

# General Motors of Canada Limited

President and  
General Manager

**General Motors of Canada Limited**  
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October 3, 1994

The Honourable Anne Edwards  
Minister of B.C. Energy Mines & Petroleum Resources  
and Co-Chair, Council of Energy Ministers  
Room 133, Parliament Buildings  
Victoria, B.C.  
V8V 1X4

Via Facsimile (604) 952-0151

Dear Ms Edwards:

General Motors of Canada supports the Voluntary Climate Change Challenge outlined in your letter of September 9, 1994 and believe that it must be the cornerstone of Canada's response to the climate change issue. The voluntary approach provides the greatest flexibility allowing the most effective low cost options to be utilized. The auto industry has already made great strides in reducing greenhouse gas emissions from our products and processes and we are committed to continuing to seek further reductions. The voluntary approach will encourage us to explore new and innovative technologies and bring them to the customer in the most cost effective manner.

GM of Canada is taking a lead role in protecting and preserving our environment. We have already done much to improve energy efficiency and reduce greenhouse gas emissions from our manufacturing, warehousing and office facilities. GM of Canada is an active member of the Canadian Industry Program for Energy Conservation (CIPEC) and we have already implemented a number of energy efficiency and conservation projects in conjunction with the Energy Innovators Program. These projects include: high efficiency lighting and motors, variable speed drives, solar walls, new paint technologies, peak load shifting, automated energy management systems, energy workshops to eliminate energy waste, technology transfer seminars and idea exchanges among GM plants and other industries. Between 1990-93 these energy efficiency projects, at a cost of \$3.7 million, provided a reduction of over 6,200 kilowatts of electrical energy load for GM's Canadian operations. The CO<sub>2</sub> emissions avoided as a result of these energy efficiency and conservation projects equated to 45 million kilograms annually. In 1994 we held our 5th annual "Energy Awareness Week" which includes a range of activities that provide opportunities for us to educate and raise the awareness level of employees on the importance of energy conservation at home, work or while driving their vehicle.

Tremendous progress has been made toward reducing the impact of the automobile on the environment and improving fuel economy. Since 1974 our new car fleet fuel economy has improved by 128%. Our product development goal is to lead in fuel efficiency for all market segments in which we compete. Our joint venture facility, CAW in Ingersoll, Ontario produces the Geo, Metro/Pontiac Firefly sub-compact passenger cars which are the most fuel efficient vehicles sold in Canada in 1994.

We have also made significant advances in recent years in reducing tailpipe emissions from today's cars and light duty trucks. Since 1970, new vehicle tailpipe emissions have been reduced dramatically. Hydrocarbons (HC) are down 96%, carbon monoxide (CO) by 96% and oxides of nitrogen (NOx) are down 76%. Voluntary actions by automakers, such as the introduction of more stringent "tailpipe standards" which began in 1994 will have an even greater positive impact on the air Canadians breathe. GM of Canada is now phasing in new technology to reduce NOx emissions by 90%, CO emissions by 96% and HC by 98% from uncontrolled levels on all new cars and light duty trucks by next fall. We are now in the process of phasing-in the second generation of on-board diagnostic (OBD-II) systems to provide further emission reductions.

The Big Three automakers are investing billions of dollars in research to improve fuel efficiency and reduce tailpipe emissions further, develop alternative fuel technologies and seek new materials and power train technologies. GM is the leader in this field. An excellent example of this research is the 1400 pound, 100 miles per U.S. gallon Ultralite Concept car unveiled in 1992 to illustrate technologies appropriate for "ultra-fuel efficiency". The Ultralite is however, still a concept vehicle and carries the penalty of a very high cost to manufacture. While the 100-mpg automobile is not "just around the corner" we are committed to moving in this direction and implementing new technologies into future product programs as they become cost effective. Further extensive research, such as that being carried out by the Magnesium Institute in Montreal, will be necessary to perfect the development of new light weight materials. We have achieved substantial reductions to date by reducing the weight and size of the vehicles significantly, improving the aerodynamics and by incorporating sophisticated powertrain technologies. As we move forward, we will continue to make near term incremental improvements in the fuel efficiency of our fleet, as well as develop alternative fuel technologies to reduce & eliminate greenhouse gas emissions.

For Canada, the issue of climate change and the measures to address it has as much to do with trade and economic development as it has to do with the environment. As you are aware the Canadian automotive industry is a key driver of the Canadian economy. It accounts for approximately 7% of Canada's GDP and provides 500,000 direct and indirect jobs. Under the AutoPact, the industry has become highly integrated and rationalized across Canada and the U.S. resulting in cheaper cars for Canadian consumers and tens of thousands of additional jobs in this country. More than 85% of our production is being exported to the United States with a small amount to other countries. Our Canadian purchasing staff in conjunction with GM's Corporate purchasing team, procure components and services globally as part of GM's worldwide sourcing strategy. GM consumes over \$8 billion annually from outside Canadian suppliers and an additional \$4 billion from allied component and powertrain facilities in this country. Since May, 1992, GM has placed almost \$3 billion of net new business with Canadian suppliers. In fact,

much of the economic recovery which Canada is experiencing is being driven by the auto industry. GM alone represents over 10% of total manufacturing shipments at \$14 billion annually. Given our reliance on trade, we believe it is important that Canada's National Action Plan be consistent with the strategy adopted by the U.S. If Canada was to choose a much different course it could have a very negative impact on our competitive position.

We strongly support voluntary initiatives to achieve reductions in greenhouse gases. If your government determines that voluntary initiatives may not be enough to stabilize Canada's greenhouse gas emissions at 1990 levels by the year 2000 we strongly suggest the use of economic instruments as the next step with the consideration of a carbon charge and offset program as an important policy option. At this point we can not support further "command and control" regulatory approaches to force industry to meet the federal government's targets for emissions reduction until the voluntary approaches and economic instruments alternatives are exhausted. Canada must seek a balanced mix of measures that best meet both Canada's environmental and economic objectives within the context of our dependence on international trade.

We, along with our colleagues at the Motor Vehicle Manufacturers' Association, have actively participated in the Measures Working Group and Climate Change Task Group in the development of Canada's National Action Plan. We met recently with Sue Kirby and Bill Jarvis of NRCan to share our recommendations on how the automotive sector can assist the government in meeting its objectives. Canada contributes only 2% of the world's greenhouse gas emissions and all passenger cars and light duty trucks contribute only 14% of Canada's total CO<sub>2</sub> emissions. Through our research we have identified a number of high and low impact options for both existing and new vehicle fleets. Measures such as mandated fuel economy standards and gas guzzler tax programs are ineffective in altering consumer behaviour and reducing overall emissions.

As we have stated, the new vehicle market in Canada is highly integrated with the U.S. market and is being further integrated on a continental basis with Mexico. Canadian new vehicle sales will represent approximately 8% of the total continental market. Unilaterally increasing mandated fuel economy standards in Canada will not have significant influence on the design and development of new vehicles in North America. Instead North American full line manufacturers (those with average fleet fuel economy closest to the threshold) would be forced to restrict high end product availability to their dealers in Canada. Canadians frustrated by a restricted assortment of product could choose to hold on to their older, more polluting cars longer or seek a nearly new (>0 kms) imported used vehicle or accept a substitute. We are also concerned that typically, low volume manufacturers are exempted from meeting the standards, creating a two-tier standard.

Gas guzzler taxes are equally flawed because they are based on the fuel economy rating and not on the amount of fuel consumed, and thus do not influence driver practices and total vehicle kilometers traveled. Forcing consumers into smaller vehicles that offer a lower operating cost per kilometre traveled does not directly translate into reduced CO<sub>2</sub> emissions-- the inclination is to drive more, consuming an equivalent amount of gasoline and emitting as much CO<sub>2</sub>. Gas guzzler

taxes do not account for the practical utility needs of a new car buyer. Drivers with a legitimate need for specific seating capacity, cargo capacity, trailer towing or four wheel drive functionality are taxed in a discriminatory manner. Furthermore, the intended usage of these vehicles is not taken into account. A loaded four or six passenger car-pool vehicle is far more efficient than a single occupant economy car.

Market incentives will be important to help manufacturers achieve further improvements in fuel efficiency. Decisions about the purchase of a new vehicle and its use are clearly influenced by gasoline prices. The cost of Canadian gasoline increased by over 30 cents per litre from 1980 to 1990, while in the U.S. the price decreased by 2.6 cents per litre. During the same time period, the annual amount of fuel consumed by a vehicle in Canada declined 28% while in the U.S. it decreased only 8% and the total amount of road motor fuel consumed in Canada during this period declined by 12%, while in the U.S. it increased by 10%. The threat of increased gasoline prices faced by Canadians during the 1980's influenced vehicle miles traveled and encouraged the selection of more fuel efficient vehicles. While we plan to bring ever more fuel efficient products to market, only higher gasoline prices will motivate our customers to buy them.

In addition, excellent opportunities exist for further reductions in greenhouse gases from the auto sector through government implementation of vehicle inspection and maintenance programs across Canada, the phase in by manufacturers of the next generation of On-Board Diagnostic (OBD-II) systems and the introduction of reformulated gasoline in Canada.

Different fuel formulations currently exist in Canada and the U.S.. MMT, an octane enhancer, is not permitted in the U.S., but is still used in Canadian fuel. We strongly support the introduction of cleaner fuels in Canada and specifically the removal of MMT from Canadian gasoline because it impedes the efficient functioning of vehicle pollution control devices. If complimentary fuels are not made available by the petroleum producers Canadians will not be able to maximize the benefit from new emission control technology. In fact, without the presence of MMT-free fuel in Canada, different on-board diagnostic systems may be required on vehicles sold in the U.S. and Canada. We believe a harmonized total system approach is required for vehicle emission systems and fuel formulations. Improvements in Canadian fuel formulations of gasoline such as reducing aromatics, T90, sulfur and additives such as MMT could have the double positive environmental effect of improving air quality in urban centres by 25% as well as reducing the CO<sub>2</sub> emissions from the vehicle fleet.

We recognize the Government of Canada's commitment to return to 1990 levels of emissions of greenhouse gases by 2000, and its objective of additional reductions as we move into the next century. To further these objectives, significant changes in the behavioural and consumption patterns of all Canadians including but not restricted to changes in transportation patterns, will be necessary. GM of Canada believes that steps toward meeting these objectives will be achieved most efficiently and with the lowest cost to the Canadian economy and society first by voluntary approaches and second by broadbased market driven measures which encourage a gradual shift in behavioural patterns and economic activities to less greenhouse gas emitting pursuits. In particular, we should focus on strategies to shift from those activities, businesses and sources of power generation which generate more carbon emissions to less carbon intensive activities in a

manner which is unbiased towards particular sectors or regions. If some groups are disproportionately affected, adjustment strategies may be contemplated to ameliorate the disproportionate effect. We have elaborated in more detail on a "Hierarchy of Approaches" concept in Appendix 1.

We appreciate the opportunity to share our views on several policy measures that we believe appropriate to assist Canada in meeting its goal to stabilize net greenhouse gas emissions at 1990 levels by the year 2000. We look forward to working with you in finalizing a climate change strategy that meets both Canada's environmental and economic objectives.

Sincerely,

V. Maureen Kempston Darkes

### **Appendix 1 - Hierarchy of Approaches**

In developing Canada-wide strategies to achieve the objective of reducing emissions of greenhouse gases, we believe governments must focus on a hierarchy of approaches to achieve the desired reductions most economically:

- 1) *Voluntary approaches supported by powerful public awareness campaigns* to develop knowledge of the need to make changes in behavioural and economic patterns, a commitment to making those changes as well as detailed information about how to accomplish real reductions.
- 2) *Broad-based economic instruments to encourage the desired changes.* These should be developed to reward the business or individual which shifts to less carbon-intensive approaches, as well as incentivize creative new approaches.
- 3) *Command and control measures.* Because these initiatives distort economic activity severely with significant repercussions to jobs and investment, these should be undertaken **only** where there is overwhelming evidence that they are required and where voluntary approaches and economic instruments have been attempted but have failed to yield the necessary reductions.

### **Voluntary Approaches**

Manufacturers have made significant improvements in vehicle fuel economy over the past two decades, more than doubling the fuel economy of their cars across the entire fleet, primarily by reducing weight and size of the vehicles significantly. Today's car is 1000 pounds lighter than a 1975 model. As we move forward we Will continue to make incremental improvements in fleet fuel efficiency.

However, fuel economy improvements have been offset by a commensurate voluntary change in individual behavioural patterns relating to the selection of vehicles or their use by the general population. In fact, as the real price of gasoline has remained relatively constant over the last decade, and fuel efficiency improved, we have seen a shift in consumption patterns to less fuel efficient vans and trucks, as well as larger safer vehicles that also provide more features associated with convenience. We have also evidenced the "take back effect" where consumers drive more because with improved fuel efficiency of the vehicle, the cost per mile has been reduced, as well as a decline in uses of alternative forms of transportation such as public transit.

Accordingly, while GM of Canada does not oppose continuation of voluntary targets for improvements in the fuel efficiency of our product offerings, because of the failure of the voluntary approach to cause a shift in individual behaviour these may need to be supported by economic instruments, particularly increases in the price of fuel to cause the requisite shift in the choice of vehicle by consumers and patterns of vehicle usage across the entire fleet. Increases in fuel cost have an immediate effect and can help towards reaching a goal by the year 2000. It needs to be recognized that new vehicle improvements will not have as large or immediate an effect.

#### Economic Instruments

Experience around the globe demonstrates a strong inverse correlation between the price of gasoline and average vehicle miles traveled. The price of gasoline also has a very direct effect on the type of vehicle selected by the consumer. In jurisdictions outside North America where the price of gasoline is higher, the vehicle fleet is typically skewed to the smaller, more fuel-efficient end, with the amount of fuel consumed per vehicle significantly less than in North America. Even in comparing Canada and the U.S. where the road infrastructure and general societal patterns are similar, higher gasoline prices in Canada as well as lower disposable income have skewed the mix of vehicles to the small end of the market significantly. New car fleet fuel economy in Canada is resultingly 5% better than in the U.S. and gasoline consumption per vehicle is less than in the U.S. despite the fact that because of the broad distribution of the population, Canadians tend to drive more miles annually than Americans.

Accordingly, GM of Canada suggests that to cause a change in the behavior patterns of individuals, an increase in the price of gasoline may be required. As a first step, we understand that improvements in fuel formulations of gasoline such as reducing aromatics, T90, sulfur and additives such as MMT which impede the efficient functioning of vehicle pollution control devices, could add several cents per litre to the price of gasoline. This slight increase in cost for cleaner reformulated fuel is expected to cause a noticeable change in consumer driving habits and would have a significant measurable impact (estimated at up to 25%) on air quality in urban areas as well as reducing the CO<sub>2</sub> emissions from the vehicle fleet.

#### Carbon Charges

While gasoline price increases cause a shift in the choice of vehicle and its usage, gasoline price increases only affect a limited range of greenhouse gas emitting economic activities such as the

transportation sector, and as such are an inefficient instrument compared to economic instruments which impact equally all activities which emit greenhouse gases. To achieve the targeted reductions, rather than a very severe measure impacting a limited number of sectors and types of behaviour, a less severe broader-based approach to cause minor shifts across the full range of activities is preferred. The latter will cause fewer adjustment problems. Broad based taxes create reduction incentives in more areas, thereby making it likely lower cost abatement methods can be found from the full range of opportunities, resulting in lower total abatement cost.

For this reason GM of Canada encourages governments in Canada to continue to consider a carbon fee as the most broad-based, fairest and potentially least damaging mechanism to cause the shift in Canadian behaviour patterns required to reduce greenhouse gas emissions. By increasing the price of goods and services based on their carbon output, consumers and companies are encouraged to seek less greenhouse-gas emitting alternatives, whether it be alternative sources of energy or raw materials, more efficient processes, or changes in behaviour patterns to reduce overall. emissions.

While the auto industry recognizes that much more research needs to be done to fully understand the effects of a carbon charge on the Canadian economy, it has established some fundamental tenets which should be met to make a carbon charge acceptable:

- the charge should be phased in over a long period of time, with the phase-in schedule widely publicized to allow companies and individuals sufficient lead time to adjust their strategies
- as the science continues to evolve with respect to the degree of correction required to address global warming, the carbon charge should be revised (again with adequate lead time to allow the requisite changes)
- the charge should be harmonized internationally so as not to negatively impact the competitiveness of Canada's exports nor advantage imports; if international harmonization is not achievable, input tax credits should be available when products/services are exported and a tax applied on imports equal to the carbon content
- revenues from a carbon charge must be used to reduce other taxes to compensate for the negative impact a carbon charge alone would have. Further study is required to determine whether the carbon charge should offset consumption taxes such as the GST, personal and corporate income taxes or be applied directly to reduce the national debt

We recognize that carbon charges have become an emotionally-charged, politically sensitive issue, but believe that to fairly develop strategies to address global warming, Canada needs to continue to consider the full range of options, recognizing that the required changes may require substantial adjustments in the Canadian economy. The debate on policy options must be an informed one, based on sound science and sound economics. If Canadians are to make the

difficult decisions which appear to be required, they must be allowed to choose from a full range of options.