

**Measures to Address Climate Change
In Ontario Government Operations**

A Submission to the Voluntary Challenge and Registry Program

May, 1996

Ontario Ministry of Environment and Energy

To: The Voluntary Challenge and Registry

I am pleased to present this Ontario government submission to the Voluntary Challenge and Registry Program.

Climate change is a serious issue that calls for strong commitment and vigorous action from both the public and private sectors. The Ontario government is determined to do its part. As outlined in this submission, we have committed ourselves to measures that are expected to produce a 40 per cent reduction of greenhouse gas emissions in our own operations by the year 2000, compared with 1990 levels.

Our government is currently restructuring, with the aim of doing better for less by operating along more businesslike lines. Measures to reduce greenhouse gases and improve energy efficiency contribute to this goal by reducing operating costs. In fact, projects being implemented today are expected to pay for themselves in less than five years.

We strongly support the Voluntary Challenge and Registry Program as a prudent and cost-effective approach to the problem of climate change. I look forward to working closely with our provincial utilities, the federal government, other provincial governments, and our private sector partners as we continue to make progress on this challenging issue.

original signed by:

Brenda Elliott
Minister of Environment and Energy

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SUMMARY

Ontario supports the National Action Program on Climate Change and the national target of stabilizing greenhouse gas emissions at 1990 levels by the year 2000. Active participation in the Voluntary Challenge and Registry lies at the heart of the national program.

Greenhouse gas emissions from Ontario government operations result from a wide range of tasks and activities. The principal sources are from energy use in government buildings, which account for approximately 90% of emissions, and vehicles, which account for almost 10% of emissions. There are also significant indirect emissions from waste production.

The Ontario government has already succeeded in reducing greenhouse gas emissions substantially. Measures such as energy conservation and waste reduction have been actively pursued in government buildings. The Ontario government will continue to build on this base of initiatives. Greenhouse gas emissions from government operations are expected to be reduced by 40% from 1990 levels by the year 2000.

INTRODUCTION

Climate change poses the possibility of potentially severe environmental consequences for Ontario and the world. While uncertainty remains as to the extent and momentum of projected global climate change, the risks of inaction are too high to adopt a "wait and see" approach. Reducing the emissions of greenhouse gases will reduce the risk and extent of climate change and soften the environmental repercussions.

Ontario supports the national target of stabilizing greenhouse gas emissions at 1990 levels by the year 2000. Widespread participation in the Voluntary Challenge and Registry will play an important part in moving toward the national target.

Ontario Government Operations

The Ontario government owns or leases a total of about 10,000 buildings and facilities across Ontario. Approximately 80,000 Ontario government employees work in over 750 major workplaces across Ontario. The government operates a fleet that consists of over 13,000 powered vehicles, including about 10,000 passenger cars and light trucks, 2000 heavy vehicles, and 1,000 specialized vehicles. Operations carried out by the government cover a broad range of diverse tasks, including administration, taxation, licensing and legislative functions; providing information and support for industry, commerce and agriculture; inspection and enforcement of health, safety, labour and environmental regulations; construction and maintenance of provincial roads and highways; provision of social services, education, training, police, and health care; and management of natural resources such as Crown forests.

In total, Ontario government operations accounted for 1073 kilotonnes of greenhouse gas emissions in 1990 - about 0.7% of Ontario's total emissions.

Approach to Climate Change

The Ontario government endorses a precautionary approach to managing greenhouse gas emissions through cost-effective measures and actions; particularly those that help in meeting other environmental, health or economic objectives, such as energy efficiency, pollution prevention or resource conservation. This approach encourages actions that can be taken now, which are consistent with our other priorities, and without waiting for final resolution of uncertainty.

Ontario will build on its established base to address climate change. The government will continue its efforts to identify and pursue energy efficiency and

waste reduction opportunities in its operations, where considerable progress has already been made. Efforts to make government more efficient in general will also help in the reduction of greenhouse gas emissions.

This submission covers actions taken by the Ontario government to address greenhouse gas emissions within its own operations. The government also takes many actions that influence greenhouse gas emissions associated with the broader public sector, the private sector, and consumers. These actions and others are addressed in the November 20, 1995 report "Meeting the Challenge of Climate Change: A status report on initiatives in Ontario to reduce greenhouse gas emissions". An update on initiatives in Ontario is expected to be produced in late 1996.

MEASURES

GOVERNMENT BUILDINGS

The Ontario Realty Corporation is working with government ministries to implement action plans to improve energy efficiency in government-owned and operated buildings. Energy use is expected to be reduced by 20 percent from 1990 levels by the year 2000, with a corresponding annual reduction of over 200 kilotonnes of carbon dioxide emissions. These targets will supplement the 40 percent reduction achieved between 1975 and 1990.

The Green Workplace office was created in 1991 to help Ontario government workplaces implement waste reduction, and water and energy conservation. The Green Workplace continues to operate as part of the Ontario Realty Corporation.

Energy Management

Management Board Secretariat and the Ontario Realty Corporation have actively pursued an energy management program to retrofit government facilities with energy efficient lighting, heating and cooling systems, and motors.

Through the Government Energy Management (GEM) Program, government ministries have been offered, on a case-by-case basis, assistance in:

- auditing and monitoring the implications of energy use patterns;
- identifying cost savings, developing action plans, implementing new energy accounting systems and retrofitting existing buildings (including the demonstration of innovative design practices or technology); and
- providing energy management training for building operators and maintenance personnel.

To minimize financial requirements for the government, the province has also looked to approaches other than self-financing to meet the capital requirements of energy efficiency initiatives. Arrangements such as financing by energy service companies and private sector leasing allow the government to implement projects without straining government financial resources, and to proceed on a wider scale.

Lighting retrofits are currently planned for eight government buildings, including the head office of the Ministry of Environment and Energy, the Ontario Police College, and the St. Catharines Courthouse. Together the eight projects will result in the replacement of almost 20 thousand light fixtures, reducing electrical consumption

by over 3 million kWh annually and associated carbon dioxide emissions by over 2 kilotonnes. The projects will also produce annual savings for the government of over a quarter of a million dollars, with a simple payback of less than 5 years.

In 1996/97, the government anticipates investing \$3 million in retrofits which are expected to generate savings of \$1.3 million annually. In 1997/98, the government expects to invest another \$6 million to generate a further \$2 million in annual utility bill savings.

New Building Standards

The Ontario government has developed Environmentally Conscious Design Guidelines for use in the construction of new government buildings. The guidelines provide generic design criteria to improve the environmental performance of government buildings, including energy efficiency, water conservation and waste reduction. Government construction specifications include the ASHRAE 90.1 standards, which result in a high level of energy efficiency and net cost savings over the life of the building.

Building Assessment

The Ontario government has in place one of the most comprehensive environmental building assessment systems in the world. The Building Environmental Performance Assessment Criteria (BEPAC) system will evaluate the environmental merits of office buildings, beginning with pilot projects in Ontario government facilities. BEPAC is a voluntary program that encourages building owners, managers and tenants to introduce more environmentally responsible practices and higher performance standards. It addresses ozone layer protection, impacts of energy use, indoor environmental air quality, resource conservation and transportation issues. The program provides a comprehensive and objective measurement system that allows design professionals, facility managers and tenants to work together to create "green" buildings.

The Green Workplace has identified the first eight buildings for assessment. They include a five-building complex at Queen's Park that houses the head offices for six ministries, and the head office for the Solicitor General and Correctional Services in North Bay.

Waste Reduction

Reducing waste helps reduce greenhouse gas emissions. Every manufactured product requires energy for its production, so reducing the amounts of materials

used in government operations reduces the greenhouse gases associated with the production of those materials. For the materials that are used, recycling can help reduce greenhouse gas emissions.

Products produced from recycled material, including paper, aluminum, steel and glass, typically require less energy than products produced from new feedstocks. Ontario government policy helps create a market for recycled products through environmental purchasing.

Diverting organic material such as paper from landfills reduces the production of methane gas in landfills. Composting also diverts organic material from landfills and reduces methane gas production.

Results of the Green Workplace initiative on waste reduction include:

About 80,000 public service staff in 763 workplaces are recycling at work, which is keeping 13,000 tonnes of wastes out of landfill sites annually and saving an estimated \$1.3 million in landfill disposal costs;

The goal of 50% waste diversion was achieved in 1992;

Thirty-two buildings have progressed to an intensified waste reduction program called Maximum Green, with overall diversion rates of 75% to 85%;

An electronic post office has been introduced in government workplaces across the province, which permits replacing paper documents with electronic documents;

Fine paper purchased by the government must contain a minimum of 50% recycled and 10% post consumer waste;

Government of Ontario Environmental Procurement Policy and Operational Guidelines promote reductions in the use of packaging materials.

The world's first "in-vessel" composter, a mechanized, completely self-contained composting system, is in operation at the Ontario Science Centre. The composter handles about two tonnes of food waste a day, from seven government facilities.

In total, approximately 15,000 tonnes of waste are currently diverted from landfills annually through the waste reduction efforts. This represents savings of about \$1.5 million in waste disposal costs, and reductions in landfill site emissions of 27 kilotonnes of CO₂-equivalent greenhouse gases.

Green Transportation

Green transportation initiatives encourage employees to consider alternative transportation options such as public transit, bicycling and carpooling. These options reduce energy use and greenhouse gas emissions.

The Green Workplace program helped fund awareness initiatives such as Bike-to-Work Week, and support infrastructure such as bicycle lock-up facilities at government workplaces.

Provincial employees are encouraged to participate in Share-A-Ride, a computer system that matches people interested in carpooling to work. Through a partnership with the federal government, the program was developed and tested in government workplaces. Share-A-Ride is now publicly available on a province-wide basis through a toll-free number: 1-800-56SHARE.

The Green Workplace received an "Air Share Award" from the Clean Air Partnership in 1995 for the Share-A-Ride program, for "Clean Air Actions in the Greater Toronto Area". The Clean Air Partnership is a partnership of over 30 businesses, government agencies and community organizations committed to improving air quality in the Greater Toronto Area.

Water Conservation

Water conservation reduces energy use and associated greenhouse gas emissions from the pumping and heating of water. Water conservation projects include:

Xeriscape (drought-tolerant) gardens at Queen's Park and the Ministry of Environment and Energy office in Toronto, the Ministry of Agriculture, Food and Rural Affairs building in Guelph, and the Ministry of Natural Resources building in Peterborough;

Over 10,000 low-flow tap aerators have been purchased since 1991 to help make government facilities more water-efficient - reducing consumption by up to 90%;

Water efficient showers, self-closing water faucets and a water efficient laundry are reducing water consumption in twelve correctional facilities.

VEHICLE FLEET

The Ontario government owns and operates a fleet of over 13,000 police and passenger cars, vans and trucks, snowploughs, buses, ambulances and other vehicles. In total, these vehicles travelled more than 250 million kilometres and consumed about 50 million litres of fuel in 1990. Government ministries seek to minimize fuel use and expense through such measures as reduced use of vehicles, regular maintenance, driver education and training, the purchase of smaller cars, and sound record-keeping. Some ministries, such as Agriculture, Food and Rural Affairs, have adopted policies supporting the use of ethanol-blend fuels in their vehicles.

The Ministry of Environment and Energy is developing a government initiative to show leadership in reducing emissions from its vehicle fleet. An initial objective is to have government vehicles in the greater Toronto area checked at the ClearAir motor vehicle emission test centre before the summer of 1996.

ClearAir is a pilot project established by the Ministry of Transportation and the Ministry of Environment and Energy to assess the potential impact of a vehicle inspection and maintenance program on air quality and climate change. All ministries have been encouraged to have their vehicles inspected at the ClearAir facility. Results to date indicate that approximately 85% of government vehicles pass the inspection. On average, vehicles which fail the test and are subsequently repaired improve their fuel economy by 10%, with a corresponding reduction in carbon dioxide emissions.

Other potential initiatives under investigation for government leadership fall into three general categories:

Pollution Prevention includes measures to help address the underlying causes of pollution. Steps under consideration which could assist in reducing greenhouse gas emissions include the retirement of older vehicles, reduction of road travel, and the adoption of alternatives to motor vehicle use.

Green Procurement attempts to minimise the environmental impact of vehicles, fuel and supplies through careful selection. Possible measures include contracting only for goods and services that meet a "Green Code" under development for transportation, and purchasing or retrofitting vehicles to run on alternative transportation fuels such as natural gas.

Responsible Use is aimed at reducing the impact of the government vehicle fleet at the point of use. Proposed measures include promotion of: driving practices, such as reduced idling, and smooth driving that avoids hard braking or accelerating; maintenance practices such as scheduled tune ups and checks on tire pressure; and ridesharing.

OTHER INITIATIVES

Forest Management

The Ontario Ministry of Natural Resources is responsible for the management of Crown forests in Ontario. These forests cover most of Ontario and form an important part of the natural carbon cycle.

A number of recent initiatives introduced in Ontario to ensure forest sustainability through good forest management will also indirectly support carbon sequestration:

- Ontario recently proclaimed the **Crown Forest Sustainability Act** for the purpose of providing for the sustainability (long term health) of Crown forests. Managing forests to ensure their sustainability is the first priority.
- The Ministry of Natural Resources is entering into new business relationships with the forest industry to ensure the regeneration of Crown forests. A **Forest Renewal Trust Fund** is in place to provide adequate funding for forest renewal.

The Ontario Forest Research Institute is continuing to undertake research that will increase our understanding of how forest ecosystems work, is monitoring the growth and health of forested ecosystems, and is developing models to enable us to predict the future growth of Ontario's forests. This research will assist us in gaining a better understanding of the genetic adaptability of our forests and enable us to forecast the potential impacts of global warming on Ontario's forests.

Renewable Energy Installation

The Ministry of Transportation is installing a combined solar photovoltaic and thermo-electric (using propane) generation facility to provide the electricity for a remote radio repeater station at Grey Trout Lake, Ontario. Completion is scheduled for the summer of 1996. The system will replace an existing diesel generating system, and will substantially reduce the greenhouse gas emissions from the station.

The solar/thermo-electric system is expected to reduce operating costs for the station and to improve its reliability. The performance of the system will be monitored, and the Ministry of Environment and Energy will use the results to promote similar installations in other government facilities.

Wastewater Treatment

A demonstration Solar Aquatics System is in operation at the Ontario Science Centre for the treatment of wastewater. Solar Aquatics uses natural biological processes to deal with wastewater. This reduces emissions of methane and carbon dioxide to the atmosphere compared to regular treatment plants, as well as eliminating the use of chemicals.

In the demonstration project, 10% of the Science Centre's wastewater flows through the Solar Aquatics system for treatment. The process makes use of a variety of aquatic and non-aquatic plants, bacteria, zooplankton, algae, fish, mollusks, snails and clams, as well as filtering beds of sand and sphagnum. The water then flows into an adjoining aquarium populated by various species of fish.

The first year of operation of the plant is being monitored, to establish the system as a proven and viable technology for use in Ontario. The project was funded by the Green Workplace, the Ministry of Environment and Energy, Metro Toronto School Board, The Body Shop and Proctor and Redfern.

RESEARCH AND STUDIES

The government of Ontario carries out research and conducts studies related to climate change through both internal and commissioned work. This work, as shown in the following examples, helps us in understanding the implications of climate change for Ontario and the different ways in which we may address climate change.

Transportation and Climate Change Collaborative

The Ontario Round Table on Environment and Economy, in partnership with the National Round Table on the Environment and the Economy, brought together participants from across the transportation sector to participate in a collaborative on transportation and climate change. Their report *A Strategy for Sustainable Transportation in Ontario*, produced in November 1995, outlined the role of the transportation sector in climate change and the challenges in reducing greenhouse gas emissions, and made recommendations for future directions in transportation.

Canadian Institute for Environmental Law and Policy

The Ministry of Environment and Energy, in cooperation with other partners, has helped sponsor a multiple stage process by the Canadian Institute for Environmental Law and Policy (CIELAP) focussed on options for CO₂ reduction. The first stage involved production of *Carbon Dioxide Reduction Options for Ontario: A Discussion Paper* (August 1994), which presented and analysed options to reduce CO₂ emissions. The second stage was a series of workshops, focussing on taxes and quotas, the transportation sector, utilities, and buildings and appliances. The third stage of the process is currently in process, with results expected later in 1996. This stage involves development of a possible strategy for CO₂ reductions, with the participation of an Advisory Committee made up from a broad cross-section of interested parties.

Aquatic Ecosystems Research

Staff of the Aquatic Sciences Section of the Ministry of Environment and Energy have been carrying out research on climate change effects on aquatic ecosystems. The work done by the ministry includes long-term meteorologic measurements at a network of sites, and detailed hydrologic, physical, chemical and biological measurements made over 20 years on 8 lakes, 30 streams and all of the associated watersheds.

The Aquatic Sciences Section (which is based at the Dorset Research Centre in the District of Muskoka) carries out a number of activities associated with evaluating the effects and potential effects of climate change on the Ontario environment.

The principal objectives of these studies are to evaluate the current measurable effects of changing climate on the Ontario environment, particularly on aquatic ecosystems; to develop models for prediction of future environmental effects based on realistic climate change scenarios; and to assess how climate change is altering ecosystem's responses to other environmental stresses such as changing acid rain levels.

The work focuses on five areas:

- analysis of existing long-term records of meteorological, physical, hydrologic and chemical data for Ontario;
- continued monitoring of meteorology, hydrology, chemistry, biology and physical properties of a set of lakes, wetlands, streams and watersheds for assessment of long-term trends and climate change impacts;
- quantification of natural sources of greenhouse gases in Ontario;
- continued evaluation of the interaction between climate change and other large-scale environmental stresses, including acid rain and UVB (from ozone depletion); and
- co-ordination and collaboration of climate change effects investigations with other agencies operating in Ontario (Environment Canada, Fisheries and Oceans Canada) and the U.S.A. (National Science Foundation), including development of a common integrated database.

The Ontario research has helped determine actual changes which have occurred to date, and to identify links with other environmental issues.

COMMUNICATIONS & PARTNERSHIPS

The long-term challenge to the environment posed by climate change means that innovative ways must be sought to limit the growth in greenhouse gas emissions. In some areas, this may require fundamental changes in the way we produce and consume energy. To better acquaint the general public with the issue of climate change, the Ontario government will be developing new materials that will broaden understanding of the issues involved and the challenges we face, and will be partnering with other groups to raise awareness of climate change issues.

The government of Ontario works in partnership with all sectors of the economy and all levels of government on issues related to climate change, providing information and assistance to help others take action, and working in cooperation in areas of mutual interest. Some examples of ongoing Ontario government partnership activities are outlined in the box on page 14. More details on these and other activities are described in the Ministry of Environment and Energy's November 1995 report "Meeting the Challenge of Climate Change".

Partnership Activities

Ministry of Environment & Energy Industry Programs

The Ministry of Environment and Energy will continue to use its funding strategically to reinforce key industry initiatives to enhance their environmental performance, and to encourage markets for technologies and clean production processes which reduce water, materials and energy usage. Reduced greenhouse gas emissions flow directly from reduced energy use.

Ontario's Green Industry Strategy

Ontario's green industry sector plays a key role in maintaining and improving environmental quality. It has become a world leader in finding solutions to environmental challenges with innovative technologies and processes.

Ontario's green industry strategy, through the Green Industry Office of the Ministry of Environment and Energy, is helping companies in this sector work together to build domestic markets and increase exports.

Build Green

Ontario Realty Corporation's Green Workplace program participated with the Greater Toronto Home Builders' Association and ORTECH Corporation in the development of a labelling program for building products which have recycled content or demonstrate efficient use of renewable resources. A not-for-profit organization called *Build Green Inc.* oversees plant inspections for quality control, assists in marketing and promotion, and works to bring new products to market, such as insulation made from recycled glass.

Energy Standards

The Ontario government continues to update regulations and standards under the **Energy Efficiency Act** to ensure that major energy-consuming products sold in Ontario are energy efficient.

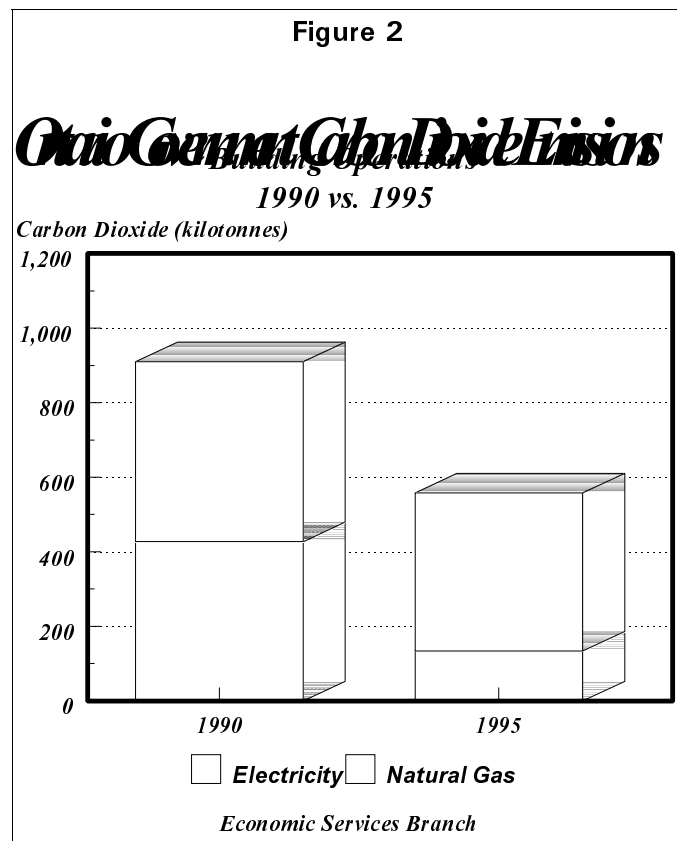
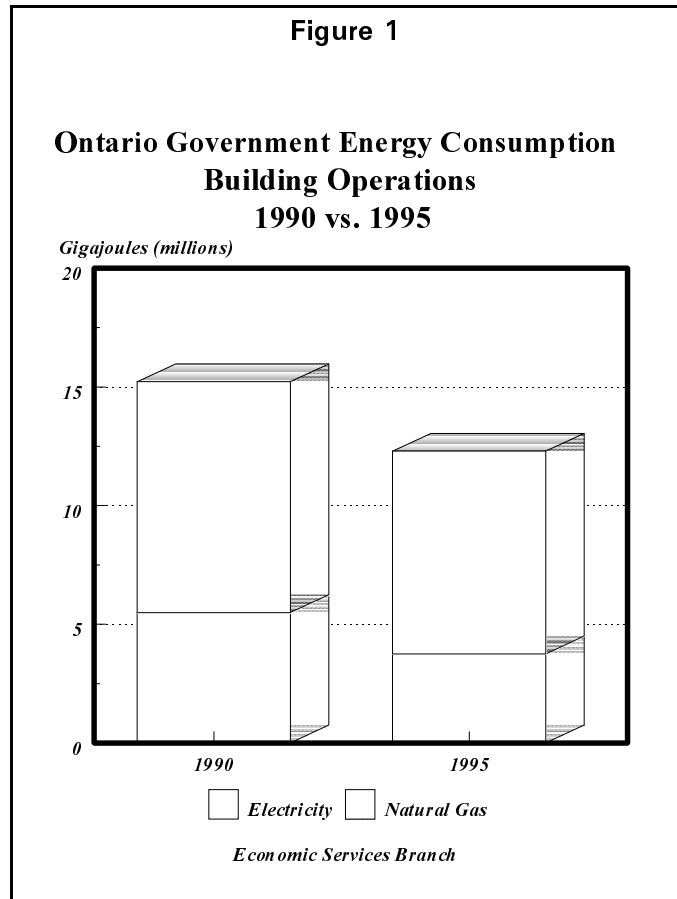
EMISSIONS FROM GOVERNMENT OPERATIONS

Government Buildings

In 1990, Ontario government owned and leased buildings consumed 15.2 million GJ of energy, at a cost of about \$126 million (Figure 1). These buildings accounted for approximately 4.5% of Ontario's commercial and institutional sector energy consumption in 1990.

By 1995, energy efficiency measures and reductions in government operations had reduced energy use in government-owned and operated buildings to 12.3 million GJ, with a reduction in energy bills to \$112 million.

Greenhouse gas emissions from government-owned and operated buildings are estimated to have been 910 kilotonnes in 1990, declining to 558 kilotonnes in 1995 (Figure 2). A large part of this decrease is attributable to a reduction in carbon intensity for electricity produced by Ontario Hydro, from 0.28 kg CO₂ per kWh in 1990 to 0.13 kg CO₂ per kWh in 1995.

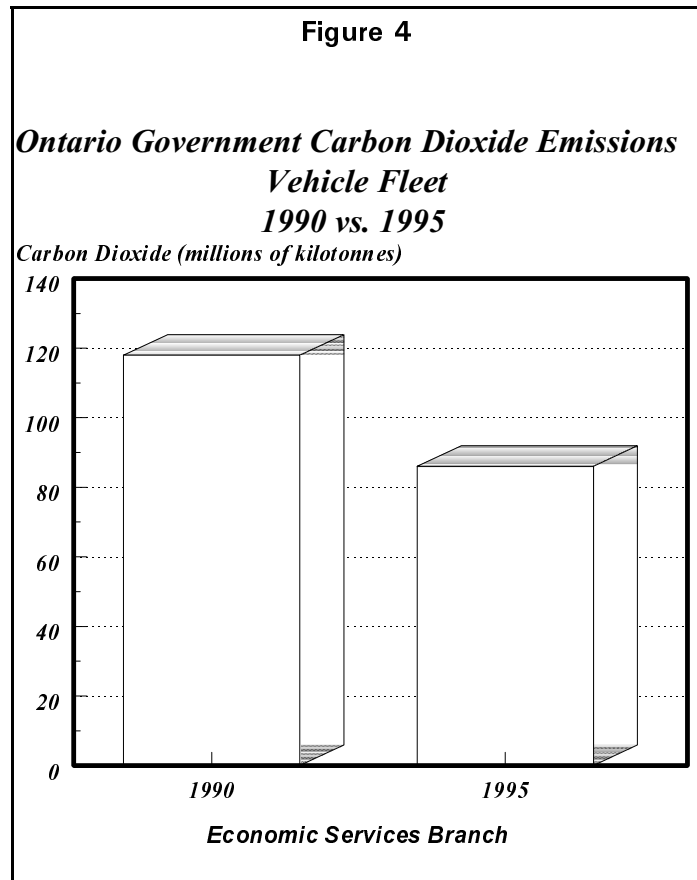
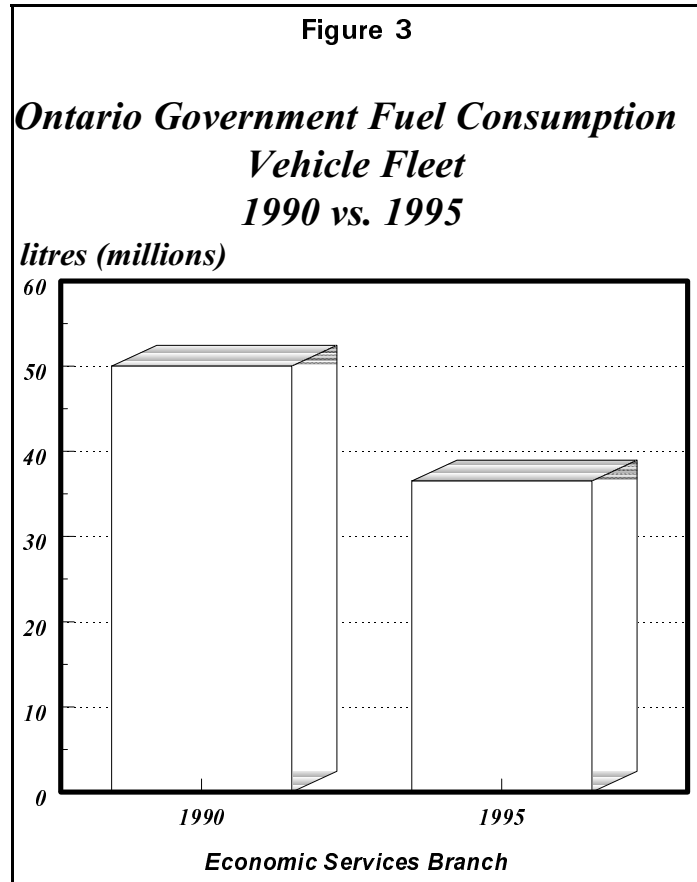


Vehicle Fleet

In 1990, the government vehicle fleet consumed about 50 million litres of fuel (1.7 million GJ of energy), at a cost of about \$25 million (Figure 3). In 1995, the government vehicle fleet is estimated to have consumed 36.5 million litres of fuel (1.25 million GJ of energy), at a cost of about \$18 million. This decline is attributable to reduced travel, improved vehicle efficiency, and reductions in government operations, all of which represent net reductions in greenhouse gas emissions, and to contracting out to the private sector of some operations, such as snow ploughing, which represents a transfer of emissions.

Ontario government fuel use represents approximately 0.2% of Ontario's total transportation sector energy consumption.

Greenhouse gas emissions from the government vehicle fleet are estimated to have been 118 kilotonnes in 1990, and to have declined to 86 kilotonnes in 1995 (Figure 4), a reduction of 27%.



Non-Energy Emissions

Government operations are estimated to have produced 25,000 tonnes of waste sent to landfills in 1990, with associated landfill emissions of 45 kilotonnes of CO₂-equivalent greenhouse gases.

By 1995, waste reduction efforts and reductions in government operations had reduced waste going to landfills by an estimated 15,000 tonnes, for a reduction of associated landfill emissions of 27 kilotonnes of CO₂-equivalent greenhouse gases.

Total Emissions

In 1990, energy use in government operations generated about 1,028 kilotonnes of CO₂. Non-energy emissions are estimated to have accounted for a further 45 kilotonnes of CO₂-equivalent emissions. In total Ontario government operations accounted for about 1073 kilotonnes of CO₂-equivalent greenhouse gas emissions in 1990; about 0.7% of Ontario's total greenhouse gas emissions.

In 1995, emissions from energy use in government operations decreased to about 644 kilotonnes of CO₂. This represents a reduction of 37% from 1990 emissions. Non-energy emissions are estimated to have declined by about 27 kilotonnes, primarily as a result of waste reduction efforts. In total Ontario government operations accounted for approximately 662 kilotonnes of CO₂-equivalent greenhouse gas emissions in 1995; about 0.5% of Ontario's total greenhouse gas emissions.

Total greenhouse gas emissions from Ontario government operations declined by about 38% from 1990 to 1995. Approximately 40% of the reduction was attributable to the decline in carbon intensity of electricity production in Ontario, with the balance attributable to improved energy efficiency, reduced government operations, and waste reduction.

Projections

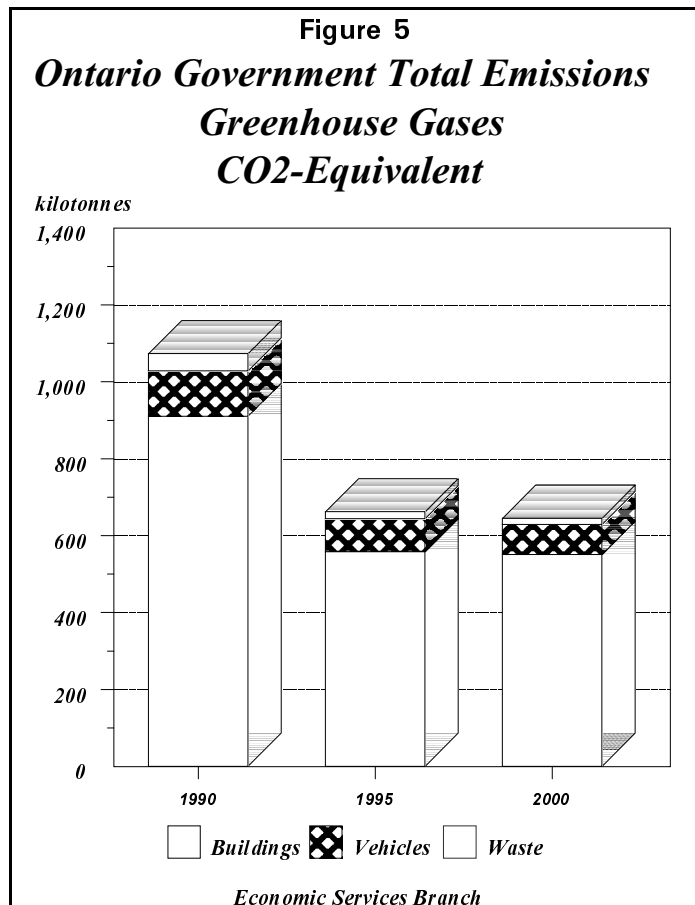
Building energy use is responsible for the majority of greenhouse gas emissions from Ontario government operations.

The key factors in projecting emissions from Ontario government operations for the year 2000 are energy efficiency improvements, restructuring of government operations, and the carbon intensity of electricity produced by Ontario Hydro.

Energy efficiency in government buildings is expected to continue to improve, and government operations are expected to be reduced. However, Ontario Hydro forecasts indicate that the carbon dioxide emissions per unit of electricity are expected to increase from 1995 to 2000. Depending on the change in demand for electricity in Ontario from 1995 to 2000, the carbon intensity could be 40% higher (0.18 kg CO₂ per kWh in 2000).

Continued reductions are expected in vehicle emissions as a result of government restructuring and improvements in vehicle efficiency and operations. Recycling and composting efforts will continue to divert waste from landfills.

Based on these factors, total emissions from Ontario government operations of CO₂-equivalent greenhouse gases are projected to be about 40% below 1990 levels by 2000.



FUTURE REPORTING AND REVIEWS

The Ontario government's actions to reduce greenhouse gas emissions will evolve over time. These actions will continue to support other government priorities and will recognize new opportunities and challenges.

The government's response to climate change in internal operations will continue to focus on areas where actions lead to multiple benefits for the government and for Ontario. Reduction of energy use, with the associated reduction in energy bills, is expected to continue to be a key area of focus. Similarly the reduction of solid and liquid waste from government operations, with the attendant savings in waste disposal, is likely to continue to be a priority. Reduction of emissions from the government vehicle fleet is expected to be an area of continuing effort.

The Ministry of Environment and Energy plans to report annually on the progress of the Ontario government in addressing greenhouse gas emissions from government operations. The current report uses data collected from a number of sources and uses approximations where necessary. Future reports are expected to include improved reporting of reductions in emissions from all activities, and to address the issue of maintaining a consistent means of measuring energy use and emissions across the government in the face of the changing role of government.