



Treasury Board of Canada
Secrétariat

Secrétariat du Conseil du Trésor
du Canada

ANNUAL REPORT TO PARLIAMENT



Report on the Application of the *Alternative Fuels Act*

Fiscal Year 2005-06

annual
report



Canada

© Her Majesty the Queen in Right of Canada,
represented by the President of the Treasury Board, 2006

Catalogue No. BT76-1/2006
ISBN 0-662-49481-4

This document is available on the Treasury Board of Canada Secretariat
Web site at www.tbs-sct.gc.ca

Also available in alternate formats on request.

Report on the Application of the *Alternative Fuels Act*

Fiscal Year 2005-06



President's Message

I am pleased to table in Parliament the annual *Report on the Application of the Alternative Fuels Act*, for the fiscal year 2005–06, pursuant to the *Alternative Fuels Act*.

The paper version was signed by

The Honourable John Baird, P.C., M.P.
President of the Treasury Board

Table of Contents

Executive Summary	i
1. Introduction	1
1.1 <i>Alternative Fuels Act</i>	1
2. Compliance with the <i>Alternative Fuels Act</i>	1
2.1 New vehicle acquisitions	2
2.2 Use of ATF in the federal fleet	3
3. Conclusion	4
Appendix 1: Terminology	5
Appendix 2: New Vehicle Acquisitions	7

Executive Summary

Annual Report on the Application of the *Alternative Fuels Act*

The *Alternative Fuels Act* (AFA) requires the President of the Treasury Board to report annually on the application of the AFA in respect of all federal bodies (departments and agencies) named in schedules I, I.1, and II of the *Financial Administration Act* (FAA).

This is the ninth annual report on the application of the *Alternative Fuels Act*.

The *Alternative Fuels Act*

The purpose of the AFA is to accelerate the use in Canada of alternative transportation fuels (ATF) in motor vehicles operating in the federal fleet. These fuels include ethanol, methanol, propane gas, natural gas, hydrogen, or electricity, and these must be used as a source of direct propulsion energy.

Compliance with the *Alternative Fuels Act*

During the 2005–06 fiscal year, the federal government, through the activities of the federal bodies named in schedules I, I.1, and II of the FAA, has fully complied with the requirements of the AFA with respect to vehicle acquisitions. With regard to the use of ATF, limitations on their availability resulted in their limited use in many situations.

The availability of ATF vehicles and associated ATF infrastructure has not yet materialized to the extent required to make greater use of ATF and ATF vehicles possible. It is hoped that technological and commercial developments over time will remove the cost-effectiveness and operational-feasibility constraints that are currently significant obstacles to their use.

It is important to note that expanding the use of ATF and ATF vehicles is but one of many measures taken by the federal government to reduce harmful emissions from its fleet. For example, fuel consumption and greenhouse gas (GHG) emissions are included in the evaluation criteria of bids for federal vehicles, providing an advantage to fuel-efficient vehicles. The modernization of the federal fleet, where newer, cleaner, and more fuel-efficient vehicles are replacing older-technology vehicles, has also led to a significant reduction in GHG and harmful ground-level emissions.

1. Introduction

The *Alternative Fuels Act* (AFA) requires the President of the Treasury Board to report annually on the application of the AFA in respect of all federal bodies (departments and agencies) named in schedules I, I.1, and II of the *Financial Administration Act* (FAA).

This is the ninth annual report on the application of the *Alternative Fuels Act*.

1.1 *Alternative Fuels Act*

The AFA received Royal Assent on June 22, 1995, and took effect on April 1, 1997. The purpose of the AFA is to accelerate the use in Canada of alternative transportation fuels (ATF) in motor vehicles operating in the federal fleet. These fuels include ethanol, methanol, propane gas, natural gas, hydrogen, or electricity, and these must be used as a source of direct propulsion energy.

The AFA and its Regulations require that where it is cost-effective and operationally feasible, seventy-five per cent of all automobiles, passenger vans, light- and medium-duty trucks, and buses operated by federal departments and agencies, in the aggregate, use ATF. More specifically, the AFA requires that:

- ▶ seventy-five per cent of the portion of newly acquired vehicles for which ATF are deemed to be both cost-effective and operationally feasible be physically capable of using these fuels;
- ▶ where it is cost-effective and operationally feasible, a federal body shall use an ATF in the operation of any motor vehicle capable of operating on such a fuel.

2. Compliance with the *Alternative Fuels Act*

The Treasury Board *Motor Vehicle Policy* contains procedural requirements to ensure effective application of the AFA and its Regulations and to provide guidance to departments and agencies to help them meet the obligations set forth in the AFA.

The Policy requires that departments and agencies review each new vehicle acquisition in terms of its estimated life-cycle cost and primary operational tasks and determine whether using ATF would be both cost-effective and operationally feasible. If it is determined that the life-cycle costs are lower for an ATF vehicle than for one powered by conventional fuel, and if the vehicle can fulfill the stated operational requirements, then an ATF vehicle will be considered for acquisition. In the aggregate, at least 75 per cent of these vehicles will be acquired in accordance with the AFA.

By applying the requirements of the AFA to the federal bodies named in schedules I, I.1, and II of the FAA, the ATF vehicle acquisition target for 2005–06 was zero vehicles. Nevertheless, departments acquired a total of 547 ATF vehicles in 2005–06. This low acquisition target and the much larger acquisition numbers are typical of the performance achieved by departments over the years.

With regard to the use of ATF, limitations on their availability resulted in their limited use in many situations.

Further details on compliance with the AFA are provided below.

2.1 New vehicle acquisitions

There were no new factory-produced propane or natural gas vehicles available in Canada during the 2005–06 fiscal year, although kits were available to convert vehicles to be capable of running on these two ATF. There were new ethanol 85/gasoline (E85) flexible fuel vehicles available, although they were not offered in all vehicle classes.

Cost-effectiveness constraints worked against the adoption of ATF and ATF vehicles during the 2005–06 fiscal year:

- ▶ Compared to similar classes of gasoline vehicles, premiums for the acquisition of factory-produced E85 vehicles ranged up to \$3,383 per vehicle. In addition, although the price of gasoline was essentially equal to the price of E85 ethanol, fuel consumption for vehicles using E85 ethanol was approximately 30 per cent higher than for conventional gasoline vehicles;
- ▶ The cost of after-market conversion kits ranged from \$4,995 to \$6,595 for propane and natural gas applications. In addition, the effectiveness and quality of conversions remained questionable, in that testing sometimes revealed higher emissions than those from a gasoline vehicle. Further, some departments have noted that the limited number of approved warranty service facilities has resulted in higher maintenance and repair costs. As a result, there were no vehicles converted to ATF use in 2005–06.

There were also significant operational constraints, which reduced the viability of ATF and ATF vehicles in the federal fleet:

- ▶ E85 fuel was commercially available in only one location in Canada (Ottawa, Ontario) and supplies of propane and natural gas were limited outside of urban areas. Supplier hours of operation were often restricted.

-
- ▶ Some jurisdictions still restrict the use of propane vehicles in certain areas, e.g., in underground parking garages and on some airport tarmacs. In addition, the installation of an appropriate tank in vehicles sometimes affects their operational capabilities; it reduces available cargo space, for example.

As a result of these factors, the target for ATF vehicle acquisitions under the Act for the 2005–06 fiscal year was zero vehicles.

Nevertheless, of the 5,335 vehicles that were acquired by the federal government in total during the 2005–06 fiscal year, 547 were ATF vehicles. There were a number of reasons for this:

- ▶ Some manufacturers made engines that were compatible with E85 fuel as a standard feature in certain models;
- ▶ The Federal Fleet Initiative program administered by Natural Resources Canada offered financial incentives to departments and agencies during the 2005–06 fiscal year to assist these organizations in increasing the use of alternative fuels in their fleet operations. By applying these incentives to the calculations used in determining the cost-effectiveness of ATF vehicles, it is estimated that 161 vehicles became both cost-effective and operationally feasible to operate on ATF;
- ▶ Fuel availability was augmented in previous fiscal years with the installation by departments of fifteen E85 ethanol fuelling tanks on government sites across Canada in order to expand the use of this ATF.

2.2 Use of ATF in the federal fleet

The federal government's 106 natural gas vehicles (down from 255 in 2004–05) consumed approximately 53,267 kg of natural gas, and its 71 propane vehicles (down from 306 in 2004–05) consumed approximately 175,214 litres of propane.

While only a portion of the federal government's 1,743 E85 flexible fuel vehicles had immediate access to E85 fuel during the 2005–06 fiscal year, those E85 vehicles that had access to this fuel consumed approximately 658,572 litres.

During the 2005–06 fiscal year, the federal government operated approximately 32 electric vehicles, most of them off-road utility vehicles that are not within the scope of the AFA. Although data on the energy consumption of these electric vehicles is not available, it is important to note that many of them replaced fossil fuel-burning trucks and equipment.

3. Conclusion

During the 2005–06 fiscal year, the federal government, through the activities of the federal bodies named in schedules I, I.1, and II of the FAA, has fully complied with the requirements of the AFA with respect to vehicle acquisitions. With regard to the use of ATF, limitations on their availability resulted in their limited use in many situations.

The availability of ATF vehicles and associated ATF infrastructure has not yet materialized to the extent required to make greater use of ATF and ATF vehicles possible. It is hoped that technological and commercial developments over time will remove the cost-effectiveness and operational-feasibility constraints that are currently significant obstacles to their use.

It is important to note that expanding the use of ATF and ATF vehicles is but one of many measures taken by the federal government to reduce harmful emissions from its fleet. For example, fuel consumption and greenhouse gas (GHG) emissions are included in the evaluation criteria of bids for federal vehicles, providing an advantage to fuel-efficient vehicles. The modernization of the federal fleet, where newer, cleaner, and more fuel-efficient vehicles are replacing older-technology vehicles, has also led to a significant reduction in GHG and harmful ground-level emissions.

Appendix 1: Terminology

The following section provides definitions of the terms frequently used in this report.

Motor vehicle

For the purposes of reporting on the AFA, *motor vehicle* is defined to include automobiles, passenger vans, light- or medium-duty trucks, and buses.

Alternative transportation fuel

Under the AFA, *alternative transportation fuel*, or ATF, must include, but is not limited to, ethanol, methanol, propane gas, natural gas, hydrogen, or electricity, and these must be used as a sole source of direct propulsion energy.

For the purpose of acquiring motor vehicles, the *Alternative Fuels Regulations* expand the definition of ATF given above to include blended fuels when an ATF (as defined above) makes up at least 50 per cent of the blend. Flexible fuel and bi-fuel vehicles are also considered to be ATF vehicles for the purposes of acquiring motor vehicles.

For the purposes of using ATF, the *Alternative Fuels Regulations* also expand the definition of ATF given above to include biodiesel and blended fuels that include any amount of the approved ATF.

Flexible fuel vehicle

A *flexible fuel vehicle* is one with a single fuel system that operates on one of two different fuels alone or on a blend of the two (e.g., an E85 vehicle can operate on gasoline alone or on any blend of gasoline and ethanol, to a maximum of 85 per cent ethanol).

Cost-effective

A vehicle is considered *cost-effective* for ATF use if it can be demonstrated that the additional cost of either converting a vehicle to use ATF or acquiring a factory-produced ATF vehicle will be recovered in the form of fuel savings over the life of the vehicle.

Where net savings are greater than \$1, a vehicle is considered cost-effective for ATF use.

Operationally feasible

ATF use is considered to be *operationally feasible* when it can be demonstrated that the vehicle will be able to fulfill its primary operational tasks.

The definition of operational feasibility will vary across departments and agencies according to a wide range of variables, including the following: the specific travel patterns of each vehicle, the mandate of the department or agency, the availability of alternative fuels wherever the vehicle will travel, the local laws (or by-laws), the vehicle performance requirements, and the vehicle availability or the availability of a suitable conversion kit.

Appendix 2: New Vehicle Acquisitions

The table below summarizes new vehicle acquisitions under the application of the AFA for the 2005–06 fiscal year by department or agency. The information reported is the result of consultations with each department and agency.

Departments and agencies included in schedules I, I.1, and II of the FAA but not listed below *did not* acquire any new vehicles during the 2005–06 fiscal year. Nonetheless, they are in compliance with the AFA, as their required ATF vehicle acquisitions are zero.

Department or Agency	Total Number of vehicles acquired	Number of ATF vehicles acquired
Schedule I		
Agriculture and Agri-Food Canada	138	87
Canadian Heritage	2	1
Citizenship and Immigration Canada	5	0
Department of Finance Canada	1	1
Environment Canada	101	10
Fisheries and Oceans Canada	245	22
Foreign Affairs and International Trade Canada	14	1
Health Canada	57	3
Human Resources and Skills Development Canada	18	7
Indian and Northern Affairs Canada	4	0
Industry Canada	27	6
National Defence	1,722	13
Natural Resources Canada	42	19
Public Safety and Emergency Preparedness Canada	1	1
Public Works and Government Services Canada	41	12
Social Development Canada	11	2
Transport Canada	89	32
Treasury Board of Canada Secretariat	1	1
Veteran Affairs Canada	3	0
Totals for Schedule I	2,522	218

Department or Agency	Total Number of vehicles acquired	Number of ATF vehicles acquired
Schedule I.1		
Atlantic Canada Opportunities Agency	4	0
Canada Firearms Centre	15	8
Canadian Grain Commission	2	1
Correctional Service of Canada	179	14
Economic Development Agency of Canada for the Regions of Quebec	4	1
National Parole Board	3	0
Public Health Agency of Canada	2	0
Royal Canadian Mounted Police	2,038	104
Statistics Canada	3	0
Supreme Court of Canada	1	0
Totals for Schedule I.1	2,251	128

Department or Agency	Total Number of vehicles acquired	Number of ATF vehicles acquired
Schedule II		
Canada Border Services Agency	60	8
Canada Revenue Agency	9	0
Canadian Food Inspection Agency	405	189
Canadian Institutes of Health Research	1	0
Canadian Nuclear Safety Commission	6	1
National Battlefields Commission	2	0
National Research Council Canada	9	1
Parks Canada	70	2
Totals for Schedule II	562	201
Total for all Schedules	5,335	547