



President  
of the Treasury Board

Présidente  
du Conseil du Trésor

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

## Fiscal Year 2000-2001



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

**Fiscal Year 2000-2001**



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## **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 2000–01, pursuant to the *Alternative Fuels Act*.

Lucienne Robillard  
President of the Treasury Board

“The paper version was signed by Lucienne Robillard, President of the Treasury 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 Act in respect of all federal government bodies named in schedules I, I.1 and II of the *Financial Administration Act* (FAA).

### **Requirements of the *Alternative Fuels Act***

The Act 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 government departments and agencies use ATF.

For the fiscal year commencing April 1, 2000, the Act 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 operating on these.

The Act 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 operating on such fuels.

### **Compliance with the *Alternative Fuels Act***

With regard to the acquisition of alternative transportation fuel (ATF) vehicles, the federal government, through activities of the federal bodies named in schedules I, I.1 and II of the *Financial Administration Act*, is in full compliance and in fact, has exceeded the requirements of the *Alternative Fuels Act* for the fourth year in a row.

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

## 1.1 *Alternative Fuels Act*

The *Alternative Fuels Act* received Royal Assent on June 22, 1995, and took effect on April 1, 1997. The purpose of the Act 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, and to reduce dependence on petroleum-based fuels for transportation. The Act targets the federal vehicle fleet and helps make the government a leader in the use of ATF.

The Act 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 government departments and agencies, in the aggregate, use ATF.

Specifically, the Act 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.

It is a requirement of the Act that, 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 commencing April 1, 1998, the requirement increased to 60 per cent. For the fiscal year commencing April 1, 1999, and for every year thereafter, 75 per cent of the viable vehicles must be capable of operating on ATF.

The Act also requires that, when it is cost-effective and operationally feasible, a federal body shall use an alternative fuel 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 Act and its regulations, and to provide leadership and assistance to departments and agencies to help them meet the obligations set forth in the Act.

This is the fourth annual *Report on the Application of the Alternative Fuels Act*.





Section 2 of the Report assesses the federal government’s compliance with the Act. Section 2.1 summarizes the application of the Act in relation to 2000–01 fiscal year vehicle acquisitions and section 2.2 reports on the extent of ATF usage in the federal fleet during the 2000–01 fiscal year. Section 2.3 contains examples of progress in the use of ATFs and emissions reductions while section 2.4 presents some of the key obstacles to using ATFs 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 Act.

## 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 Act. Section 2.1 provides a summary of the application of the Act 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 Act on a government-wide basis for the 2000–01 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 actually able to operate on ATF. (Definitions of the table headings are contained in Annex 3.)

Total Number of Vehicles Acquired	Total Number of Vehicles for Which ATF is Cost-effective	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 Act
3,282	301	131	180	98

A summary of the application of the Act by department and agency is contained in Annex 2.

#### Meeting and Exceeding the Requirements of the Act

The federal government, through the acquisition activities of departments and agencies, has surpassed the requirements of the Act for the 2000–01 fiscal year. This can be attributed to the mandate of certain departments and agencies to demonstrate leadership in the use of ATF. These federal organizations have done as much as they could in the 2000–01 fiscal year to acquire vehicles that can use alternative fuels.





From information provided by the departments and agencies and data contained in Public Works and Government Services Canada’s Vehicle Statistical Information System (VSIS), it is estimated that 94 per cent of the ATF vehicles purchased in 2000–01 are factory- produced and that 6 per cent are converted after acquisition. These are the best estimates available at the time this report was tabled.

## 2.2 Use of Alternative Transportation Fuels in the Federal Fleet

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

The following table summarizes the estimated fuel consumption by fuel type for the 2000–01 fiscal year for the 18 departments and agencies with the largest fleets.

Fuel Type	Approximate Number of Vehicles	Total Estimated Annual Consumption	Average Annual Consumption Per Vehicle
<b>Conventional Fuels</b>			
Gasoline <sup>1</sup>	20,294	67,702,812 L	3,336 L
Diesel	2,654	9,008,070 L	3,394 L
<b>Alternative Fuels</b>			
Natural Gas	316	710,557 kg	2,249 kg
Propane	451	1,395,289 L	3,094 L
Ethanol 85	56	137,831 L	2,461 L
Electric	5	data not available	data not available
<b>Total</b>	<b>23,776</b>		

Federal bodies named in schedules I, I.1 and II of the FAA, are endeavouring to use ethanol 10 blend (E10) to the greatest extent possible in their gasoline vehicles. For natural gas and propane, consumption statistics include dedicated and bi-fuel applications.

<sup>1</sup> **Gasoline:** Gasoline consumption figures include ethanol 10 because reliable data on total fuel consumption of ethanol 10 fuel are not available. Sales of this fuel are not always tracked individually in the current reporting systems by either the oil companies or the fleet management system contractors. As a result, Ethanol 10 is tracked as part of the reported data, either with ethanol 85 or with gasoline.

The “Approximate Number of Vehicles” includes 46 hybrid gasoline-electric vehicles acquired during the 2000–01 fiscal year.





## 2.3 Examples of Progress in the Use of ATFs and Emissions Reduction

The items below highlight the use of ATFs and progress in emissions reduction by the federal government during the 2000–01 fiscal year:

1. The number of ethanol 85 vehicles in the federal fleet increased significantly during the 2000–01 fiscal year, from 20 to 57 vehicles. Although there was only one refuelling station in Canada, and it was owned and operated by Natural Resources Canada, the consumption of ethanol 85 increased by almost 700 per cent, from 19,775 litres to 137,831 litres.
2. Public Works and Government Services Canada added two additional natural gas vehicle refuelling appliances at one of its building sites in Ottawa to meet the increased demand of its fleet of natural gas vehicles in the National Capital Region. That fleet doubled during the 2000–01 fiscal year from 8 to 16.
3. Agriculture and Agri-Food Canada replaced six gasoline-powered pick-up trucks with six electric-powered off-road utility vehicles at the Central Experimental Farm in Ottawa. This type of utility vehicle is not included in the definition of a “motor vehicle” and they are therefore not counted as new vehicle acquisitions. They represent, however, an important initiative by this organization to reduce harmful emissions significantly.
4. 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 presently considered as ATF vehicles in terms of acquiring motor vehicles under the Act, and as such are not included in the “Number of Actual ATF Vehicles Acquired” in Table 2.1 of this report. Nevertheless, hybrid gasoline-electric vehicles emit significantly less pollutants than conventional gasoline vehicles. The federal government acquired a total of 46 of these hybrids during the 2000-01 fiscal year (see table below).

Department or Agency	Number of Hybrid Gas-electric Vehicles Acquired
Environment Canada	5
National Defence	9
Natural Resources Canada	3
Parks Canada	1
Royal Canadian Mounted Police	14
Transport Canada	14
<b>Total</b>	<b>46</b>





## 2.4 Key Obstacles to Expanding the Use of Alternative Transportation Fuels

Despite the commitment of the federal government to increase the use of ATF in the federal fleet, a number of external factors continues to limit the feasibility of using ATF vehicles. During the past four fiscal years, the acquisition of ATF vehicles and the use of ATF was 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 2000–01 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.
2. Compared to similar classes of gasoline vehicles, premiums for the acquisition of factory-produced ATF vehicles range from \$3,569 to \$7,666 for propane and natural gas vehicles and from \$185 to \$999 for ethanol 85 vehicles. The cost of after-market conversion kits ranges from \$2,749 to \$4,600 for propane and natural gas applications. It is generally the case that the lower-priced kits incorporate earlier, less advanced technology, while the higher priced ones reflect newer, cleaner technology.
3. Vehicle manufacturers are not producing ATF vehicles in the numbers originally anticipated and the availability of ATF vehicles in Canada remains limited. Availability in Canada is dictated largely by the production needs of the bigger US marketplace.
4. Natural gas, propane and ethanol 85 infrastructure is still limited; supply of these fuel types is unreliable outside of urban areas and supplier hours of operation are often restricted.
5. 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. As well, the highly sophisticated onboard diagnostic computers in new vehicles have severely curtailed the after-market conversion industry's ability to convert engines properly. Therefore, the federal government clearly favours factory-produced ATF vehicles and it is estimated that these vehicles represent 94 per cent of the ATF vehicles acquired in 2000–01.
6. 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 an ATF vehicle in many locations. Also, some departments have noted that the limited number of approved warranty service facilities has resulted in higher maintenance and repair costs.





7. Some jurisdictions still restrict the use of propane vehicles in certain areas; for example, in underground parking garages and on some airport tarmacs.
8. The addition of an ATF tank sometimes affects the operational capabilities of vehicles. For example, available cargo space is often reduced.
9. The relatively low average annual kilometres travelled by federal vehicles make it less likely that ATF use will be cost-effective.





### **3. CONCLUSION**

During the 2000–01 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 also complied during the 1997–98, 1998–99 and 1999–2000 fiscal years.

The federal government is committed to continuing to comply with the requirements of the Act and to demonstrating leadership in the attainment of 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 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 alternative fuels 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.









## ANNEX 1 – TERMINOLOGY

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

### Alternative Transportation Fuel

Under the Act, 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. Consultations are presently under way to determine whether the Alternative Fuels Regulations can and should be amended to include also hybrid gasoline-electric vehicles as ATF vehicles for the purposes of the Act.

For the purposes of *using* ATFs, 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 ATFs.

### Bi-fuel Vehicle

This is a vehicle 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.

### 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.





## **Operationally Feasible**

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

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





## ANNEX 2 – NEW VEHICLE ACQUISITIONS

The table below summarizes the application of the Act for the 2000–01 fiscal year by department and 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 2000–01 fiscal year. Nonetheless, they are in compliance with the Act, as their required ATF vehicle acquisitions would be nil.

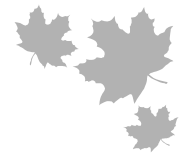
Department or Agency	Number of Vehicles Acquired	Vehicles Cost-effective for ATF Use	Vehicles Cost-effective and Operationally Feasible for ATF Use	Actual Number of ATF Vehicles Acquired
<b>SCHEDULE 1</b>				
Agriculture and Agri-Food Canada	49	14	0	0
Citizenship and Immigration Canada	30	0	0	0
Department of Foreign Affairs and International Trade	6	0	0	3
Department of Justice Canada	4	1	1	0
Environment Canada	68	29	6	12
Fisheries and Oceans	262	36	0	0
Health Canada	70	7	0	5
Human Resources Development Canada	103	0	0	0
Indian and Northern Affairs Canada	16	5	4	0
Industry Canada	57	1	1	6
National Defence	685	12	2	15
Natural Resources Canada	39	0	0	6
Public Works and Government Services Canada	42	12	12	12
Solicitor General Canada	1	0	0	0
Transport Canada	59	2	0	7
<b>Totals for Schedule I</b>	<b>1,491</b>	<b>119</b>	<b>26</b>	<b>66</b>





Department or Agency	Number of Vehicles Acquired	Vehicles Cost-effective for ATF Use	Vehicles Cost-effective and Operationally Feasible for ATF Use	Actual Number of ATF Vehicles Acquired
<b>SCHEDULE I.1</b>				
Atlantic Canada Opportunities Agency	4	1	1	0
Canada Customs and Revenue Agency	160	9	7	31
Canadian Grain Commission	1	0	0	0
Correctional Service of Canada	196	77	69	52
Economic Development Agency of Canada for the Regions of Quebec	2	0	0	2
National Archives of Canada	1	1	1	1
National Parole Board	4	0	0	0
Office of the Chief Electoral Officer	2	1	0	0
Offices of the Information and Privacy Commissioners of Canada	1	0	0	0
Privy Council Office	3	2	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	1	1	0
Registry of the Federal Court of Canada	3	3	0	0
Royal Canadian Mounted Police	1,223	45	23	19
Statistics Canada	2	0	0	0
<b>Totals for Schedule I.1</b>	<b>1,604</b>	<b>140</b>	<b>102</b>	<b>105</b>





<b>Department or Agency</b>	<b>Number of Vehicles Acquired</b>	<b>Vehicles Cost-effective for ATF Use</b>	<b>Vehicles Cost-effective and Operationally Feasible for ATF Use</b>	<b>Actual Number of ATF Vehicles Acquired</b>
<b>SCHEDULE II</b>				
Canadian Food Inspection Agency	84	4	0	4
Canadian Transportation Accident Investigation and Safety Board	5	0	0	0
Canadian Institutes of Health Research	1	0	0	0
National Research Council of Canada	10	0	0	0
Parks Canada Agency	87	38	3	5
<b>Totals for Schedule II</b>	<b>187</b>	<b>42</b>	<b>3</b>	<b>9</b>
<b>Total for All Schedules</b>	<b>3,282</b>	<b>301</b>	<b>131</b>	<b>180</b>







## **ANNEX 3 – DEFINITIONS OF TABLE HEADINGS**

### **Department or Agency**

These are all federal government bodies (departments and agencies) named in schedules I, I.1 and II of the *Financial Administration Act* that made vehicle acquisitions during the 2000–01 fiscal year.

### **Number of Vehicles Acquired**

This is the total number of vehicles acquired by the departments and/or agencies during the 2000–01 fiscal year.

### **Vehicles for Which ATF is Cost-effective**

This is the number of 2000–01 vehicles acquired that are considered to be no more costly to operate on alternative fuels in comparison to a conventional fuel.

### **Vehicles for Which ATF is Cost-effective and Operationally Feasible**

This is the number of 2000–01 vehicles acquired that are considered to be no more costly to operate on ATF in comparison to a conventional fuel *and* are able to fulfil their operational roles while using ATF.

### **Actual Number of ATF Vehicles Acquired**

This is the actual number of 2000–01 vehicles acquired that are capable of operating on ATF.

### **75% Target – Required Acquisitions as per the Act**

This is the total number of 2000–01 vehicles acquired that should be capable of operating on ATF in accordance with the *Alternative Fuels Act*.

For the 2000–01 fiscal year, the Act 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.

