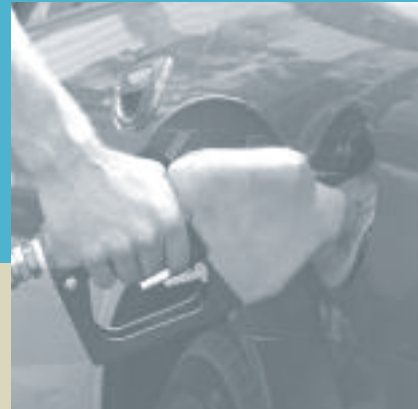




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ANNUAL REPORT TO PARLIAMENT



Report on the Application of the *Alternative Fuels Act*

Fiscal Year 2004-05

annual
report



Canada

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Report on the Application of the *Alternative Fuels Act*

Fiscal Year 2004-05



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 2004–05, pursuant to the *Alternative Fuels Act*.

The paper version was signed by
Reg Alcock

President of the Treasury Board and
Minister responsible for the Canadian Wheat Board

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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 government bodies (departments and agencies) named in schedules I, I.1, and II of the *Financial Administration Act* (FAA).

Requirements of the *Alternative Fuels Act*

The AFA requires that, following a seven-year phase-in period, for the fiscal year commencing April 1, 2004, where it is cost-effective and operationally feasible, 75 per cent of all automobiles, passenger vans, light- and medium-duty trucks, and buses operated by federal departments and agencies use alternative transportation fuels (ATF).

For the fiscal year that began April 1, 2002, the AFA required that 75 per cent of the portion of newly acquired vehicles for which alternative fuels were deemed to be both cost-effective and operationally feasible be physically capable of using these.

The AFA also requires that, when it is cost-effective and operationally feasible, a federal body shall use ATF in the operation of any motor vehicle capable of using such fuels, which must 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*

With regard to the acquisition of ATF vehicles, the federal government, through activities of the federal bodies named in schedules I, I.1, and II of the FAA, is in full compliance with – and in fact has surpassed – the requirements of the AFA for the eighth consecutive year.

With regard to the use of ATF, federal organizations have indicated that all vehicles in the federal fleet capable of operating on ATF use these to the maximum extent possible.

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).

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 in order to reduce the emission of carbon dioxide and other greenhouse gases (GHG) and to reduce dependence on petroleum-based fuels for transportation. The AFA targets the federal vehicle fleet and helps make the government a leader in the use of ATF.

The AFA stipulates that, following a seven-year phase-in period, for the fiscal year commencing April 1, 2004, where it is cost-effective and operationally feasible, 75 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.

Specifically, the AFA requires that departments and agencies review each new vehicle acquisition in terms of its estimated annual fuel consumption and primary operational tasks and determine whether using ATF would be both cost-effective and operationally feasible. This has been interpreted to mean that, if a new vehicle is less expensive to operate on ATF than on a conventional fuel, and the vehicle can fulfil its operational duties, then it is included in the group of new acquisitions that are capable of operating on ATF.

Under the AFA, for the fiscal year that began on April 1, 1997, 50 per cent of that group of vehicles had to have been able to operate on ATF. For the fiscal year that began on April 1, 1998, the requirement increased to 60 per cent. For the fiscal year that began on April 1, 1999, and for every year thereafter, 75 per cent of the viable vehicles must be capable of operating on ATF.

The AFA also requires that, when 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.

In July 1995, the Treasury Board of Canada Secretariat revised the *Motor Vehicle Policy* to ensure effective application of the AFA and its regulations and to provide leadership and assistance to departments and agencies to help them meet the obligations set forth in the AFA.

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

Section 2 of the Report assesses the federal government's compliance with the AFA. Section 2.1 summarizes the application of the AFA in relation to vehicles acquired in the 2004–05 fiscal year, and section 2.2 reports on the extent of ATF use in the federal fleet during the 2004–05 fiscal year. Section 2.3 contains examples of progress in the use of ATF and emissions reductions, while section 2.4 presents some of the key obstacles to using ATF in the federal fleet.

Section 3 concludes the report with a discussion of the federal government's commitment to continuing to meet the requirements of the AFA.

2. Compliance with the *Alternative Fuels Act*

Taking into account the acquisition activities of all departments and agencies, the federal government reports that it is in full compliance with the AFA. Section 2.1 provides a summary of the application of the AFA on a government-wide basis.

Furthermore, it is reported that all vehicles in the federal fleet capable of operating on ATF use these fuels to the greatest extent possible.

2.1 New vehicle acquisitions

The table below provides a summary of the application of the AFA on a government-wide basis for the 2004–05 fiscal year. This table illustrates that at least 75 per cent of all new vehicle acquisitions for which ATF would be cost-effective and operationally feasible are, in fact, vehicles that are capable of operating on ATF. (Definitions of the table headings are contained in Appendix 3.)

Total number of vehicles acquired	Total number of vehicles for which ATF is cost-effective and operationally feasible	Actual number of ATF vehicles acquired	75% target—required acquisitions as per the AFA
3,798	34	394	26

A summary of the application of the AFA by department and agency is contained in Appendix 2.

Meeting and exceeding the requirements of the AFA

The federal government, through the acquisition activities of departments and agencies, has surpassed the requirements of the AFA for the 2004–05 fiscal year. This can be attributed to the mandate of certain departments and agencies to demonstrate leadership in the use of ATF and an increasing emphasis within the federal government to incorporate climate change considerations into the management of its fleet.

From information provided by the departments and agencies and data contained in the Public Works and Government Services Canada Vehicle Statistical Information System (VSIS), it is estimated that all the ATF vehicles purchased in 2004–05 are factory-produced. These are the best estimates available at the time of tabling this report.

2.2 Use of ATF in the federal fleet

With respect to the use of any motor vehicle in the federal fleet already capable of operating on an alternative fuel, the AFA requires that federal bodies use an alternative fuel to the maximum extent possible, where this is cost-effective and operationally feasible.

The following table summarizes the estimated fuel consumption by fuel type for the 2004–05 fiscal year for the departments and agencies with the largest fleets.¹

Fuel type	Approximate number of vehicles	Total estimated annual consumption	Average annual consumption per vehicle
Conventional fuels			
Gasoline	22,354	58,268,216 L	2,606 L
Hybrid (gasoline)	365	128,819 L	353 L
E10 gasoline	N/A	2,809,578	N/A
Diesel	1,297	3,643,186 L	2,808 L
Biodiesel	7	10,800 L	1,542 L
Alternative fuels			
Natural gas	255	170,537 kg	669 kg
Propane	306	608,981 L	1,990 L
Ethanol 85	1,187	290,896 L	245 L
Electric	7	Data not available	Data not available
Total	25,778		

1. These departments and agencies are Agriculture and Agri-Food Canada, Canada Revenue Agency, Canada Border Services Agency, Canadian Food Inspection Agency, Citizenship and Immigration Canada, Correctional Service Canada, Environment Canada, Fisheries and Oceans Canada, Health Canada, Human Resources and Skills Development Canada, Social Development Canada, Indian and Northern Affairs Canada, Industry Canada, National Defence, National Research Council Canada, Natural Resources Canada, Parks Canada, Public Works and Government Services Canada, Royal Canadian Mounted Police, and Transport Canada.

2.3 Examples of progress in the use of ATF and emissions reduction

The items below highlight the use of ATF and progress in emissions reduction by the federal government during the 2004–05 fiscal year.

1. In November 2002, the Government of Canada announced that it was leading by example in taking action to further reduce GHG emissions from its fleet by using more energy-efficient vehicles and alternative fuels. For example, E10 fuel is to be purchased whenever available and new purchasing criteria have been added to ensure that more climate-friendly vehicles are acquired and that, beginning with the 2004 model year, GHG emissions have been added to cost and fuel consumption as mandatory criteria when making purchasing decisions.
2. There was a total of 12 federal E85 stations across Canada during the 2004–05 fiscal year. Correctional Service Canada operated six ethanol 85 (E85) fuelling stations and Agriculture and Agri-Food Canada operated four, while Natural Resources Canada and the Canadian Food Inspection Agency each operated one E85 fuelling station. There was a total of 393 E85 vehicles purchased for the federal fleet during this fiscal year, bringing the total number of E85 vehicles in the federal fleet to an estimated 1,187.
3. The introduction in Canada of hybrid gasoline-electric vehicles has been well received by the federal government, which finds them to be practical and environmentally friendly. Hybrid gasoline-electric vehicles are not considered to be ATF vehicles under the AFA and, as such, are not included in the “Number of Actual ATF Vehicles Acquired” column in the table in section 2.1 of this report. Nevertheless, hybrid gasoline-electric vehicles emit significantly fewer pollutants than conventional gasoline vehicles. The federal government acquired 151 hybrids during the 2004–05 fiscal year, up from 84 new acquisitions during the 2003–04 fiscal year (see table below). The federal government now operates a total of 365 of these fuel-efficient vehicles.
4. Natural Resources Canada (NRCan) installed a biodiesel fuelling station at its central location in Ottawa in August 2004. This fuel is used by 12 Ottawa-based diesel vehicles operated by NRCan. Biodiesel is produced from local, renewable resources—either agricultural products or agro-industrial residues. A 20 per cent blend of biodiesel with petroleum diesel (B-20) produces 12 to 18 per cent fewer greenhouse gas emissions, and a 2 per cent blend (B-2) produces 1 to 2 per cent fewer greenhouse gas emissions. As well, by changing the waste products into biodiesel, they are diverted from landfill sites where they may have produced methane gas, which contributes to climate change. Currently this biodiesel supply is used exclusively by NRCan vehicles; however, there are plans to make this fuel available to other federal departments on a cost-recovery basis.

5. Natural Resources Canada purchased five Mercedes Benz Pulse vehicles, commonly referred to as “smart cars.” These five vehicles are designed to operate on diesel and are extremely fuel-efficient vehicles with a combined city and highway fuel efficiency rating of only 4.2 litres per 100 kilometres.

Department or Agency	Number of hybrid gas-electric vehicles acquired in 2004–05
Agriculture and Agri-Food Canada	10
Atlantic Canada Opportunities Agency	2
Canada Revenue Agency	1
Canada Border Services Agency	3
Canadian Food Inspection Agency	19
Citizenship and Immigration Canada	1
Correctional Service Canada	14
Economic Development Agency of Canada for the Regions of Quebec	2
Environment Canada	4
Fisheries and Oceans Canada	9
Health Canada	3
Human Resources and Skills Development Canada	1
Indian and Northern Affairs Canada	1
Industry Canada	1
National Defence	16
Natural Resources Canada	5
Parks Canada	13
Privy Council Office	1
Public Works and Government Services Canada	10
Royal Canadian Mounted Police	3
Social Development Canada	1
Transport Canada	30
Treasury Board of Canada Secretariat	1
Total	151

2.4 Key obstacles to expanding the use of ATF

Despite the commitment of the federal government to increase the use of ATF in the federal fleet, a number of external factors continue to limit the cost-effectiveness and operational feasibility of using ATF vehicles. During the past eight fiscal years, the acquisition of ATF vehicles and the use of ATF were curtailed by a limited ATF infrastructure across many parts of the country and a limited selection and availability of appropriate ATF vehicles from manufacturers.

The items below summarize some of the key obstacles.

1. During the 2004–05 fiscal year, there continued to be a limited supply of factory-produced ATF vehicles, compared to the number of gasoline models, suitable for federal government operations. There were no factory-produced propane or natural gas vehicles available in the 2005 model year. There were a few factory-produced propane and natural gas vehicles available in the 2004 model year; however, these vehicles were available for purchase only during the early part of the 2004–05 model year and the classes available were not suitable for all federal organizations. The only ATF produced in the 2005 model year is the ethanol 85/gasoline flex-fuel vehicle and not for all vehicle classes.
2. Compared to similar classes of gasoline vehicles, premiums for the acquisition of factory-produced ATF vehicles range from \$2,466 to \$13,881 for propane and natural gas vehicles and up to \$4,522 for E85 vehicles. The cost of after-market conversion kits ranges from \$4,995 to \$6,395 for propane and natural gas applications. These factors, combined with the relatively low average annual kilometres travelled by federal vehicles, make it less likely that ATF use will be cost-effective.
3. The effectiveness and quality of vehicle conversion kits remain questionable, considering that emissions-testing analysis of converted vehicles sometimes reveals higher emissions than those from a gasoline vehicle. The highly sophisticated on-board diagnostic computers in new vehicles have severely curtailed the after-market conversion industry's ability to convert engines properly, and only a limited number of authorized conversion service centres was available in 2004–05 (32 locations in four provinces). The federal government therefore clearly favours factory-produced ATF vehicles and, as a result, 100 per cent of the ATF vehicles acquired in 2004–05 were factory-produced.
4. The natural gas and propane infrastructure is still limited; supply of these fuel types is unreliable outside of urban areas, and supplier hours of operation are often restricted. During the 2004–05 fiscal year, E85 was available commercially in only one location (Ottawa, Ontario) and federal departments are installing E85 fuelling tanks on government sites in order to expand the use and availability of this ATF.

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5. The availability and operating hours of approved warranty service facilities offering routine maintenance and repair services for factory-produced or converted ATF vehicles are limited, thereby restricting the use of such vehicles in many locations. Some departments have also noted that the limited number of approved warranty service facilities has resulted in higher maintenance and repair costs.
 6. Some jurisdictions still restrict the use of propane vehicles in certain areas, e.g. in underground parking garages and on some airport tarmacs.
 7. The addition of an ATF tank sometimes affects the operational capabilities of vehicles. For example, available cargo space is often reduced.

3. Conclusion

During the 2004–05 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. It should be noted that the federal government has complied with the AFA every year since it came into force in April 1997.

The federal government is committed to continuing to comply with the requirements of the AFA and to demonstrating leadership in attaining all federal environmental objectives. Expanding the current use of ATF and ATF vehicles remains a priority with departments and agencies as long as the use of such products is cost-effective and operationally feasible for their specific requirements.

The federal government finds that the availability of ATF vehicles and associated ATF infrastructure has not yet materialized to the extent first envisaged when the AFA was passed in June 1995. To date, the federal government has encountered many obstacles that place practical limitations on the use of ATF and ATF vehicles. In time, as these obstacles are overcome, there will be greater opportunity to acquire more ATF vehicles for the federal fleet and make greater use of alternative fuels across the federal government.

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 GHG emissions are now 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 led to a significant reduction in GHG and harmful ground-level emissions. A recent report on the federal fleet commissioned by Natural Resources Canada as part of the Federal Vehicles Initiative to measure federal fleet energy improvements since 1995–96 provided encouraging findings, which indicated an overall 21 per cent reduction in tailpipe GHG (carbon dioxide, methane, and nitrous oxide) emissions over this period.

Sound fleet management practices, in accordance with a life cycle approach to motor vehicle management, complement the AFA to ensure that the federal government acquires and operates its vehicles in an environmentally responsible manner.

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. Flex-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 bio-diesel and blended fuels that include any amount of the approved ATF.

Bi-fuel vehicle

A *bi-fuel vehicle* is one with two separate fuel systems that operates on either fuel (e.g. a bi-fuel gasoline-propane vehicle can operate on either gasoline or propane).

Flex-fuel vehicle

A *flex-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 the application of the AFA for the 2004–05 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 2004–05 fiscal year. Nonetheless, they are in compliance with the AFA, as their required ATF vehicle acquisitions are zero.

Department or Agency	Number of vehicles acquired	Vehicles cost-effective and operationally feasible for ATF use	Actual number of ATF vehicles acquired
Schedule I			
Agriculture and Agri-Food Canada	63	11	34
Citizenship and Immigration Canada	8	0	4
Department of Justice Canada	1	0	0
Environment Canada	37	1	3
Fisheries and Oceans Canada	116	0	7
Health Canada	82	2	14
Indian and Northern Affairs Canada	25	2	13
Industry Canada	29	0	0
National Defence	848	0	12
Natural Resources Canada	42	3	12
Public Works and Government Services Canada	39	2	17
Transport Canada	72	0	16
Treasury Board of Canada Secretariat	1	0	0
Veterans Affairs Canada	8	0	1
Totals for Schedule I	1,371	21	133

Department or Agency	Number of vehicles acquired	Vehicles cost-effective and operationally feasible for ATF use	Actual number of ATF vehicles acquired
Schedule I.1			
Atlantic Canada Opportunities Agency	7	0	2
Canada Border Services Agency	53	0	18
Canadian Firearms Centre	6	0	6
Canadian Grain Commission	1	0	0
Canadian International Development Agency	1	0	0
Canadian Transportation Agency	1	0	0
Correctional Service Canada	169	9	49
Economic Development Agency of Canada for the Regions of Quebec	4	0	0
Human Resources and Skills Development Canada	46	0	28
Library and Archives Canada	1	0	1
National Parole Board	5	0	0
Privy Council Office	3	0	0
Registrar of the Supreme Court of Canada and that portion of the Public Service of Canada appointed under subsection 12(2) of the <i>Supreme Court Act</i>	2	0	0
Royal Canadian Mounted Police	1,702	4	25
Social Development Canada	13	0	2
Statistics Canada	1	0	0
Totals for Schedule I.1	2,015	13	131

Department or Agency	Number of vehicles acquired	Vehicles cost-effective and operationally feasible for ATF use	Actual number of ATF vehicles acquired
Schedule II			
Canada Revenue Agency	32	0	20
Canadian Food Inspection Agency	333	0	108
Canadian Nuclear Safety Commission	1	0	0
National Battlefields Commission	1	0	0
National Research Council Canada	7	0	1
Parks Canada	38	0	1
Totals for Schedule II	412	0	130
Total for all Schedules	3,798	34	394

Appendix 3: Definitions of Table Headings

Department or Agency

These are all federal bodies (departments and agencies) named in schedules I, I.1, and II of the *Financial Administration Act* that made vehicle acquisitions during the 2004–05 fiscal year.

Number of vehicles acquired

This is the total number of vehicles acquired by the departments and agencies during the 2004–05 fiscal year.

Vehicles for which ATF is cost-effective and operationally feasible

This is the number of vehicles acquired in 2004–05 that are considered to be no more costly to operate on ATF than on a conventional fuel *and* are able to fulfill their operational roles while using ATF.

Actual number of ATF vehicles acquired

This is the actual number of vehicles acquired in 2004–05 that are capable of operating on ATF.

75% target—required acquisitions as per the AFA

This is the total number of vehicles acquired in 2004–05 that should be capable of operating on ATF in accordance with the *Alternative Fuels Act*.

For the 2004–05 fiscal year, the AFA requires that 75 per cent of all those vehicles acquired for which ATF is determined to be both cost-effective and operationally feasible should be physically capable of operating on ATF.