

Progress in Pollution Prevention 1996 - 1997
Annual Report of the Pollution Prevention Coordinating Committee

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Enquiry Centre
Environment Canada
Ottawa, Ontario K1A 0H3
Telephone: 1-800-668-6767
Fax: 819-953-2225
E-mail: enviroinfo@ec.gc.ca

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MESSAGE FROM THE MINISTER OF THE ENVIRONMENT

Preventing pollution from entering our air, soil and water is this government's priority approach to environmental protection.

In the past, we have treated the symptoms of pollution. I believe that it is more effective to focus attention on its causes – to prevent pollution before it is created. Therefore it is crucial that all levels of government, industry, non-governmental organizations and individuals Canadians work together to ensure that we continue to enjoy clean air and water.

The second annual report *Progress in Pollution Prevention 1997* illustrates environmental results. It shows that the federal government is delivering on an important environmental strategy, and that significant progress has been achieved across Canada.

The report demonstrates that the federal government translates policy into action. The environmental and economic benefits derived from pollution prevention initiatives are already being realized. These benefits will continue to accrue as these principles are incorporated into the renewed *Canadian Environmental Protection Act*.

In addition to recording Environment Canada's own pollution prevention efforts, this report also outlines a variety of actions by other federal departments. In these pages, the Pollution Prevention Coordinating Committee, which oversees the implementation of the federal Pollution Prevention Strategy, reports on

- ongoing pollution prevention initiatives across the country
- accomplishments and successes of pollution prevention initiatives

Pollution prevention is key to protecting the health of Canadians. The report *Progress in Pollution Prevention 1996-1997* will encourage new partnerships, help us to learn by example, and guide us in achieving our goal of a healthy and clean environment.

The Honourable Christine S. Stewart

EXECUTIVE SUMMARY

By avoiding the creation of pollutants and waste, pollution prevention works towards achieving sustainable development.

The Government of Canada's commitment to pollution prevention is embodied in *Pollution Prevention – A Federal Strategy for Action*. The action plan outlined in the strategy provides a framework to advance and implement pollution prevention with all Canadians, within the federal government, with partners in other governments and the private sector, and with the international community. By directing efforts to avoid the creation of pollutants and waste, rather than managing them after they have been created, the strategy works towards the ultimate environmental objective of sustainable development.

This second annual report highlights projects that are representative of the Government of Canada's progress in pollution prevention for the fiscal year ending March 31, 1997. It was prepared by the Pollution Prevention Coordinating Committee, which to date includes representatives from Environment Canada, Industry Canada, the Department of National Defence and the Canadian Centre for Pollution Prevention.

The 1996-97 progress report confirms that pollution prevention has momentum, and that Canada is working toward becoming a sustainable society. Federal departments (both regional offices and national offices) are taking initiatives alone and in collaboration with such partners as the Canadian Centre for Pollution Prevention, with encouraging results.

KEY ACCOMPLISHMENTS

In collaboration with many sectors of society, pollution prevention is being achieved through:

- policies and legislation
- guidelines and regulations
- codes and standards
- management systems
- voluntary programs
- reporting mechanisms
- information and training
- technology, research and pilot projects

The renewal of the *Canadian Environmental Protection Act* is well under way. Once enacted, the legislation will enshrine pollution prevention as the preferred approach to environmental protection in Canada, and make it a national goal. The Act will grant the authority to require pollution prevention plans for toxic substances.

Canada's first Commissioner of the Environment and Sustainable Development was appointed on July 2, 1996. The Commissioner will help focus the Government of Canada's sustainable development efforts. This will strengthen our capacity to reduce emissions of toxic substances and greenhouse gases, and to provide clean air and water for Canadians.

Pacific and Yukon Region

In conjunction with partners such as British Columbia's Ministry of Environment, Industry Canada and industrial associations, Environment Canada's Pacific and Yukon Region promoted pollution prevention through energy and water consumption reduction, and clean technologies.

For example, the Region helped fund an award-winning environmental technology at a printing plant, and published several pollution prevention guidelines for sectors at risk of releasing pollutants into Burrard Inlet and the Fraser River basin.

Prairie and Northern Region

The Prairie and Northern Region worked in partnership with northern communities and other government departments to train employees in pollution prevention activities. The Region was instrumental in introducing pollution prevention into the Saskatchewan Project WET (Water Education for Teachers).



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The Prairie and Northern Region was a partner in the Winnipeg Building Material Recycling Workshop, developed and delivered the first pollution prevention training course to First Nations communities.

Ontario Region

Central Canada is a focal point for industrial pollution-prevention activity within the Great Lakes watershed, including such ecologically sensitive areas as Emery and Westminster creeks. Environment Canada, in cooperation with the Ontario Ministry of Environment, established memoranda of understanding and other agreements with several industry sectors.

Codes of practice and guidebooks have been developed for several other sectors, and federal pollution prevention demonstration sites are being used to illustrate innovative approaches to implementing pollution prevention.

Quebec Region

The St. Lawrence River system borders Quebec's industrial centre. As a result, the river habitat has become polluted. The Quebec Region worked with partners on pollution prevention technology development initiatives such as development of information management tools, establishment of a memorandum of understanding with the dry cleaning industry, and coordination of several greening of government initiatives.

Atlantic Region

Last year brought a wide range of environmental issues to the pollution prevention agenda in the Atlantic Region. Building on the Atlantic Coastal Action Plan, the Region is fostering an innovative, community-based approach to help stakeholders create workable solutions in communities and the private sector.

Joint Fisheries and Oceans/Environment Canada initiatives contributed to reducing oil discharges by the shipping and fishery sectors. The Department of National Defence advanced pollution prevention through its Green Base initiatives, which focus on sustainable operations and pollution prevention projects.

By recording such progress on a regular basis, this report serves as a reference for all Canadians and the international community. By relating progress to the federal Pollution Prevention Strategy, this report provides policy makers with a tool for performance review and building improvements into future decision making and planning. **PP**

BUILDING A FRAMEWORK FOR POLLUTION PREVENTION

Pollution crosses community, provincial and national boundaries. Airborne, it can circle the globe and affect countries many miles away.

As the impact of environmental interconnection is increasingly realized, governments, and non-governmental and business organizations are working together to prevent pollution before it starts. Environmental initiatives, ranging from international (such as the Montreal Protocol) to local (such as Action 21 projects), are changing the way we deal with pollution.

The benefits of pollution prevention are apparent when we reflect on environmental challenges such as climate change, stratospheric ozone depletion, habitat degradation and the accumulation of toxic substances.

Environmental policy and guidelines reflect this shift in approach. For example, the

Government of Canada's *Toxic Substances Management Policy* promotes a preventive and precautionary approach to dealing with substances that could harm human health or the environment.

Pollution Prevention – A Federal Strategy for Action sets out the Government of Canada's framework for advancing pollution prevention.

The Canadian Council of Ministers of the Environment pollution prevention strategy – *A Strategy to Fulfill the National Commitment to Pollution Prevention* – reinforces the federal framework. The strategy outlines the Council's vision, as well as national goals for pollution prevention in Canada.

The renewal of the *Canadian Environmental Protection Act*, which incorporates pollution prevention as its guiding principle, will enshrine pollution prevention as the priority approach for environmental protection in Canada.

The federal Pollution Prevention Strategy was approved by Cabinet and is highlighted in *Securing Our Future Together: Preparing Canada for the 21st Century*. It commits to:

“expand the application of the Pollution Prevention Strategy across federal legislation, programs and policies.”

The Pollution Prevention Strategy aims to achieve the following results:

- Institutionalize pollution prevention across all federal government activities
- Foster a national pollution prevention effort
- Achieve a climate in which pollution prevention is a major consideration in industrial activities
- Provide access to the information and tools necessary to implement pollution prevention practices
- Participate in international pollution prevention initiatives

Pollution Prevention

To work effectively towards the common goal of pollution prevention, it is essential to have some understanding of pollution prevention. The Government of Canada defines pollution prevention as:

“the use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and waste, and reduce overall risk to human health or the environment.”



Pollution prevention techniques and practices focus on:



- Substances of concern
- Materials and feedstock substitution
- Increased operating efficiencies
- On-site re-use and recycling
- Training
- Purchasing techniques
- Product design
- Process changes
- Product reformulation
- Equipment modifications
- Clean production
- Conservation

The Pollution Prevention Coordinating Committee

The Government of Canada's commitment to pollution prevention is reflected in the establishment of the Pollution Prevention Coordinating Committee, which was formed in 1992.

The Committee promotes the use, adoption and evaluation of pollution prevention in Canada. It encourages and facilitates the exchange of pollution prevention information and ideas among stakeholders. Committee membership (listed in Appendix 2) currently includes Environment Canada's regions and headquarters, Industry Canada, National Defence and the Canadian Centre for Pollution Prevention. Environment Canada's National Office of Pollution Prevention chairs the committee and provides secretariat support.

Through monthly teleconferences, members of the Pollution Prevention Coordinating

Committee share successes, seek support and provide solutions. The committee meets annually and published its first Pollution Prevention Progress Report in 1996.

Putting policy into practice

Canada's strategy for pollution prevention is a community-based approach combining voluntary and mandatory approaches. It recognizes that each geographic and economic community includes many constituents. These include not only the stakeholders and their organizations, but also the habitat, flora and fauna at risk, all of which must be included in the problem-solving equation.

Although the Government of Canada takes leadership in promoting pollution prevention, organizations at all levels – from local residents to multi-national corporations – are encouraged to take responsibility for their actions and for preventing pollution.



The members of the Pollution Prevention Coordinating Committee met at the Pollution Prevention Roundtable in Halifax, May 1997 (Canadian Forces Base Halifax).

Pollution prevention techniques and practices are as unique as the various businesses or individuals that carry them out. They may include:

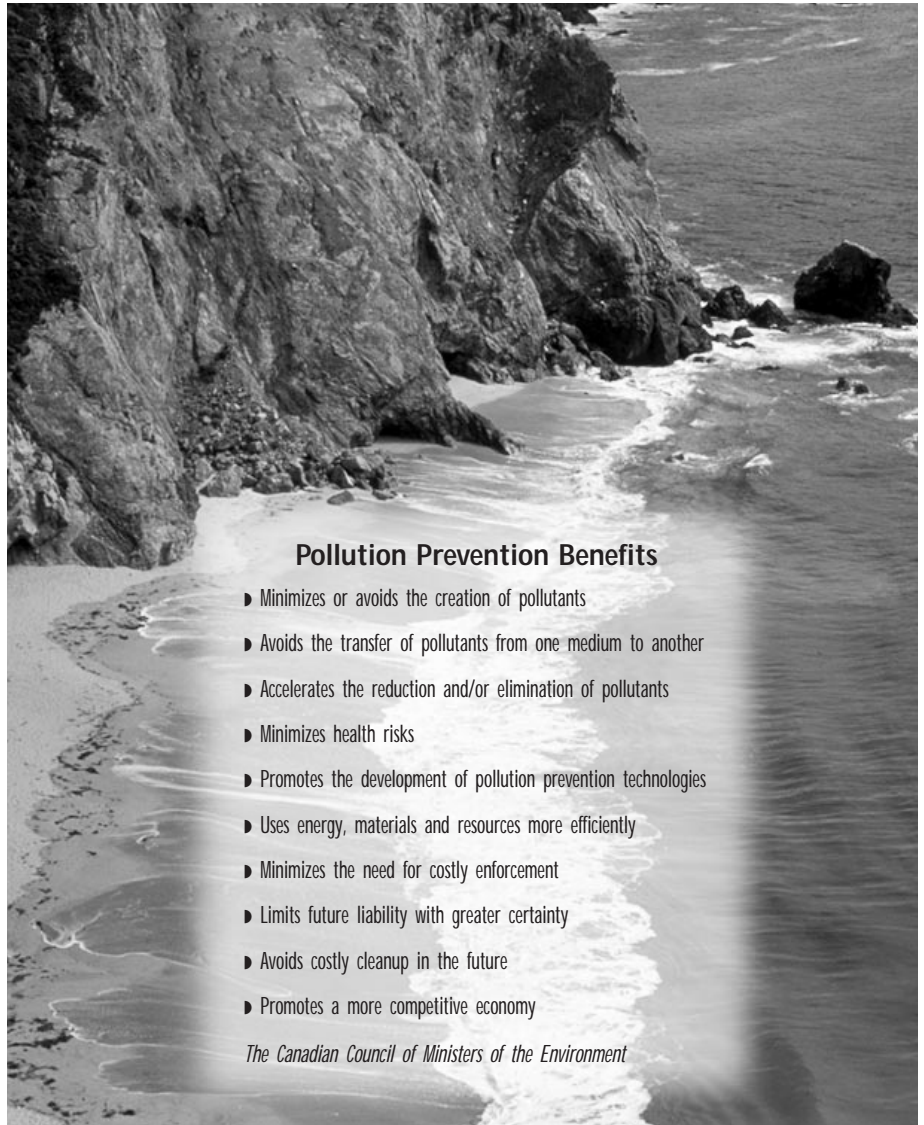
- efforts to eliminate or reduce the use of hazardous and non-hazardous materials, energy, water or other resources
- measures to protect human health and natural resources through conservation or improved efficiencies

Pollution prevention benefits

Pollution prevention encourages a comprehensive, planned approach to the management of industrial and other impacts on the environment. Not only does pollution prevention result in integrated decisions affecting land, air and water, but it also enhances community and employee health, improves worker safety, and contributes to corporate image and community relations.

Shifting the emphasis from clean-up to prevention often reduces costs of waste treatment, recovery and disposal. Increasing manufacturing efficiency to prevent pollution often reduces the use of raw materials, which decreases pressures on the environment and on our stock of renewable and non-renewable resources. Marketing the technologies developed to meet pollution prevention goals can also be a lucrative spin-off.

Eliminating or reducing discharges of pollutants has obvious environmental and human health benefits. For example, preventing



Pollution Prevention Benefits

- ▶ Minimizes or avoids the creation of pollutants
- ▶ Avoids the transfer of pollutants from one medium to another
- ▶ Accelerates the reduction and/or elimination of pollutants
- ▶ Minimizes health risks
- ▶ Promotes the development of pollution prevention technologies
- ▶ Uses energy, materials and resources more efficiently
- ▶ Minimizes the need for costly enforcement
- ▶ Limits future liability with greater certainty
- ▶ Avoids costly cleanup in the future
- ▶ Promotes a more competitive economy

The Canadian Council of Ministers of the Environment

water pollution may also prevent transfer of persistent toxic substances to sediments in rivers, lakes and oceans.

Pollution prevention practices complement new environmental management systems, such as the International Organization for Standardization ISO 14000 series, which are being adopted internationally. Further, it

contributes to Canada's goal of achieving sustainable development. Sustainable development policies and practices recognize the interdependence not just of the global ecosystem but of each successive generation. PP



The Government of Canada's Toxic Substances Management Policy provides the basis for a preventive and precautionary approach to dealing with substances that could harm human health or the environment.

PROGRESS REPORT

The 1996-97 progress report confirms that pollution prevention has momentum, and that Canada is making progress on its goal of becoming a sustainable society.

Within the federal government – institutionalize pollution prevention across all federal government activities

The Canadian Environmental Protection Act (CEPA)

- The renewed *Canadian Environmental Protection Act* was tabled in the House of Commons in December 1996. Once passed, the renewed legislation will enshrine pollution prevention as the priority approach to environmental protection, and as a national goal. The renewed Act will enable the Minister of the Environment to require pollution prevention plans for certain toxic substances.

The National Pollutant Release Inventory

- Pollution prevention tracking provisions were incorporated into the National Pollutant Release Inventory following public consultations. Qualitative reporting on pollution prevention initiatives will begin with the 1997 reporting year.

Commissioner of the Environment and Sustainable Development

- The Commissioner of the Environment and Sustainable Development was appointed in July 1996. The *Auditor General Act* now requires federal departments and some agencies to prepare sustainable development strategies. On behalf of the Auditor General, the Commissioner will make an annual 'green' report to Parliament outlining progress under these strategies. He will also receive and report on petitions from the public concerning environmental and sustainable development issues.

Toxic Substances – The Strategic Options Process

- The Strategic Options Process is a multi-stakeholder consultation process designed to produce recommendations to the Ministers of Environment and Health for the management of CEPA toxic substances.

■ Multi-stakeholder recommendations for the prevention and control of tetrachloroethylene releases from the dry cleaning sector were accepted by the Minister of the Environment. Pollution prevention recommendations included:

- development of a regulation to phase out and replace old equipment with machines that release less solvent
- prescribing standards for newly installed equipment
- training operators and assessing the feasibility of a levy on tetrachloroethylene.

■ Multi-stakeholder recommendations for prevention and control of tetrachloroethylene and trichloroethylene releases in solvent degreasing operations were accepted by the Minister of the Environment. Pollution prevention recommendations included developing a regulation to reduce consumption of these solvents by 65 per cent by 2001.

■ The Minister of the Environment accepted stakeholder recommendations for preventing releases of benzidine and 3,3'-trichlorobenzidine, including restricting the use of benzidine to essential uses and developing an agreement for users of 3,3'-dichlorobenzidine to monitor the operation of the control device.



Wetlands act as buffer zones between natural and agricultural areas.

Environmental Management Systems

■ Environment Canada is implementing an environmental management system (EMS) for its operations based on ISO 14000 standards. A national EMS team was established to assess environmental risks and opportunities for pollution prevention, as well as to ensure compliance. EMS team working groups will establish environmental targets, develop performance indicators, write action plans, and measure and report on results for these targets.

■ Implementation of green policies for procurement, solid waste reduction and diversion, energy and water conservation, fleet management and fuel conversions are ongoing. All regions of Environment Canada are undertaking an environmental review to assess the performance of current operations and to identify opportunities for improvement. Pollution prevention is a major focus in these assessments.

■ Environment Canada also shared EMS knowledge with other government departments through workshops and seminars, by establishing working groups, and by providing valuable information and advice.



Demonstration sites provide practical means to illustrate the environmental and economic benefits of pollution prevention.

WITHIN THE FEDERAL GOVERNMENT

Waste Reduction

- Environment Canada's Greening Operations program won the Canadian Polystyrene Recycling Association's 1997 Recycling Award for Best Long-Standing Program. The department's innovative No Waste program achieved a 72 per cent diversion rate from landfill for total waste generated at its Ottawa and Hull offices.
- Environment Canada laboratories used fewer types and quantities of chemicals, and implemented other waste prevention measures. The labs patented and continue to use new, revenue-generating technologies to reduce chemicals and energy consumption.

Water and Energy Efficiency

- Environment Canada's No Waste program was piloted at the Airport Square Building in Vancouver. The pilot project features implementation of energy and water conservation measures, including British Columbia Hydro's PowerSmart Guidelines. In a Kelowna demonstration project, water used for landscaping was reduced by 90 per cent.
- Federal facilities saved more than \$275 000 annually through improved water and energy efficiency under the Federal Buildings Initiative program.

Green Procurement

- Environment Canada piloted a Green Hotel and Hospitality Project in the Atlantic Region and National Capital Region as its first step towards a government-wide green travel policy. The project addresses travel, conferences and meetings, and promotes the Environmental Choice Program™.
- Green standards for demolition, renovation and procurement were adopted by Public Works and Government Services Canada for federal buildings.
- The Department of National Defence Forces – Atlantic designed preventive procedures for facilities and ships with assistance from Environment Canada's Regional Environmental Emergencies Team.

Operations/Facilities Management

- Pollution prevention demonstration sites were established by Environment Canada's Ontario Region in partnership with the Department of National Defence, a Canadian Coast Guard base, Heritage Canada's Trent-Severn Waterway, the Hamilton International Airport and a marina operation.
- Environment Canada's Underground Storage Tank/Aboveground Storage Tank Pollution Prevention Inspection Program in the Pacific and Yukon Region oversaw inspection of 169 tanks containing petroleum and petro-chemicals.

- The Airport Square Building in Vancouver continues to be used as a pilot facility to implement Phase I and II of Environment Canada's No Waste program in the Pacific and Yukon Region.
- Under Environment Canada's Fleet Management Plan, more than 10 per cent of the department's vehicles were converted from gasoline to propane or natural gas. Green driver training is now provided in all regions.
- A national Greening Government Workshop series was organized by Environment Canada and delivered across Canada. It incorporated aspects of pollution prevention into key environmental management issues for federal facilities.
- The Green Base – CFB 2001 initiative focused on sustainable operations and pollution prevention projects. Canadian Forces bases Borden, Halifax, Shilo and 17 Wing-Winnipeg took part in the initiative and are sharing their information with other Canadian Forces bases.

Implementation Tools

- Environment Canada – Quebec Region developed an easy-to-use series of indicators to evaluate the greening activities of federal agencies and departments; the indicators address key issues for greening government operations.
- *A Guide to Spill Prevention for Federal Facilities in Ontario* developed by Environment Canada – Ontario Region outlines the process for creating a long-term pollution prevention program.
- The guide *Preventing Site Contamination at Federal Facilities* was produced by Environment Canada in cooperation with the federal Contaminated Sites Management Working Group, which represent 13 federal departments.

Human Resources

- In partnership with the Pembina Institute, Environment Canada developed an environmental citizenship and green operations course for staff in the Prairie and Northern Region, including workshops on environmental citizenship and sustainable development.

- *GreenLight*, an Environment Canada newsletter developed in the Prairie and Northern Region, continues to promote pollution prevention and environmental citizenship for employees.
- The Canadian Forces and Department of National Defence National Policy on the Environment is being revised as Defence Administrative Orders and Directive 4003-0 Environmental Protection and Stewardship. This new directive will require the Canadian Forces and the Department of National Defence to practise pollution prevention in day-to-day activities and operations.
- The third federal workshop on environmental issues addressed the interdepartmental greening plan; it was organized jointly by six federal agencies in the Quebec Region.
- Environment Canada continues to publish and distribute more than 500 copies of its *Virage environnemental* newsletter, which focuses on various aspects of greening government.
- Environment Canada – Quebec Region coordinated the sectoral panel on greening, which brings together 23 federal agencies.

Defending the Environment

The Department of National Defence pollution prevention program includes the following objectives:

- ▶ Development and implementation of pollution prevention plans (primarily for reduction of hazardous materials)
- ▶ Promotion of pollution prevention ethics
- ▶ Incorporation of a pollution prevention perspective throughout the material life cycle



The Canadian Council of Ministers of the Environment has adopted a harmonized approach to advance pollution prevention.

The Council's Pollution Prevention Strategy includes a common definition of pollution prevention, which has been approved by all members.

Working with the Canadian and Ontario governments, Environment Canada – Ontario Region brokered memoranda of understanding and other agreements incorporating pollution prevention with several industry sectors.

With other governments – foster a national pollution prevention effort

HARMONIZE LEGISLATION, POLICY, REGULATIONS

- The 1994 National Solid Waste Inventory survey results were finalized with coordination by Environment Canada for release by the Canadian Council of Ministers of the Environment.
- The second *Chlorinated Substances Action Plan* progress report was co-published by Environment Canada and Health Canada, and is an example of cooperation and partnership by stakeholders. The plan targets more than 100 chlorinated substances of concern.
- The *National Action Plan for Environmental Control of Ozone Depleting Substances and Their Halocarbon Alternatives* was revised and circulated for consultation. The plan lays a foundation for national pollution prevention initiatives for these substances.
- Environment Canada, in consultation with a working group made up of federal departments, drafted a regulation under the *Canadian Environmental Protection Act* to prevent and reduce emissions of ozone-depleting substances and halocarbon alternatives from federal facilities.
- Environment Canada – Atlantic Region played a pivotal role in introducing pollution prevention concepts into the Canada/Nova Scotia Water Economy Agreement, the draft Environmental Protection Plan for the New Brunswick Department of Transport activities, and the updated Queens County municipal sewer by-laws.
- The Prince Edward Island Environment Committee, which is comprised of representatives from all orders of government as well as the private sector, was established to develop and foster partnership in greening government operations.
- The Canadian Council of Ministers of the Environment (CCME) released *A Strategy to Fulfill the CCME Commitment to Pollution Prevention* in May 1996. The strategy outlines the Council's vision, mission and goals to make pollution prevention the strategy of choice for protecting the environment and improving economic competitiveness in Canada. Environment Canada was a full partner in the development of the strategy.

PRACTICAL TOOLS FOR POLLUTION PREVENTION

Memoranda of understanding and environmental performance agreements

- **Automotive** – Over 6 700 tonnes of priority toxic substances and 150 000 tonnes of other environmental contaminants of concern have been reduced or eliminated in Ontario Ford, Chrysler and General Motors facilities since the signing of a memorandum of understanding with the Canadian Vehicle Manufacturers' Association.
- **Automotive** – Since December 1993, six member companies of the Canadian Automotive Parts Manufacturers' Association reduced their use of priority toxic substances by approximately three tonnes



Lake Erie is a shallow, ecologically sensitive lake. Its deterioration prompted the United States and Canada to sign agreements in 1972 and 1978 for control of phosphorous loading into the lake.

and achieved significant results in water and energy conservation.

- **Printing and graphics** – Eighteen signatories to the 1995 Printing and Graphics Memorandum of Agreement reduced their use of priority toxic substances by approximately 11.5 tonnes.
- **Metal-finishing** – The 17 companies participating in an association agreement reduced the use of priority toxic substances in the metal-finishing industry by 258 tonnes.
- **Health care** – A voluntary pollution prevention agreement for the reduction and elimination of mercury use was signed by three hospitals in the Greater Toronto Area, Pollution Probe, and the federal and provincial environment ministries.

Ecosystem Emergency: Great Lakes Basin

The Great Lakes form the largest body of fresh water on earth, however they are not immune to the effects of pollution. The lakes' shores are dotted with industry and ports for lake- and ocean-going ships, and are intensely populated. Wetlands have been destroyed and contaminated, and many kilometres of shoreline contain tonnes of toxic silt.

The result – without international action – would be ecological disaster. However, working jointly with the United States government and states bordering the Great Lakes, Canada and Ontario are working to establish pollution prevention practices throughout the Great Lakes Basin.

Pollution prevention response: Great Lakes Vision 2000

Through Great Lakes Vision 2000, pollution prevention is being integrated into all existing compliance and abatement programs. This pollution prevention strategy is further reinforced by Canada's Great Lakes Pollution Prevention Initiative, Ontario's Pollution Prevention Strategy and the joint Canada-Ontario Agreement (COA). The COA objective is virtual elimination of persistent, bioaccumulative and toxic substances. Canada and Ontario are also working with US governments under a Binational Toxics Strategy to eliminate toxic substances from the Great Lakes ecosystem.

Toxic substances have been categorized under COA into two groups, and goals set to decrease by 90 per cent the release of the most toxic by 2000. In support of these pollution prevention initiatives, Canada and Ontario have signed environmental agreements with key industries in the Great Lakes basin, including the auto industry, printing industry and dry cleaning industry.

Inspired by such voluntary action and supported by increasingly strong environmental legislation, pollution prevention in the Great Lakes Basin continues to produce results.



Codes of Practice, standards and guidelines are practical tools that strengthen our capacity to provide clean air and clean water for Canadians.

WITH OTHER GOVERNMENTS

- **Dry cleaning** – The Ontario Fabricare Association and the Korean Dry Cleaners Association signed a three-year agreement in 1994 to reduce the use of non-aqueous solvents (particularly perchloroethylene) in the fabricare industry. Environment Canada established 13 Green Clean Depots to demonstrate and evaluate water-based technology as an alternative to chemical or toxic solvents.
- **Dry cleaning** – Environment Canada – Quebec Region signed a memorandum of understanding with the ‘Regroupement des experts en entretien de textiles du Québec’. The association will provide training for members and non-members on sound environmental practices for the sector.
- **Petroleum** – Pollution prevention was incorporated into Memorandum of Agreement negotiations with the Canada-Nova Scotia Offshore Petroleum Board by Environment Canada – Atlantic Region.
- **Environmental Emergencies** – The Canadian Wildlife Service, the Institut Maurice-Lamontagne, Fisheries and Oceans Canada, the ‘Société d’intervention maritime pour l’est du Canada’ and Environment Canada – Quebec Region set up a system to facilitate information-sharing for environmental emergency response.

Codes of Practice

- A *Code of Management Practice for Pollution Prevention in the Dry Cleaning Industry* was developed by representatives of the Canadian fabricare industry, in association with Environment Canada – Ontario region.
- The *Environmental Code of Practice for the Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems* (under the *Canadian Environmental Protection Act*) was revised to include more substances and to reflect recent approaches and technologies for prevention and reduction of emissions.
- Environment Canada’s *Code of Practice on Halons* was developed to assist with the environmental management of these ozone-depleting substances. The code incorporates pollution prevention measures such as equipment modifications, recycling, reduction of use and training.
- Northwest Territories Division of Environment Canada drafted or initiated codes of practice for commercial/industrial printing facilities, for the livestock industry in the Prairie and Northern Region, and for construction/demolition recycling facilities.
- *Planning for Sustainable Development*, an environmental guideline incorporating pollution prevention measures for project planning, was developed by the Association of Professional Engineers of Nova Scotia Council with assistance from Environment Canada.

Guides and Handbooks

- *Guide de gestion des risques d'accidents industriels majeurs à l'attention des municipalités et de l'industrie* was developed by Environment Canada – Quebec Region and the 'Conseil régional des accidents industriels majeurs du Montréal métropolitain'.
- Environment Canada – Ontario Region, in association with the Clean Marine Partnership, developed a *Clean Marine Practices Handbook*. The handbook encourages the boating public, marina operators and owners to incorporate sound environmental practices in their boating activities.

Recognition Programs

- The Canadian Council of Ministers of the Environment developed a Pollution Prevention Awards Program with assis-



Eastern and western shorelines are at risk from city, industrial and marine traffic pollution.

tance from Environment Canada staff to give national recognition to companies and organizations showing cutting-edge accomplishment or leadership in pollution prevention.

Guidelines and Standards

- Pollution prevention guidelines for several industry sectors and activities were developed by Environment Canada in the Pacific and Yukon Region. Several of these projects were accomplished in partnership with Industry Canada, and the British Columbia Ministry of Environment Lands and Parks.

Environment Canada – Pacific and Yukon Region developed sector guidelines for total cost assessment, as well as pollution prevention planning guidelines for activities in the Fraser River basin and Burrard Inlet.

- Environment Canada prepared new source performance standards and guidelines for reduction of volatile organic compounds emissions from Canadian automotive original-equipment-manufacturers' coatings facilities. The guidelines were published by the Canadian Council of Ministers of the Environment.

Ecosystem Emergency: Fraser River Valley

The Fraser River winds from the Rocky Mountains to the Pacific Ocean – 1 375 kilometres of rich diversity: from desert-like inland valleys to lush rain forest landscapes. The Fraser River and watershed's fish, birds and wildlife are at great risk. Population growth, industrial development and other human activities have upset the basin's delicate ecological balance, polluting the river, damaging unique habitat and depleting fish and wildlife populations.

Pollution prevention response: the Fraser River Action Plan

The Fraser River Action Plan (FRAP) is an ambitious partnership between Environment Canada and Fisheries and Oceans Canada to improve the environmental health and productivity of the Fraser, ensuring its benefit to future generations. These two government departments worked with all levels of government, industry, First Nations and environmental groups to establish the Fraser Basin Management Board to work for environmental sustainability along the Fraser.

FRAP has improved fish habitat by rebuilding estuary marshes and sloughs, reclaiming habitat below hydro dams, removing barriers to fish migration, improving water flows, stabilizing river banks to reduce erosion and sedimentation of the water, and protecting streamside vegetation. Local help is enlisted through the Streamkeepers Program, which provides training and technical assistance to community groups interested in watershed stewardship. There are more than 150 Streamkeepers groups in British Columbia and the Yukon, including 40 in the Fraser Basin.

In the process, FRAP is also working on rebuilding wildlife habitat, assessing environmental quality and reducing pollution throughout the Fraser River system.



WITH OTHER GOVERNMENTS

- A *Guidance Document for Landfill Gas Management* describing state-of-the-art pollution prevention knowledge on landfill gas management was published by Environment Canada to promote gas recovery and use.
- New source performance standards and a code of practice for commercial/industrial printing facilities, and national standards and guidelines for the reduction of volatile organic compounds emissions from Canadian automotive refinish coating operations, were drafted by Environment Canada for the Canadian Council of Ministers of the Environment.
- The National Packaging Task Force began development of a national packaging stewardship model to identify national packaging requirements.

EDUCATION AND TRAINING

Pacific and Yukon Region

- Pollution prevention workshops for the printing and graphics, dairy processing, asphalt preparation and auto recycling industries were delivered by Environment Canada.
- A video promoting proper septic system maintenance was produced by Environment Canada.
- A seminar on integrated pest management for landscaping was co-sponsored by Malaspina College and Environment Canada.

Atlantic Region

- Environment Canada and the Canadian Coast Guard provided awareness training to First Nations, the private sector and governments for prevention of, preparation for and response to environmental emergencies.
- Environment Canada sponsored and contributed expertise to the pilot course entitled *Engineering and Aquatic Environments*, which was developed by the Department of Fisheries and Oceans, Nova Scotia Department of Environment, Environment Canada, and the Association of Professional Engineers of Nova Scotia. The environmental protection hierarchy, with pollution prevention as the preferred choice, formed the core of the course content.

Quebec Region

- Environment Canada organized a seminar on corporate environmental training based on the ISO 14000 environmental management standards. The seminar attracted representatives from industry, government, academia and engineering.
- Environment Canada cooperated with the 'Regroupement montréalais pour la qualité de l'air' in the preparation of a symposium on sustainable transportation, the environment and health, bringing together players in the transportation sector in greater Montreal.

Ontario Region

- The Region developed *A Guide to Pollution Prevention for Municipalities* under the Regional Municipality of Hamilton-Wentworth project. This guide can be used as a template by other communities and municipalities to design pollution prevention training.

Prairie and Northern Region

- The first pollution prevention course exploring pollution prevention as it applies to First Nations communities was delivered to First Nations Peoples in Saskatchewan by Environment Canada.
- Project WET Canada (Water Education for Teachers) promoted pollution prevention for educators interested in water and pollution prevention issues. It



Prairie potholes or "sloughs" are essential to the survival of many species of waterfowl, such as this family of mallards.

was delivered in cooperation with Environment Canada, Prairie Farm Rehabilitation Administration, Canadian Water Resources Association, Saskatchewan

Environment and Resource Management, and others.

- Environment Canada sponsored pollution prevention training for employees of federal departments and provincial ministries of the environment.
- The Northwest Territories Chamber of Commerce and Environment Canada – Northwest Territories District worked together on pollution prevention initiatives such as pilot projects and green business promotion.

Ecosystem Emergency: Prairie and Northern Ecozones

This broad region includes a diverse array of ecosystems that range from southern prairies to the northern arctic. The prairie, boreal, cordillera, taiga and arctic ecozones are all under environmental stress. In the prairie ecozone, agriculture, energy development and use, water use, water variability and the introduction of foreign species are key stressors.

The boreal ecozone subject to mining, forestry, and energy development and use. Energy development is also a problem in the cordillera ecozone, along with tourism and recreation, forestry, and water variability. Long-range transport of airborne pollutants stresses the taiga and arctic ecozones, but the Arctic is also harmed by transportation, and energy development and use. In all ecozones, climate variability is affecting environmental stability, and this factor is exacerbated by human activities.

These stressors result in environmental issues such as habitat quality and abundance, cumulative effects of multiple development, threatened biodiversity, and healthy and abundant wildlife populations. Each ecozone has its own critical environmental issues. The prairie, for example, is facing problems with soil quantity and stability, off-farm impacts of agriculture, and foreign biota, among others.

Pollution prevention response: *Greenlight* newsletter.

Pollution prevention education often begins when government sets an example. Thus began *Greenlight*, the first of a series of newsletters prepared by Environment Canada's Pollution Prevention team in the Prairie and Northern Region. *Greenlight* is designed to help federal departments in the region become better environmental citizens. By evaluating office procedures, identifying possible improvements, implementing changes, and sharing ideas, *Greenlight* helps to reduce the environmentally harmful consequences of workplace activities.



Through a cooperative federal-provincial-territorial effort, more than 75 000 Canadian refrigeration and air conditioning technicians have been trained to prevent and reduce emissions of ozone-depleting substances.

WITH OTHER GOVERNMENTS

National/Departmental

- Environment Canada's innovative training program for refrigeration and air conditioning technicians teaches techniques for preventing and reducing emissions of ozone-depleting substances, and gives information about alternatives. The program is offered in collaboration with the provincial and territorial governments. Seventy-five thousand technicians have been trained to date – more than 7 000 in 1996/97 alone.
- *Wastenot*, a newsletter and web site promoting sustainable construction and demolition techniques (including pollution prevention), was produced in cooperation by Public Works and Government Services Canada, Industry Canada, Environment Canada, the Department of National Defence, the Ontario Ministry of Environment and Energy, the Ontario Realty Corporation and Philip Environmental.
- Environment Canada and the British Columbia Ministry of Environment and

Parks delivered a workshop on landfill-gas recovery and use in Vancouver.

- Environment Canada designed a national green procurement workshop for federal, provincial and municipal buyers, as well as external suppliers.

The Canadian Centre for Pollution Prevention

- More than 1 000 dry cleaners received pollution prevention training in Ontario, meeting the June 1996 Dry Cleaner Certification program target. The program was promoted through Canadian Fabricare Association workshops and at Ontario Fabricare Association and Korean Dry Cleaner events.
- A video teleconference, *Green and Profitable Printing*, was organized for the Printing and Graphics Pollution Prevention Project. The downlink featured North American case studies and success stories, and attracted over 70 participants.
- Pollution prevention workshops were presented to 80 health centres in Ontario, Alberta and Manitoba.

Canadian Centre for Pollution Prevention <http://c2p2.sarnia.com>

In 1997, the Centre:

- ▶ Received more than 900 requests for environmental information
- ▶ Expanded circulation of its *At the source* newsletter to 3 300 clients worldwide
- ▶ Increased its *What's New in P2* monthly bulletin circulation to 330
- ▶ Expanded its library to include 800 references
- ▶ Continued information transfer agreements in the Atlantic and Ontario regions of Environment Canada
- ▶ Collaborated with the Canadian Council of Ministers of the Environment and Environment Canada to produce the pollution prevention video, *Success Stories: Pollution Prevention in Business*

With the private sector – achieve a climate in which pollution prevention becomes a major consideration in industrial activities

POLLUTION PREVENTION INNOVATION

Technology, Research and Development

■ Environment Canada collaborated with the private and public sectors on several pollution prevention research-and-development, technology-evaluation and demonstration projects. Projects included alternate fuels, vehicle emissions, combustion processes and chemicals separation techniques.

Demonstration projects were completed for biological gas cleaning, nanofiltration and ultrafiltration.

■ Environment Canada – Pacific and Yukon Region helped fund filtration technology for North America’s first printing plant to recycle over 99 per cent of its waste fluid. Transcontinental Printing and its manufacturing manager received ‘Local Heroes’ awards from the federal Minister of the Environment.

■ Technology Partnerships Canada (a joint Industry Canada/Environment Canada initiative) and the Pulp and Paper Research Institute of Canada are funding a project to develop, demonstrate and commercialize closed-cycle pulp-and-paper technologies. Technology Partnerships Canada will invest up to \$9 million in the project.



The Halifax Harbour Cleanup Campaign seeks to involve all stakeholders, including homeowners, to reduce the release of non-biodegradable and toxic products into the Atlantic Ocean along with sewage.

■ Environment Canada – Quebec Region initiated five pollution prevention projects with industrial developers:

- Water-based cleaning processes as an alternative to certain dry cleaning applications
- Closed loop system for processing water at Cartons Saint-Laurent in Matane
- Recycling chlorates and salts from brine purges from an alkali-chlorine plant
- Managing effluent from an injection-moulding plant
- Recycling phosphorus-based polymerization catalysts

■ Environment Canada, the Nova Scotia Ministry of Environment and the Regional Municipality of Halifax are funding a feasibility study on using landfill gas from the Highway 101 landfill site to reduce emissions of adverse greenhouse gas from landfills.

■ The University of Guelph, in cooperation with three commercial greenhouses, Environment Canada and the Ontario Ministry of Agriculture, Food and Rural Affairs, is investigating closed-circuit nutrient recycling for greenhouse crops.

Chemicals Industry

■ Environment Canada and the Chemical Producers’ Association finalized an agreement on dealing with benzene under Responsible Care®. Member companies are working towards a 70 per cent reduction in benzene emissions by 2000.



Environment Canada's Environmental Technologies Advancement Directorate advances pollution prevention nationally and internationally through the promotion of clean technology and clean production, and by establishing expert environmental information resource centres, including those targeting small- and medium-sized businesses.

WITH THE PRIVATE SECTOR

Environmental Leadership

- The second Accelerated Reduction/Elimination of Toxics (ARET) report, *Environmental Leaders 2*, detailed progress by ARET participants during 1995. Eight major industrial sectors (278 facilities) achieved a total emission reduction of 17 460 tonnes of pollutants – a 49 per cent reduction from base-year levels (starting from 1988).
- With the guidance of the Environment Canada – Northwest Territories Division, a Pollution Prevention Recognition Leadership Award program was developed and launched in August of 1996. The first award was presented to White Bear Chrysler in April 1997 at the Northwest Territories Chamber of Commerce Annual General Meeting in Yellowknife.

Autobody Shops

- A self-management proposal, including a framework for improved environmental management within the Ontario autobody refinishing industry, was developed by the Hamilton District Autobody Repair Association.

Communities

- The 1996 Westminster Creek Pollution Prevention Project promoted business participation in a local pollution prevention program, which included community stewardship, best management practices, and pollution prevention of toxic chemicals and other substances of concern.

Green Accounting

- Environment Canada – Quebec Region published the *Guide d'introduction à la comptabilité environnementale*. Produced with the 'Ordre des comptables agréés du Québec', this publication familiarizes corporate managers and environmental professionals with environmental accounting.

Sports

- Environment Canada – Prairie and Northern Region is working with the PanAm Games Environmental Committee to incorporate pollution prevention principles into the PanAm Games scheduled for July 1999 in Winnipeg.

Residential Construction

- Home builders in Saskatchewan are partnering with Environment Canada – Prairie and Northern Region to develop a voluntary pollution prevention plan, which will include a training component.

PROMOTING SUSTAINABLE PRODUCTION

National/Departmental

- Environment Canada surveyed a cross-section of Canadian industrial sectors to gauge the adoption of life-cycle material-management techniques and tools.
- *Environmental Life Cycle Management – A Guide to Better Business Decisions* was published by Environment Canada to inform industry about the theory and benefits of life-cycle material-management.

Quebec Region

- Environment Canada compiled examples of Quebec companies that have profited by adopting pollution prevention measures. This information will be used to raise awareness and publicize the economic benefits of pollution prevention.
- Environment Canada cooperated with the 'Association québécoise des vérificateurs environnementaux' to develop a preparatory course for accreditation of environmental auditors.
- The 19th Montreal symposium on waste water treatment was supported by Environment Canada – Quebec Region and its partners, and included workshops on industrial pollution prevention.



Riverside Forest Products, together with Environment Canada, co-funded and began a pollution prevention planning project at the Williams Lake Sawmill.

- Environment Canada organized information sessions for industry on the new regulations governing biotechnology products and the limits on benzene in gasoline.

Atlantic Region

- Environment Canada helped prevent pollution by providing industry-specific information and advice:
 - specialized weather forecast services to assist Kent Line with timing docking and delivery of crude oil to New Brunswick ports
 - integrated pest-management information to farmers in Prince Edward Island
 - technical and strategic advice to National Sea Products Inc, a large Nova Scotia fish processing facility

Ecosystem Emergency: St. Lawrence River

As the gateway between the heavily industrialized Great Lakes and the Atlantic Ocean, the St. Lawrence is home to many heavy industries. The St. Lawrence River ecosystem has the dubious distinction of producing Canada's most toxic wildlife. Beluga whales swimming in the lower St. Lawrence are so contaminated with heavy metals and other chemicals that, once ashore, they must be disposed of as toxic waste. The river's most urgent problems include loss of species and habitats, industrial effluents and contaminated sediments.

Like the Great Lakes, the St. Lawrence borders multiple legal jurisdictions. Pollution prevention efforts require the cooperation of Canada, the United States, Ontario and Quebec. Employment in long-standing industries may be threatened if companies calculate that it is easier to pull out than to clean up.

Pollution prevention response: St. Lawrence Vision 2000

The St. Lawrence Vision 2000 initiative is responding to this challenge with vigour. Recovery reports from aerial surveys are showing that the beluga is holding its ground: the population has increased to 705 (compared with 525 in 1992).

The St. Lawrence Vision 2000 initiative builds on the previous St. Lawrence Action Plan, and is using an ecosystem approach to conserve and restore the river and its tributaries. The project will begin by establishing a scientific base of knowledge and by tackling the most urgent problems. St. Lawrence Vision 2000 supports 140 community-based pollution prevention projects and aims to reduce all toxic discharges, including virtually eliminating discharges of 11 of the most toxic substances from 106 plants along the river.



Small- and medium-sized enterprises comprise the vast majority of Canadian businesses. More than 95 per cent of Canadian businesses have fewer than 50 employees. These businesses play an important role in our quest for a sustainable society.

WITH THE PRIVATE SECTOR

- Environment Canada brought pollution prevention and the need for environmental management strategies to the table at *Canadian Environmental Assessment Act* panel hearings for Terra Nova Oil Development and Sable Gas Development, and the George's Bank Moratorium Review, and contributed to the terms of reference for the Voisey's Bay Mine and Smelter environmental impact assessment.

Prairie and Northern Region

- Pollution prevention principles were incorporated into draft Environment Canada guidelines targeting Arctic exploration companies whose ice drilling operations result in drilling effluent.
- Environment Canada developed a new pollution prevention display that can be targeted to different industries and organizations. The theme of the display is "Pollution Prevention: A New Way of Doing Business".

Pacific and Yukon Region

- Ecowaste Industries' in British Columbia began implementation of a pollution prevention plan at its industrial landfill with support from the Fraser River Action Plan. Fuel tank replacement, maximization of salvage efforts and employee programs are part of the plan.
- Riverside Forest Products and Environment Canada co-funded the launch of a pollution prevention project at the Williams Lake Sawmill.
- A government/industry committee produced the best practices manual *Tank Truck to Marine Vessel Oil Transfer Procedures*. The manual informs drivers about procedures and equipment required to minimize the risk of contaminating marine environments.
- Environment Canada conducted a technical review of proposals to open new precious- and base-metal mines on federal lands. They established mitigation requirements (including pollution prevention), for the proposed mines.

Canadian Centre for Pollution Prevention

- The Canadian Centre for Pollution Prevention organized the Metal Finishing Industry Progress Review Workshop '96 in Toronto. The program featured case studies and a workshop on environmental management systems for metal finishers.

TARGETING SMALL- AND MEDIUM-SIZED ENTERPRISES

Ontario Region

- Environment Canada sponsored development of a pollution prevention check sheet/guidebook for small- and medium-sized printers, and distributed it to lithographic printers in Ontario through seminars. The guidebook explains how to qualify for Ecologo™ certification.

Atlantic Region

- Environment Canada and the Canada-Nova Scotia Sustainable Economic Development Agreement published the Environmental Management Information and Training Survey in January 1996, which outlined the environmental management needs of several small- and medium-sized enterprise sectors.

- Atlantic Coastal Action Plan communities undertook several business projects incorporating pollution prevention, thereby engaging the public and local business in addressing environmental issues .
- Environment Canada, in partnership with the Nova Scotia Department of Environment, sponsored a satellite conference on Green and Profitable Printing.
- A major environmental farm planning initiative was implemented by Environment Canada with approximately 200 farmers who own about one third of Prince Edward Island's agricultural land, and with community-based non-governmental organizations, farm organizations, and federal and provincial agriculture departments.
- Environment Canada initiated a project with several local business and government representatives to address pollution prevention and waste minimization in the Mersey River watershed communities of Liverpool, Milton and Brooklyn.

Ecosystem Emergency: Atlantic Marine Ecosystem

Atlantic Canada has 40 000 kilometres of coastline and much of its industrial activity takes place near marine waters or on rivers that flow into the sea. The ultimate destination of most pollution is the sea. The coastal waters, including tidal estuaries, offshore banks and wetlands are the most biologically productive part of the marine ecosystem. Here, extensive stocks of fish, crustaceans, mammals and shore birds depend on the coastal ecosystem. For example, tidal flats on the Bay of Fundy are absolutely critical to their migration survival.

The marine ecosystem's ability to meet these various needs is jeopardized by pollution from municipal, industrial and marine effluents. Specific contaminants include heavy metals, polychlorobiphenyls (PCBs) and other organohalogenes, hydrocarbons such as oil and polyaromatic hydrocarbons (PAHs), organotins used in anti-fouling paints, sediments and organic matter such as sewage and ocean-dumped garbage.

Coastal development, which alters natural shorelines and destroys coastal wetlands, is responsible for the loss of valuable sources of nutrients and shelter. Ghost fishing by untended or lost fishing gear is also a problem. Indestructible seine nets floating loose in the ocean become an indiscriminate wall of death for many species, including marine mammals.

Pollution prevention response: Atlantic Coastal Action Plan

The Atlantic Coastal Action Plan (ACAP) is part of the federal government's strategy for pollution prevention in the marine ecosystem. ACAP will develop blueprints for managing the coastal resources of 13 Atlantic communities. Projects are organized at the community level by those affected by (and responsible for) environmental quality and will cover the entire watershed area.

ACAP projects have already proven successful in fostering a sense of environmental stewardship, protecting wildlife habitat, restoring water quality and working with industry for win/win solutions. For example, in St. John's, Newfoundland, the ACAP Awareness Campaign is advocating for city sewage treatment. Part of their campaign includes promoting public awareness of misusing the sewer system for disposal of toxic and floating materials that contribute to harbour and coastal pollution.

A Prince Edward Island project has mobilized farmers to examine the relationship of such issues as soil conservation, manure handling, pesticide usage, hedgerow conservation and establishment with pollution prevention. Wetland establishment and treatment of milk-house waste using wetlands are also part of this initiative.



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WITH THE PRIVATE SECTOR

Quebec Region

- Environment Canada developed an audit tool for diagnosing industrial manufacturing processes. This tool enables small- and medium-sized companies to identify sources of pollution and relate them to production losses, while guiding investment decisions toward sustainable output.
- Environment Canada, in conjunction with the Federal Office of Regional Development for Quebec, developed a program to promote pollution prevention and environmental management among small- and medium-sized companies.

Prairie and Northern Region

- The Alliance of Manufacturers and Exporters Canada – Manitoba Division, Manitoba Department of the Environment and Environment Canada are promoting pollution prevention in small- and medium-sized businesses. Their agreement encourages voluntary reduction of waste and pollutants through adoption of pollution prevention techniques.

National/Departmental

- Environment Canada, in partnership with the Alliance of Manufacturers and Exporters Canada, launched a project with the Ontario Ministry of Environment and Energy for assessment of environmental benefits associated with small- and medium-sized business implementation of ISO 14001 environmental management systems.

- A prototype of the Canadian Business Environmental Performance Office was developed under Initiative No. 6 of the Canadian Environmental Industry Strategy – a joint Industry Canada/Environment Canada initiative. This internet-based information tool was designed to raise the environmental awareness of small- and medium-sized businesses, and to introduce them to pollution prevention.
 - Industry Canada worked with the private sector to promote the benefits of eco-industrial parks. These parks are designed to group together companies with complementary needs, thereby reducing industrial impact on the environment through such strategies as co-generation, heat-recovery and closed-loop systems.
 - Nortel and Environment Canada signed an agreement to illustrate the economic and environmental benefits of key concepts such as eco-efficiency and product life-cycle management. The project will focus on improving the environmental performance of a Nortel business telephone to demonstrate these concepts.
- ### **Canadian Centre for Pollution Prevention**
- The Centre provided training to 38 businesses in the Emery Creek industrial community.

With all Canadians – provide access to the information and tools necessary to implement pollution prevention practices

NATIONAL/DEPARTMENTAL

- A web site showcasing Canadian pollution prevention success stories was developed by Environment Canada. The site reinforces the themes of the department's pollution prevention display – used at road shows and conferences – as well as the Canadian Pollution Prevention Information Clearinghouse web site under development.
- The video *Success Stories: Pollution Prevention in Business* was developed by a partnership of the Canadian Council of Ministers of the Environment, the Canadian Centre for Pollution Prevention and Environment Canada's National Office of Pollution Prevention.
- Environment Canada developed a prototype of the Canadian Pollution Prevention Information Clearinghouse, an Internet-based pollution prevention information tool. The Clearinghouse responds to commitments made in *Pollution Prevention: A Federal Strategy for Action* and the recommendations from the Parliamentary Standing Committee on the Environment and Sustainable Development. It was developed by Environment Canada with significant assistance from the Canadian Centre for Pollution Prevention.



Pacific and Yukon Region

- Environment Canada provided bridge funding to the Recycling Council of British Columbia for a passive material exchange program, a telephone hot-line and a web site to provide information on waste reduction and recycling to British Columbians.
- British Columbia Hydro, radio station CHMB 1320 and Environment Canada launched a Chinese-language component of British Columbia Hydro's PowerSmart campaign to raise awareness of energy efficiency.

Prairie and Northern Region

- The Northwest Territories Chamber of Commerce, Government of the Northwest Territories and Environment Canada delivered a workshop to facilitate pollution prevention implementation at the community level.

- Environment Canada worked with the Coalition for Ecology Ethics and Religion, and Manitoba Hydro (Power Smart) to incorporate pollution prevention into an environmental audit of religious buildings and lands.
- Environment Canada promoted pollution prevention in agriculture to farming communities at the Western Canadian Agribition in Regina, Saskatchewan.
- To assist purchasing staff, Environment Canada developed the *Green Buyer's Guide*, which lists companies with environmentally sound operations and products.



WITH ALL CANADIANS

Ontario Region

- Since its inception in 1994, the Clean Marine Partnership has conducted many pollution prevention activities to educate boaters and marina operators about environmental issues. Member partners agreed to undertake voluntary environmental stewardship and pollution prevention initiatives to support Canada's Great Lakes Pollution Prevention Initiative and Ontario's Pollution Prevention Strategy.

Quebec Region

- Environment Canada worked with the 'Ministère de l'Environnement et de la faune du Québec', the 'Association des professeurs de science du Québec' and the 'Comité interministériel sur l'éducation relative à l'environnement' to produce a youth education kit on reduction of greenhouse gases.
- Environment Canada – Quebec Region developed internet fact sheets on replacement products for substances that deplete the ozone layer.
- A pilot motor-vehicle inspection and maintenance program took place in the region. Environment Canada, the 'Ministère de l'Environnement et de la faune du Québec', the Montreal Urban Community, the 'Association québécoise de lutte contre la pollution atmosphérique' and groups representing the automotive industry participated in the project.

Atlantic Region

- Environment Canada's Operation Clean Feather raised awareness within the marine industry and in local communities affected by environmental hazards associated with oil releases.
- Atlantic Coastal Action Plan (ACAP) communities undertook several pollution prevention programs with support from the Canada/Nova Scotia Sustainable Economic Development Agreement and Environment Canada.
- Environment Canada promoted pollution prevention through presentations to schools and communities, as well as through television programs produced in cooperation with the Environmental Industry Association of Nova Scotia.
- Environment Canada's Atlantic Region home page identifies regional contacts, resources, initiatives and links to other national and international resources.

Canadian Centre for Pollution Prevention

- Formerly known as the Great Lakes Pollution Prevention Centre, the Centre changed its name to reflect both the national scope of Canadian pollution prevention issues and the Centre's service-delivery capacity. The Centre collaborates with various government agencies to disseminate pollution prevention information.

With the international community – participate in international pollution prevention initiatives

INTERNATIONAL ORGANIZATIONS

- Environment Canada advanced pollution prevention through its participation in the Pollution Prevention and Control Group of the Organization for Economic Cooperation and Development (OECD).
- As the federal lead for sustainable consumption and production, Environment Canada's National Office of Pollution Prevention provided policy advice and technical support in the preparation of Canada's position at the United Nations Commission for Sustainable Development.
- An international workshop on Greening Government Operations was co-hosted by Environment Canada and Japan at the Globe 96 conference.
- Environment Canada's No Waste program was recognized by Japan, the United States, United Kingdom, France, Spain and other Organization for Economic Cooperation and Development members.
- As a follow-up to the Greening the Halifax G-7 Summit initiative, the Atlantic Region released a *Green Meeting Guide* at a May Federal Institute of Management meeting in Halifax.



North America

- At Americana 97, the Quebec and Ontario regions of Environment Canada sponsored a day dedicated to St. Lawrence Vision 2000 and Great Lakes Vision 2000 programs. The Quebec Region also organized a pollution prevention session for the pulp and paper sector with the 'Association des industries forestières du Québec'. Environment Canada also organized a session on ISO 14000 at the Americana Conference.
- The Canadian Centre for Pollution Prevention participated in a steering committee to organize the Waste Reduction and Energy Efficiency Conference in Detroit. The Centre maintains international linkages with key pollution prevention groups from industry, government and other non-governmental organizations.
- Environment Canada – Atlantic Region represented Canada at the United States President's Council on Sustainable Development Workshop on Eco-Industrial Parks, where it presented a paper on the United Nations Environmental Programme initiative. The Region also hosted an October seminar for seven participating countries to draft the report, *Guideline to Environmental Management of Industrial Estates*.
- During the North American Water and Environment Congress, Environment Canada – Quebec Region organized and led the session on Pollution Prevention and Waste Minimization as well as other workshops.



INTERNATIONALLY

INTERNATIONAL PROJECTS

Europe and Asia

- Environment Canada – Atlantic Region presented a paper based on the Atlantic Coastal Action Plan entitled *Delivery of pollution prevention in partnership with community-based organizations* at the Greening of Industry Conference held in Germany.
- Environment Canada – Prairie and Northern Region organized the Advancement of Cleaner Production Technologies in Southern India Workshop in Chennai, India as part of the International Environmental Management Initiative. The workshop was attended by Canadian and Indian representatives from industry and government.

Central America, South America and the Caribbean

- Environment Canada – Prairie and Northern Region delivered a session on providing economic incentives for pollution prevention to the Nicaraguan water and sanitation sector in Managua, Nicaragua. The session was part of a course on environmental management systems and assessment.

- In conjunction with the Colombian National Association of Industrialists, Environment Canada – Quebec Region carried out two trade missions to Colombia to promote Canada's environmental industry. Particular emphasis was placed on Colombian metallurgy, textile, metal plating and agri-food industries.
- Yukon miners demonstrated to Guyana placer miners how to obtain increased gold recovery while reducing or eliminating mercury use. The exchange was initiated by Environment Canada – Pacific and Yukon Region, and supported by other agencies.
- Environment Canada, the Government of Nova Scotia and the Alliance of Manufacturers and Exporters Canada worked with the government of Trinidad and Tobago at a workshop to share information with local businesses and other Caribbean governments to advance pollution prevention and environmental protection.

INTERNATIONAL STANDARDS, PROTOCOLS AND AGREEMENTS

- The ISO 14000 standards for environmental management systems and life-cycle analysis were completed. Environment Canada was a delegate and technical expert in the process.
- Environment Canada advised the Canadian delegation to the North American Free Trade Agreement/Agreement on Environmental Cooperation meetings in Mexico and Washington, resulting in a policy requiring ISO 14000 registration to establish regulatory compliance.
- The governments of Canada and the United States, along with the states of Michigan, Minnesota and Wisconsin and the province of Ontario, developed a bi-national program, including pollution prevention, to restore and protect the Lake Superior Basin.
- Under an agreement between Canada and the United States, the region conducted a risk analysis in the Canada-U.S. border area with the cooperation of municipalities and regional county governments. Pollution prevention workshops were held in cooperation with American partners in industry, local and federal governments, and the community.



Canada and the United States have worked together for decades to restore and protect the Great Lakes.

- Memoranda of understanding between Canada and China, and between Canada and Korea, were led by Environment Canada – Pacific and Yukon Region and focused on development and sharing of industrial pollution-prevention processes and technologies. [PP](#)



“The Liberal government will expand the application of the federal Pollution Prevention Strategy across federal legislation, programs and policies.”

Securing Our Future Together: Preparing Canada for the 21st Century

FUTURE OUTLOOK

The federal government and its partners must continue their efforts to shift more attention to preventing the creation of pollutants and waste.

Securing Our Future Together: Preparing Canada for the 21st Century commits the government to “expand the application of the federal Pollution Prevention Strategy across federal legislation, programs and policies.” This publication, *Progress in Pollution Prevention*, shows that a strong foundation is being built upon which we can pursue this objective.

All federal departments are invited to record their 1997 pollution prevention activities to expand this annual report of cooperation and success.

Doing so will not only assist in information sharing; it will help build a good foundation for the upcoming Auditor General’s audit of implementation of the federal Pollution Prevention Strategy, scheduled for 2000.

More importantly, *Progress in Pollution Prevention* provides Canadians at large with concrete examples of the environmental, economic and social advantages of adopting pollution prevention. This is by far the strongest incentive for gaining new partners in reporting progress in pollution prevention.

Finally, *Progress in Pollution Prevention* rewards innovators by officially recognizing their efforts, which are of utmost importance to all levels of Canadian society.

Let’s move together towards a more sustainable future. [PP](#)

APPENDIX 1: CONTRIBUTORS TO THE ANNUAL REPORT

Rodger Albright – Environment Canada
(Atlantic Region) – (902) 426-4480

Claire Marier – Environment Canada
(Quebec Region) – (514) 496-1849

Brad Cumming – Environment Canada
(Ontario Region) – (416) 739-5883

Ron Nobes – Environment Canada (Ontario
Region, Federal Programs) (613) 952-8994

Glenn Hamilton – Environment Canada
(Prairie and Northern Region)
(403) 951-8744

Andrew Green – Environment Canada
(Pacific and Yukon Region) – (604) 666-5712

Bob Christensen – Environment Canada
(Headquarters) – (819) 953-1113

Raouf Morcos – Environment Canada
(Headquarters) – (819) 953-1137

Resa Solomon St-Lewis – Environment
Canada (Headquarters) – (819) 994-7752

Ghislaine Dunberry – Environment Canada
(Headquarters) – (819) 997-7685

Martine Dumais – Environment Canada
(Headquarters) – (819) 997-3573

George Green – Environment Canada
(Headquarters) – (819) 953-9535

Craig Ferguson – Environment Canada
(Headquarters) – (819) 953-1715

P.K. Leung – Environment Canada (Head-
quarters) – (819) 953-3491

Anne Legault – Environment Canada
(Headquarters) – (819) 994-7977

Dave Thornton – Environment Canada
(Environmental Technology Centre) –
(819) 991-9550

Nada Vransy – Industry Canada (Headquar-
ters) – (613) 941-2249

Louis Thériault – National Defence (Head-
quarters) – (613) 995-8812

Marianne Lines – Canadian Centre for
Pollution Prevention – (519) 337-3429

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APPENDIX 3: POLLUTION PREVENTION COORDINATING COMMITTEE MEMBERSHIP LIST

ENVIRONMENT CANADA

Headquarters

Environmental Protection Service

Toxics Pollution Prevention Directorate

James Riordan (Chairperson)

John de Gonzague (alternate Chairperson)

Ghislaine Dunberry (Coordinator)

Bob Christensen

Jim Armstrong

Air Pollution Prevention Directorate

Muriel Constantineau

Environmental Technology Advancement Directorate

P.K. Leung

Mike Schulz

Mike Bumbaco (Environmental Technology
Centre)

Peter Seto (Burlington Environmental Tech-
nology Office)

National Programs Directorate

Lynn Provost

David Chappell

Regulatory Affairs and Program Integration Directorate

Arthur Sheffield

Communications Directorate

Margit Doneit/Michael Tansey

Policy and Communications Directorate

Craig Ferguson

Corporate Services Directorate

George Green

ENVIRONMENT CANADA

Regions

Atlantic Region

Rodger Albright

Quebec Region

Réjean de Ladurantaye

Claire Marier

Ontario Region

Tom Tseng

Brad Cummings

Ron Nobes (Federal Programs)

Prairie and Northern Region

Glenn Hamilton

Pacific and Yukon Region

Lisa Walls

Andrew Green

OTHER GOVERNMENT DEPARTMENTS

Industry Canada Headquarters

Environmental Affairs Branch

Ron Harper

Nada Vransky

National Defence Headquarters

Directorate Environmental Protection

Louis Thériault

NON-GOVERNMENTAL ORGANIZATIONS

Canadian Centre for Pollution Prevention

Stewart Forbes

Marianne Lines