

Comments on the Canadian Motor Vehicle Emission Regulation to the Department of Transport

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The Canada Motor Vehicle Emission Regulation

This responds to the Department of Transport's December 21, 1996 *Canada Gazette* request for submissions on motor vehicle emission regulation for Canada. All portions of this letter may be disclosed under the *Access to Information Act*.

In this letter references to light duty trucks ("LDTs"), passenger cars ("PCs") and medium duty vehicles ("MDVs") are references to those terms as defined under the California LEV program.

West Coast Environmental Law proposes a unique Canadian vehicle emission program which supports various environmental objectives, is compatible with a North American vehicle market, has economic spin offs in Canada and eliminates incentives to purchase and sell larger vehicles. Our next preference would be for a program based on California certification of light and medium duty vehicles and the California NMOG fleet averages.

This letter begins with a series of general recommendations that should be considered in Canada's regulatory choice, outlines the unique Canadian program, discusses pros and cons of other regulatory programs, and finally discusses fuel compatibility issues.

General Comments and Recommendations

Avoiding Incentives to Market larger Vehicles -- in Combining Weight Classes

Generally, manufacturers and dealers have higher profits from luxury passenger cars and larger trucks. These vehicles have higher emissions and lower fuel economy. Different emissions standards for (a) passenger cars and light duty trucks under 3751 lb. ("PC/LDT <3750s"), (b) light duty trucks over 3751 lb. ("LDT >3751s"), and (c) MDVs over 6000 lb. in the California program, and similar differentiations under the US *Clean Air Act*, US Corporate Average Fuel Efficiency ("CAFE") standards and *Motor Vehicle Safety Act* requirements, encourage manufacturers to shift customers from high price luxury PCs to high price sport utility vehicles that are subject to less stringent emission and fuel economy standards. The market has seen a profound shift in this direction over the last fifteen years.

One way of overcoming this shift is to use fleet average requirements which apply to broader weight ranges. This suggestion is often rejected because it would prejudice manufacturers -- especially domestic manufacturers -- which sell a larger than average portion of their vehicles in the LDT >3751 market. This problem can be overcome by basing the fleet average requirements on each manufacturer's current mix of weight classes. If the California NMOG requirements for 2005 are used as an example, a manufacturer which sells 60% PC/LDT <3750 and 40% LDT >3751 would have to meet an NMOG requirement for a combined weight class equal to:

[(NMOG average requirement for PC/LDT < 3750 = 0.062) x 0.6]

+

[(NMOG average requirement for LDT > 3751 = 0.093) x 0.4]

= 0.074

Having separate NMOG averages for each manufacturer would not stifle shifts in market share as all corporate fleet average programs (BCLEV, Cal LEV, NLEV and CAFE) allow trading of emission credits among manufacturers.

ACELA recommends that :

- **Canada should adopt a program using corporate fleet averages.**
- **Canadian fleet averages should combine PC/LDT weight classes based on each individual manufacturer's 1996 Canadian sales within different weight classes.**

Avoiding Perverse Incentives -- Application of Regulations to MDVs

If, as is argued by manufacturers, emission standards add significantly to vehicle prices, excluding MDVs from a program would provide an incentive for manufacturers to build and consumers to purchase MDVs. I believe that this incentive is small (The California Air Resources Board's cost estimates for low emission vehicles appear to be the best available estimates, and they show little incremental cost). Nonetheless, the incentive should be avoided by ensuring that standards are developed for MDVs as well as PCs and LDTs. The relatively high portion of heavy sport utility vehicles sold in Canada compared to the US makes application of regulations to MDVs relatively more important.

ACELA recommends inclusion of California MDV standards in any Canadian program.

More Stringent NMOG Fleet Average Standards Support other Environmental Goals

Stringent NMOG Fleet Average Requirements will have a minor but desirable impact on greenhouse gas emissions from Canadian vehicles. First, standards that are more stringent than those in the NLEV or BC LEV program will require sales of ZEVs and/or ULEVs. ZEVs obviously have significantly lower life cycle emissions of greenhouse gases.

It is often argued that ULEVs have marginally higher emissions of greenhouse gases because of the need for heated catalysts. It is my understanding that design changes have overcome this problem. Moreover, ULEVs tend to be smaller and more fuel efficient, and more likely to use natural gas or ethanol. Thus increasing sales of ULEVs will likely reduce greenhouse gas emissions.

ACELA supports use of NMOG fleet averages which encourage the sales of ULEVs and ZEVs.

Programs that encourage cleaner vehicles will benefit the Canadian Economy

All of Canada's domestic natural gas consumption is supplied from Canadian sources. A program which encourages sale of natural gas vehicles -- either through stringent NMOG average requirements or other mechanisms -- will have spin off effects for the Canadian economy.

A program which encourages fuel efficient vehicles can provide economic benefits to Canada given our competitive advantage in automobile plastics, aluminum casting and natural gas vehicles.⁴ It will also result in consumer savings through reduced fuel use.

ACELA recommends a program which increases market share of natural gas and fuel efficient vehicles.

A Program Should Meet or Exceed BC LEV standards.

BC is committed to withdrawing its regulation if Canada adopts equal or more stringent NMOG fleet average standards. Passing a federal regulation which sets NMOG average requirements at or above those applicable to BC should reduce manufacturers' and dealers' burdens associated with tracking sales in BC. To be equivalent to BC regulations a Canadian fleet average would need to be based on the BC LEV program or the OTC and California programs. Whether an NLEV program is equivalent to the BC LEV program in the period from 2001 to 2005 is uncertain and will depend on the cutpoints for NLEV certification.

WCELA recommends a NMOG average and Vehicle Certification Process which is at least equivalent to the BC LEV program.

Phase in Prior to 2001

The BC approach to crediting manufacturers with the sale of TLEVs, LEVs, ULEVs and ZEVs prior to 2001 appears to be a fair and effective way of encouraging early action.

WCELA recommends encouraging manufacturers to phase in LEVs prior to 2001 through a credit system for early introduction. For the 2000 model year manufacturers should not receive credit unless their fleet average is lower than 0.125 (or 0.160 for LDTs >3751)

Improved CAFC Standards Essential to Reducing Greenhouse Gas Emissions and can be Implemented Unilaterally by Canada.

Emissions from Canada's medium and light duty fleets account for almost 20% of Canada's greenhouse gas emissions and grew by almost 12% between 1990 and 1995. This compares to Canada's commitment to stabilize greenhouse gas emissions at 1990 levels by the year 2000. Among industrialized nations Canada has one of the worst records in meeting the stabilization commitment. After 2000 we are likely to be subject to binding emission reduction requirements based on our 1990 emissions. Failure to take cost effective action now will mean more drastic and costly measures in the future.

Improved fuel efficiency is a key to cost effective reductions in Canada's emissions. WCELA supports the Climate Action Networks call for a 5.0 litre per 100 km Company Average Fuel Consumption ("CAFC") standard being phased in between 1999 and 2005 (subject to comments regarding use of broader weight classes and giving manufacturers credit for the sale of vehicles which use less carbon intensive fuels). It has been estimated that this measure would have net savings to Canadian consumers of \$4 billion by 2010.³ It is also the single most effective emission reduction measure proposed by the National Air Issues Coordinating Mechanism. It is a measure which can be adopted unilaterally, without negatively impacting on the competitive position of Canada's industries. Other organizations, including the Canadian Automobile Association, have supported adoption of stringent fuel consumption standards.

It is often assumed that Canada cannot unilaterally adopt more stringent fleet average fuel consumption requirements than exist under the US CAFE program. While WCELA recognizes the advantages of co-ordinating Canadian CAFC and US CAFE standards, failure to improve CAFE standards should not stop Canada from setting higher standards. Many vehicles already meet the 5.0 litre standard. The adoption of a standard now, with full phase-in not occurring until 2005 would provide manufacturers with the lead time to improve technologies and change marketing strategies.

WCELA recommends adoption of aggressive CAFC standards.

CAFC standards should reflect fuel types

Since the primary impetus for CAFC standards is reducing carbon dioxide emissions, CAFC standards should reflect the carbon intensity of the fuel used. Thus, fuel consumption by natural gas vehicles and propane vehicles should be discounted to reflect lifecycle greenhouse gas emissions per 100 km.

Regulatory Programs Essential

Regulatory standards for both fuel efficiency and emissions are essential. Lada and possibly other imports do not meet the Canadian voluntary Tier 1 standard. Domestic manufacturers have threatened to disable Tier 1 onboard diagnostic equipment on Canadian vehicles.

Domestic manufacturers have been out of compliance with Canadian voluntary CAFC standards on several occasions, including 1993 to 1995 for trucks.³ Although manufacturers have promised to voluntarily improve fuel efficiency, their records indicate that regulation is the best incentive. Fuel efficiency improved rapidly during the period in which US CAFE standards required annual improvements (1978 to 1984), but it has not improved significantly since then. Motor vehicle emissions and CAFC standards should be regulated. With provisions for credit trading and banking, these standards are extremely flexible instruments which can ensure improvements to emissions and fuel efficiency. They should be put in regulation.

Legally binding fuel efficiency standards are consistent with CCME recommendations which call for "voluntary progressive improvement in vehicle fuel efficiency beginning in 1999, or equivalent measures in concert with evolving national greenhouse gas management policy."

WCELA recommends that standards for fuel efficiency and vehicle emissions should be made legally enforceable.

Requirements for ZEVs and Alternate Fuel Vehicles

WCELA supports inclusion of California ZEV requirements in a federal program in order to reduce lifecycle greenhouse gas emissions. We expect that the cost increment for ZEVs will drop rapidly as technology improves to a point where ZEVs and gasoline vehicles have comparable costs. The best information of which we are aware on this issue are the reports completed by the California Air Resources Board. We note that if the technology forcing provisions for ZEVs are not successful, Canada would be able to amend requirements prior to the 2003 deadline. Canadian officials could participate in a pre-2003 review of the ZEV mandate along with their counterparts in California, New York, Massachusetts and any other jurisdictions which adopts the mandate.

Although we support the work of the BC Clean Vehicle Committee, we are not convinced that the voluntary mechanisms for encouraging sales of ZEVs, hybrids and ULEVs included in the BC regulation will lead to significantly increased sales of these vehicles. We believe that a lower NMOG average and/or a ZEV mandate is the best means of increasing these sales.

WCELA supports the inclusion of a ZEV mandate in Canadian regulations.

A Canadian Program

Given all of the above WCELA recommends a unique Canadian program. California's experience with emission standards, and Canada's experience with safety standards, show that the Canadian market is large enough to support emissions standards unique to Canada. A unique program does not mean a program which is inconsistent with existing North American programs or an program inconsistent with an integrated North American market. It simply means a program building on and learning from the failures of existing programs.

A Canadian program should include the following elements:

- Certification equivalent to California certification;
- NMOG fleet average requirements based on the California NMOG average requirements.
- Adoption of ZEV requirements in the California regulation.
- CAFC standards based on a 5.0 litre per 100 km standard for PCs and LDTs <3750 and a 6.8 litre per 100 km standard for LDTs > 3751. These standards would be phased in between 1999 and 2005.
- Both CAFC and NMOG fleet averages would be individualized for each manufacturer according to the that manufacturer's mix of vehicles in different weight classes.
- CAFC standards should reflect the carbon intensity of the fuel used.
- A medium duty vehicle program based on the California program.
- All standards should be legally binding.

Other Options

Based on the general comments above, our preference regarding other alternatives should be clear. Adoption of more stringent, legally binding CAFE standards is the writer's highest priority.

Fuel Requirements

It is our understanding that in the near future the federal government will be adopting fuel standards similar to those in place in BC. Although we strongly support the adoption of more stringent standards that include requirements for renewable content, the writer believes that the BC standards along with the banning of MMT, will be sufficient for the purposes of ensuring proper operation of LEV vehicles. I note that LEV and ULEV vehicles sold in California will be operated in states with much higher concentrations of sulphur than are permitted in the BC regulation. I also note that US courts have rejected auto manufacturer's claims that requiring LEVs to run on fuel available in the northeast US will require significant changes to LEVs.

Endnotes

<http://old.wcel.local/wcelpub/wrapper.cfm?docURL=http://www.wcel.org/wcelpub/1997/11943.html> - [fn_1_up](#)

1. <http://old.wcel.local/wcelpub/wrapper.cfm?docURL=http://www.wcel.org/wcelpub/1997/11943.html> - [fn_1_up](#) Pilonusson Research & Consulting Inc., *The Role of Transportation Technologies In Reducing Greenhouse Gas Emissions*, (Ontario: Ontario Roundtable on Environment and Economy, 1995) pp 15, 30.
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<http://old.wcel.local/wcelpub/wrapper.cfm?docURL=http://www.wcel.org/wcelpub/1997/11943.html> - [fn_2_up](#)
2. <http://old.wcel.local/wcelpub/wrapper.cfm?docURL=http://www.wcel.org/wcelpub/1997/11943.html> - [fn_2_up](#) Natural Resources Canada, Energy Sector, *Model Simulations of The Climate Action Network Program for Energy Demand, GHG Emissions and Investment* Ottawa, 1995.
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<http://old.wcel.local/wcelpub/wrapper.cfm?docURL=http://www.wcel.org/wcelpub/1997/11943.html> - [fn_3_up](#)
3. <http://old.wcel.local/wcelpub/wrapper.cfm?docURL=http://www.wcel.org/wcelpub/1997/11943.html> - [fn_3_up](#) Figures 2 and 3, Natural Resources Canada, *US and Canadian Approaches to Vehicle Fuel Efficiency Standards*, August 1995.