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Transport Canada

Environmental Performance Report 2002

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Introduction

In 2002, Transport Canada continued working actively to achieve commitments set out in the department's second Sustainable Development Strategy (SDS)—commitments that will ensure Canada has a safe, efficient and environmentally responsible transportation system for years to come.

The strategy's 29 commitments for action include concrete targets and indicators that will enable measurement of the strategy's performance. New initiatives focus on air and water pollution, urban transportation, alternate-fuel vehicles, climate change, strategic environmental assessment, R&D in intelligent transportation systems, sustainable transportation indicators, data improvement and modal integration.

A key SDS challenge involves "Improving Environmental Management for Transport Canada Operations and Lands." The department is meeting this challenge through its Environmental Management System (EMS). The EMS helps the department better understand the nature of its environmental impacts and set an example for others in the transportation sector. Transport Canada is also supporting emerging environmental technologies in the marketplace by purchasing alternative fuel vehicles for its fleet.

Transport Canada is responsible for a wide range of operations and approximately 1,110 properties, including fleets of aircraft and vehicles, as well as stores, warehouses and offices in central and remote sites across the country.

Although the department no longer directly operates many components of the transportation system, it retains the role of landlord and overseer for major components, including the National Airports System. In this role, Transport Canada is responsible for ensuring appropriate stewardship of its lands and facilities.

This annual report details ongoing efforts and progress made toward meeting the challenge of environmental stewardship through the development and delivery of environmental programs that target the facilities, lands and operations of the department. The report begins with information on the department's performance in achieving targets set out in Transport Canada's Environmental Management System. Detailed reporting follows, itemizing ongoing activities in the department's three primary environmental programs: the Environmental Protection Program, Evaluation and Mitigation Program, and Environmental Assessment Program.

Section 1

ENVIRONMENTAL MANAGEMENT PROGRAM

Transport Canada's mission is to develop and administer relevant, up–to–date policies, regulations and programs that help ensure a safe, secure and sustainable national transportation system.

One of the department's strategic objectives is to protect the environment. The department is meeting this objective by taking environmental considerations into account not just in its policy and regulatory role, but also in its day-to-day operations.

Transport Canada's *Sustainable Development Strategy* (SDS) *2001-2003* describes how the department can better integrate environmental considerations into its mandate. The strategy sets out principles that define the department's interpretation of sustainable development in relation to the transportation sector. The SDS also identifies seven priority challenges and 29 commitments for action. As part of its effort to meet the commitment titled "Improving Environmental Management for Transport Canada Operations and Lands," Transport Canada established the Environmental Management System (EMS).

Environmental Management System

Based on ISO 14001 environmental management-systems standards, Transport Canada's EMS helps improve the department's environmental practices and to mitigate environmental impacts of departmental operations. The system commits the department to achieving six objectives and targets.

1. Air Emissions

Target: Establish an accurate baseline of greenhouse gas (GHG) emissions by 2001-2002. Report departmental GHG emissions annually beginning in 2001.

Status: A GHG baseline was established in 1998-1999; however, in fiscal year 2001-2002 the department determined that it had not previously accounted for the GHG emissions of three marine vessels in the over-30m classification. As a result, the baseline year was modified to account for this discrepancy.

Target: Adopt a formal GHG-reduction target, based on a share of the federal reduction target, by 2001-2002.

Status: In 2001, the government of Canada announced its intention to reduce its own GHG emissions to 31 percent of 1990 levels by 2008-2012. To help meet this goal, Transport Canada must reduce its emissions by four percent from its 1998-1999 GHG baseline. When the revised marine-vessel inventory was taken into account, and the baseline was adjusted, Transport Canada's emissions increased by two percent.

Target: Ensure 50 percent of vehicles purchased between 2001 and 2003 are low-emission vehicles (low emission vehicles refers to alternative fuel vehicles and hybrids).
Status: On track. During calendar year 2002, 15 of the 50 (30 percent) vehicles purchased by Transport Canada were either alternative-fuel or hybrid (gas-electric) powered.

2. Contaminated Land (see page 17)

Target: Develop a contaminated-site management framework by 2001-2002.
Status: On track (draft due at Treasury Board Secretariat by July 1, 2003).

Target: Inventory and remediate or risk-manage all sites by 2003-2004.
Status: Ongoing (475 sites identified, 447 investigated, 28 suspected).

3. Storage Tanks (see page 20)

Target: 100-percent compliance with CEPA Tank Technical Guidelines
Status: Ongoing.

4. Non-hazardous Waste

Target: Implement or increase non-hazardous waste recycling at selected Transport Canada Centres.
Status: On track. Recycling programs in place at Transport Canada regional offices, facilities and some Transport Canada centres **(see page 8, Environmental Monitoring Program)**.

5. Environmental Emergencies

Target: Develop or revise emergency plans for Transport Canada owned and operated facilities by 2003-2004
Status: On track. Under new provisions of the Canadian Environmental Protection Act (CEPA) 1999, facilities that handle hazardous substances are required to develop and implement environmental-emergency plans. During 2002, Transport Canada initiated a process to ensure compliance at all department-owned and operated facilities that handle hazardous substances. The department is committed to completing this process and ensuring that, where warranted, environmental emergency plans are revised and implemented for all facilities by December 2003.

6. Environmental Awareness

Target: Establish baseline awareness of Transport Canada employees by 2001-2002.
Status: On track.

Target: Deliver targeted environmental-management and sustainable-development awareness programs by 2003-2004.
Status: On track (program development initiated).

Pacific Region Success Story

A Multi-committee Approach to EMS Development

Establishing an effective committee is often an important precursor to the development and implementation of an Environmental Management System (EMS). However, Transport Canada's Pacific Region (PR) has taken a different approach, and is developing and implementing its EMS through existing workplace committees. This new approach ensures that the valuable ideas and talents of PR's sizeable staff can be fully utilized.

This approach has proven effective for a variety of reasons, including:

- **savings in time and resources that would otherwise be spent establishing and operating a new committee;**
- **procedures and lines of communication already established in existing committees;**
- **environmental components can easily be added to the responsibilities of various committees; and**
- **existing committees possess specific, valuable knowledge that can be applied to achieve EMS goals.**

For example, the Pacific Region Light Vehicle Committee is without doubt best qualified to assess potential fleet environmental impacts and identify realistic measures to reduce GHG emissions.

Existing committees play a pivotal role in the formation of the EMS by identifying—and determining the significance of—aspects of PR operations that may affect the environment. With guidance from Environmental Services, the committees set objectives and targets, implement management programs and decide how to measure performance. The following committees are currently involved in the development and implementation of Pacific Region's EMS:

The Regional Administrative Committee (RAC)

RAC provides a forum for the exchange of information on administration issues within the region. During meetings, RAC members share best practices and concerns regarding various aspects of the day-to-day office operations. Recognizing that Transport Canada administrators play a key role in the 'greening' of government, the RAC recently added environment to its areas of responsibility. RAC has begun to undertake EMS activities during regular meetings. One of the first initiatives was an Office Battery Recycling Program, which helps reduce the amount of hazardous waste sent to local landfills. The committee is currently reviewing practices and policies governing the purchase of paper products and printer cartridges.

The Pacific Region Light Vehicle Committee (LVC)

Pacific Region Light Vehicle Committee oversees PR fleet management. As part of the regional EMS, the LVC is working to adopt an Alternative Fuel Vehicle Decision Record for Fleet Replacement, which will help the committee meet the requirements of the Alternative Fuel Act while reducing fleet emissions. The committee is also examining ways to improve the driving practices of fleet-vehicles users and reduce fuel consumption and GHG emissions.

VERTE (Very Environmentally Responsible Transport Employee) Commute

The VERTE Commute committee's connection to the EMS is clear: formed in 2001, VERTE helps employees make sustainable-transportation choices for business and workplace travel. Ongoing activities managed by VERTE include:

- administering a discounted employer transit-pass program;
- promoting car-pooling through existing programs; and
- organizing the annual Commuter Challenge and other awareness events.

In addition, the committee recently finished a commuter survey that will provide valuable baseline information against which VERTE can measure the performance of its programs.

Section 2

ENVIRONMENTAL PROTECTION PROGRAM

Transport Canada's Environmental Protection Program (EPP) helps ensure that the department complies with applicable environmental laws, regulations and policies. An important objective of the EPP is to reduce the environmental impact of employee activities such as workplace commuting and business travel. In 2000, the department launched a Green Commute program to change commuting habits of Transport Canada employees in the National Capital Region. The scope of the program has since been broadened to assist other employers in increasing commuting options available to their employees.

Transport Canada also works with other transportation stakeholders to develop environmental-protection practices and standards for the transportation sector. Examples include:

- working with airports and airlines to minimize the environmental effects of de-icing fluids;
- working with Environment Canada and industry stakeholders to find ways to manage road salts and reduce harm to the environment; and
- participating in the work of ICAO's Committee on Aviation Environmental Protection (CAEP) concerning aircraft emissions, noise, and airport land-use planning.

Canadian Environmental Protection Act (CEPA) Issues

Air Quality

Mobile Air-monitoring Laboratory

CEPA sets out a variety of air-quality objectives concerning air pollutants found in the vicinity of airports. To sample and analyze these pollutants—and determine whether airport air quality is within acceptable federal and provincial limits—Transport Canada established a mobile air-monitoring laboratory. The laboratory tests for a range of major pollutants, including:

- *Carbon monoxide*, which results from the incomplete combustion of hydrocarbon fuels in idling aircraft engines, ground vehicles and heating plants.
- *Nitrogen oxides*, which are products of the high-temperature combination of nitrogen and oxygen in aircraft and other internal-combustion engines.
- *Total suspended particulate matter*, which includes both liquids and solid particles found in ash, soot, smoke, fumes and dust resulting from combustion and erosion processes.
- *Hydrocarbons*, which are produced during fuelling activities and incomplete combustion processes.
- *Ozone*, which is a secondary product resulting from photochemical reactions.

The mobile lab spends approximately 12 months at an airport to gather a broad base of data and investigate seasonal fluctuations that may affect air quality. Between November 2001 and October 2002, Transport Canada's mobile laboratory monitored air quality at Victoria International Airport. The department expects results to be released in 2003.

Water Quality

Glycol
Prior to flight departures during periods of inclement winter weather, airlines spray a heated glycol-based fluid on aircraft surfaces. Although glycol sometimes pollutes air and groundwater, of greater significance is the hazard to aquatic life posed as a result of stormwater discharges to surface waters.

Although existing environmental legislation does not specifically require water monitoring, federal, provincial and municipal laws do specify water quality standards and guidelines to be followed by industry. According to the *Canadian Environmental Protection Act*, for example, the level of glycol at an effluent-discharge point should not exceed a total concentration limit of 100mg/L. To ensure that airport effluent does not negatively impact on the environment, Transport Canada has implemented a program to sample and analyze stormwater at its airports. Water-quality programs have also been established by Local Airport Authorities and Canadian Airport Authorities.

To ensure responsible environmental management of glycol, both Transport Canada airports and local airport authorities have implemented, in conjunction with air carriers, detailed glycol mitigation plans and procedures. These plans and procedures are detailed in the 2001-2002 Glycol Monitoring Program Annual Report, which was completed and forwarded to Environment Canada in 2002.

Protection of the Environment

Road Salt
Environment Canada initiated consultations with various stakeholders in April 2002, seeking better ways to manage road salts and minimize their environmental effects. The consultations are expected to continue through December 2003.

As Transport Canada's primary role is to ensure the safety of Canada's transportation system—and as no practical road de-icing alternative currently exists—the Government of Canada will not ban road salts. Currently, the government intends to prepare a Code of Practice for the management of road salt, building on previous work by the Transportation Association of Canada. The code will be part of a comprehensive environmental risk-

management strategy that focuses on the development of best practices for road-salt storage, spreading and disposal while ensuring that road safety is not compromised.

Nonetheless, Transport Canada supports any efforts, such as those of Environment Canada, aimed at protection of the environment and reducing the impact of road salts.

Transport Canada expects that Environment Canada will continue to work with stakeholders in an effort to achieve a common departmental objective: improved environmental protection that does not compromise safety.

Federal House in Order Initiative

Under the Federal House in Order (FHIO) initiative, Transport Canada is required to report on GHG emissions related to four transportation categories (air, marine, on-road vehicles and field equipment), as well as emissions resulting from energy consumption in buildings.

Transportation Sector

Category	1998-1999 CO_2E (t)	1999-2000 CO_2E (t)	2000-2001 CO_2E (t)	2001-2002 CO_2E (t)	% Change From 98/99 CO_2E (t)
On-Road	2,583	3,107	2,048	1,942	-25%
Aircraft	14,768	13,207	13,207	12,302	-17%
Marine	43,552	43,194	44,400	45,235	4%
Field	7,677	10,706	6,605	4,490	-42%
Total	**68,580**	**70,214**	**66,260**	**63,968**	**-7%**

CO_2E emissions based on fuel consumption for fiscal years 1998/1999 to 2001/2002.

A GHG baseline was established in 1998-1999; however, in fiscal year 2001-2002 the department determined that previous inventories had not accounted for the GHG emissions of three marine vessels in the over-30m classification. The addition of these vessels increased marine GHG emissions by approximately 30,000 tonnes of CO_2E, indicating a 197-percent increase over the baseline year. Based on a corrected baseline (see table above) that includes the additional vessels in each year, a trend analysis shows that the marine sector has experienced a four-percent increase in emissions since 1998-1999.

Buildings

Year	Percentage change (measured in tonnes of CO_2 equivalent) from 1998/1999
1998/1999	0%
1999/2000	-09%
2000/2001	-50%
2001/2002	-52%

Since the 1998-1999 baseline year, GHG emissions related to department-owned buildings have decreased by 52 percent. However, this reduction will not be factored into Transport Canada's targets, since it is attributed largely to divestitures.

Buildings and Transportation combined

Category	1998-1999 CO_2E (t)	1999-2000 CO_2E (t)	2000-2001 CO_2E (t)	2001-2002 CO_2E (t)
Transportation	68,580	70,214	66,260	63,969
Buildings	23,600	21,400	11,700	11,399
Subtotal	**92,180**	**91,614**	**77,960**	**75,368**

Environmental Monitoring Program

Transport Canada's Sustainable Development Strategy 2001-2003 calls for the development and implementation of an environmental monitoring program (EMP) for all department-owned properties, including those operated by third parties, by 2003-2004. In response, Transport Canada established a comprehensive EMP to:

- ensure compliance with applicable legislation and regulations;
- promote conformance with Government of Canada and Transport Canada policies and practices,
- ensure environmental clauses in ground lease agreements are honoured; and
- ensure operations are consistent with sound environmental practices and sustainable-development objectives.

Currently, Transport Canada undertakes environmental monitoring according to five evaluation protocols developed to assess the department's various operations and land holdings:

- Environmental Management System Audit
- Environmental Compliance Evaluation
- Environmental Conformance Evaluation
- Environmental Property Evaluation
- Environmental Assessment Quality Assurance Program

2002 Environmental Monitoring Activities

In 2002, the department conducted environmental monitoring activities at 21 airports that are operated by authorities under lease agreements with Transport Canada. Activities included site visits and facility tours, document reviews, as well as interviews with personnel responsible for managing environmental issues.

In general, monitoring activities revealed that authorities had fulfilled the environmental responsibilities set out in ground-lease agreements. Environmental-management plans had either been developed or were nearing completion, and environmental-protection programs were well established. Most airport authorities had exceeded lease requirements by developing comprehensive environmental-management systems, demonstrating good management practices and due diligence.

As a result, Transport Canada is confident that a significant portion of its land holdings is being managed in an environmentally responsible manner.

In addition to airport-monitoring activities, in 2002 the department also conducted environmental evaluations at several other sites across the country. These included:

- waste audits at various Transport Canada locations (detailed in the waste-management section);
- environmental baseline studies and exhaustive inventories of contaminated sites, drinking-water wells and storage tanks on the Pickering Lands Site; and
- a compliance audit of aviation-fuelling operations at Sandspit airport.

The department also finalized the Environmental Assessment Quality Assurance Program Manual, which establishes the evaluation protocols to be followed when reviewing Transport Canada's compliance with the Canadian Environmental Assessment Act.

Waste Initiative

In 1995, the Federal Government of Canada announced the policy on Greening of Government Operations (GGO), which states that all federal departments and agencies must develop Sustainable Development Strategies (SDSs) and Environmental Management Systems (EMSs). Specifically, the GGO policy states that each federal department must implement environmental initiatives in seven areas of operation: procurement, waste management, water usage, energy usage, motor-vehicle fleets, land-use management, and human-resource management. The departments must also measure and report the results of these initiatives.

An example of Transport Canada's commitment to the GGO policy requirements is the No Waste initiative, which was launched in 1997 at departmental headquarters, located in Tower C of the Place de Ville complex in downtown Ottawa. This extensive waste-management initiative aims to significantly increase non-hazardous waste recycling in departmental offices.

Since implementing the initiative, the department has conducted waste audits on a regular basis to measure and report on performance, and to reveal opportunities for improvement. Results of the March 2002 audit show Transport Canada employees in Tower C:

- diverted approximately 80 percent (148,018 kg) of waste material from landfills over a period of one year;
- achieved excellent capture rates for paper and corrugated cardboard recycling streams (but can significantly improve capture rates for rigid plastic, metal and polystyrene);
- used more than 13 million sheets of paper per year; and
- saved approximately $4,046 per year in paper-procurement costs by using both sides of four percent of this paper.

The waste-audit results indicate that Transport Canada employees continued to exceed the department's 75-percent waste reduction goal. However, the results also indicate that an 85-percent diversion rate could be achieved. Among other recommendations, the audit suggests that the department:

- implement focused communications initiatives to improve employee awareness of specific No Waste activities;
- develop further paper-reduction techniques, such as circulating individual documents for review instead of printing multiple copies; and
- work with the property manager to address problems with recycling streams.

Environmental Awareness Activities

Outside-emissions Reduction Initiatives

The phrase 'outside emissions' refers to GHG emissions that are not directly attributable to the Government of Canada but result from federal employee activities such as workplace commuting and business travel. With approximately 300,000 government employees undertaking such travel each day, substantial GHG emissions are created. In fact, a recent Transport Canada analysis determined that federal employee commuting and business travel generate approximately 1.5M tonnes of emissions each year—roughly equivalent to the annual GHG emissions from 350,000 automobiles.

Through a variety of outside-emissions reduction (OER) initiatives, Transport Canada demonstrates environmental leadership by providing employees with opportunities to reduce their own GHG emissions. Through a range of policy and communication instruments, these initiatives promote a variety of commuting and business-travel options, such as telecommuting and videoconferencing. More information about OER initiatives can be found at http://www.fhio.gc.ca.

Green Commute Program (GCP)

Transportation emissions account for approximately 25 percent of Canada's total GHG emissions. Three quarters of these emissions come from road transport—primarily personal vehicle trips. Transport Canada's Green Commute Program promotes environmentally friendly workplace travel, and sustainable transportation in general. Through the program, employees become conscious of their travel patterns, make changes to reduce the number and distance of vehicle trips, and demonstrate positive, sustainable-transportation habits to the community at large.

As proposed in Transport Canada's 2001 Environmental Performance Report, the department has fulfilled its commitment to expand the GCP by developing and disseminating the Commuter Options Guide.

Commuter Options Guide

This comprehensive package is designed for Canadian employers in all sectors who want to enhance the commuter options available to their employees. The guide is based on years of international experience, but focuses on specific Canadian examples and resources to provide a range of innovative and practical ways to make commuting easier, healthier and less expensive.

The *Commuter Options Guide* includes all materials that business groups, government agencies and non-profit organizations require to deliver effective alternative-commuting training workshops. The guide also identifies numerous green-commuting resources, including other Canadian agencies that offer related support services to employers.

Transit Pass Pilot Project

One of the ways the federal government demonstrates leadership in reducing GHG emissions and promoting awareness of sustainable transportation, is through the Transit Pass pilot project, an initiative of Transport Canada. This innovative project enables employees of four federal government departments in the National Capital Region (NCR) to purchase discounted annual transit passes through monthly payroll deductions.

The Transit Pass pilot project is based on a partnership between the Government of Canada and the local transit authorities: OC Transpo in Ottawa, and Société de transport de l'Outaouais in Gatineau. Participating departments signed service agreements with the transit companies, committing to the project for a period of one year from November 1, 2002, to October 31, 2003.

The project offers many benefits, including GHG-emissions reductions, cost savings for employees, and improved access to environmentally sound commuting. If successful, the project could be expanded to involve other departments and cities across Canada.

2002 Environmental Awareness Highlights

Environment Week

Transport Canada NCR employees participated in the National Commuter Challenge during Environment Week, June 3-7, 2002. This five-day event is an annual competition to determine which Canadian city can achieve the greatest pollution reductions by using sustainable methods of transportation. Since the use of fossil fuels is one of the leading causes of air pollution and GHG emissions, participants opted for environmentally friendly methods of transportation throughout the week—walking, cycling, in-line skating, transit, car-pooling and telecommuting at every opportunity.

Transport Canada made an impressive showing in the Challenge, finishing second among businesses with more than 1,000 staff. Nearly 60 percent of Transport Canada's NCR employees participated in the event, reducing vehicle emissions by 38.2 tonnes (38,208 kg).

Clean Air Day

On June 5, 2002, Transport Canada helped celebrate Clean Air Day by co-sponsoring an awareness campaign in partnership with the Canadian Urban Transit Association. The campaign included a series of clean-air and climate-change messages, which were posted on buses in 61 cities across Canada, to encourage use of more sustainable modes of transportation.

Transport Canada Express

The Transport Canada Express is the national newsletter for Transport Canada employees. Articles are provided for the newsletter to help raise awareness among departmental employees on issues related to the environment.

Quebec Regional Success Story

Opting for an Environmentally Friendly Photocopier
Transport Canada, Québec Region

Since 2002, employees of Transport Canada's Surface Group in the Quebec Region have been using a digital photocopier, which doubles as a photocopier and printer. The digital photocopier has proven to be much more environmentally friendly than a conventional photocopier for a variety of reasons:

- **digital-photocopier cartridges can be re-used until they wear out, and can then be recycled;**
- **noise-pollution levels are 30-decibels lower than those of conventional photocopiers;**
- **power-saving mode can be programmed according to specific needs of users;**
- **European Blue Angel certification ensures that a majority of the machine's parts are recyclable; and**
- **approximately 40,000 copies can be made on each cartridge, compared to an average of 10,000 copies per cartridge in conventional photocopiers.**

The benefits of this digital photocopier have encouraged staff to consider other environmental alternatives for the office, demonstrating that even small steps can lead to greater environmental awareness.

Work with Other Organizations

Smog Summit 2002

On June 21, 2002, the third Toronto Smog Summit brought together members of the Greater Toronto Clean Air Council (GTA-CAC) to continue to explore ways to improve air quality in the Greater Toronto Area. GTA-CAC is an inter-governmental working group dedicated to development of joint clean-air initiatives, and to liaisons with municipalities across Canada to identify smog-reduction best practices.

The 2002 Smog Summit culminated with the signing of the Toronto 2002 Inter-Governmental Declaration on Clean Air, which lists new commitments made by all levels of government, as well as actions taken collaboratively. These new commitments include two projects in which Transport Canada is deeply involved: the Government of Canada Employee Transit Pass Pilot Project and the Transit Studies.

Transport Canada also contributed *Governments' Actions on Clean Air in the Greater Toronto Area*—a comprehensive inventory of municipal, regional, provincial and federal government clean-air activities in five key areas:

- Transportation
- Energy
- Business, industry and government
- Natural and built environment
- Education and outreach

International Civil Aviation Organization (ICAO)

International Workshop on Aviation Operational Measures for Fuel and Emissions Reduction
On November 5-6, 2002, at the National Art Gallery of Canada in Ottawa, Transport Canada proudly hosted the second in a series of international workshops on operational measures for reducing fuel consumption and emissions. The first of such workshops was held in Madrid, Spain, in May 2002.

The goals of the technical workshop were to:

- highlight information on fuel-consumption and emissions reductions, as identified in a circular published by ICAO; and
- share aviation-industry best practices in emission reductions.

The workshop was held as part of an overall strategy to address aviation-sector emissions reductions in response to the United Nations Framework Convention on Climate Change.

The workshop was attended by 90 participants from Canada and around the world, including representatives from government and industry, as well as a delegation from the ICAO Air Navigation Commission. Panels were convened on issues such as air-traffic management, airline planning, flight and airport operations.

The event presented a unique opportunity for Canada to promote its ICAO contributions, and also enabled Transport Canada to meet a commitment under the Freight Efficiency and Technology Initiative (FETI). FETI is one of five transportation measures in the *Government of Canada Action Plan 2000 on Climate Change*, it is a five-year initiative to reduce GHG emissions from freight transportation. The initiative has three components:

- encourage the use of innovative technologies and efficient best practices within the freight-transportation sector through the Freight Sustainability Demonstration Program;
- solicit the freight-transportation industry's participation in emissions-reduction initiatives through voluntary performance agreements; and
- increase fuel efficiency and environmental training and awareness among freight operators and shippers.

The freight initiative is expected to result in GHG emission reductions of approximately 2 megatonnes by 2010. Transport Canada is leading this $14 million initiative with the cooperation of Natural Resources Canada.

Ontario Success Story

Green Space Strategy
Oak Ridges Moraine
Pickering, Markham and Uxbridge, Ontario

The Green Space Strategy was established following the Transport Minister's announcement on March 23, 2001, "that the federal government will take immediate action to further protect the federally owned portion of the Oak Ridges Moraine and areas around the Rouge Park as green space." The environmentally sensitive Oak Ridges Moraine is located on the northern portion of the Pickering Lands, encompassing 7,530 hectares (18,600 acres) and more than 700 properties owned by the Government of Canada in Pickering, Markham and Uxbridge.

Through the Green Space Strategy, environmental groups, federal and provincial agencies, and the community will work together to preserve approximately 2,251 hectares (5,562 acres) of the moraine. In addition, the alternate Rouge Park Corridor along the western boundary will preserve another 800 hectares (2,000 acres).

The federal government's strategy has three components:

Ownership

Following 12 months of consultation with stakeholder groups and careful consideration of all input, the federal government decided to ensure protection of the area by retaining ownership of all of the Green Space lands. By maintaining control of the area, the federal government will be able to address the needs of Pickering Lands stakeholders, and ensure implementation of the Green Space Strategy.

Guiding Principles for Future Green Space Planning

The strategy includes 15 principles that address protection of environmentally sensitive areas, continuation of existing land uses (such as farming and residential activity), preservation of cultural heritage, and restrictions on new development.

Stewardship Advisory Committee

The Green Space Stewardship Advisory Committee (GSSAC) is tasked with development of a vision for the federally owned Green Space Lands. The committee will also assist in development of the Green Space Master Plan, which will address the long-term protection of federally owned portions of the Oak Ridges Moraine and areas around Rouge Park.

Establishing the Stewardship Advisory Committee is an important component in the federal government's management of the Pickering Lands. By involving stakeholders who have a long-standing commitment to the preservation of Rouge Park and the Oak Ridges Moraine, the government has established a transparent process through which a comprehensive master plan can be developed.

Section 3

ENVIRONMENTAL EVALUATION AND MITIGATION PROGRAM

The Environmental Evaluation and Mitigation program ensures that Transport Canada manages its contaminated sites and storage tanks in a responsible manner.

Contaminated Sites Program

As operator, landowner and landlord, Transport Canada continues to manage properties that have been contaminated by commercial and industrial activity. The department is committed to managing these contaminated sites in a responsible manner. This commitment is being met through an ongoing contaminated-site management program, as well as a management policy that requires all contaminated sites on Transport Canada lands to be identified, classified and managed. Furthermore, through its Environmental Management System (EMS), the department has set specific targets for the management of these contaminated sites:

Target: Inventory and remediate or risk-manage all sites by 2003-2004
Status: On track

Target: Develop a contaminated-sites management framework by 2001-2002
Status: A departmental Contaminated Sites Management Plan was developed and submitted to Treasury Board Secretariat on July 1, 2003.

Contaminated Sites by Status

Suspected	28
Under assessment	124
Under remediation	56
Remediated/risk managed	14
Under risk management	115
Remediation complete	69
Remediation by third party	11
Assessed, no action required	58
Total	475

(Transport Canada's Contaminated Sites Database, 2002)

At the end of each fiscal year, Transport Canada is required to submit inventory data for inclusion in the Treasury Board Secretariat's Federal Contaminated Sites and Solid Waste Landfills Inventory (http://publiservice.tbs-sct.gc.ca/dfrp-rbif/cs-sc/home-accueil.asp?Language=EN). To assist in this effort—and to support departmental tracking, reporting and liability-cost accounting activities—Transport Canada maintains an electronic contaminated-sites database, which contains basic parameters for each site, including location, classification and status.

To meet the EMS target to inventory and remediate or risk-manage all sites by 2003-2004, the department has initiated a project through which all Transport Canada properties will be reviewed for potential contamination. Ongoing efforts are ensuring that all Transport Canada sites have been identified; staff are reconciling departmental property records with known contaminated sites entered in the internal contaminated-sites database.

Currently, Transport Canada is tracking sites where the department has a liability or contingency. These sites include transferred facilities, and are classified in accordance with the Canadian Council of Ministers of the Environment (CCME) National Classification System (NCS). Of a total of 475 sites, 447 have been investigated and 28 are suspected of contamination.

CCME NCS Classifications 2002

Class 1 (action required): 52 Transport Canada sites
Available information indicates that action, such as further site characterization, risk management, remediation, etc., is required to address existing concerns. Typically, Class 1 sites raise major concerns due to a range of factors, and because measured or observed impacts have been documented.

Class 2 (action likely required): 142 Transport Canada sites
Available information indicates that there is a high risk of adverse off-site impacts, although threats to human health and the environment are generally not imminent.

Class 3 (action may be required): 93 Transport Canada sites
Available information indicates a site is currently not a major concern. However, additional investigation may be carried out to confirm site classification and, as a result, some action may be required.

Class N (action not likely required): 56 Transport Canada sites
Available information indicates there is probably no significant environmental impact or human-health threats. There is likely no need for action unless new information becomes available indicating greater concerns, in which case the site should be re-examined.

Class I (insufficient data): 132 Transport Canada sites
Additional information is required to properly classify the site.

Total Transport Canada sites: 475

Interdepartmental Contaminated Sites Management Working Group

Transport Canada is an active member and co-sponsor of the Interdepartmental Contaminated Sites Management Working Group (CSMWG). In 2001, the department took part in development of a draft Contaminated Sites Management Framework, which was being undertaken by Treasury Board Secretariat (TBS). In 2002, TBS developed and finalized the framework's policies and best-practices advisories, which will promote a consistent federal approach to contaminated site management. The Contaminated Sites Management Policy (http://www.tbs-sct.gc.ca/pubs_pol/dcgpubs/realproperty/fcsmp-gscf_e.asp), for example, requires departments to prepare and submit five-year Contaminated Sites Management Plans to TBS by July 1, 2003.

Land Occupied by Nav Canada

In 2002, 35 air-navigation sites were cleaned up at a cost of $698,000. These sites were leased to—and are occupied by—Nav Canada, as part of the privatization of the Air Navigation System that occurred in 1996. In accordance with the transfer agreement, Transport Canada is responsible for contamination that occurred prior to 1996.

Prairie and Northern Region Success Story

Remediation and Demolition at Churchill Airport
Churchill, Manitoba

In the summer of 2002, Prairie and Northern Region Environmental Affairs successfully completed a remediation and demolition project of two abandoned buildings at Churchill Airport. Located on the south shore of Hudson Bay, Churchill is the only airport in the region still owned and operated by Transport Canada.

Primary environmental concerns were the presence of asbestos, lead and PCBs in the former Strategic Air Command building, which had been abandoned for 22 years, and the old air terminal building and hangar, which had not been in use for four years. Additional concerns centred on occupational health and safety issues, public safety and aesthetics.

The remediation and demolition project was jointly managed by Transport Canada and Public Works and Government Services Canada; the work was completed by a Winnipeg-based contractor and local sub-contractors. Prior to demolition, all asbestos, lead and PCB materials were removed and disposed according to regulatory requirements.

As a result of this project—which was successfully completed within budget—all environmental, safety and aesthetic concerns related to the site were alleviated. Furthermore, Churchill Airport now has additional land on which it can pursue new development opportunities.

Atlantic Region Success Story

Fredericton Airport Fire Training Area
Fredericton, New Brunswick

The old Fredericton Airport Fire Training Area (FTA) operated from 1962 until 1987, when it was decommissioned and replaced with a modern facility. Due to associated liabilities, the practice of conducting fire-fighting training exercises at the FTA ceased in 2000.

Since the early 1990s, investigations and monitoring programs—including an environmental baseline study conducted in 1998—have identified hydrocarbon impacts to the soil and groundwater at the FTA. As part of an agreement to transfer operation and management of the Fredericton Airport to the Great Fredericton Airport Authority in May 2001, Transport Canada committed to completing a phase-three environmental-site investigation of the FTA and implementing necessary remedial action. The overall goal of the agreement was to remove environmental risk and clean the site, enabling the airport authority to plan for future development of the land.

Soil and groundwater remediation was completed in December 2002, 13 months after completion of the phase-three investigation. Approximately 20,000 tonnes of impacted soil was excavated and hauled to an offsite soil-treatment facility. Prior to discharge into the subsurface drainage system, groundwater was treated at an on-site treatment plant to levels below federal guidelines set by the Canadian Council of Ministers of the Environment.

Transport Canada continues to monitor water quality and carry out in-situ remediation of groundwater at the site.

Storage Tanks Program

Although the number of underground and aboveground storage tanks on Transport Canada property is on the decline due to continued property divestiture, the department continues to closely monitor this inventory. The majority of these tanks contain petroleum and associated products, including aviation fuel and glycol, which have the potential to contaminate surrounding environments.

Environment Canada (EC) proposes to repeal existing Registration of *Storage Tank Systems for Petroleum Products and Allied Petroleum Products on Federal Lands and Aboriginal Lands Regulations.* These regulations promote a voluntary approach to compliance, which has not achieved the desired environmental results: leaks and spills are still occurring from under- and above-ground storage-tank systems.

Proposed new regulations will be broader in scope, and more effective in preventing pollution and protecting the environment from soil and groundwater contamination.

Transport Canada will evaluate departmental implications of these new regulations.

Regional Tank Audits

Through the EMS, Transport Canada conducts regional tank audits to ensure full compliance with CEPA Tank Technical Guidelines.

Atlantic Region

Although no audits were carried out in 2002, upgrades were made to tanks at the ports of Souris and Summerside following a 2001 compliance audit. Upgrades are planned in 2003 for two small tanks in Wabush, where secondary containment has been deemed inadequate.

Ontario Region

Transport Canada neither owns nor operates storage tanks in this region.

Quebec Region

The department inspected tanks in four different ports in 2002: Cap-aux-Meules, Harrington Harbour, Havre Saint-Pierre and La Tabatière. In 2003-2004, Quebec region plans to upgrade and replace tanks at four airport sites: Kuujjuaq, Waskaganish, Wemindji and Eastmain. In total, eight tanks will be replaced and one will be upgraded.

Prairie and Northern Region

In the coming fiscal year, Transport Canada intends to hire a contractor to inspect and audit petroleum-storage tanks at Churchill Airport to ensure compliance with CEPA technical guidelines.

Pacific Region

An audit examined two tanks located at the Duncan Bay Barge facility. A heating-oil tank was identified as non-compliant, and was subsequently removed and replaced. Regional staff plan to inspect all Transport Canada tanks during fiscal year 2003-2004.

Fuel Tank Liability Modelling Project (FTLMP)

During 2001-2002, Transport Canada was involved in development and testing of the Fuel Tank Liability Modelling Project (FTLMP). The objective of the FTLMP is to develop a model to estimate contaminated sites liability associated with fuel storage tanks. This model was developed by Public Works and Government Services Canada with the cooperation and participation of departments within the Contaminated Site Management Working Group (CMSWG).

Currently, Transport Canada has an inventory of 90 tanks in the FTLMP database. The tank inventory is comprised of 23 properties, with a total of 82 tank systems.

Prairie and Northern Region Success Story

Bio-remediation in Cambridge Bay Victoria Island, Northwest Territories

Cambridge Bay, population 1,300, is a remote Arctic community located on the southern shore of Victoria Island, 280 km north of the Arctic Circle. The village is home to three aircraft-navigation sites, each contaminated with varying amounts of diesel fuel spilled from tanks used to supply emergency generators. Because of the community's remoteness, short summers and extremely cold winters, normal remediation techniques were not feasible. Additionally, the high cost of transportation in and out of the community rendered impractical the dig-and-dump method of site cleaning. In response, Transport Canada opted to use a bio-remediation process to determine its suitability in remote northern locations.

Through this simple, low-cost technique, contaminated soil was placed in containers, or cells, specially designed for use on permafrost. Passive-heating systems were installed, and nutrients added to the cells, to speed up the biological breakdown of harmful contaminants, such as hydrocarbons.

One site was cleaned immediately in the summer of 1999 by removing contaminated soil and transporting it to the receiver site, where a small bio-remediation cell was established. The heavy contamination was at the transmitter site, where a second bio-remediation cell was constructed.

By the summer of 2002, following routine maintenance over three summers, the level of hydrocarbon contamination at the receiver site was well within acceptable limits. This soil was removed to the local dump and used for cover material. The transmitter site has taken slightly longer to remediate; however, by late 2002 contamination levels were found to be within acceptable limits. The soil will be disposed locally during the summer of 2003.

By using the in-situ bio-remediation process at this remote location, a considerable amount of money was saved and valuable soil retained.

Section 4

ENVIRONMENTAL ASSESMENT PROGRAM

Through its Environmental Assessment Program, Transport Canada evaluates the environmental implications of projects and proposals, and incorporates environmental concerns into planning and policy decision-making.

Project Environmental Assessment

The Canadian Environmental Assessment Act (CEAA) is the primary legal framework for the environmental assessment of projects involving the federal government. Transport Canada also has environmental assessment (EA) responsibilities under regimes established pursuant to northern land-claims agreements. Transport Canada EA activities are described below.

Project EA under CEAA

CEAA sets out responsibilities and procedures for environmental assessments of projects involving the federal government, and helps the federal government determine the environmental effects of projects early in the planning stages.

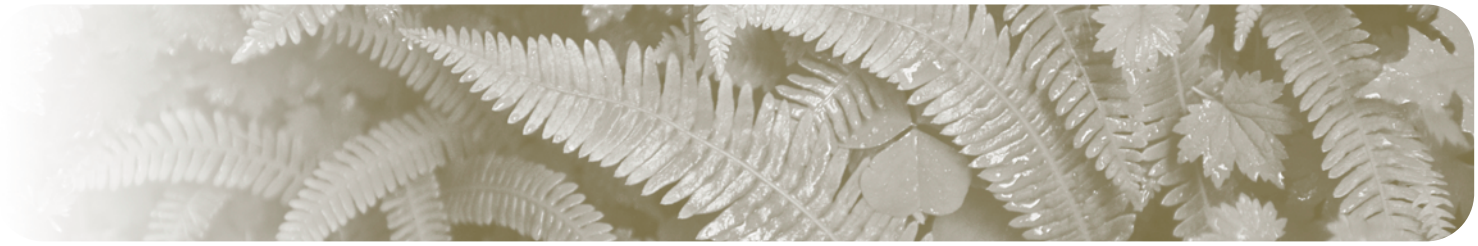
Under CEAA, Transport Canada must ensure that an environmental assessment is conducted before it carries out or supports certain projects in which the department is involved. Through the department's continually improving EA program, and pursuant to CEAA, environmental assessments are conducted when Transport Canada:

- acts as **proponent** of a project;
- **funds** a project through grants or other financial assistance;
- grants an interest in **land** to enable a project to be carried out; or
- exercises certain regulatory duties in relation to a project, such as issuing a permit or license that is identified in the *Law List Regulations*

These four actions are referred to as 'triggers', and are outlined in the following sections.

Proponent

As a federal authority, Transport Canada is responsible for ensuring that environmental assessments are conducted for projects proposed by the department. In 2002, these included environmental assessments for remediation projects at contaminated sites, including remediation efforts at ANS sites that have been transferred to NAV Canada, as well as maintenance and upgrade projects at public-port facilities that are owned and operated by Transport Canada.



Funding

Environmental assessments can be triggered by a number of funding programs that Transport Canada administers, including the Airports Capital Assistance Program, Port Divestiture Fund, the Grade Crossing Improvement Program, and various highway infrastructure programs.

In addition, the department has been actively involved in environmental assessments related to the Toronto Waterfront Revitalization Initiative. The federal government's $500 million commitment to this initiative is being administered through Transport Canada. For example, in 2002, the department actively participated in the environmental assessment of the Front Street Extension project, in cooperation with the Province of Ontario, the City of Toronto and the Toronto Waterfront Revitalization Corporation.

Land

With title to approximately 1,100 parcels of property across Canada, Transport Canada is a significant landowner among federal departments. An environmental assessment is required whenever Transport Canada issues a lease, sells a property, or otherwise grants an interest in federal land for the purpose of enabling a project. This occurs at airports and public port facilities that are still owned and operated by Transport Canada. For example, if Transport Canada issues a lease to a third party at a public port facility, and the lease is for the purpose of enabling a project, then Transport Canada must ensure that an EA is conducted.

Law List Regulations

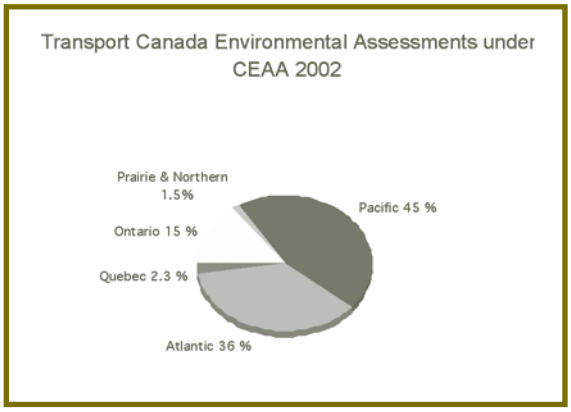
As a federal regulator, Transport Canada is also required to complete environmental assessments for some of the rail safety and bulk storage facility approvals and authorizations noted in the *Law List Regulations*, including the *Railway Safety Act*.

CEAA Environmental Assessments in 2002

In 2002, Transport Canada completed a total of 164 environmental assessments. The following table and figure itemize the total by CEAA trigger, and by regional distribution.

2002 Environmental Assessments by CEAA Trigger

Trigger	Total	Percentage
Proponent	26	16
Funding	41	25
Land	88	54
Law List	9	5
Total	164	100



CEAA Five-Year Review

The CEAA stipulates that, five years after it comes into force, the Minister of the Environment must conduct a review of the provisions and operation of the Act. The review was launched in 1999, and amendments to the Act were tabled in Parliament in March 2001. In a document outlining the scope of the review, the Minister of the Environment identified three main challenges:

- make the EA process more predictable, consistent and timely;
- improve the quality of environmental assessments; and
- strengthen opportunities for public participation.

Transport Canada raised a number of issues during its participation in the review. Among them, the department was concerned about the need to extend of CEAA application to all projects undertaken on federal lands by entities that manage lands on the government's behalf. These entities include Canada Port Authorities, National Airports System Airport Authorities and their tenants.

In December 2002, *Bill C-9: An Act to Amend the Canadian Environmental Assessment Act* was reviewed by the Standing Committee on Environment and Sustainable Development. As a result, several changes were proposed to the federal EA process. One change will make it possible to develop EA regulations specifically for airport authorities, and to close gaps in the existing EA regulations that apply to Canada Port Authorities. Other key amendments will bring parent Crown corporations under the Act. Transport Canada is working with the Canadian Environmental Assessment Agency to ensure satisfactory outcomes with respect to these amendments.

Project EA under Northern Regimes

Transport Canada also has environmental assessment responsibilities under EA regimes established pursuant to northern land-claims agreements, including the Mackenzie Valley Resource Management Act, Nunavut Land Claim Agreement, Inuvialuit Final Agreement, James Bay and Northern Quebec Agreement, Northeastern Quebec Agreement, and the Yukon Environmental Assessment Act.

Transport Canada Environmental Assessment Guide

In 2002, the department completed a practitioners' guide to help ensure department-wide consistency in the conduct of environmental assessments. The guide helps Transport Canada managers and EA practitioners to fulfill their responsibilities under CEAA by focusing on typical Transport Canada projects and EA requirements, and by describing procedures for completing environmental assessments.

Strategic Environmental Assessment (SEA)

Strategic Environmental Assessment is a systematic process for evaluating the environmental effects of proposed policies, plans, programs and other strategic-level initiatives. SEA helps decision makers determine what effects might result from proposals, and outlines measures that can be taken to optimize or minimize these effects.

In response to the 1999 Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals, Transport Canada approved a departmental Strategic Environmental Assessment Policy Statement in 2001. The policy identifies types of initiatives that are subject to SEA, key components of the SEA process, and responsibilities for conducting SEA within the department.

SEA Training

Following implementation of the SEA policy statement, the Environmental Affairs Branch developed a "how-to" manual in early 2002 for policy and program staff responsible for completing SEAs of their proposed initiatives. A companion SEA training module was also completed.

By the end of 2002, Environmental Affairs had successfully trained close to 100 Transport Canada managers and policy officers in the conduct of SEA, including personnel from regions as well as headquarters. This training helped to ensure that staff is well informed about responsibilities for conforming to the Cabinet directive and the departmental SEA policy statement.

In addition, the Environmental Assessment group has developed and implemented a procedure whereby various Transport Canada policy, program and regulatory initiatives are identified and tracked to ensure that SEAs are conducted according to Cabinet directive and the department's SEA policy statement.

SEA Audit

In the fall of 2002, Transport Canada responded to an information request from the Office of the Auditor General with respect to an upcoming government-wide examination of the implementation of the Cabinet Directive. Transport Canada has used this information-gathering exercise to identify and implement additional measures that will enhance compliance with the Cabinet Directive.

NEXT STEPS

Transport Canada's environmental programs will continue to focus on direct and indirect environmental impacts of departmental activities. The department is confident that lessons learned through EMS implementation will lead to continual improvement and result in a system that responds more effectively to all pertinent environmental concerns.

During 2003 at headquarters and in the regions, the Environmental Programs Directorate will focus on the following environmental issues:

Environmental Management Program

- Continue to meet the targets and objectives as set forth in the Transport Canada Sustainable Development Strategy (SDS).
- Develop and implement a revised Environmental Management System manual.

Environmental Protection Program

- Continue participation in, and development of, the new Canadian Environmental Protection Act (CEPA) Hazardous Waste Regulations.
- Continue support for, and participation in, Environment Canada's effort to produce a code of practice for the Environmental Management of Road Salts.
- Conduct a review to determine whether any Transport Canada owned and operated facilities regularly use or store toxic substances as listed on Schedule 1 of CEPA 1999, and whether current environmental-emergency plans are in place. (The department is committed to carrying out this review to ensure that environmental emergency plans are revised and implemented as required.)
- Work with the aviation sector to meet CEPA Glycol Guidelines.
- Work with other departments to promote benefits of the Green Commute Program.

Environmental Evaluation and Mitigation Program

- Develop a Transport Canada Contaminated Sites Management Plan and submit to Treasury Board by July 2003. The plan will set out ways in which the department will identify, classify, manage and record its contaminated sites, and will include a five-year action plan to address high-priority sites.
- Continue to participate on interdepartmental contaminated sites management Working Group and assist in developing consistent federal policies and best practices relating to contaminated sites.
- Continue with reconciling departmental property records with known contaminated sites on Transport Canada's contaminated sites database.
- Continue to monitor impacts to the department from the federal Storage Tank regulations.

Environmental Assessment Program

- Work with partners to prepare Transport Canada for anticipated amendments to the Canadian Environmental Assessment Act;
- Develop new guidance material to reflect upcoming amendments to the Act;
- Work with the Canadian Environmental Assessment Agency to develop regulations for Airport Authorities and Crown corporations, and to amend the Canada Port Authority Environmental Assessment Regulations;
- Conduct a monitoring evaluation under the EA Quality Assurance Program;
- Promote awareness of Strategic Environmental Assessment (SEA) requirements, and continue tracking the SEA program;
- Provide guidance and support to policy and program managers on SEA requirements;
- Review the Transport Canada SEA Policy Statement and establish additional measures, as necessary, to ensure implementation of the Cabinet Directive and the Policy Statement.

notes