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Author - Industry Canada

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INDUSTRY CANADA: GREENING OPERATIONS

ENVIRONMENTAL STEWARDSHIP ACTION PLAN

NOVEMBER 1997



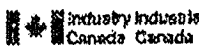
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EXECUTIVE SUMMARY

Objective

The objective of this *Greening Operations Action Plan* is to ensure that the Department's operations are conducted in a manner consistent with good environmental stewardship principles and practices, while respecting competing demands on financial and human resources.

Environmental stewardship involves protecting and fostering the sustainable use of the environmental resources under the Department's control or influence.

Issues

There are limited environmental impacts associated with Industry Canada's operations. The most significant issues are those associated with offices (e.g. building energy use, use of paper and office supplies) and vehicles (e.g. fuel consumption and emissions).

Nevertheless, the Department recognizes that the accumulated impact of many small improvements can produce significant environmental benefits. As a part of the Federal Government, it also accepts that it has a responsibility to set an example for other public and private-sector organizations. This is particularly important if it is to be an effective advocate of sustainable development with its industry clients.

Current Status

The Department's present approach to environmental management is to rely on individual managers to integrate environmental issues in their day-to-day decision-making. Some of the elements of an environmental management framework, including overall objectives and planning criteria, are in place and some action has already been taken on issues such as hazardous waste, paper recycling and fuel efficiency, however, there is no formal or systematic system to address environmental concerns.

Approach

Organizations in Canada and around the world are recognizing that effective management of environmental issues requires the same sort of tools that are used to manage other critical aspects of their businesses, such as finances and human resources. Many are considering the adoption of formal Environmental Management Systems (EMS) and are assessing the merits of various models, such as the International Organization for Standardization (ISO) Environmental Management Standards (the ISO 14000 series), the Canadian Standards Association (CSA) *Voluntary Environmental Management System* (CSA Z-750), and the best practices of other private and public sector organizations.

The Industry Canada *Greening Operations Action Plan* addresses the need for an EMS, and a baseline of environmental information. At the same time it provides for timely cost-effective action in areas where there is a good potential for achieving environmental benefits. The Plan will be updated on the basis of additional information provided by the baseline survey and regularly after that. Annual progress reports will be prepared.

Improvements to the Environmental Management Framework

The Department plans to assess its current approach to environmental issues against applicable models for EMSs. Following this assessment, steps will be taken to clarify the Department's approach, make it more comprehensive and more systematic. The objective will be to put in place an effective and efficient EMS and to integrate it with the overall business planning systems of the Department. The EMS will address a variety of issues including: policies, objectives and targets, roles and responsibilities, training and awareness, and performance measurement. It will also establish a planning framework, including a common approach on facilities with Public Works and Government Services Canada (PWGSC).

Development of Baseline Environmental Information

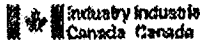


Baseline information on the environmental aspects of the Department's operations is important for the selection of priorities, the establishment of targets and performance measures, and for effective planning. Although some of the necessary information is available from other management systems (e.g. facilities, financial), much of it is not in a form that can be readily used for environmental planning. The Department's strategy will be to collect existing information from departmental databases and to obtain samples of additional information from specific facilities and organizations. The baseline information will be organized according to the key environmental aspects and will include data on the underlying activities (e.g. facilities floor space, number of vehicles), environmental pressures (e.g. energy consumption, waste volumes), management responses (e.g. energy efficiency, recycling rates). It will also identify associated risks and opportunities, information gaps and possible performance indicators. Additional information gathering (e.g. audits) will be undertaken when justified by the risk and opportunities assessment and the information gaps.

Priority Action Areas

Although establishment of an EMS and collection of baseline information are important, they should not delay the implementation of cost-effective measures that have clear potential for environmental benefits. For this reason, the Department is moving ahead with a series of actions related to facilities energy and water conservation, green procurement, vehicle fleet management, non-hazardous waste reduction and recycling, and hazardous materials management. The strategy will be to support individual managers and employees with information, training and tools, and to work with partners, such as PWGSC, to implement specific projects. In the absence of complete baseline data, targets will be based on overall Federal Government commitments (e.g. reduce waste by 50 percent by the year 2000) and on process milestones (e.g. provide lists of green suppliers by January 1998). Once the baseline survey is complete, the Action Plan will be reviewed and updated.

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1. INTRODUCTION

This *Greening Operations Action Plan* is a component of Industry Canada's *Sustainable Development Strategy* (SDS).

The SDS, which will include the Department's goals, priorities and plans in relation to its mandate, is being prepared in response to the 1995 amendments to the *Auditor General Act*. These amendments require departments to table Strategies with the House of Commons by December 1997, and update them every three years thereafter. The Commissioner of the Environment and Sustainable Development, who reports to the Auditor General, will monitor the extent to which departments meet the objectives and implement the plans set out in their strategies, and report annually to the House of Commons on this monitoring.

A *Guide to Green Government*¹, published in 1995, assists federal departments in preparing their sustainable development strategies. *Directions on Greening Government Operations*², also published in 1995, provides additional guidance for the development of plans concerning Government operations.

This Action Plan responds to those Directions and to the more fundamental need to be proactive in meeting the environmental challenges of Industry Canada's operations. It provides the details of that part of the Industry Canada SDS that deals with the Department's internal operations.

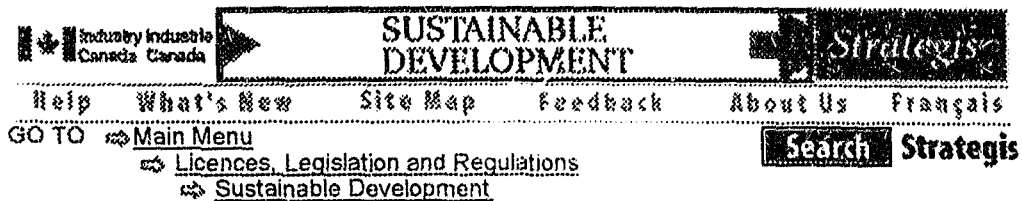
The plan includes a description of Industry Canada's environmental management framework as well as the strategies, goals and actions which the Department will implement over the next three years to "green" its operations.

¹A *Guide to Green Government*, Environment Canada, 1995.

²*Directions on Greening Government Operations*, Environment Canada, 1995.

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2. SCOPE OF INDUSTRY CANADA OPERATIONS AND ASSOCIATED ENVIRONMENTAL ISSUES

2.1 INDUSTRY CANADA

Industry Canada was created in 1993, to foster a growing, competitive, knowledge-based economy that provides quality jobs. The Department seeks to achieve its mission by supporting business growth and by giving consumers, businesses and investors confidence that the marketplace is fair and efficient.

The Department's activities are grouped into three main lines of business: micro-economic policy, industry sector development and marketplace rules and services. Micro-economic policy activities include research, analysis and development of policy and legislative frameworks. Industry sector development activities include the development of strategic sector approaches and specific sector support activities such as telecommunications research and development, economic development initiatives, and tourism marketing and promotion. Marketplace rules and services activities include the development and administration of standards and regulations in areas such as bankruptcy, corporate governance, legal measurements, intellectual property, consumer information, competition and spectrum management.

These lines of business are supported by corporate and management services that include facilities management, financial management, administration, human resources management, information management, communications, and audit and evaluation.

The Department has a staff of approximately 4,900 people, an annual budget of approximately \$950 million (including \$400 million in grants and contributions), and revenues of approximately \$375 million.

Most of the Department's staff work in office environments located in its headquarters in the National Capital Region and in five main regional offices, located in Halifax (Atlantic), Montreal (Quebec), Toronto (Ontario), Edmonton (Prairies and Northwest Territories), and Vancouver (Pacific). In addition subsidiary service points are located in over 50 communities across the country. The Department also operates a major research establishment, the Communications Research Centre, at Shirley's Bay (near Ottawa), and smaller laboratories for measurement regulation and spectrum management. Most of Industry Canada's facilities (109 of 138) are provided by Public Works and Government Services Canada (PWGSC) under Occupancy Agreements.

The Department also operates a fleet of approximately 580 vehicles which are driven by 1000 regular drivers and 300 casual drivers. These vehicles are used for inspections and a variety of support activities. Although the fleet is primarily composed of automobiles, it also includes a small number of large trucks used to carry heavy weights to calibrate weigh stations.

2.2 PRINCIPAL ENVIRONMENTAL ISSUES ASSOCIATED WITH DEPARTMENTAL OPERATIONS

The nature of the Department's operations is such that there are limited environmental impacts and liabilities associated with them.³

The most significant environmental aspects of the Department's operations are those associated with the operation of offices and vehicles:

- consumption of paper and other office products;
- consumption of building energy for lighting, heating, air conditioning, and office equipment;
- consumption of water;
- production of paper and other office waste;
- consumption of fossil fuels; and
- air emissions.

The management of hazardous materials and waste, underground storage tanks and contaminated sites would normally be of significant concern, however, the risks are considered small for the following reasons:

- the activities of the Communication Research Centre and the other smaller laboratories are such that they do not consume or generate significant quantities of hazardous materials;
- most ozone depleting substances have been removed from use or will be removed under existing plans;
- there are small numbers of above and below ground storage tanks but these are well maintained and documented; and
- there is no evidence that any of the Department's lands are contaminated in any way.



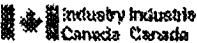
The main applicable Federal laws are the *Canadian Environmental Protection Act*, the *Transportation of Dangerous Goods Act*, the *Alternative Fuels Act*, the *Canadian Environmental Assessment Act*, and the *Auditor General Act*. Given that the first two Acts focus on hazardous and toxic substances, there are few potential liabilities associated with them. The *Alternative Fuels Act* applies to the Department's fleet of vehicles and mandates the use of alternative fuels and the purchase of vehicles capable of using them. Concerns associated with environmental assessment are dealt with in other sections of the Department's *Sustainable Development Strategy* and compliance with the *Auditor General Act* is the objective of that Strategy (and this Plan).

Although provincial laws do not apply to Industry Canada's operations, compliance demonstrates the Department's concern for the standards of the communities in which it operates. Provincial regulations governing non-hazardous waste reduction and recycling are the principal concerns.

³This assessment is based on a preliminary review of available baseline information. A more detailed review is to be undertaken as part of this Plan (see Section 4).

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3. ENVIRONMENTAL MANAGEMENT FRAMEWORK

3.1 APPROACH

Industry Canada's overall approach to management is to provide maximum implementation and planning flexibility to managers within the bounds provided by accountability mechanisms (i.e. business plans) and departmental policies (e.g. financial, administrative, assets management and human resource policies).

The Department's approach to environmental management is based on three principles:

- dealing with environmental issues is considered a normal part of business planning;
- the level of effort allocated to environmental issues should be consistent with the risk associated with them; and
- managers have the resources, authority and accountability for dealing with environmental issues.

3.2 ENVIRONMENTAL POLICY AND OBJECTIVES

Industry Canada's policy is to conduct its operations in a manner consistent with good environmental stewardship principles and practices, while respecting competing demands on financial and human resources.

Environmental stewardship involves protecting and fostering the sustainable use of the environmental resources under the Department's control or influence.

The specific objectives of this policy are:

- to integrate environmental concerns with operational, financial, safety, health, economic development and other relevant concerns in decision making;
- to meet or exceed the letter and spirit of federal environmental laws and, where appropriate, to be compatible with provincial and international standards;
- to improve the level of awareness throughout the Department of the environmental and health benefits and risks of operational decisions and to encourage and recognize employee actions;
- to ensure that environmental considerations are integrated into the Department's purchasing policies and practices;
- to seek cost-effective ways of reducing the input of raw materials, toxic substances, energy, water and other resources, and of reducing the generation of waste associated with day-to-day operations (including greenhouse gases and ozone depleting substances);
- to prevent rather than control the generation of pollutants; and
- to promote environmental efficiency and support innovation in the application of sustainable development principles.

3.3 PRIORITIES

Priorities for action are selected according to the following criteria:

- compliance with laws and regulations;
- significance of the environmental impact;
- compatibility with the Department's objectives;
- cost;
- impact on human resources;
- likelihood of success;
- measurability of the benefits;
- durability and sustainability of the benefits;
- creativity and innovation; and
- support for new technology.

Although the criteria are in general order of priority, choices are made on the basis of individual circumstances.

3.4 RESPONSIBILITIES

The Deputy Minister and members of the Departmental Management Board (including the Associate Deputy Minister and Assistant Deputy Ministers) are responsible for approving the Department's *Greening Operations Action Plan* and for providing managers with the support and resources to implement it.

Managers are responsible for the environmental performance of their organizations, in accordance with the policies, objectives and criteria set out above.

The Director, Facilities Management is responsible for providing advice, for promoting awareness, for coordinating programs to assist managers in dealing with environmental issues, and for the preparation of the Industry Canada *Greening Operations Action Plan*.

In addition, a working group of environmental coordinators, composed of key branch sector and regional office representatives, will be tasked to disseminate best practices and strategies, consult stakeholders, and ensure the consistency of environmental plans.

A departmental champion for environmental operations, at the director general level, and referred to as the Chief Environmental Steward, will facilitate the work of the Director, Facilities Management and of the network of environmental coordinators by ensuring the ongoing support of senior management.


3.5 PLANNING

Although Industry Canada has, over the years, planned and implemented a number of measures to promote environmental stewardship, this Plan represents a first attempt to capture all the proposed measures in a single reference. This document was prepared by Facilities Management Branch with the assistance of the informal working group of environmental coordinators.

Included is a three-year plan for Industry Canada's *Greening Operations Plan*. It represents a compilation of the most significant activities being proposed within the Department and is being integrated with Departmental, Sector and Branch Business Plans.

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4. STRATEGIES AND ACTION PLAN

4.1 GENERAL

The overall strategy of the Department is to focus first on completing an assessment of the environmental status, risks and opportunities associated with Departmental operations. Once the baseline information is available, it will become easier to define priorities and targets in accordance with the framework described in Section 3.

In the meantime, cost-effective measures that have the potential to provide environmental benefits will be implemented. Targets will generally be based on process milestones and on commitments made by the Government as a whole.

Measures have been selected to further the Department's objectives in six main areas:

- improvements to the environmental management framework (including collection of baseline data);
- resource conservation in buildings;
- procurement;
- automotive fleet management;
- waste reduction, reuse and recycling and
- hazardous materials management.

4.2 CONTINUOUS IMPROVEMENT OF ENVIRONMENTAL MANAGEMENT FRAMEWORK

The Issue

Organizations in Canada and around the world are recognizing that effective management of environmental issues requires the same sort of management tools that they use to manage other critical aspects of their businesses, such as finances and human resources.

An Environmental Management System (EMS) is a set of practices, procedures and processes for implementing environmental management. It allows an organization to ensure that its environmental goals are being met efficiently and effectively. An EMS assists organizations to clarify responsibilities, accountabilities and priorities for dealing with environmental issues and provides a way to monitor progress.

In *Directions on Greening Government Operations*, federal departments committed themselves to developing EMSs and to consider various EMS models. The options include best practices adapted to internal management systems, Canadian Standards such as the Canadian Standards Association's (CSA) *Voluntary Environmental Management System*, Canadian Standards Association, CSA Z-750, 1994, and the International Organization for Standardization's (ISO) 14000 series of international standards.

The 14000 series of environmental standards, and specifically ISO 14001 (Environmental Management System Standard) and the accompanying ISO 14004 (Guidance Document), provide direction on required and recommended elements of environmental management systems. These elements include:

- establishing top management commitment and policies;
 - conducting an initial environmental review;
 - establishing planning frameworks (including setting objectives and targets);
 - implementation considerations (including resources, responsibilities, awareness, training, reporting, documentation, control and emergency preparedness);
 - measurement and evaluation (including monitoring, corrective action, records, and management audits);
- and

- continuous improvement of the environmental management system.

The requirements of ISO 14001 and ISO 14004 are generic in nature and are meant to be adapted to the specific needs of the organization. Interpretation Guides, such as the CSA's *Competing Leaner, Keener and Greener - A Small Business Guide to ISO 14000*, Canadian Standards Association, Plus 1117, 1994, and the Canadian Government's own *FMS Self-Assessment Guide*, Office of the Auditor General and the Federal Committee on Environmental Management Systems, 1995, provide practical guidance for government departments with limited environmental concerns.

Current Status

Development of the Department's Sustainable Development Strategy has stimulated the addition of environmental criteria to planning and decision-making processes. In addition, the Department has been responding to an overall trend towards more explicit consideration of environmental issues. As a result, it already has in place some of the elements of an effective Environmental Management System, including priorities, objectives, responsibilities, and an informal planning framework. This system is responsible for generating the information and commitments contained in this Action Plan. However, planning has been made more difficult due to the lack of a complete database of baseline information on the Department's environmental impacts and current responses.

Strategy

In the spirit of continuous improvement, Industry Canada will evaluate its existing approach to environmental issues against applicable models and will take steps to clarify the system, make it more comprehensive, and make it more systematic. The objective will be to put in place an effective and efficient EMS and integrate it with the Department's other management systems, particularly the overall business planning system which is currently undergoing review.

A key part of the Department's strategy will be the completion of a baseline survey of environmental information, opportunities, risks and regulatory obligations. This survey will also allow the Department to refine the targets contained in this Plan and develop suitable performance measures for each of the priority areas. The survey will use available information from departmental databases and will gather a sample of additional useful information from specific facilities and organizations. It will identify information gaps which should be remedied by additional information gathering (e.g. audits). A proposed framework for the information is provided in the following box.

Another important aspect of the Plan will be to involve Public Works and Government Services Canada (PWGSC) more directly in the planning process and to play a stronger advocacy role concerning facility-related environmental issues under the control of PWGSC.

Awareness and Training activities are integral aspects of the implementation of this Action Plan. The Plan provides for general promotion and coordination activities as well as specific measures related to the key issues (see subsequent sections).

A Framework for the Collection and Presentation of Baseline Information on the Environmental Aspects of Industry Canada's Operations

For each of the issues identified in this Plan, the following information will be obtained and presented.

Issue: A description of each of the environmental aspects, including information on the significance of the environmental impacts on a local, regional and global scale.

Drivers: Figures on the underlying activities which lead to environmental impacts (e.g. expenditures on laboratory and office supplies, office space occupied, number of vehicles and kilometres travelled).

Pressures: Figures on the consumption of resources and the generation of waste (e.g. building electricity and water consumption and emissions, vehicle fuel consumption and emissions, materiel consumption and waste generation, hazardous materials volumes). Total consumption and emissions are of interest, as are normalized figures (e.g. per employee, per square metre, per vehicle, per dollar of expenditure).

Risks: An assessment of the Department's exposure to environmental risks, including non-compliance with regulations, and future environmental liabilities.

Opportunities: An assessment of the Department's opportunities for environmental stewardship through the application of cost-effective pollution prevention measures.

Response: Figures on current efforts to reduce pressures and risks and to take advantage of opportunities (e.g. energy efficiency measures, recycling percentages, use of alternative fuels, use of recycled materials).

Performance measures: Proposed data elements that could be used to refine targets and develop environmental performance indicators.

Information Gaps: An assessment of the additional information which could be obtained at reasonable cost to assist in planning, implementation and performance measurement.

Table 1
Environmental Management Action Plan

Item	Plan	Targets	Cost	Lead
Review EMS	Communicate appointment of Champion to employees.	Completed in May 1998	Minimal	Chief Environmental Steward assisted by Management Services and Facilities Management
	Establish a formal "Greening" Operations Committee to coordinate the EMS review and contribute to policies, action plans, surveys, audits, training and communications. The Committee would be chaired by Management Services and Facilities Management and would include representatives from the sectors, regions, Special Operating Agencies, Human Resources, Communications and PWGSC. Communicate to employees (via E-mail) appointment of Committee Members Publicize progress as it occurs.	Establish the Committee by September 1998		
	Develop and implement a workplan for the Committee.	Establish a workplan by December 1998.		
	Implement recommended changes to the EMS.	Implement recommended changes by November 1999.		
Baseline Survey	Identify terms of reference with the assistance of the "Greening" Operations Committee.	Completed May 1998		Facilities Management
	Obtain assistance to gather and analyse data (Enviro-Spec Program, Audit and Evaluation Branch, Management Consulting Centre).			
	Conduct the survey and analyse results.	Completed March 1998		
	Update Action Plan. Review targets. Establish performance measures. Identify requirements for specific audits.	Completed June 1998		
	Communicate importance of survey to line managers and employees. Share results and success stories.			
Advocacy with PWGSC	Select facilities most in need of attention (based on preliminary results of baseline survey, Facilities Information Database and PWGSC's Asset Management Information System).	Ongoing	Minimal	Facilities Management
	Agree with PWGSC on common environmental standards and commitments to be incorporated in lease agreements.			
	Jointly develop plans, policies and goals for energy, water and waste. Negotiate provisions for: - implementation of recycling programs - construction and demolition practices (e.g.: types of products and services, recycling and disposal methods) - maintenance of building equipment and lighting - energy and water audits - implementation of energy and water efficiency programs.			
Training and Awareness	Implement actions to increase manager and employee awareness, based on Communications Plan. Activities could include: - kick-off announcement; - quarterly reports;	Ongoing	\$30 000 to \$40 000 (to be absorbed by Facilities Management and Communications).	Facilities Management, Communications, and Human Resources

<ul style="list-style-type: none"> - establish environmental stewardship bulletin board and make available key documents (e.g. this Plan, procurement notes, etc.). - provide managers with key messages for staff. - regular publishing of environmental facts and tips through electronic media. - decals for printers, photocopiers and fax machines. - e-mail address and suggestion box. - organize "green" theme day (e.g. spring clean up, "green" commuting) 			
<ul style="list-style-type: none"> - coordinate Training and Information database for use by managers seeking assistance in obtaining information or specific training for staff. 			

4.3 RESOURCE CONSERVATION IN BUILDINGS

The Issue

Buildings consume fossil fuels and electricity to produce heat, ventilation, air conditioning, lighting, and to operate equipment. Fossil fuel use consumes non-renewable resources and contributes to a variety of environmental problems, including climate change, smog and acid rain. Electricity use requires electrical generating capacity which in turn relies on the consumption of fossil fuels, nuclear energy, or hydroelectric generating facilities (each of which has a number of possible environmental impacts). Reducing energy use in buildings (through efficiency or decreased activity) conserves fossil fuels, reduces emissions and reduces the need for additional electrical generating capacity. In many cases, it can improve the efficiency of activities and reduce costs.

Similarly, water is consumed for cooling, domestic use and for process applications. Its use requires energy for treatment and distribution, leads to the depletion of surface water and groundwater supply capacity, and contributes to the contamination of these freshwater sources. Reducing water use in buildings conserves energy, reduces demands on freshwater and improves water quality. It can also reduce costs.

Current Status

Because many of the sites occupied by Industry Canada are shared and consumption of energy and water are not metered individually, a reliable consumption baseline is not available.

Strategy

The overall strategy will be to rely on the baseline survey (see 4.2) to identify candidate facilities for more intensive energy and water audits. In the meantime, the Department will implement a variety of measures relying on the cooperation of building custodians (particularly PWGSC) and employees. Wherever possible, the Department will participate in the Federal Buildings Initiative (FBI).⁴

**Table 2
Resource Conservation Action Plan**

Item	Plan	Targets	Cost	Lead
Conserving Energy	Conduct energy audits in cooperation with PWGSC	To evaluate and, where appropriate, implement the FBI or an equivalent program in facilities housing 80 percent of Department employees by FY 2000/2001.	Investments to be recouped through annual savings.	Facilities Management
	<ul style="list-style-type: none"> - Conduct feasibility study (through FBI) to verify five to seven year payback for: <ul style="list-style-type: none"> - motion detectors to control lights, - timers for lights, - energy-efficient ballasts, - additional light switches, - other measures 			

	<ul style="list-style-type: none"> - implement recommended measures - conduct employee information and awareness program (through E-mail as much as possible), including <ul style="list-style-type: none"> - spot checks for lights and equipment in use during non-business hours - basic information dissemination, - publicize success stories (e.g. implementation of FBI at CRC), - employee suggestion program, - distribution of energy saving tips 			
Conserving Water	<ul style="list-style-type: none"> - conduct water audits in cooperation with PWGSC 	To evaluate and, where appropriate, implement the FBI or an equivalent program in facilities housing 80 percent of Department employees by F.Y. 2000-2001	Investments to be recouped through annual savings	Facilities Management
	<ul style="list-style-type: none"> - conduct feasibility study (through FBI) to verify five to seven year payback for a variety of water conservation measures, including adapters for taps and toilet tanks. Implement recommended measures 			
	<ul style="list-style-type: none"> - in cooperation with PWGSC, replace existing freshwater supply for computer equipment cooling in C. D. Howe building with a closed loop system 			
	<ul style="list-style-type: none"> - conduct employee information and awareness program (through E-mail as much as possible), including <ul style="list-style-type: none"> - basic information dissemination, - publicize success stories (e.g. implementation of FBI at CRC), - employee suggestion program, - distribution of water conservation tips 			

4.4 PROCUREMENT

The Issue

Procurement practices have important environmental implications because they provide an opportunity for organizations to determine the characteristics of the goods and services they use. To make appropriate decisions, procurement officers need to know the full life-cycle impacts of the available alternatives including the impacts of production (e.g. recycled materials), use (e.g. efficient design), and disposal (e.g. recyclable waste). By applying a 4Rs hierarchy (reduction before re-use before recycle before recovery) to purchasing decisions, the environmental impact of products and services can be minimized.

The Treasury Board's Material Management Policy contains guidelines on incorporating environmental considerations in purchasing, as well as use and disposal of material. The guidelines emphasize the need to adopt a life-cycle approach and a 4Rs hierarchy. In addition, Environment Canada and others have developed useful training and information tools to assist in the decision-making process (e.g. checklists, computer-based training, databases, etc.). Programs such as the federal government's *Environmental Choice* and *EnerGuide* programs, Canadian utilities' *PowerSmart* and the U.S. Government's *Energy Star* exist to inform consumers about the environmental and energy performance of products.

Current Status

The Department's total expenditures on goods and services are approximately \$270 million (this is expected to decrease to \$170 million by 1999-2000). This total includes approximately \$21 million for utilities, materials and supplies, and approximately \$11 million for machinery and equipment. Actual consumption of materials is not presently measured, however it is clear that the Department buys significant quantities of paper.

The Department has adopted a green procurement policy which encourages the purchase of environmentally friendly goods and services, however, there are no systematic policies or tools that allow procurement officers to consider the issues in a consistent manner.

Strategy

The overall strategy will be to rely on the baseline survey (see 4.2) to identify the key categories of goods and

services that would benefit from more systematic attention. The Department will evaluate, adapt, and adopt tools to assist procurement officers in making green choices. Paper products will be targeted for immediate action.

**Table 3
Procurement Action Plan**

Item	Plan	Targets	Cost	Lead
Recycled Paper	Establish baseline and monitor purchases	Increase proportion of re-cycled paper purchases to 50% of all paper purchases by January 1999	To be determined (costs to be absorbed by individual managers)	Contracts and Material Management
	Experiment with different products to assess performance			
	Prepare lists of recommended suppliers			
	Departmental Stores to reduce purchases of virgin paper by 20%			
	Include use of recycled paper clause in contracts for services			
	Conduct employee information and awareness program (through E-mail as much as possible), including: <ul style="list-style-type: none"> - results of experiments. - publicize success stories. - reminders of the importance of using recycled paper. 			
Green Procurement	Establish baseline and monitor purchasing practices	Policy in place by January 1998. List of suppliers in place by January 1999 Complete other actions by June 1998.	Minimal	Contracts and Material Management
	Develop and adopt buy "green" policy based on life cycle impacts.			
	Make available lists of recommended suppliers and products.			
	Departmental Stores to stock and promote "green" items.			
	Incorporate "green" criteria in the contracting process.			
	Conduct employee information and awareness program (through E-mail as much as possible), including: <ul style="list-style-type: none"> - promote buy "green" policy. - include "green" commitment on credit cards and credit card agreement. - publicize success stories (e.g. CRC). - provide list of "green" products online 			

4.5 AUTOMOTIVE FLEET MANAGEMENT

The Issue

Vehicles consume fossil fuels and produce emissions that lead to climate change, smog and other urban air pollution problems. Using alternative fuels, reducing vehicle use, improving fuel efficiency, and maintaining vehicles in good repair conserves fossil fuels and reduces harmful emissions.

The *Alternative Fuels Act* requires that federal departments use alternative fuels in at least 75 percent of vehicles and that, by the year 2000, 75 percent of vehicles purchased be capable of using alternative fuels (where operationally feasible and cost-effective).

In addition, Treasury Board's Motor Vehicle Policy includes requirements for the use of alternative fuels in bi-fuel vehicles, for emissions testing, "green" driver training, information management, reporting and auditing.

To support action in this area, Treasury Board, Natural Resources Canada, Environment Canada and Public Works and Government Services Canada have launched a government-wide initiative titled *FleetWise*. The *FleetWise* initiative involves the preparation of action plans and information gathering systems to reduce the size of fleets, improve fuel efficiency, improve driver operation, and increase the use of cleaner fuels. Support is provided in the form of pilot projects, standards, guidelines, technical support, and information dissemination.

Current Status

The Department has amended its Motor Vehicles Policy (Comptroller Bulletin), procedures and guidelines to implement the requirements of the *Alternative Fuels Act* and the Treasury Board policy.

Measures have been taken to establish baseline information on vehicle characteristics, distances travelled, fuel efficiency, and emissions, however, this information needs to be analysed to identify opportunities for improvement. Although some of the Department's 1000 regular drivers have taken "green" driver training, no systematic program has been offered.

Strategy

The strategy is to analyse the baseline information on vehicles and to implement a variety of measures, dealing with procurement, conversions, and driving practices. Wherever possible, resources from *FleetWise* will be used to support the Department's actions.

**Table 4
Fleet Management Action Plan**

Item	Plan	Targets	Cost	Lead
Alternative Fuels	Establish baseline information and monitor changes using standardized reports on the state and performance of the fleet	As required by the <i>Alternative Fuels Act</i> to use alternative fuels in at least 75% of vehicles, where operationally feasible and to purchase alternative fuel vehicles as follows: - 50% by 97/98, - 60% by 98/99, - 75% by 99/2000.	Costs vary between \$1000- \$3000 for conversions and \$2000- \$5000 for new vehicles. These costs would be recouped over four years as a result of lower fuel costs.	Contracts and Material Management
	Implement new Departmental Motor Vehicle Policy on alternative fuels			
	Review the present fleet composition to identify opportunities for alternative fuel conversions and make conversions, where justified			
	Procure new alternative vehicles in accordance with the Departmental Policy			
	Communicate reasons for the switch to drivers and Managers. Promote use of FleetWise guidelines and software.			
Green Driver Training	Organize training sessions for regular drivers using FleetWise training materials	To train all regular drivers by April 2000.	\$30 000 over three years	Contracts and Material Management
	Test trainees before and after training			
	Invite casual drivers to attend training.			
	Promote self-directed training materials. Distribute "green" driving tips by E-mail and post in vehicles.			
Fleet Management	Incorporate FleetWise Program requirements in policies and procedures.	Reduce emissions by 30 percent by the year 2000 (relative to 1990).	Minimal	Contracts and Material Management
	Verify fleet composition against standard recommendations.			
	Develop fleet management standards and incorporate them in the Departmental Motor Vehicle Policy. Investigate new fleet management practices, including: - rental agency management practices; - allowing use of employee-owned vehicles;			

	- sharing vehicles with other departments			
	Design a maintenance checklist based on FleetWise Program			
	Test vehicles to establish an emissions baseline and encourage periodic inspections			
	Ensure the use of "green" service centres whenever possible.			
	Inform drivers and managers of new Motor Vehicle Policy and of the importance of providing the necessary information			

4.6 NON-HAZARDOUS WASTE

The Issue

The generation of waste is a major cause of environmental impacts on air, water and soil. In the case of Industry Canada, the main concern is solid, non-hazardous waste (mainly paper). This waste, when disposed of as garbage, ends up in landfills or incinerators. By consuming some of the capacity of landfills and incinerators, the waste creates pressures for new facilities and further increases environmental impacts on soil, groundwater and air quality. Waste disposal is expensive in terms of direct costs and in terms of the missed opportunities to reduce the input of materials.

By adopting a pollution prevention approach which emphasized a hierarchy of waste management (4Rs), Industry Canada can reduce costs, while minimizing its contribution to disposal problems.

Current Status

Recognizing the opportunities, the Department has already undertaken initiatives to reduce the amount of wastes sent to landfill. Examples includes:

- **Papersave.** Industry Canada participates in the federal government's fine-paper and old corrugated cardboard recycling program.
- **Multi-material recycling.** Industry Canada has implemented programs (dealing with cans, bottles, newspapers, etc.) in a number of locations, including CRC.
- **Recycling and reuse of wood.** A program has been implemented at CRC.
- **Waste Audits.** Audits have been performed at Industry Canada headquarters and in some regional offices.

Although some waste audits have been completed, baseline data on waste generation is only partially available. The available data (from the C.D. Howe building) indicates relatively higher levels of recycling for fine paper, newspapers, glass and aluminum, and much lower levels for other materials.

Strategy

The overall strategy will be to rely on the baseline survey (see 4.2) to identify the key opportunities for application of 4Rs measures. In the meantime, the Department will implement cost-effective measures, focussing on reduction and reuse of paper, office supplies and office equipment and the recycling of items that currently end up in landfills.

**Table 5
Non-Hazardous Waste Reduction Action Plan**

Item	Plan	Targets	Cost	Lead
Paper 4Rs	Establish baseline information.	In accordance with the overall <i>Green Plan</i> target, reduce solid waste generation by 50%	Minimal	Facilities Management

	Reduce waste by promoting E-mail, E-filing, E-forms and other "paperless office" tools.	over 1988 levels by 2000.		
	Promote double-sided printing on copiers and printers			
	Continue and improve PaperSave program			
	Conduct employee information and awareness program (through E-mail as much as possible), including: -basic information dissemination. -publicize success stories (e.g. PaperSave). -distribution of 4Rs tips and posting them on printers, copiers and fax machines.			
Reusing Supplies and Equipment	Set up central locations on each floor, or in each facility, to store office supplies and equipment that can be reused. Conduct pilot program, evaluate it, then expand it, modify it, or abandon it. The program will involve: -locating space and establishing operating procedures. -transferring items that are not reused to Crown Assets or donating them to charity.	To establish three pilot depots by March 1998 To evaluate the results and take appropriate decisions by December 1998	Minimal	Facilities Management
	Conduct employee information and awareness program (through E-mail as much as possible), including: -opportunity for convenient drop-off, -availability of free supplies and materials. -success stories and other relevant news.			
Enhanced Recycling Program	Expand multi-material recycling to include the entire headquarters building and other Industry Canada sites. Expand program to include: - low-grade paper; - food waste (where feasible); - polystyrene; - metals and glass.	In accordance with the overall Green Plan target, reduce solid waste generation by 50% over 1988 levels by 2000.	Minimal	Facilities Management
	Conduct employee information and awareness program (through E-mail as much as possible), including: -basic information dissemination, -publicize statistics and success stories, -information on what can be recycled, -publicity (e.g. formal launch, logo, slogan, posters, contests).			

4.7 HAZARDOUS MATERIALS MANAGEMENT

The Issue

If not handled correctly in use, storage, transportation and disposal, hazardous materials represent a risk to the environment and human health. In some cases, the risk outweighs the usefulness of the materials and measures are warranted to cease production and use of these materials, and to safely dispose of them. Examples of substances of concern include persistent, bioaccumulative and toxic substances such as PCBs, and ozone depleting substances such as halons. The first are a direct threat to human health and ecosystems; the second contribute to a thinning of the stratospheric ozone layer that protects the earth from the damaging effects of the sun's ultraviolet radiation.

Regulations issued under the *Canadian Environmental Protection Act (CEPA)* deal with the management of a variety of toxic substances and with underground storage tanks.

Current Status

The Department has already virtually eliminated all uses of toxic substances and has begun the removal of ozone depleting substances (primarily halons used in computer facilities). The Department has no known contaminated sites and a limited number of underground storage tanks.

Strategy

To complete the removal of ozone depleting substances, to inspect all underground storage tanks, and to rely on the baseline survey (and follow-up audits if necessary) to identify any hidden uses or storage sites for toxic substances.

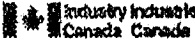

**Table 6
Hazardous Materials Action Plan**

Item	Plan	Targets	Cost	Lead
Replacing Halon Fire-Suppression Systems	Replace halon in the fire suppression system in the C D Howe building.	To eliminate halon from Industry Canada facilities by April 2000	\$85 000 for C.D. Howe building (offset by \$10 000 value of halon). Other costs to be determined.	Facilities Management
	Identify other uses of halon, investigate options for replacement, and implement replacement projects.			
Risk Assess- ments	Identify and audit facilities that may be using toxic materials.	To identify facilities at risk and complete audits and inspections by April 1999	Initial risk assessment to be included in baseline survey (see Table 1).	Facilities Management
	Identify and inspect underground storage tanks			

⁴ The FBI is a program, administered by Natural Resources Canada, that provides an innovative financing mechanism that allows departments to enter into energy service contracts with pre-qualified energy management firms and use energy savings to pay for the costs of the work. The program also addresses water use.

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5. ACTION PLAN UPDATES AND PROGRESS REPORTS

5.1 UPDATES TO ACTION PLAN

This Plan will be updated to reflect information obtained through the baseline survey. Additional updates will be completed as follows:

- Minor updates will be completed annually to adjust the plan to reflect evolving circumstances
- A complete update will be undertaken every three years to coincide with submission of updates to the Department's Sustainable Development Strategy.

5.2 PROGRESS REPORTS

Progress reports will be prepared annually, to coincide with preparation of the Department's overall Performance Report.

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