 kW wind turbine at the Exhibition Place in Toronto surpassed the 1,000,000 kWh mark as of December 2003. Another similar wind turbine project in Ashbridges Bay is currently under consideration. (Toronto Renewable Energy Co-operative: Windshare)

- Cleanit Greenit (CG) composting system met the CCME grade “A” compost quality criteria. The CG system has a current operating capacity of 13,000 tonnes organic wastes per year for processing. (KC Environmental)
- EcoSmart concrete continued to identify and construct new sites reducing greenhouse gas from Portland cement, including a two-story retail store, Mountain Equipment Co-op, in Montreal that used a blend of at least 20 percent slag and 4 percent silica fume. (EcoSmart)
- The demonstration of the 50 kW HySTAT unit comprised of PEM fuel cell technology at the Canadian National Exhibition ground in Toronto with power generation and refuelling capabilities. (Hydrogenics)
- Demonstration of 20kW array of photovoltaic (PV) panels manufactured by the Photowatt technology is demonstrated at the Goodwill Hall of Queen’s University in Kingston, Ontario. The PV application has been producing power as well as providing HVAC benefits since July of 2003. (Automation Tooling Systems)
- Construction, operation and demonstration of two fully instrumented energy cells of 1500 m² each on a site previously used as an uncontrolled open dump of municipal solid waste in Argentina. (Conestoga-Rovers & Associates)
- Construction of an innovative supermarket with advanced HVAC (heating, ventilation and air conditioning) and refrigeration systems to reduce the total energy consumption of a typical supermarket by approximately 25 percent and the greenhouse gas emissions by approximately 50 percent. (Loblaws)
- A single immediate follow-up action following a TEAM-sponsored audit at one plant resulted in immediate energy cost savings on an estimated \$500, 000/year and a reduction in greenhouse gases of 5300 t/year. (CETAC-West)
- Mariah Energy of Calgary has demonstrated a 30 kW microturbine CHP (combined heat and power) project that was verified to reduce greenhouse gas emissions by 180 Tonnes/year/unit. Twenty (20) microturbines have been installed throughout North America following completion of this project.

CCAF Reserve

The CCAF Reserve was established to fund projects that fall outside the scope or budgets of the core areas.

The reserve fund was established at the onset of the CCAF as a contingency fund to handle unknown pressures and projects that the blocks could not handle. The dispersal of funds from the Reserve required both lead department ministers (Environment Canada and Natural Resources Canada) to sign off on its allocation.

Highlights of 2003-2004:

- BIOCAP Canada is a not-for-profit organization with membership from provincial and federal government, industry, academia and other non-governmental organizations (including 14 sponsors and over 40 research partners). Housed at Queen's University, BIOCAP Canada is coordinating a series of national, university-based research networks that will collaborate with federal scientists and others to address scientific questions surrounding biosphere greenhouse gas management. Peer-reviewed, collaborative research has been under way in several important areas with substantial partner funding committed and new sponsors and partners brought on board. BIOCAP funded a total of 16 projects in 2003/04 under four existing networks, with financial support for the work of over 100 researchers and 185 highly qualified personnel at 20 Canadian universities in 8 provinces. A new communications strategy was launched and included the development of *BIOCAP Briefs*, *In the News* and new content and updates to the website (including a secure section for members to upload and download documents). An evaluation of BIOCAP was completed in the summer of 2003 with positive results indicating a continued relevance and need for the BIOCAP Canada research program.
- The CCAF Reserve helped fund the assessment of the health risks and benefits associated with the widespread use of ethanol as a blending ingredient in automotive gasoline. The addition of ethanol changes the composition and physical properties of fuel. Consequently the composition of both the evaporative and tailpipe emissions change and result in an increase in some emissions while decreasing others. These changes in emissions translate into variable effects on the atmospheric levels of pollutants and on human exposure/health effects. Funding for fiscal year 2003-2004 was used in the development of the science required for the characterization of the atmospheric impacts of ethanol-fuelled vehicles and in the characterization of the potential health effects of ethanol.
- GLOBE 2004 is the 8th event in a series of biennial conferences and trade fairs that have firmly established Canada as both a source of innovative ideas on the critical domestic and international environmental issues as well as positioning Canadian environmental technologies on the world market. At this conference, 1800 delegates from around the world involved in the business of the environment discussed the most recent developments in: i) corporate sustainability, ii) energy policy and climate change; and iii) the business of building sustainable cities.
- The Prairie Farm Rehabilitation Administration (PFRA) is in partnership with the Canadian Federation of Agriculture, the Canadian Cattlemen's Association, the Eastern Canadian Soil and Water Conservation Centre, and the Soil Conservation Council of Canada. The partnership is working with producers to develop an understanding of agricultural sources of greenhouse gases and management practices that could mitigate effects. Among the results are numerous Environmental Farm Planning workshops across the nation, a conference delivered on agro-forestry and climate change, three issues of a newsletter developed and widely circulated, a catalogue of extension materials related to greenhouse gases for industry groups, academia and extension agencies, on-farm demonstrations in all provinces, a greenhouse gas calculator for cattle producers, numerous fact sheets and videos related to agricultural best management practice. Wind-down activities were carried out in 2003/04, the final and "clean up" year for this project. A final newsletter was published and reprinting done of extension materials generated in previous years.
- In September 2003, Canada hosted the Twelfth World Forestry Congress. Held under the aegis of the United Nations Food and Agriculture Organization, the Congress was organized as a partnership initiative of the Governments of Canada and Quebec and chaired by the Minister of Natural Resources Canada. The Congress brought together over 4,000 forest practitioners, government officials, industry leaders, environmentalists and indigenous peoples from 143 countries to chart a common course for the future of the world's forests. The Congress Final Statement represented a new approach in international cooperation on forests, underscoring for the first time the role of forests as a tool for the achievement of broad societal goals including human development and alleviation of poverty. Climate change – and Canada's approaches in this area -- represented a major focus in the Congress through seminars, presentations, and technical papers by Canadian experts.

Appendix A CCAF Expenditures 2003-04

	Operating	Contributions	Total
	\$K	\$K	\$K
Building for the Future			
- Federal Coordination	1892	45	1937
- F/P/T Coordination and Consultations	30	0	30
- Communications	1570	50	1620
- Development/Analysis - DET	5240	200	5440
- Development/Analysis - Other Policy Options	5515	50	5565
- International Reporting Obligations	2501	1666	4167
Subtotal	16748	2011	18759
International Policy and Related Activities			
Subtotal	3948	512	4460
Public Education and Outreach			
Subtotal	4098	4732	8830
Science, Impacts and Adaptation			
- Science	2015	939	2954
- Impacts and Adaptation	884	1430	2314
Subtotal	2899	2369	5268
Technology Early Action Measures			
Subtotal	849	8760	9609
Reserve			
- PARC	57	50	107
- BIOCAP	0	1439	1439
- PFRA Awareness Initiative	1	45	46
- Globe 2004	0	450	450
- World Forestry Congress	50	550	600
- Ethanol Study	33	0	33
Subtotal	141	2534	2675
Total	28683	20918	49601