

# Environment Canada's Sustainable Development Strategy 2004-2006

## IMPLEMENTATION PROGRESS REPORT

**For the periods February 2004-March 31, 2005 and April 2005-March 2006**

Environment Canada's third Sustainable Development Strategy (SDS), tabled in the House of Commons in February 2004, covers the period 2004-2006. This Strategy builds on our strengths while delivering an agenda for innovation that will help provide the basis for creative and viable long-term solutions to ensure Canada's ecological legacy for future generations. The Strategy builds on our previous SDS and identifies long and intermediate-term outcomes under four themes: Information for Decision Making; Innovative Instruments; Partnerships for Sustainable Development; and Managing for Sustainable Development. The Strategy also reinforces Environment Canada's roles of showing leadership by example and of building capacity and commitment with its partners in all sectors of Canadian society.

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### THEME I: INFORMATION FOR DECISION MAKING

**Long-Term Outcome 1: Canadian institutions and individuals make decisions that support sustainable development.**

***Intermediate-term Outcome 1.1: Environment Canada contributes to a strong, integrated environmental science system in Canada that supports sustainable development.***

**Commitment 1.1.1:** Enhance water science and understanding through new collaborative approaches with stakeholders to develop tools for integrated analysis and implementation of water quality, quantity and sustainable use issues and strategies.

#### **Progress to date**

##### **February 2004 - March 2005:**

EC developed the Canadian Water Quality Data Referencing Network (CWQDRN) that will provide enhanced information access by obtaining and providing web-based information on water quality monitoring activities within the provincial, territorial and federal governments. A national interactive web-based portal displaying all national (federal/provincial/territorial) water quality monitoring capacities was completed, based on metadata from the CWQDRN, and released on the GeoNet web-portal.

[http://infolane.ec.gc.ca/geonet/Home-WS4D59A109-1\\_En.htm](http://infolane.ec.gc.ca/geonet/Home-WS4D59A109-1_En.htm)

EC has also developed a multi-departmental strategy for a national water quality indicator program in collaboration with Statistics Canada, Health Canada and Parks Canada, including: refining the existing CCME Water Quality Index and developing new indices using physical, chemical and biological measures of water quality; designing and implementing a dedicated federal/provincial/territorial monitoring network; developing interpretive tools and environmental quality guidelines; and establishing a suite of reporting products and on-line communication products.

This year, five Environmental Quality Guidelines were developed and 19 others are still under development. The protocols used to develop Canadian Water Quality Guidelines for the protection of aquatic life and Canadian Soil Quality Guidelines for the protection of environmental and human health are still ongoing. <http://www.ec.gc.ca/ceqg-rcqe/>  
[http://www.ccme.ca/publications/ceqg\\_rcqe.html](http://www.ccme.ca/publications/ceqg_rcqe.html)

In 2004, a report entitled *From Source to Tap: Guidance on the Multi-Barrier Approach to Safe Drinking Water* was published in collaboration with provincial and territorial governments under the auspices of the CCME. This technical guidance document provides guidance on how to apply the concept of the multi-barrier approach to drinking water supplies from source to tap. <http://www.ccme.ca/sourcetotap/mba.html>

A Federal Freshwater Research Agenda was also developed. The six top research priorities (from the list of 18 priorities) identified by partners and stakeholders in terms of priority/urgency and willingness to participate were: Source Water Quality, Quantitative Resource Inventories, Chemical Pollutants and Nutrients Impacts of Development, Chemical Threats, Technology, Decision Tools & Monitoring.

EC has developed two modeling tools, one to calculate ice conditions for river ice occurrence (RIVICE) and another called Water use and analysis model study to address the impacts of climate change on water in the South Saskatchewan River. The study is a collaborative effort with the University of Saskatchewan and the National Water Research Institute (NWRI). <http://www.parc.ca/ssrb/index.html>

EC has published various water surveys such as the Municipal Water Use 2001 report (and Excel database) [http://www.ec.gc.ca/water/en/manage/use/e\\_data.htm](http://www.ec.gc.ca/water/en/manage/use/e_data.htm); the 2001 Water pricing report (and Excel database); and the Municipal Water and Wastewater Survey <http://www.ec.gc.ca/water/MWWS/>. Another publication that was completed this year was on Taste and Odour in drinking water sources <http://www.nwri.ca/research/toxicalgae-e.htm>.

EC will continue its work in co-operation with Statistics Canada to undertake an industrial water survey and EC is contributing to MRIF (Municipal-Rural Infrastructure Fund).

**April 2005 – March 2006:**

Environment Canada is working with provincial partners and the private sector in flow forecasting to provide gridded hydrometeorological products for use by these agencies. EC is also establishing a framework for flash-flood prediction and is working towards a community modelling system for improved flow forecasts. Ongoing work also involves improving hydro-meteorological prediction and modelling capacity in a collaborative framework

Environment Canada has also completed the initial review of the departmental water quality data holdings (ENVIRODATs, etc.) and initiated a national exercise on data comparability for key monitoring classes (nutrients, base metals) based on consistent parameter nomenclature, analytical method reviews and variable form. This is a key step in the scientifically credible aggregation and use of distributed EC water quality data to develop a national picture of water quality.

Environment Canada released the 2004 water use report, which gives statistics on the 2001 municipal water survey. The water pricing tables and database were also published. <http://www.ec.gc.ca/water/MWWS/en/publications.cfm>

Along with the 2004 report, Environment Canada published sewer rates. Although the response rates on the Infrastructure Supplement of the 2001 survey were too low for developing useful estimates regarding infrastructure financing, key portions of this supplement were incorporated into the Municipal Water and Wastewater Survey done in 2005–2006 to gather 2004 data.

Environment Canada has also continued to work on assessing taste and odour in Lake Ontario, the Bay of Quinte and the St. Lawrence River. Research was begun on the question of whether lake whiting phenomena may be a predictor for taste and odour events. Three papers were published and nine were submitted for publication.

Initial work has been completed for the Canada-Ontario contaminated sediment decision-making framework for the Great Lakes and elsewhere. The Contaminated Sediment Assessment Decision-Making Framework was drafted in 2005.

EC has also completed guidelines for the protection of aquatic life with respect to the use of diisopropanolamine, permethrin, and sulfolane and has completed guidelines for the protection of agricultural water uses for diisopropanolamine and sulfolane. Phosphorus ecoregion guidelines have also been completed.

In 2005–2006, the Environment Canada National Guidelines and Standards Office's efforts on environmental quality guidelines for aquatic ecosystems focused on the revisions to the protocol for environmental quality guidelines in water (i.e. aquatic life protocol). The bulk of work has been completed and is currently under stakeholder review.

The first national assessment of water quality in Canada in support of the Government of Canada report on key Canadian Environmental Sustainability Indicators (CESI) was released in December 2005. This first freshwater indicator report, *Canadian Environmental Sustainability Indicators*, was based on an assessment of monitoring data from 345 federal, provincial, and federal-provincial monitoring stations across Canada and involved cooperation across several federal departments and the provinces.

<http://www.statcan.ca/english/freepub/16-251-XIE/16-251-XIE2005000.pdf>

**Commitment 1.1.2:** Refine and use climate models to inform climate change scenarios and policy discussions.

#### **Progress to date**

##### **February 2004 - March 2005:**

Climate models have been refined through improvements to resolution, the carbon cycle, the handling of aerosols, interactions between the atmosphere and snow and between ice and snow processes. As a result, the Canadian Regional Climate Model is more integrated and comprehensive and provides better regional scale climate outputs to inform scenario and policy discussions. The improved model will be used in the 4<sup>th</sup> assessment on climate change by the Intergovernmental Panel on Climate Change.

Policy makers and the climate change impacts communities need climate information on a much smaller scale than the global model can provide. In 2005, Environment Canada and key partners delivered Canada-wide decade-to-century climate projections at 45 km to these communities.

In March 2005, Environment Canada renewed its partnership with the Ouranos Consortium (province of Quebec, Hydro Quebec, and several Quebec universities). Announced in 2002, Ouranos pools the expertise and disciplines of numerous researchers to advance the understanding of the issues and associated requirements for adaptation resulting from climate change in North America. The founding partners contribute staff and financial resources to support the organization and its work in helping maintain Canada at the cutting edge of regional climate science.

**April 2005–March 2006:**

Considerable progress has been made on development of the next generation Canadian climate model. This version features extensive improvements in the representation of physical processes in the atmosphere, notably the cooling “indirect aerosol effect” now represented by including a comprehensive sulphur cycle scheme. Progress has also been made on representing the global carbon cycle, with terrestrial ecosystem, ocean ecosystem and ocean geochemistry components all coupled to the global climate model. Initial testing of this carbon climate model is under way. It will ultimately provide future climate projections driven directly by carbon dioxide (CO<sub>2</sub>) emissions and will include feedbacks between the physical and biogeochemical components of the climate system.

Historical simulations and future projections are now available from a version of the Canadian Global Coupled Climate Model, CGCM3, with spatial resolution of roughly 300 km in the atmosphere and 100 km in the ocean. Results from this version of the model, the so-called T63 resolution, along with an ensemble of runs with a lower-resolution T47 version, were submitted to the Intergovernmental Panel on Climate Change (IPCC) data archive and are available on the Canadian Centre for Climate Modelling and Analysis (CCCma) website. These results total some 2.5 terabytes of model output and include daily data necessary for calculation of climate extremes and for driving various impact models. These data have been widely used in published analyses that will be reported on in the upcoming IPCC Fourth Assessment Report. Four scientists from CCCma were heavily involved in the preparation of the IPCC report, serving as lead authors and coordinating lead authors. Other staff were involved as contributing authors.

[www.cccma.bc.ec.gc.ca/](http://www.cccma.bc.ec.gc.ca/)

In 2004, a small core research group was established to provide a strong focus on regional climate modelling and data analysis. In March 2005, Environment Canada renewed its agreement with the Ouranos Consortium (Province of Quebec, Hydro-Québec and several Quebec universities). This agreement commits the equivalent of eight full-time employees to work in partnership with Ouranos until March 2009 on the development and analysis of regional climate modelling scenarios. Global model output is provided to drive the Canadian Regional Climate Model (CRCM), and output from the CRCM is disseminated via the CCCma website. In 2006–2007, the addition of more research scientists will build Environment Canada’s capacity to develop higher resolution climate change scenarios, generate new knowledge and maintain regional climate products at the leading edge of the science.

**Commitment 1.1.3:** Advance science and modeling related to particulate matter for inclusion in National Air Quality Forecasting Program.

**Progress to date**

**February 2004 - March 2005:**

The Canadian Hemispheric and Regional Ozone and NO<sub>x</sub> System (CHRONOS) air quality model was run once a day over North America as an experimental tool and used to support air quality forecast services to Canadians. The model outputs in 2004 were ozone, Particulate Matter (PM) 2.5 and PM10. Model improvements related to emissions processing were made during the fiscal year and the model was used in an international field study and comparison of models.

PM was introduced into year-round air quality forecasts in Ontario and British Columbia in 2004. Additionally, the Pacific and Yukon region applied a neural network model to the production of air quality forecasts in British Columbia for PM10 and ozone.

As these are among the first Air Quality forecast programs in the world, a performance measurement system will be developed and benchmarks for accuracy established in order to be able to measure improvements in the years ahead.

**April 2005–March 2006:**

The air quality forecasting system is being updated. In July 2005, the operational air quality forecasting model CHRONOS was modified. More types of vegetation are now being used, with updated emission rates. Preliminary results from this new model indicate a general improvement in PM<sub>2.5</sub> forecasts throughout the year with the new version of CHRONOS.

Forecasts of air quality conditions are provided daily and cover 75% of the population, giving Canadians and their institutions the information they need to make decisions. Air quality advisories and warnings, including those from INFO-SMOG in Quebec, are offered in partnership with provincial government departments and health authorities and contain messages relating to health issues and actions Canadians can take to protect their own health and that of their families.

The particulate matter component of Environment Canada's model, A Unified Regional Air-quality Modelling System, has also been evaluated and improved with data from the International Consortium for Atmospheric Research on Transport and Transformation and PrAIRie-2005 field studies. The improved model is to be used in the next generation air quality forecast system, GEM/MACH.

**Commitment 1.1.4:** Develop a national Research and Development approach to help address the science needs associated with high-impact weather and climate events.

**Progress to date**

**February 2004 - March 2005:**

Increasingly sophisticated modeling techniques are being developed that will improve the forecasting and warning of high impact weather and climate events. Specifically, a technique to provide a level of confidence in a forecast is improving Environment Canada's ability to predict these events while reducing "false alarms". At the same time this is providing information that is highly useful to risk-based decision making.

A major change to the data assimilation cycle of the Canadian Ensemble Prediction System (EPS) that significantly improves its economic value has also been implemented. The Meteorological Service of Canada is the first organization in the world to use this technique with demonstrable effects on the quality and utility of the information. The challenge going forward will be to engage stakeholders in understanding and using this new information to best advantage.

**April 2005–March 2006:**

Environment Canada's network of national labs was further integrated into the national science program, and each national lab developed a detailed five-year plan for their research and development (R&D) activities. The aviation lab was established, and the first science planning meeting was held. Environment Canada has also had developments in ensemble-based data assimilation and medium-range ensemble forecasting, along with regional ensemble forecasting over Western Canada (15-km resolution).

Canada has been active in the development of a North American Ensemble Forecast System, a joint Canada-U.S.-Mexico initiative. As a first step, there is a twice-daily exchange between Canada and the U.S, and the forecast length has increased from 10 to 16 days. Joint products are being developed for North America. Implementation of a joint product is anticipated for winter 2007.

**Commitment 1.1.5:** Develop closer collaboration between environmental science and technology performers (universities, governments, industry) through the establishment and promotion of science and technology networks, including the federal Assistant Deputy Minister Science and Technology Integration Board, the Canadian Environmental Sciences Network, and regional and issue-specific networks.

## **Progress to date**

### **February 2004 - March 2005:**

Work on this commitment is ongoing, and much progress was made in 2004-05. The ADM Science & Technology Integration Board is working effectively to create closer collaboration between federal science and technology (S&T) performers, and EC is viewed as a leader in the Board's operations. The Board made progress on advancing S&T integration on nine issues, including such sustainable development issues as water, invasive alien species, wildlife diseases, oceans, and climate change. The Board developed *A Framework for S&T Collaboration across Science Based Departments and Agencies*, a handbook containing advice and resources to make S&T collaboration easier. It held a successful one-day workshop on "Formalizing S&T Integration across Government" and provided oversight for the organisation of the 2005 Federal S&T Forum, Moving from Collaboration to Integration.

EC also worked in 2004-05 to encourage closer collaboration on environmental S&T with university, industry, and other government partners. A workshop was held to explore the challenges of and opportunities for EC partnering for S&T. A searchable database of environmental networks in Canada was created and published on a publicly-accessible website, and *Smart Partners: Innovations in EC-University Research Relationships* was published to promote existing innovative partnerships. The department began to develop a national strategy for environmental S&T, which is aimed at engaging users, performers and facilitators of environmental S&T in identifying policy-relevant priorities. Work continued to foster regional and thematic networks such as the Atlantic Environmental Sciences Network and the federal research network on the Ecosystem Effects of Novel Living Organisms (EENLO). An on-line EENLO community of practice was implemented and a research strategy for EENLO was developed.

### **April 2005–March 2006:**

Work on this commitment is ongoing, and as mentioned previously, the network of national laboratories was further integrated into the national science program, with each national laboratory developing a detailed five-year plan for their R&D activities. The aviation lab was established, and the first science planning meeting was held. There has also been ongoing delivery of the wind energy mapping software package and data for the wind energy industry.

***Intermediate-term Outcome 1.2: Environment Canada effectively integrates socio-economic, natural capital and environmental information and indicators and disseminates this information to influence decision makers.***

**Commitment 1.2.1:** Continue to work towards the implementation of the Canadian Information System for the Environment.

**Progress to date**

**February 2004 - March 2005:**

Environment Canada has been furthering the CISE vision/strategy through ongoing efforts to ensure that data providers and users work together to improve the access to and use of data. Environment Canada has been employing these principles while working with other federal departments, such as Agriculture and Agri-Food Canada in relation to the National Land and Water Information Service (NLWIS).

**April 2005–March 2006:**

Through RésEau, a Canada-wide information portal, water data from distributed sources are now accessible online, including federal government monitoring programs for water quality and quantity, as well as programs on groundwater availability, groundwater contamination, water use, and water and human health (disease outbreaks). In addition, through a partnership initiative, data has been made available from a network of 16 partner groups including provinces, non-governmental organizations (NGOs), community groups and high schools. The RésEau website was released in March 2006 and provides pre-defined maps for general users, as well as advanced search and query functions that create dynamic maps in real time for more advanced users. The monitoring networks include 1819 water quality stations and 1936 water quantity stations, and include near-real-time hydrometric mapping.

**Commitment 1.2.2:** Develop the national data sets needed to support select Environment and Sustainable Development Indicators recommended by the National Round Table on the Environment and the Economy (NRTEE).

**Progress to date**

**February 2004 - March 2005:**

Environment Canada, in partnership with Statistics Canada and Health Canada, is working to complete the first annual report on the Competitiveness and Environmental Sustainability Indicators. The three indicators covered by this initiative, on air quality, water quality and greenhouse gas emissions, are part of those which were recommended by the NRTEE in 2003. This initiative flows from the Budget 2004 commitment “to develop and report better environmental indicators on clean air, clean water and greenhouse gas emissions” and represents a significant step in fulfilling the Government of Canada’s pledge in

the 2004 Speech from the Throne to “work with its partners to build sustainable development systematically into decision making.”

**April 2005 – March 2006:**

The environment and sustainable development indicators recommended by NRTEE have since become known as the Canadian Environmental Sustainability Indicators (CESI) initiative. With the goal of informing decision making by providing Canadians with regular and reliable information on the state of their environment and how it is linked to human activities, Environment Canada, Statistics Canada and Health Canada published the *Canadian Environmental Sustainability Indicators 2005* report, which presents environmental indicators for air quality, freshwater quality and greenhouse gas (GHG) emissions.

As part of the CESI initiative, a new information module providing background on key socio-economic variables related to environmental indicator results was published. A complementary online tool was also released to provide indicator results in a user-friendly format, including interactive maps, that allows users to directly access monitoring station data used to develop the air and water indicators. Environment Canada and Statistics Canada also collaborated on surveys for interpreting the following indicators: household and environmental, agricultural water use, and industrial water use.

Further development of the monitoring systems and refinement of the indicators supporting future CESI reporting are also progressing, in keeping with existing budget commitments.

**Commitment 1.2.3:** Finalize and begin implementation of the Environment Canada Indicators and Reporting Strategy.

**Progress to date**

**February 2004 - March 2005:**

Environment Canada's Indicators and Reporting Strategy was completed in May 2004. Implementation of the Strategy is ongoing, including research and development of national reporting products (Competitiveness and Environmental Sustainability Indicators, Environmental Signals 2005), national synthesis of regional reporting (State of Canada's Watersheds), integration of indicators into performance reporting, a network of indicator practitioners (Canadian Sustainability Indicators Network) and indicators applications (e.g., modelling). Together, these efforts will improve the ability of all decision makers to assess the impact of future policy decisions and initiatives.

**April 2005–March 2006:**

Implementation of many of the Strategy's goals and objectives are ongoing. These efforts include the release of the CESI 2005 report described in Commitment 1.2.2, continued national synthesis and coordination of regional

reporting activities, the establishment of a national network of indicator practitioners (Canadian Sustainability Indicators Network) and the development of Web-based interactive tools that will improve information dissemination and use for decision making.

**Commitment 1.2.4:** Develop and report on a key set of indicators of children's health and the environment in North America.

**Progress to date**

**February 2004 - March 2005:**

North America is on track to be the first region in the world to publish a set of indicators of children's health and the environment through the *Children's Health and the Environment in North America: a First Report on Available Indicators and Measures*. The goal of the report is to provide decision-makers and the public with periodic, understandable information on the status of key parameters related to children's health and the environment as a means of measuring and promoting change. The report marks an initial step toward the goal of improving reporting over time through trilateral collaboration with the United States and Mexico. The report is due to be released in the fall of 2005.

**April 2005–March 2006:**

This commitment has been met, and the aforementioned report, *Children's Health and the Environment in North America: a First Report on Available Indicators and Measures – Country Report, Canada*, was released in January 2006. The report covers three major areas: asthma and respiratory diseases associated with outdoor and indoor air pollution; lead and other chemicals in the home and released from industrial sources; and waterborne diseases associated with drinking water and inadequate sanitation.

**Commitment 1.2.5:** Develop national agri-environmental standards related to water quality, water conservation, pesticides, air quality and biodiversity.

**Progress to date**

**February 2004 - March 2005:**

Under the National Agri-Environmental Standards Initiative (NAESI), there are four thematic teams: air; biodiversity; pesticides; and water. Each thematic area is responsible for developing national agri-environmental standards (e.g., quantitative and qualitative measures of desired environmental performance) for air quality, biodiversity, pesticides, and water quality and conservation.

Year 2004-05 activity included scoping, research planning, research, and inventory development as well as coordination with other thematic areas and other Agricultural Policy Framework (APF) programs.

EC used the scoping year (2004-05) to identify and assess possible options for suitable national standards in agricultural settings for priority parameters. For example, critical evaluations of existing national and international benchmarks of environmental quality and legislation relating to agriculture were performed.

EC has also begun work on meeting our commitments to AAFC by developing tools and techniques to develop and deliver these performance standards. As a preliminary step, databases containing the necessary information to develop national standards were compiled and methodologies for the development of Achievable and Ideal Performance Standards (APS and IPS) were also developed and evaluated.

**April 2005–March 2006:**

Environment Canada has already met some of its commitments to Agriculture and Agri-Food Canada (AAFC) by developing tools and techniques that will be used to develop and deliver these performance standards. For example, activity in 2005–2006 included refining the approach/methodology for developing the standards; continuing sampling and research initiatives in select agricultural watersheds across the country; and drafting the first standards in the water (e.g. nutrients), pesticide (e.g. top-priority pesticides), and biodiversity (e.g. ecozone level) themes. Additional agri-environmental factors requiring performance standards were also identified.

Throughout the year, Environment Canada actively participated in discussions with AAFC regarding the future uses of the standards and sharing of science. In March 2006, AAFC and EC held a joint stakeholder consultation workshop with industry, provinces and environmental NGOs to provide the opportunity to exchange information about NAESI and identify some future opportunities for collaboration. Other areas of progress included the development of the NAESI Technical Series. This series is dedicated to the consolidation and dissemination of the scientific knowledge, information and tools produced through this program that Environment Canada will use as the scientific basis for the development and delivery of environmental performance standards.

**Commitment 1.2.6:** Improve coordination of strategies and systems for observations of the Earth, with a view to moving toward a comprehensive, coordinated, and sustained Earth observation information system or systems.

**Progress to date**

**February 2004 - March 2005:**

The Group on Earth Observations (GEO) initiative began in August 2003 in response to concerns expressed during the World Summit on Sustainable Development (Johannesburg, August – September 2002) and the G8 Summit (Évian, France, June 2003) on the need to better observe and manage the planet. The GEO's objective is to “move toward development of a

comprehensive, coordinated, and sustained Earth observation system(s)” within the next ten years. The first step, approximately eighteen months in duration, consists of producing a plan of action for arriving at this objective.

The Meteorological Service of Canada (MSC) provided leadership to coordinate Canadian participation in the various GEO meetings and, led by EC, hosted the 5<sup>th</sup> GEO meeting held in Ottawa in November 2004. Canada’s participation on the international secretariat and various international technical groups was also coordinated by the MSC. The Service co-chaired the Data Utilization Technical Group and Canada was represented on all five Technical Groups. The MSC’s contribution and that of other federal departments assisted in the development of the 10-year implementation plan that was presented at the Second Earth Observation Summit (EOS II) and which is the road map for the implementation of GEOSS.

**April 2005–March 2006:**

As a new area of focus, an interdepartmental committee began the development of the Federal Earth Observation Strategy, which will be refined through consultation with the provinces and the private sector to a Canadian Earth observation strategy.

***Intermediate-term Outcome 1.3: Strengthened predictive capacity and information sharing reduce the impact of environmental threats on the health and safety of Canadians.***

**Commitment 1.3.1:** Develop a Canada-wide health-risk based Air Quality Index that will be disseminated within a daily air quality forecasting program across the country, in partnership with the medical community, non-governmental organizations and provinces/territories.

**Progress to date**

**February 2004 - March 2005:**

EC and Health Canada continued to lead the multilateral Air Quality Index development process. The Index formulation was established for testing by the provinces in 2005. Once this testing is complete, it is anticipated that the AQI will become a part of Air Quality forecasts across the country in 2007. An Air Quality and Health Workshop and public opinion research has led to recommendation and acceptance of a set of health protection and environmental improvement messages for use with the index in real time reports and air quality forecasts.

**April 2005 – March 2006:**

Environment Canada and Health Canada have been collaborating with provincial health departments, local health agencies and NGOs to develop an Air Quality Health Index. The new index is a personal health protection tool which will, when implemented, provide Canadians with a more accurate description of the health

risks associated with real-time and forecasted air quality conditions in their communities. The tool has developed to the point where it was able to undergo operational testing in British Columbia (summer 2005 and summer/fall 2006) and Nova Scotia (summer 2006). Also, Border Air Quality Strategy field study measurements were made in British Columbia and Ontario to define exposure to, as well as sources and receptors of pollutants.

The intent is to make the index ready for adoption by the provinces and municipalities in the spring of 2007.

**Commitment 1.3.2:** Improve flood-related forecasting and provide provincial stakeholders with the water quantity science information required to better warn Canadians of floods.

**Progress to date**

**February 2004 - March 2005:**

Provincial agencies have jurisdiction over water and flood-related forecasting. However, the MSC can and does offer much in the way of support and expertise. During the reporting period, an MSC representative and research lead was dedicated to interaction with the Canadian and international community, supervising an ongoing R&D program for a coupled atmosphere-hydrology system based on the MSC Global Environmental Model (GEM) to predict meteorological and hydrological conditions at required time-space scales for provincial, municipal and other agencies responsible for flood warnings, protection of ground-water resources and management of water resources (including hydro power industries).

**April 2005–March 2006:**

Environment Canada is working with provincial partners and the private sector in flow forecasting to provide gridded hydrometeorological products for use by these agencies and is also working towards a community modelling system for improved flow forecasts. The Department is also establishing a framework for flash-flood prediction.

**Commitment 1.3.3:** Improve Canadians' accessibility to, and understanding of, high-impact weather warnings.

**Progress to date**

**February 2004 - March 2005:**

Accessibility to high impact weather warnings has been improved through the introduction of a new telecommunication format and standardized region names; these improvements ensure accurate and timely broadcast of warnings on the Environment Canada weather website and by the department's partners. Service to the media has also been improved through the introduction of a more

robust media website and improvements to that site, including new capacity and management tools. New support to the department's Warning Preparedness Meteorologist (WPM) Program has been implemented through the establishment of a media services National Service Office in Rimouski, Quebec. The WPM program continues to be developed nationally with regional media workshops being held across the country.

**April 2005 – March 2006:**

Warning preparedness meteorologists (WPMs) are responsible for establishing links with the media and emergency measures organizations (EMOs). There are WPMs in each region, to facilitate interaction with the regional EMOs and the media. Their role is to establish an ongoing relationship with the EMOs and the media, to help them better understand the severe weather warnings issued by Environment Canada, and to teach them how to make effective use of these alerts.

Warning Preparedness Meteorologists respond to media information requests before, during and after severe weather events. After the fact, they assess the scope and impact of weather events by visiting the affected sites. They provided the media with information and support more than 4000 times during the year. Across the country, about a hundred EMOs received training on the impact of severe weather conditions.

Environment Canada, in partnership with the Ontario Provincial Police (OPP), instituted a pilot project that contributes to public safety. This project, dubbed "Project OPPportunity," allows OPP officers to report severe weather conditions in real time to the Ontario Storm Prediction Centre. Both EC and the OPP recognize the benefits of Project OPPportunity.

## THEME II: INNOVATIVE INSTRUMENTS

**Long-Term Outcome 2: An optimal mix of instruments is used to achieve environmental and sustainable development goals.**

***Intermediate-term Outcome 2.1: Innovative economic instruments are developed and applied to support sustainable development.***

**Commitment 2.1.1:** Increase the use of economic instruments within Environment Canada as a substitute for, or complement to, other regulatory and non-regulatory instruments.

### **Progress to date**

#### **February 2004 - March 2005:**

In developing the 2005 Climate Change Plan, EC completed several impact analyses to support both the development of emission reduction targets for the Large Final Emitter System and the scoping of the Offset System and Partnership Fund. EC developed an instrument assessment guide (*Quality Screening Management Tool*) for choosing the most appropriate instrument(s), focusing on the full range of potential instruments including market-based instruments and voluntary approaches, to address an environment issue. The QSMT promotes the selection of instruments that will achieve the stated environmental objective with the least possible economic impact. To support the implementation of the QSMT, workshops for Environment Canada staff and other federal departments were held to provide training on how to use the tool.

#### **April 2005 – March 2006:**

As part of the ongoing work within the sector tables, Environment Canada examined the opportunities for using economic instruments to help achieve the environmental improvements sought within the sectors, using the best available tools.

In addition, Environment Canada analysed a number of specific innovative instruments and incentives for the federal budget, and reviewed proposals put forward by NGOs to provide the Department with a better understanding of their implications.

**Commitment 2.1.2:** Expand understanding and awareness outside Environment Canada of the role of economic instruments as a tool for achieving sustainable development.

### **Progress to date**

#### **February 2004 - March 2005:**

In the context of the Smart Regulation initiative, EC completed a discussion paper on use of market-based instruments domestically and internationally. In its

September 2004 report, the External Advisory Committee on Smart Regulation acknowledged the usefulness of market-based instruments and recommended that the government examine expanding the appropriate use of these types of instruments in Canada.

Internationally, EC organized a workshop for market-based instrument practitioners. The workshop was attended by experts from various countries and representatives from provincial governments, stakeholders, and federal departments including Finance. In our work with the Organization for Economic Cooperation and Development (OECD), EC contributed to the development of a market-based instruments (MBIs) database. We also continue to promote the MBIs agenda at the OECD. The OECD emphasizes MBIs as a tool for achieving environment-economy efficiency in official comments on a number of their documents.

**April 2005 – March 2006:**

Domestically, Environment Canada sponsored a workshop on the topic of water-quality trading, particularly as it could apply to water pollution from agriculture in Canada. The workshop, organized by the Policy Research Initiative, brought together Canadian and international experts and government officials to explore the state of the knowledge surrounding this innovative approach to solving problems of water pollution. Environment Canada also supported efforts by the Federation of Canadian Municipalities, Infrastructure Canada Program and the National Research Council to encourage municipalities to set water and sewer rates more appropriately, so as to achieve full cost recovery and reduce water consumption. With respect to other federal departments, Environment Canada partnered with Natural Resources Canada, Transport Canada and Finance Canada, in advanced analysis of a range of fiscal incentives and disincentives to promote GHG reductions from cars and light-duty trucks.

Internationally, but also with important domestic consequences, Environment Canada worked through the OECD forum to promote the use of market-based instruments (MBIs). The full spectrum of Canadian MBIs, from all levels of government, is now accessible to decision makers and the general public via the OECD MBIs database. This database encourages learning from Canadian experiences and building of synergies with respect to existing MBIs. At a higher level, Environment Canada continued to support work at the OECD relating to best practices in the development and evaluation of optimal mixes of instruments as well as work addressing barriers to MBIs.

**Commitment 2.1.3:** Promote the greening of the federal fiscal and tax system.

**Progress to date**

**February 2004 - March 2005:**

EC actively worked with a number of other federal government departments and external organizations in promoting the MBIs agenda. In preparing for Budget 2005, EC participated in consultations with Finance and completed various analytical pieces on specific MBIs. A number of these measures formed part of the Budget, including the Wind Power Production Incentive, Renewable Power Production Incentive and expansion of Class 43.1, accelerated capital cost allowance (ACAA) for energy efficient and renewable energy technologies. These programs and instruments will help move Canada towards achieving its emissions reduction target under the Kyoto Protocol. In support of greening the Budget, we also worked with the National Roundtable on the Environment and Economy (NRTEE), as well as other stakeholders, like the Green Budget Coalition, to assess various market-based instrument proposals.

**April 2005 – March 2006:**

In preparation for the federal budget, Environment Canada, along with other federal departments, compiled and assessed a number of MBIs and other fiscal measures to encourage environmental improvements by, for example, lowering the tax liabilities of individuals and businesses in Canada that undertake environmentally beneficial actions. A number of these measures were included in Budget 2006, namely an increased tax incentive for donations of ecologically sensitive lands, the extension of ACCA classes 43.1 and 43.2 to include processes using biomass residue from the pulping process (referred to as "black liquor") as a fuel, and a personal income tax credit for monthly transit passes.

To help lever the expertise of the NRTEE in assessing similar options, Environment Canada provided analytical support to studies of options and strategies for reducing CO<sub>2</sub> emissions. Specifically, Environment Canada assisted in two studies: the NRTEE study on the Development of Options for a Revenue Neutral Vehicle Feebate in Canada (along with other federal departments), and the NRTEE study on the development of a long-term energy and climate change strategy for Canada which modeled the impact of a series of MBIs and other policy measures related to energy.

**Commitment 2.1.4:** Develop and implement the Offset System as put forward under the Climate Change Plan for Canada supporting the Large Final Emitters system.

**Progress to date**

**February 2004 - March 2005:**

Interdepartmental progress on offset system policy development allowed the system to be a key element of the 2005 Climate Change Plan. The proposed rules of the offset system were released for consultation in August 2005.

**April 2005 – March 2006:**

A proposed regulatory framework for GHG emissions from industrial sectors was elaborated in a Notice of Intent to Regulate, published in the *Canada Gazette*, Part I, on July 16, 2005. Detailed discussions were undertaken with individual sectors to define emission intensity targets to be set out in sectoral regulations. A draft of the cross-cutting provisions for the proposed regulations was developed and released for consultation. Development of a proposed single-window quantification and reporting system was pursued in collaboration with provinces and stakeholders.

A proposed design for the offset crediting system was published, and national consultations were conducted. The consultation paper was released in August 2005, and the cross-country consultation sessions on the paper were held in eight Canadian cities in September 2005. Draft rules and guidance for offset program elements were developed. Drafting of quantification protocols for a number of key project types (soil management, swine feeding, beef feeding, manure management, afforestation and landfill gas flaring protocols) was initiated in collaboration with provinces and stakeholders.

**Commitment 2.1.5:** Continue to implement and expand the Ecological Gifts Program.

**Progress to date**

**February 2004 - March 2005:**

EC is currently in the process of developing several new policies and pursuing several areas of growth initiatives that are designed to: streamline the appraisal review process; lower the cost of appraisals for donors and recipients; build the capacity of approved charitable recipients; improve direct-to-donor communications; and, advocate for improvements to the current income tax incentives to remove disincentives to donors - all in efforts to make ecological donations easier and cheaper for donors and thereby increasing the overall gifting rate.

**April 2005 - March 2006:**

Between April 1, 2004, and March 31, 2006, 105 ecological gifts were certified covering 14,589 ha and valued at \$53 million.

Environment Canada continues to focus its efforts on improving communications with the donor, charitable recipient and professional advisor communities, building the capacity of the charitable recipient community, as well as coordinating and streamlining the Ecological Gifts Program certification processes. In addition, Environment Canada continues to work towards improving the tax incentives for donations of ecological gifts. On May 2, 2006, the Government of Canada announced the elimination of the tax on capital gains for all ecological gifts.

**Commitment 2.1.6:** Conduct a study on Emissions Trading that will assess the feasibility of cross-border cap and trade emissions trading of NOx and SO2 emissions.

**Progress to date:**

**February 2004 - March 2006:**

The commitment was achieved. On July 29, 2005, the Canada-U.S. joint report, "Canada-United States Emissions Cap and Trading Feasibility Study", was completed under the Canada-U.S. Border Air Quality Strategy (BAQS) and publicly released on Environment Canada's website. The study's findings will serve as a foundation for developing and evaluating new strategies to improve air quality and address transboundary air pollution of concern to residents on both sides of the border.

The study was undertaken to assess the feasibility of developing a cross-border cap and trade program for sulphur dioxide and nitrogen oxides emissions, emissions that are key components of smog, acid rain and regional haze in the transboundary region. The report identifies key components of an emissions cap and trade program and illustrates analyses undertaken by Canada and the U.S. to assess the potential economic and air quality impacts of caps on sulphur dioxide and nitrogen oxide emissions in the electricity generation sector and cross-border trading.

**April 2005 – March 2006:**

This commitment was achieved in 2004–2005, and there is nothing further to report for this period.

***Intermediate-term Outcome 2.2: Innovative agreements are negotiated with industry to further sustainable development goals.***

**Commitment 2.2.1:** Work with specific industry sectors to examine innovative sector strategies to achieve reductions in pollutant emissions under the federal government's Smart Regulations Initiative.

**Progress to date**

**February 2004 - March 2005:**

Work has been carried out to improve the quality of Canadian data and establish benchmarks for Canadian mills. This work will form the foundation for program development.

A Technical Advisory Working Group was formed to develop material in support of a memorandum of understanding between Environment Canada and the Forest Products Association of Canada.

**April 2005 – March 2006:**

Also, in 2003, Environment Canada issued its first Pollution Prevention (P2) Planning Notice as a flexible regulatory instrument under CEPA 1999 that promotes pollution prevention. Since that time, seven notices have been issued with two of these being issued in 2005–2006. In 2001, Environment Canada published its Policy Framework for Environmental Performance Agreements in response to recommendations made by the Commissioner of the Environment and Sustainable Development (CESD) in the 1999 report. Based on a paper that was published by the multi-stakeholder New Directions Group, the Policy Framework put in place criteria and principles for the negotiation of Environmental Performance Agreements. Since that time five agreements have been negotiated under the Policy Framework. In the 2005–2006 fiscal year, two agreements were posted for public consultation and will be finalized in late 2006. The use of these innovative tools allows industry and industrial sectors to achieve reductions in pollution emissions in a flexible and efficient fashion.

Environment Canada is a member of the Pulp and Paper Air Quality Forum (multi-stakeholder group) whose mandate is to develop a 10-year agenda to manage air emissions from the industry. The Forum worked on the agenda during 2005–2006 and should have it completed by winter 2007.

The Technical Advisory Working Group met several times during 2005–2006 to improve data quality and the efficiency of reporting to Environment Canada. The Advisory Group developed a sawmill case study and mandated a technical study to improve particulate matter air emission data. The results of the study will be available during winter 2007.

## **THEME III: PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT**

**Long-term Outcome 3: Environment Canada's partnerships effectively support the implementation of sustainable development.**

***Intermediate-term Outcome 3.1: Effective partnerships promote the sustainable development of Canadian communities.***

**Commitment 3.1.1:** Promote better integration of environmental considerations and priorities in local government decision making through a series of urban pilot projects.

### **Progress to date**

#### **February 2004 - March 2005:**

The commitment was achieved. A series of urban pilot projects were undertaken that resulted in a sharing of lessons learned and best practices in collaborating with local governments to better understand their needs when integrating environmental considerations into their decision making. A performance evaluation framework was developed against which EC will be able to measure progress on this type of activity and which has contributed to the urban communities initiative (Commitment 3.1.2).

#### **April 2005 – March 2006:**

This commitment was achieved in 2004–2005, and there is nothing further to report for this period.

**Commitment 3.1.2:** Develop an Environment Canada strategy to support community sustainability, with a focus on urban areas, in consultation with key stakeholders.

### **Progress to date**

#### **February 2004 - March 2005:**

In 2004 -05, EC worked to clarify departmental goals to be pursued at the municipal level. A department-wide Steering Committee on Sustainable Urban Communities was established to oversee the development of a draft urban sustainability strategy. Four sub-committees that addressed water and wastewater, air quality and climate change, solid waste, and land use and nature, developed content for the draft strategy.

EC forged effective working relationships with federal colleagues from other federal departments to provide strategic policy advice to Infrastructure Canada from the working level to the Ministerial level. This advice focused on the design and delivery of the federal gas tax transfer as part of the New Deal for Cities and Communities.

**April 2005 – March 2006:**

Additional work for this commitment is ongoing, and Environment Canada will continue to advance and make progress on community and urban sustainability issues in fall 2006.

**Commitment 3.1.3:** Improve the understanding of the inter-related dynamics of the ecological, economic and social systems in ecosystem environments through a number of Ecosystem Initiatives across Canada including the Georgia Basin Action Plan, Great Lakes Basin Ecosystem Initiative, Northern Ecosystem Initiative, Western Boreal Conservation Initiative, St. Lawrence Action Plan, and the Atlantic Coastal Action Program.

**Progress to date**

**Georgia Basin Action Plan:** *Support local government planning processes to sustain ecosystem health through the provision and coordinated dissemination of science and best management practices for watershed and habitat protection and sustainable urban planning tools and processes.*

**February 2004 - March 2005:**

Commitment is ongoing. Environment Canada, through the Georgia Basin Action Plan Coordination Office, provides ongoing support to local governments and communities to encourage sustainable urban planning and best management practices and exchange of information. Various local initiatives resulted in four shellfish community round tables working to develop remediation plans; two communities developing and adopting smart growth planning strategies and a third community commencing the process; and, the development of the second report on Ecosystem Indicators in the Georgia Basin – Puget Sound for web-based release in October 2005. In partnership with the Greater Vancouver Regional District, and the Province of British Columbia, Environment Canada contributes to the development of a Biodiversity and Conservation Strategy for the Greater Vancouver Region that will create a common vision and objectives for biodiversity conservation and provide tools to encourage region-wide ecosystem-based planning to result in ecological benefits to enhance well-being and economic prosperity of the region.

**April 2005 – March 2006:**

*Smart Growth on the Ground:* The Georgia Basin Action Plan (GBAP) supported and participated in the multi-stakeholder design charrette which developed the Downtown Squamish Concept Plan; this is being used to guide policy, planning and design decisions in the community.

*Greater Vancouver Regional District Biodiversity Strategy:* GBAP supported the completion of the Biodiversity Strategy for the Greater Vancouver Regional District. The Georgia Basin Action Plan participated in the establishment of the

spatial framework methodology and the review of habitat mapping and analysis in conjunction with other partners.

*Georgia Basin-Puget Sound Ecosystem Indicators Report:* An update to the 2002 transboundary indicators report was completed with nine ecosystem indicators (Population Health; Urbanization and Forest Change; Solid Waste and Recycling; River, Stream and Lake Quality; Shellfish; Air Quality; Marine Species at Risk; Toxics in Harbor Seals and Marine Water Quality); these indicators are used to better understand key ecosystem stresses in the Georgia Basin-Puget Sound transboundary region. Publication of the indicators is planned for 2006–2007.

**St. Lawrence Action Plan:** *Work with all parties to implement a new five-year plan.*

**February 2004 - March 2005:**

Negotiations with the Government of Quebec and federal partners concerning a new Canada-Quebec Agreement on the St. Lawrence Action Plan have led to an agreement in principle between the parties. The new agreement is expected to be signed in the fall of 2005. Despite the delay, several of the programs under the Agreement have been implemented, including the development of a joint Canada-Quebec approach to integrated management of the St. Lawrence, the ZIP (Areas of Prime Concern) Program, the Community Interaction funding program, and the state of the environment monitoring program. However, there has been no significant progress with respect to some programs, such as programs to reduce pollution from agricultural sources and the Sustainable Navigation Strategy.

**April 2005 – March 2006:**

The Canada-Quebec Agreement on the St. Lawrence 2005–2010 was signed on November 28, 2005. This fourth agreement, the St. Lawrence Plan for a Sustainable Development, provides continuity to the concerted effort already underway to conserve, protect and restore the ecosystem and regain use of the river. Under this agreement, the governments of Canada and Quebec will dedicate \$80.8 million and \$33.4 million, respectively, over five years.

The Intergovernmental Working Group on Integrated Management of the St. Lawrence (IMSL) produced a document setting out the mode of governance and the methods of implementing IMSL, based on existing organizations that are working on the St. Lawrence. This document is the product of consultations and partnerships with local stakeholders, including the ZIP committees and Stratégies Saint-Laurent, and with federal and provincial government departments that are partners of the St. Lawrence Plan.

This document was submitted to and discussed with the Environment Canada Regional Council in December 2005 and the federal partners of the Canada-Quebec Agreement in January 2006. The federal position was integrated and

provided to the Intergovernmental Steering Committee on IMSL in February 2006. The proposed mode of governance and implementation methods were adjusted accordingly and submitted to and approved by the Agreement Management Committee, which includes the partner departments of the federal and provincial governments, in spring 2006.

**Great Lakes Basin Ecosystem Initiative:**

*Canada-United States Great Lakes Water Quality Agreement: work with other government departments and Ontario in the review and revision of the GLWQA to incorporate sustainable development principles.*

*Renew Federal Partnerships: Encourage collaborative action and engagement among other governments, organizations and Great Lakes Basin residents and continue to work collectively towards a common Great Lakes vision.*

**February 2004 - March 2005:**

In 2004, the Governments of Canada and the U.S. developed, and are now finalizing, an open, transparent and inclusive process for the review of the Great Lakes Water Quality Agreement (GLWQA). A 60-day public comment period on the proposed process for the review of the Agreement was undertaken and recently closed in March 2005.

On behalf of the Government of Canada, Environment Canada worked with other federal departments and engaged the Province of Ontario, municipalities, First Nations, non-governmental organizations and industry representatives to develop a renewed federal program for the Great Lakes. In February 2005, the federal government announced \$40 million to bring forward the next phase of the Great Lakes Action Plan, specifically aimed at continuing the restoration of key aquatic areas of concern in the Great Lakes basin.

**April 2005 –March 2006:**

Canada and the U.S. are undertaking a mandatory review of the operation and effectiveness of the current Great Lakes Water Quality Agreement (GLWQA). The binational review process involves over 350 individuals in a series of technical working groups. Participants include: representatives of Canadian and U.S. federal, provincial, state and municipal governments, individuals from Aboriginal groups, non-government organizations, industry, academia, and the interested public. The review was launched in April 2006 and will span 18 months.

**Northern Ecosystem Initiative:** *Support to partnership-based actions important to enhancing the health and sustainability of communities and ecosystems across Canada's North by combining local, traditional and western science knowledge and methodologies in collective efforts to better understand and adapt to a changing climate; monitor environmental changes; develop predictive*

*models and ecosystem thresholds; investigate local contaminant concerns; and build our shared capacity.*

**February 2004 - March 2005:**

EC renewed the partnership agreement with Inuit Tapiriit Kanatami to work collaboratively on shared priorities important to ecosystem and related community health across the Canadian North. A number of multi-year studies are under way and new studies have been initiated in several locations across the Canadian North to investigate key issues under each program priority.

**April 2005 – March 2006:**

Environment Canada has strengthened NEI Partnerships: NEI Program Partner Inuit Tapiriit Kanatami released a book entitled, *Unikkaaqatight: Putting the Human Face on Climate Change, Perspectives from the Inuit in Canada*.

Environment Canada has also increased capacity. Evaluation of 39 projects reporting in the 2005–2006 fiscal year showed 100% are generating new knowledge or tools of benefit to Canada's North; 85% of projects use a combination of local, traditional and/or scientific knowledge and methodologies; 80% of projects have a "high" local involvement; and 75% of projects are likely to continue after funding ends. Northern Ecosystem Initiative Northern Aboriginal Partners highlighted project results (e.g. book, video, etc.) on Arctic Day in association with the Eleventh Conference of the Parties (COP11) to the United Nations Framework Convention on Climate Change. New community monitors have been established in both terrestrial and marine systems.

**Western Boreal Conservation Initiative (WBCI):** *Develop a multi-partnership initiative that will support sustainable development and conservation of natural resources within the western boreal forest of Prairie and Northern Region and build the foundation for a future national initiative.*

**February 2004 - March 2005:**

WBCI strategic and action plans were delivered to implement WBCI. Successful engagement with a range of partners involved in boreal forest conservation issues took place in 2004-05.

**April 2005 – March 2006:**

Through WBCI, Environment Canada continued support of the Alberta Biodiversity Monitoring Program. Through WBCI, Environment Canada also continued support of the Sustainable Forest Management Network, a national network that supports multi-partnered, multi-disciplinary, applied research on sustainable forest management. The Western Boreal Conservation Initiative supported multi-partnered projects to address conservation concerns in boreal forests, including best practices for harvesting and land management, need for decision-support tools and long-term monitoring, improved third party certification, integrated land management approaches, fiscal incentives for

conservation, and the need for policy that supports conservation and local economic and cultural sustainability of communities. Communications products were generated to increase awareness of Environment Canada's efforts to support sustainable development in boreal forests. The Western Boreal Conservation Initiative has initiated national level projects, networks and partnerships across industry, Aboriginal governments, F/P/T governments and NGOs. Work towards obtaining departmental endorsement to expand to a national initiative has been initiated.

**Atlantic Coastal Action Program:** *Support ecosystem-based, multi-stakeholder community organizations through funding, scientific and technical support, facilitation and partnership; to build the knowledge, capacity and diverse partnerships necessary to implement comprehensive environmental management plans and undertake projects that improve the local environment and contribute positively toward sustainable development.*

**February 2004 - March 2005:**

In 2004-05, the ACAP program supported a total of 102 community-based projects under its four program categories: Knowledge Generation, Capacity Building, Action and Science Linkages. EC contributed \$1.15M this year to the organizations' activities, and for every dollar the department has invested, \$7.50 is flowing into the projects from outside sources. The total value of all projects is over \$8M, of which \$2.95M is through in-kind contributions. These successfully implemented (and/or on-going) projects were all aimed at making communities more sustainable.

In addition, contribution agreements were extended and/or renewed for all other Atlantic Canada Ecosystems and Communities Initiatives. This is in accordance with the strategic decision EC made, as part of the 2<sup>nd</sup> and 3<sup>rd</sup> phases of ACAP, to build on our successful approach with site-specific partners by working in a similar way with larger, ecosystem-based coalitions. These coalitions consist of:

1. Provincial, municipal, federal, First Nation and community organizations through the Nova Scotia Sustainable Communities Initiative (SCI);
2. 3 multi-stakeholder ecosystem-based coalitions (Canada-US Gulf of Maine Council; Bay of Fundy Ecosystem Partnership; Southern Gulf of St. Lawrence Coalition on Sustainability);
3. DFO and its multi-stakeholder partners through 3 Integrated Management Initiatives under the Oceans Action Plan (Eastern Scotian Shelf (underway); Gulf of St. Lawrence, Placentia Bay/Grand Banks (latter still to be launched));
4. Aboriginal, provincial, federal and NGO stakeholders through the Bras d'Or Lakes Collaborative Environmental Planning Initiative.

The awarding of the Institute of Public Administration Canada (IPAC) Silver Award to the N.S. SCI was a 2004-05 highlight. The IPAC award recognizes

innovation in public sector management and the SCI was recognized for its unprecedented approach to inter-governmental and government-community collaboration. The ACAP program also received some very positive recognition this past year when the executive director of the Clean Annapolis River Project (one of the 5 ACAP organizations in N.S.) won gold for his work on restoration and rehabilitation. The gold award is a Community Award under the Canadian Environment Awards.

**April 2005 – March 2006:**

In 2005–2006, 94 projects were undertaken by 14 ACAP groups and \$1.15 million was contributed by Environment Canada, leveraged 8:1 for a total project investment of over \$9 million. Community-based comprehensive environmental management plans (CEMPs) are being updated to reflect progress achieved and emerging challenges and are being re-aligned to Results-Based Management and Accountability Framework (RMAF) format for more precise outcomes measurement and reporting. With respect to the two new ACAP sites to be established in Labrador, orientation meetings for the site in the Happy Valley–Goose Bay area and the site along the South Coast of Labrador are to be held in June 2006. The Gulf of St. Lawrence and Placentia Bay/Grand Banks Integrated Management Initiatives are just beginning.

**Commitment 3.1.4:** Implement a climate change social marketing campaign with messages linked to the Clean Air Agenda.

**Progress to date**

**February 2004 - March 2005:**

On behalf of the Government of Canada, Environment Canada and Natural Resources Canada as co-leads, with support from Transport Canada, launched a national social marketing campaign to engage Canadians in the One-Tonne Challenge. The campaign is multi-faceted involving both promotion and partnerships with communities, youth, educators and the private sector. Canadians have responded to this call to action, with 2.4 million visits to the web site, 24,000 calls to the 1 800 O Canada line and more than 900,000 Guides to the Challenge distributed. Community challenges are underway in 41 communities involving more than 200 local organizations and governments. Youth groups have also created their own versions of the OTC. Private sector companies such as The Home Depot, Hbc, and others have linked promotions of energy saving products to the Challenge. Major financial institutions such as ScotiaBank have launched the Challenge with their employees.

**April 2005 – March 2006:**

This commitment has been met, and the One-Tonne Challenge Program was operational for the fiscal years 2004–2005 and 2005–2006. This program has been terminated. The Program undertook a number of joint promotions with retailers and utilities to encourage consumers to make informed decisions and

purchases. Community Challenges were supported in approximately 40 Canadian communities. Individuals could also access tips and information was provided through print and Web-based products.

***Intermediate-term Outcome 3.2: Environment Canada's partnerships with the corporate sector enhance productivity and the environmental performance of Canadian industry.***

**Commitment 3.2.1:** Accelerate sustainability innovation and improved environmental performance in the corporate sector through the department's Corporate Environmental Innovation initiative.

**Progress to date**

**February 2004 - March 2005:**

The Corporate Environmental Innovation initiative (CEI) has continued to encourage and support corporate sustainability leadership by bringing together the private sector, academics, non-governmental organizations (NGOs), and other government departments in three areas of engagement.

- Knowledge and Information - Making Sustainability Information Available and Relevant: Through CEI, Environment Canada has engaged a range of stakeholders to ensure that decision-makers, including consumers, policy makers and investors, have useful, accessible and timely information on corporate sustainability performance. Examples of this work include the development and dissemination of the online Sustainability Reporting Toolkit and related training workshops and the facilitation of a consumer oriented corporate performance ranking.
- Linking Sustainable Development to Business Value: Environment Canada is bringing together the financial sector, leading Canadian corporations and other stakeholders to identify, develop and support the link between corporate sustainability and financial performance and to make this link more relevant to business and financial sector audiences. In collaboration with these stakeholders, Environment Canada has conducted and begun disseminating research on the business value case for sustainability, the current state of integration of environmental sustainability information in mainstream financial analysis as well as how to communicate such information in a format and manner that is useful to the financial sector.
- Tools and Capacity - Cultivating Innovative Corporations: In collaboration with other government departments, Environment Canada is helping Canadian companies access tools, research and information to maximize the competitive and innovation benefits of environmental leadership.

**April 2005 – March 2006:**

The Corporate Environmental Innovation initiative (CEI) has delivered on its commitments and achieved its targets in its three areas of engagement, specifically,

- Increased quality and quantity of corporate sustainability reporting in Canada. Through the development of the online Sustainability Reporting Toolkit and related corporate training workshops, as well as the facilitation of a consumer-oriented corporate sustainability performance ranking, CEI has contributed to an increase in both the quality and quantity of corporate sustainability reporting in Canada. The number of reporters in Canada has doubled, from 57 in 2001 to 114 in 2006, beating Environment Canada's target of increasing the number of reporters by 50% over the same time period.
- Increased departmental knowledge and engagement on the business value of corporate environmental performance. Environment Canada is bringing together the financial sector, leading Canadian corporations and other stakeholders to identify, develop and support the link between corporate sustainability and financial performance and to make this link more relevant to business and financial sector audiences. In collaboration with these stakeholders, Environment Canada has conducted and disseminated research on the business value case for sustainability, transparency and disclosure, and the integration of environmental information by North American financial sector professionals.
- Provision of sustainability tools and best practices to the corporate sector, including small and medium-sized enterprises (SMEs), through work with other government departments and other partners. In collaboration with other government departments, Environment Canada is continuing to help Canadian companies access tools, research and information to maximize the competitive and innovation benefits of environmental leadership.

**Commitment 3.2.2:** Assist small and medium-sized enterprises to develop, demonstrate and deploy innovative environmental technologies through Environment Canada programs such as the Canadian Environmental Technology Centres, and to adopt pollution prevention planning and improve eco-efficiency and environmental performance.

**Progress to date****February 2004 - March 2005:**

In 2004-05, the Canadian Environmental Technology Centres (CETACs) assisted 320 SME (small and medium-sized enterprises) clients (an increase of 91% from 2003-04) with the development, demonstration and commercialization of environmental technologies. The CETACs provided a broad range of tailored services to SMEs such as:

- Technical, business & financial information
- Commercialization strategies & business plans
- Raising awareness of emerging environmental products processes & technologies
- Organizing R&D and demonstration projects
- Creating partnerships and networks for stakeholders
- Contributing capital infusions into technology advancement projects.

In 2004-05, the CETACs helped secure funding and organized 23 technology demonstration projects (an increase of 53% from 2003-04) for a total of \$23.6 million of which \$13.7 million was public investment and \$9.9 million private sector investment.

CETACs assistance to SMEs focused on the delivery of technology solutions in the following areas: climate change (34%), waste treatment & management (24%), clean water (19%), clean air (8%), clean soil (5%) & other environmental benefits (9%).

In 2005-06 CETACs will continue assisting SME clients with commercialization of innovative environmental goods and services.

**April 2005 – March 2006:**

In 2005–2006, the CETACs delivered a number of complementary programs for Environment Canada focusing on pollution prevention and eco-efficiency. These programs provide third-party audits of systems and processes used by SMEs in the primary, agricultural and manufacturing sectors. The audits are intended to identify opportunities to improve energy efficiency and reduce or eliminate the release of CEPA 1999 toxics and other harmful pollutants to the environment. As a result of one program alone, the CETACs were able to assist 52 SMEs to reduce 2000 tonnes of GHGs, 600 tonnes of volatile organic compounds, as well as other criteria air contaminants, while producing annualized savings of \$3.1 million. In Alberta, if recommended modifications and upgrades are implemented, it would result in an abatement of 2.4 megatonnes CO<sub>2</sub>E and reduce total energy costs by \$140 million annually.

In 2005–2006, the CETACs delivered business support services to more than 150 environmental technology developers. In 2005–2006, the CETACs helped secure funding and organized 14 technology demonstration projects for a total of \$56.7 million, of which \$29.7 million was private sector investment.

**Commitment 3.2.3:** Provide new, integrated services to key weather-sensitive economic sectors (including road transportation, agriculture, forest and marine) to reduce their vulnerability to, and capitalize on opportunities which can be derived from knowledge of daily weather conditions, changes in climate and severe weather events.

**Progress to date:**

**February 2004 - March 2005:**

In 2004, Meteorological Services Canada (MSC) commenced the production of seasonal forecasts on a monthly basis. The expected result will be more accurate seasonal predictions with confidence levels that can be used by weather-sensitive industries in risk-based decision making. Outreach efforts to explain and increase the utility of these products is critical and ongoing through the newly established National Service Offices and increased resources dedicated to outreach in the Regions.

The Road Weather Information System (RWIS) initiative is well advanced with data agreements in place with approximately half the provinces to this point, and others in the final stages of negotiation. Road weather information systems will be established across the country that will be used by provincial road maintenance agencies to improve winter traveling safety and decrease the use of road salt.

Finally, the MSC has completed a large database of high resolution wind statistics for the entire country that will be invaluable to the energy sector in locating wind energy farms. Work is ongoing to increase the resolution of this dataset in an effort to increase its usefulness.

**April 2005 – March 2006:**

Environment Canada has put in place four National Service Offices: Gander to serve the marine and fishing communities; Rimouski to serve the media; Regina to serve agricultural interests and Kelowna to serve the natural resource and transportation sectors. These offices are staffed with specialists who will liaise with the target sectors to better understand their needs and ensure those sectors are aware of the information that is available and how best to use it to increase the safety and efficiency of their operations and reduce their impact on the environment.

Another initiative involves the testing of a hydrological ensemble prediction (HEP) system within the Great Lakes Basin.

**Commitment 3.2.4:** Catalyze deployment of new technological innovations to reduce pollutants and emissions impacting air, water and climate change, through the Network for Environmental Technology Innovation, the technology node of the Canadian Environment Sciences Network.

**Progress to date**

**February 2004 - March 2005:**

Six regionally-tailored Network for Environmental Technology Innovation (NETI) workshops were delivered across Canada (Montreal, Toronto, Moncton, Vancouver, Calgary & Edmonton), in partnership with EC regional offices,

regional development agencies, associations and the provinces. Presentations & networking venues provided opportunity to over 460 participants to learn more about available funding from federal programs and to develop partnerships.

Attendance at the 2004-05 workshops was 31% higher as compared with the 2003-04 workshops (460 vs 350 participants). Follow-up feedback on the workshops received from participants (entrepreneurs, developers, researchers) was positive overall. Participants noted the usefulness of shared intelligence towards securing funding for technology R&D, demonstration & deployment and appreciated the forum for networking and forming of partnerships. They also expressed a strong interest in attending these and other sector-specific workshops in the future. Recommendations called for separate sessions for the private sector & NGOs; more case studies; more region-specific presentations; advance communication of key audience & topics; scheduling after Budget announcements; & selection of more strategic speakers.

All of the above will be taken into account in the organization of similar workshops next fiscal year.

**April 2005 – March 2006:**

Three regionally-tailored NETI workshops were delivered across Canada (Halifax, Ottawa, Vancouver) in partnership with regional development agencies, associations and the provinces. Presentations and networking venues provided over 250 participants with the opportunity to learn more about available funding from federal programs and to develop partnerships. Participants noted the usefulness of shared intelligence for securing funding for technology research, development, demonstration and deployment and appreciated the forum for networking and forming partnerships.

**Commitment 3.2.5:** Develop and implement the Compliance and Analysis Planning (CAP) Database to provide information on compliance with regulations and other enforceable instruments, such as pollution prevention plans and environmental emergency plans.

**Progress to date**

**February 2004 - March 2005:**

The CAP data warehouse integrates information on organizations and facilities subject to enforceable instruments administered by Environment Canada. In 2004-05 a proof of concept involving data associated with regulatees from 3 pulp and paper regulations were integrated and made available on Web-based geographic mapping software. This system allows the geographical presentation of compliance promotion and enforcement information, including compliance rates. A regionally representative user committee continuously reviewed and provided input into the development of this tool. Further, the committee gave ongoing comment on the development of an associated tool that determines a

target factor score for each facility/ regulation to aid in prioritizing facilities for inspections and compliance promotion. This tool will be operational for beta-testing in 2005-06.

A process for accessing and integrating data from various independent and incompatible (non-interoperable) databases was further refined in 2004-05. The process facilitates access to data for compliance-related analysis and planning.

In 2005-2006 the data integration process described above will be further refined and the following regulations will be added to the CAP data warehouse: Environmental Emergencies, Metal Mining Effluent Regulations, National Pollutant Release Inventory, Tetrachlorethylene (dry cleaning fluid), and New Substances Notification.

**April 2005 – March 2006:**

Work on the data warehouse proof of concept has continued in the past year. The internal infrastructure for the data warehouse has been refined to transform non-interoperable data into interoperable data. Effort has been made to test and improve the quality of consequent interoperable data and their underlying processes. The data warehouse had available address data for facilities subject to the nine regulations listed in the 2004–2005 progress-to-date report. The additional six regulations transformed for the data warehouse brought the number of facilities in the system from 250 to 28 000. The automatic refreshing of extant data in the system began with the implementation of daily updates of enforcement inspection data, representing some 150 new inspection records per week.

Beyond the Web geographical mapping tool developed in 2004–2005, work began on a portal that will provide tables, graphs, maps and analyses of interest to internal clients from the data warehouse. In 2006–2007, plans are to continue to improve the data transformation process, improve data quality in the data warehouse, and implement refreshing procedures for compliance promotion activities data and tombstone data. Furthermore, data for another three regulations will be brought into the data warehouse. Data on all organizations in the system will be enhanced with data on their respective sector. This will make sector analysis of the regulated community possible by 2006–2007.

**Commitment 3.2.6:** Work with industry and provinces to develop a national stewardship program for end-of-life electronics waste.

**Progress to date**

**February 2004 - March 2005:**

Environment Canada chaired the Canadian Council of Ministers of the Environment Electronics Task Group, which resulted in a set of principles for

Extended Producer Responsibility and agreement on a list of products to be covered.

Environment Canada has partnered with Ontario and Alberta in their development of regulations for electronic product stewardship. Nova Scotia and Saskatchewan are also in the process of developing regulations.

**April 2005 – March 2006:**

Environment Canada continued to work with the provinces on the design and implementation of Extended Producer Responsibility (EPR) programs for electronics, and it chaired and hosted meetings of the National Steering Committee on Electronics Recycling as a vehicle to engage industry and provinces on e-waste issues, and encourage the proliferation of provincial e-waste collection programs. Currently, EPR regulations are either implemented or pending in British Columbia, Alberta, Saskatchewan, Manitoba, Quebec, Nova Scotia and New Brunswick. Program implementation should unroll over the coming years.

Environment Canada also worked collaboratively through the Canadian Council of Ministers of the Environment (CCME) to develop a broader task group on Extended Producer Responsibility (EPR), which developed Canada-wide principles for EPR and guidelines on when and for which products to best use EPR. The Task Group has initiated a study of the impact of “free riders” on the effectiveness of EPR approaches.

**Commitment 3.2.7:** Influence land-use decisions and practices around migratory bird habitats by engaging representatives from industry through the North American Bird Conservation Initiative (NABCI).

**Progress to date**

**February 2004 - March 2005:**

As of July 2005, important progress has been made in developing partnerships with the shipping industry around the exposure of migratory birds to marine pollutants through amendments to the Migratory Bird Convention Act. Through these amendments, additional conservation tools are available through regulations developed to address conservation issues in forestry and mining sectors. Ongoing participation of forestry, mining, agriculture and energy sectors on the Canadian Council for the North American Bird Conservation Initiative will enhance future collaboration for conservation.

**April 2005 – March 2006:**

Conservation partnerships have been identified in most of Canada's twelve Bird Conservation Regions and key industries have been identified in all Canadian Bird Conservation Regions. The partnership efforts in relation to planning and

implementation of conservation actions for birds in these regions are prioritized according to each region's relative importance for priority bird species.

Industrial sectors participating in NABCI have a greater recognition of bird conservation needs in planning efforts, due in large part to their engagement in the process to consider amendments to the regulatory framework under the *Migratory Bird Convention Act, 1994* to better address the incidental take of birds.

Participation of forestry, mining, agriculture and energy sectors in the NABCI Canada Council continues to enhance the productivity and the environmental performance of Canadian industry. A specific effort to consider amendments to the regulatory framework under the *Migratory Bird Convention Act, 1994* to better address the incidental take of birds is likely to greatly contribute to this objective.

***Intermediate-term Outcome 3.3: Environment Canada's partnerships with other government departments and other levels of government support implementation of the department's environmental agenda and build toward a coordinated sustainable development agenda for Canada.***

**Commitment 3.3.1:** Lead in the development of a government-wide sustainable development agenda.

**Progress to date**

**February 2004 - March 2005:**

EC launched, consulted on, and received general endorsement of the Competitiveness and Environmental Sustainability Framework (CESF) as the key mechanism for elaboration of the government's environment and sustainable development policy agenda. In that process, EC established a dialogue with the Commissioner of the Environment and Sustainable Development, central agencies and other federal departments on re-invigorating the federal approach to sustainable development.

The CESF has put the environment prominently on the government agenda. The 2004 Speech from the Throne, the creation of the Ad Hoc Committee of Cabinet on Sustainability and the Environment, the 2005 Budget, and the release of the Climate Change Plan have all signalled to other stakeholders the Government of Canada's commitment to aligning environmental and economic policies and actions for the benefit of all Canadians.

**April 2005 – March 2006:**

Environment Canada led a federal collaborative process to develop a government-wide approach to the fourth round of departmental SDSs. This resulted in a guidance document entitled *Coordinating the Fourth Round of Departmental Sustainable Development Strategies*.

The guidance document outlines a set of federal sustainable development goals and a common format standard in order to enhance government-wide coherence and strengthen accountability across departmental SDSs. This approach will help drive government-wide performance on sustainable development and highlight for departments where goals and targets could be set. A roll-up of departmental SDS commitments under each goal will provide the foundation for a federal level report following the tabling of the fourth round of SDSs.

**Commitment 3.3.2:** Develop and implement, with provinces, territories and other federal departments, a collaborative agenda for implementing the Canadian Biodiversity Strategy on invasives, access-benefit sharing regarding genetic resources, biological information and stewardship.

### **Progress to date**

#### **February 2004 - March 2005:**

A draft Biodiversity Science Agenda, which contains a set of principles with respect to the management of biological information in Canada, was approved as a basis for priority setting.

Agreement was reached on a federal-provincial-territorial (FPT) information coordinating mechanism as a partnership between the Federal Biodiversity Information Partnership, NatureServe Canada, and the FPT Biodiversity Working Group that oversees implementation of the CBS, and created the Federal Biodiversity Information Partnership (six federal departments) to ensure a more coordinated federal approach to biodiversity science and information.

The initial results of proof of concept testing were finalized for the Canadian Biodiversity Index, and new web-based tools and partnerships were developed to provide one-window access to status and trends information on the state of Canada's biodiversity.

Agreement was obtained to develop, in conjunction with Canadian jurisdictions and federal government departments, an outcomes-based implementation framework for future reporting on the CBS, and to seek FPT Ministerial approval in October 2005 to complete the framework by fall 2006.

FPT Ministerial approval was obtained to establish FPT Working Group on Access and Benefit Sharing of Genetic Resources (ABS) and to draft a national ABS policy scoping paper and stakeholder engagement strategy.

#### **April 2005 – March 2006:**

A biodiversity outcomes framework, developed in partnership with provincial and territorial governments, has been developed for approval by the CCME. The outcomes framework is a means for improved governance, strategic

management of Canada's biodiversity agenda, more systematic monitoring and reporting of biodiversity status and trends and more effective engagement of Canadians in conservation planning, implementation and reporting.

A methodology for a Canadian Biodiversity Index has been advanced, along with other indicators, to help assess Canada's progress towards meeting the 2010 global target to reduce the rate of biodiversity loss.

The Invasive Alien Species Partnership Program was established in Budget 2005 through the investment of \$85 million over five years for activities to address aquatic invasive species and invasive alien plants and plant pests. This investment is being used to implement the Invasive Alien Species Strategy for Canada, including enhanced risk assessment and import controls, strengthened national surveillance efforts for early detection, and increased public awareness about harmful practices that introduce invasive alien species into Canada.

As part of this initiative, Environment Canada is managing a \$1 million annual funding program that enables stakeholders (including non-government organizations, Aboriginal organizations, education institutions, community groups, landowners, the private sector (industry), and provincial, territorial, and municipal governments) to become actively involved in projects that prevent, detect, and manage invasive alien species and their pathways of invasion. In 2005–2006, 58 projects totaling \$2 million were recommended for funding by the Technical Committee.

The FPT Working Group on Access and Benefit Sharing of Genetic Resources (ABS) prepared a National ABS Policy Scoping Paper and stakeholder engagement strategy. A number of sectoral workshops have been held and FPT work on the principles and elements of ABS policy are under detailed discussion.

In its role to help coordinate the federal approach to biodiversity science and information, the Federal Biodiversity Information Partnership (FBIP) has initiated the development of a five-year strategic plan aimed at providing critical biodiversity knowledge needed for sustainable development policies and programs. This federal leadership is also expected to contribute to biodiversity monitoring and reporting in support of the Canadian Biodiversity Strategy.

**Commitment 3.3.3:** Develop recovery strategies for species at risk, in collaboration with the provinces, territories, other federal government departments, Aboriginal peoples, wildlife management boards, industry and non-governmental organizations, for inclusion in the public registry under the Species at Risk Act.

### **Progress to date**

#### **February 2004 - March 2005:**

As of July 2005, no recovery strategies have been published on the SARA public registry (none were due). A total of 134 are due in 2006 (16 in January, 118 in June/July; all are for endangered species), of which EC-CWS is responsible for about 75%. Of the 134, 5 are near final and 119 are in development. A total of 104 strategies for Threatened and Extirpated species are due in 2007; of these, 3 are near final and 74 are in development.

A coordinated national program is in place with the provinces and territories, other federal departments, recovery teams and other partners, and is operating smoothly. However, developing the processes for meeting the recovery planning requirements of SARA, working with partners to achieve a planning document that everyone supports, and achieving approvals of the final document is taking longer than anticipated, and capacity to manage the workload is limited.

#### **April 2005 – March 2006:**

As of March 2006, five strategies covering 17 species were published on the SARA Public Registry. During this reporting period, additional strategies that were due in January 2006 were being finalized. Progress was made on strategies due in June and July 2006.

**Commitment 3.3.4:** Develop materials and provide expertise in support of the delivery of the First Nations Water Management Strategy in partnership with Indian and Northern Affairs Canada and Health Canada (FNWMS).

### **Progress to date**

#### **February 2004 - March 2005:**

In 2004/05, a significant achievement for EC was in formalizing, with INAC, the department's contribution to the FNWMS. A proposal was developed that describes EC's contribution and budget needs for the strategy, and was approved by the Deputy Minister in December 2004. Following this, EC and INAC signed a *Memorandum of Understanding for the Implementation of the FNWMS*. EC's contribution included: participation in First Nations infrastructure reviews; work aimed at developing a Canada-wide Strategy under the CCME; a regulation under the Fisheries Act to define requirements for treatment of wastewater effluent; and, the completion of a scoping exercise to develop a water use audit manual on relevant information regarding First Nations and Source Water Protection planning. EC also provided expertise and advice on FNWMS guidance and framework documents including: the re-evaluation risk levels of water and wastewater facilities; an action framework for the development of water and wastewater standards and protocols; contributions to the coordination and implementation of the strategy through the INAC/HC/EC technical working groups; and a FNWMS awareness campaign.

**April 2005 – March 2006:**

At the request of Indian and Northern Affairs Canada (INAC), Environment Canada continued to provide information on federal requirements that apply to the release of wastewater effluents, Environment Canada has also been engaged in the environmental reviews of infrastructure projects, and participated in ongoing coordination mechanisms such as regional water teams and the Strategic Water Management on Reserve Committee. Under a separate but related process, Environment Canada shared information and engaged in dialogue with First Nations leaders and organizations on Environment Canada's regulatory development activities related to wastewater effluents.

The year 2005–2006 was the first full year of implementation of Environment Canada's Source Water Protection (SWP) and Sustainable Water Use activities. This included the development of user-specific technical and guidance materials in source water protection and sustainable water use as well as studies and site-specific projects with First Nations communities. The guidance materials, which included a SWP plan protocol and technical manuals on how to conduct a source water assessment and develop a SWP plan, and a community-level water use audit manual will be field tested and used in the development of model source water protection plan pilots in at least five First Nation communities by 2008.

**Commitment 3.3.5:** Support the development of a domestic mandatory greenhouse gas (GHG) reporting system in cooperation with federal, provincial, territorial and other partners to meet domestic reporting needs in a comprehensive manner.

**Progress to date****February 2004 - March 2005:**

Phase 1 of mandatory GHG reporting by facilities was implemented with the launch of the one-window GHG reporting system to collect data on 2004 GHG emissions from large emitters. The ultimate objectives of this system are to provide additional detail in the National GHG Inventory, support compliance assessment with LFE regulations, provide the public with facility level data and support provincial/territorial information needs. This facility-level reporting and the National GHG Inventory (produced annually as part of the National System) are key components to support the domestic and international GHG monitoring, accounting and reporting requirements in a comprehensive manner.

**April 2005 – March 2006:**

The Greenhouse Gas (GHG) Division continued to meet the departmental objectives related to monitoring, reporting and accounting for GHG. Environment Canada, on behalf of the Government of Canada, continued to fulfill Canada's reporting obligations under the United Nations Framework Convention on Climate Change (UNFCCC), through its submission of the National GHG Inventory in May 2006. The *National Inventory Report - Greenhouse Gas*

*Sources and Sinks in Canada, 1990-2004*, containing data and trends analysis for the period 1990-2004, prepared by Environment Canada, in consultation with stakeholders, the provinces and colleagues in the Canadian Forest Service and Agriculture and Agri-Food Canada serves as a key report documenting Canada's progress in tracking GHG. The Division continued to provide support to the IPCC in their work on methodologies, primarily the development and adoption of the 2006 Inventory Guidelines, and to the UNFCCC in finalizing reporting and review guidelines at CoP 11 and in conducting expert technical reviews.

The Division also continued to collect data from facilities that emitted 100 000 tonnes of carbon dioxide equivalent (100 kt CO<sub>2</sub> eq.) or more of GHG. The objectives of the program continue to be to provide additional detail to the National GHG Inventory, provide the public with facility level data, and support provincial/territorial information needs. The major milestones over the past year are: publishing of the *Canada Gazette* Notice for 2006 data, publishing of 2004 data, collection of 2005 reports from facilities, assessment of confidentiality requests from 2004 and 2005, and continued collaboration to define future reporting requirements, including work on quantification and verification. Compliance and promotional activities for this program included mail-outs notifying reporters of changes to the reporting requirements, publishing and distributing a technical guidance manual, and providing 12 information sessions across Canada.

Also, GHGs were added to Schedule 1 of CEPA 1999 in November 2005.

**Commitment 3.3.6:** Jointly design and implement, with Natural Resources Canada, an Opportunities Envelope to assist the provinces and territories in reducing GHG emissions.

### **Progress to date**

#### **February 2004 - March 2005:**

The Opportunities Envelope (OE), jointly managed by EC and NRCAN, is engaging provincial/territorial action in support of meeting Canada's Kyoto targets. Through the OE, federal funds are being used as leverage to encourage provinces and territories to partner with the federal government on joint initiatives as well as to take action in areas under their jurisdiction. These cost-shared initiatives will contribute to measurable greenhouse gas (GHG) reductions in the first Kyoto commitment period. As a result of two rounds of funding the OE is supporting 29 federal-provincial-territorial GHG reduction projects/programs, totalling approximately \$60 million. It is anticipated that these OE initiatives will realize GHG reductions of approximately 2 megatonnes per year during the Kyoto commitment period. As outlined in Budget 2005, the OE is being subsumed by the Partnership Fund.

#### **April 2005 – March 2006:**

Work for this commitment is ongoing, and Environment Canada has continued to provide NRCAN with scientific expertise and information.

**Commitment 3.3.7:** Work in partnership with federal and provincial governments, academia and the private sector to make regional scale climate change scenario tools available for decision making.

**Progress to date**

**February 2004 - March 2005:**

With many partners, Environment Canada engaged several groups of decision makers in 2005 and helped them understand the risks and opportunities of a variable and changing climate. For example, in partnership with emergency management professionals in Ontario and others, the department provided Ontario municipalities with science and advice to help them reduce the risks to their communities and businesses. From a safety and security perspective, the department also engaged the Canada Council of Professional Engineers (CCPE). The CCPE wants to ensure that Canada's infrastructure keeps Canadians safe during hazardous environmental events and allows emergency measures personnel to do their jobs. Using Program of Energy Research and Development (PERD) funding, Environment Canada engaged the energy sector and, with several partners, enabled water management decision makers in British Columbia to understand their vulnerabilities in a variable and changing climate.

Additionally, Environment Canada built new international links to China (including wind energy development tools) and the Caribbean and maintained strong links with its partners in Canada, the United States, Europe and Asia.

**April 2005 – March 2006:**

The partnership agreement with the Ouranos Consortium will remain in effect until March 2009. The increasing demands from economic sectors, communities and provinces for regional scale climate change scenarios and tools are reflected in the tremendous increase in requests/information downloads from the Ouranos and Climate Change Scenarios Network (CCSN) websites. In 2006–2007, additional staffing of research scientists will build capacity to develop higher resolution climate change scenarios and generate new knowledge for effective decision making.

**Commitment 3.3.8:** Develop an innovative approach to achieve reduction in pollutant emissions from petroleum refineries, under the Canadian Council of Ministers of the Environment.

**Progress to date**

**February 2004 - March 2005:**

The commitment has been achieved. The CCME National Framework for Petroleum Refinery Emission Reductions was approved by CCME's Deputy Minister's Committee and released to the public on May 25, 2005. It is expected that the Refinery Framework will help achieve substantial emissions reductions of

at least 50 per cent at some refineries for some pollutants. Jurisdictions that currently regulate air emissions from refineries are expected to use a mix of regulatory or other measures to establish annual facility-wide emissions caps or other measures to manage the air emissions from petroleum refineries.

**April 2005 – March 2006:**

This commitment was achieved in 2004–2005, and there is nothing further to report for this period.

**THEME IV: MANAGING FOR SUSTAINABLE DEVELOPMENT**

**Long-term Outcome 4: Federal operations are managed sustainably and transparently and Environment Canada is a model for others inside and outside government.**

***Intermediate-term Outcome 4.1: Environment Canada employees and managers understand sustainable development and incorporate its principles into their day-to-day decisions. These are further reinforced through the integration of the environmental management system into Environment Canada's operations and management framework.***

**Commitment 4.1.1:** Use common performance measures developed under the Sustainable Federal House in Order (SFHIO) initiative to report on departmental performance.

**Progress to date**

**February 2004 - March 2005:**

In order to reinforce EC's commitment to integrating environmental management within its operations, the department has begun using SFHIO common performance measures for environmental aspects for which data is currently collected. It is expected that as the organization becomes more consolidated, the collection of such information for other environmental aspects will be accomplished.

**April 2005 – March 2006:**

The Government of Canada will be moving to new indicators under the Greening Government Operations Initiative. Environment Canada is helping to develop these indicators and will use them.

**Commitment 4.1.2:** Initiate the development and implementation of shared Environmental Management Systems in leased facilities.

**Progress to date**

**February 2004 - March 2005:**

In 2004/2005, EC and PWGSC began the initial stages of developing EMSs for leased facilities. The implementation of an EMS at EC leased facilities will highlight to employees their environmental roles and responsibilities, thereby reinforcing the department's commitment to environmental management.

**April 2005 – March 2006:**

Initial progress had been made in developing and implementing a shared Environmental Management System in Environment Canada's leased facilities in 2004–2005. Shifting priorities in both EC and PWGSC have resulted in very little further progress since then. With the strengthening of the Greening Government Operations Initiative at PWGSC, it is anticipated that both departments will advance this file in the coming year.

**Commitment 4.1.3:** Implement an environmentally responsible fleet management policy.

**Progress to date**

**February 2004 - March 2005:**

With a renewed commitment to its fleet, EC has prepared a Business Case for Fleet Leadership and a draft Green Fleet Management Policy that addresses such topics as vehicle sizing, proper operation and maintenance, authorized purchasing and fuel efficiency standards. The department has also undertaken a number of positive actions, including the installation of anti-idling devices in departmental vehicles and the increased purchase of hybrid vehicles.

**April 2005 – March 2006:**

Environment Canada has developed a business case for leadership in fleet management which has led to the revision of the Department's green fleet policy, and which is being implemented. Clearer accountabilities, more aggressive targets and a more focussed approach to vehicle management are among the highlights of the new policy, expected to receive final approval early in the 2006–2007 fiscal year. The Department is increasing its purchases of hybrid vehicles, reducing the size of many vehicles purchased, increasing education on ethanol-blended fuel (E10) purchasing, making use of anti-idling devices and taking advantage of funding initiatives provided through the Federal Vehicles Initiative.

**Commitment 4.1.4:** Implement a GHG emissions reduction action plan, including a “carbon footprint” that would exceed departmental targets, and provide leadership to others on reducing GHG emissions.

**Progress to date**

**February 2004 - March 2005:**

Environment Canada has prepared a Greenhouse Gas Emissions Reduction Plan for its operations and is currently on track for meeting its share of the Federal House in Order Target of reducing greenhouse gas emissions by 31% from 1990 to 2010. To date, the Federal Government has achieved an overall reduction of 24%.

**April 2005 – March 2006:**

A GHG Emissions Reduction Action Plan for Environment Canada operations has been prepared and is being implemented. This plan covers the reduction of GHG emissions from buildings, vehicle fleets and outside emissions (i.e. employee commuting and business travel). Environment Canada is on track to meet its share of the Federal House in Order GHG reduction target of reducing GHG emissions by 31% from 1990 to 2010. To date, the Government of Canada has achieved an overall reduction of 26.3%.

**Commitment 4.1.5:** Implement departmental procurement practices that support sustainable development objectives.

**Progress to date**

**February 2004 - March 2005:**

The department's Green Procurement Policy was updated to reflect the then draft federal policy in 2003. As the federal green procurement policy has not yet been approved and given recent changes to how the government procures goods and services as outlined in PWGSC's The Way Forward, our internal policy will need further revision. Government-wide objectives, targets and performance measures will be part of the federal policy and guidelines. In the interim, the department has developed a draft IM/IT Assets Management and Greening Policy that looks at the full life-cycle of these assets. The department has also successfully negotiated a green printing / publishing contract that ensures that environmental criteria and life cycle costing are considered. Work is also underway to develop an approach within the department that would position EC as a green procurement leader.

**April 2005 – March 2006:**

With respect to the departmental procurement practices commitment, Environment Canada did not proceed with issuing a revised departmental Green Procurement Policy due to the imminent approval of a federal policy. The federal Policy on Green Procurement came into effect April 1, 2006.

In addition, there are significant changes under way by PWGSC on government-wide procurement processes. Environment Canada has been involved, as one of five pilot departments, working with PWGSC on a departmental procurement strategy which will result in identifying substantial savings opportunities as well as integrating environmental considerations into decision making. The strategy and continued work on green procurement are being undertaken in the coming fiscal year.

***Intermediate-term Outcome 4.2: Environmental performance in federal operations has demonstrably improved.***

**Commitment 4.2.1:** Coordinate the Assistant Deputy Minister Sustainable Federal House in Order Steering Committee.

**Progress to date**

**February 2004 - March 2005:**

There have been significant developments over the past year with respect to leadership of greening government operations. Notably, the Minister of Public Works and Government Services (PWGSC) was tasked with making rapid progress on greening government with the support of the Minister of Environment and the President of the Treasury Board. PWGSC is also creating an office to act as a centre of advice and guidance for the federal community regarding greening operations. A streamlining/revision of the existing governance structure for Sustainable Federal House in Order (SFHIO) will be undertaken. The SFHIO ADM Steering Committee met several times to discuss overall governance and direction on this issue as well as the need to develop a comprehensive government-wide strategy. Work will continue on the development of the strategy through the office being set up at PWGSC.

**April 2005 – March 2006:**

Responsibility for the coordination of meetings of the governance structure for SFHIO has been transferred to the Office of Greening Government Operations (OGGO) at PWGSC.

**Commitment 4.2.2:** Promote the Leadership Challenge, an initiative that encourages voluntary action to reduce GHG emissions, to increase our reach to federal employees in other departments, agencies and Crown Corporations.

**Progress to date**

**February 2004 - March 2005:**

We have been continuing to encourage the implementation of greenhouse gas emissions reduction strategies within the Canada Post Corporation and the Canada Revenue Agency, the two federal entities that had previously signed on

to the Leadership Challenge. The signing up of other federal entities has been suspended, while we concentrate on promoting the One-Tonne Challenge and initiatives to reduce emissions from employee commuting and business travel throughout the Government of Canada.

The creation of a central website on Environment Canada's Green Lane has been delayed due to the forthcoming change in leadership on greening government operations. As well, the work currently underway on 'one department, one website' has placed a moratorium on the development of new web pages. EC continues to maintain two sites related to greening government (Federal House in Order, which deals specifically with GHG emissions from buildings, vehicle fleets and outside emissions; and Greening Government which looks at other operational areas).

**April 2005 – March 2006:**

Environment Canada has been continuing to show leadership to other government departments on the reduction of GHG emissions. Federal initiatives on which Environment Canada has been the lead include the implementation of green meeting strategies, the reduction of emissions from vehicle fleets and assisting departments with the implementation of projects to reduce emissions from employee commuting and business travel. The Department is also developing a GHG and other air emissions toolkit to enable departments to develop their own plans.