



**Pollution Probe submission to Transport Canada Regarding
the Development of Motor Vehicle Fuel Consumption Regulations**

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Pollution Probe is pleased to have the opportunity to share our views with Transport Canada's *Motor Vehicle Fuel Consumption Regulations Task Force*. As with all official submissions to government, Pollution Probe will post this document on our public-access website so that other government departments, industry and members of the public can learn about our position.

The Government of Canada has stated that it will regulate new vehicle fuel consumption levels beginning with the 2011 model year. The Regulatory Framework for Air Emissions states that the regulations will be designed for Canada to maximize our environmental and economic benefits and will be benchmarked against a stringent dominant North American standard.

The Motor Vehicle Fuel Consumption Regulations Task Force at Transport Canada is leading the cost-benefit analysis (CBA) to determine a standard that meets the conditions set forth by the government. The elements of a thorough CBA were presented in the technical discussion paper, *A Better Canada – A*

Cleaner Environment: The Development of Motor Vehicle Fuel Consumption Regulations. On the matter of technology costs and key analytical assumptions and valuations used for the CBA, Pollution Probe submits the following comments for consideration by the Task Force.

1. Technology costs – Pollution Probe views the vehicle technology costs studies produced by Energy and Environmental Analysis, Inc. as a high-quality source of information.
2. Discount rate – A higher discount rate will result in a lower valuation of future benefits in the CBA. A discount rate of 8 per cent is consistent with Treasury Board guidelines. However, sensitivity analyses should be run using discount rates as low as 4 per cent, in respect of the direction provided by the *Regulatory Framework on Air Emissions* to maximize our environmental and economic benefits, given that societal benefits are more appropriately valued at lower discount rates than individual benefits.
3. Rebound effect – The observed elasticity of vehicle kilometers traveled-to-fuel price appears to be declining. Small and VanDender (2004) estimate the factor to be about 10 per cent in the U.S., down from earlier estimates of 20 per cent and higher.
4. Safety Impacts – Recent studies of traffic fatality rates (Ahmad and Greene, 2004) show that increased fuel efficiency does not lead to increased traffic fatalities. Even so, the size-based attribute (footprint) standard developed for the recent light truck CAFE rulemaking in the U.S. is an appropriate means to address the issue of vehicle safety. Pollution Probe suggests that the 2002 National Academies of Sciences study of traffic fatalities referenced in technical discussion paper should be considered in light of its own minority report on vehicle safety and fuel economy, as well as subsequent studies of the statistical relationships to vehicle mass and size.
5. Externality pricing for GHG emissions – Pollution Probe points out the recommendations of the Green Budget Coalition, the Strathmere Group and the National Round Table on the Environment and the Economy: \$30 per tonne, increasing to \$75 per tonne by 2020. Note that the price is likely to be adjusted upwards over time, as the environmental and economic damages associated with climate change are more accurately assessed.
6. Credits toward compliance – Pollution Probe strongly cautions against credits for alternative fuels, regardless of their potential benefits. The focus of the standard should be on vehicle technology and design to increase fuel efficiency. The promotion of alternative fuels would be more effectively addressed in a separate set of policies. However, there may be a role for technologies that improve “real-world” fuel efficiency, though

- their effects are not measured in the government procedures for estimating fuel efficiency. For example, vehicle fuel efficiency is measured assuming no air conditioner exists (few vehicles had air conditioning when the test protocols were developed). If an automaker introduces an advanced air conditioner system that consumes less energy and contributes to better overall vehicle fuel efficiency, then some credit toward compliance might be considered. In the absence of a compliance incentive, some beneficial technologies might not be developed.
7. Trading of fuel efficiency credits – A system of tradable credits among automakers might improve the economic efficiency of the standard and provide incentive for capable automakers to exceed the standard. This would require due analysis to assess the potential benefits or pitfalls.
 8. Metrics – In Canada, the standard metric used to represent vehicles fuel consumption is litres of fuel consumed per 100 kilometres travelled (L/100km). This is a volumetric measure and it does not account for differences in the energy content of different liquid fuels (e.g., gasoline, diesel, ethanol), gaseous fuels (e.g., natural gas) or electricity (a possible emerging transportation fuel). The best way to incorporate established and emerging fuel options into the regulation is to use an energy-equivalent metric for rating vehicle efficiency, such as Joules/km, or gallons-of-gasoline-equivalent per km. This keeps the focus on vehicle technology, which is the business of automakers, and avoids the complexity and uncertainty of a fuel credit system. Again, the promotion of alternative fuels should be addressed with a separate set of policies.
 9. Noise Pollution – It is likely that vehicle technologies to enhance efficiency will also reduce the noise generated by vehicles. For example, smaller engines, hybrid drivetrains and “clean” diesel vehicles should contribute to reduced noise costs per vehicle-kilometre.

Numerous studies have been conducted on the level of fuel efficiency improvement that would be cost-effective (i.e., the fuel savings over the life of the vehicle would pay for the added cost of fuel efficient technology). Plotkin (2007) reports the cost-effective level of improvement ranges from 30-50 per cent, assuming no compromise in vehicle safety or performance, by about 2020. 50-100% is possible in the longer term (2025-2030) assuming some trade-offs in horsepower. These estimates can serve as a guide to judging whether the results of Transport Canada’s CBA are producing the expected results.

Stakeholder feedback on a broad range of issues was invited in Transport Canada’s issue brief on the development of fuel consumption regulations. Pollution Probe offers the following general comments for consideration.

1. Benchmarking – Benchmarking Canada’s regulatory options against other jurisdiction’s standards is an important exercise. Benchmarking is a tool whereby an organization measures its performance or process against other organizations’ best practices, determines how those organizations achieved their performance levels, and uses the information to improve its own performance. In the context of fuel efficiency standards, benchmarking will help to ensure that best practices are not overlooked in the development of Canada’s standard.

It is also important to note that benchmarking against other standards does not imply copying those standards. Canada should take the best elements of other standards and regulatory processes and adapt them to our own, where applicable and appropriate.

2. Canada’s standard can be higher than U.S. standards – Pollution Probe believes a standard developed for Canada, that is based on our own unique fleet mix and technology profiles, can be set at a higher level than U.S. federal and California standards, and yet be *compatible* with the level of technological improvement occurring in other jurisdictions.

The CBA will indicate the optimal degree of improvement, but concerns have been expressed about the ability of some automakers to comply with tough standards. If the government were to decide it was in the nation’s interest to assist a specific company or industry group, then targeted measures (e.g. the automotive innovation fund announced in Budget 2008) are more effective than a general easing of environmental standards. The danger inherent in lowering environmental performance standards, in order to accommodate those least capable of improvement, is that it removes the incentive for more innovative and competitive companies to invest in maximizing their own potential for improvement. This would ultimately undermine the future prospects of the industry to compete in the global market for fuel efficient products.

Pollution Probe looks forward to continuing to participate in the process to develop Canada’s motor vehicle fuel consumption standards. For further discussion or clarification on any of the comments made in this submission, or to discuss any other issues, please do not hesitate to contact us.

Thank you.