

## **Growing the Availability of Alternative Fuels in Canada**

The transportation sector is one of the greatest opportunities for reducing greenhouse gas emissions in Canada. In 2005, transportation accounted for 200 Mt of the total Canadian greenhouse gas emissions of 747 Mt (CO<sub>2</sub> equivalent) and the light-duty vehicle fleet represents 12% of Canada's GHG emissions

Currently, most vehicles in Canada are powered by non-renewable petroleum-based fuels such as gasoline or diesel. A variety of alternative fuels have been developed and an increasing number of vehicles capable of using these fuels are on Canadian roads. Some of the fuels that have been developed include natural gas, hydrogen, propane, ethanol, bio-diesel and biobutanol.

Many alternative fuels have significantly less lifecycle greenhouse (and other) gas emissions than petroleum-based fuels. (Per NRCan GHGenius model 3.10 2007, lifecycle emissions reductions of up to 54% vs. a comparable vehicle operating on gasoline). Lifecycle emissions analysis, importantly, considers the emissions released in the production and delivery of these fuels as well as the vehicle tailpipe emissions. Government supports for alternative fuels should depend on and be scaled according to the lifecycle emissions of these alternative fuels and any other fuel, including petroleum-based fuels,.

A major reason why alternative fuels have been slow to appear in the Canadian marketplace is that they require refueling infrastructure investments before the Canadian public can have easy access to those fuels. As an example, many current-model cars produced and sold in Canada can operate using E85 (85% ethanol, 15% gasoline) fuel. Unfortunately, there are only a handful of filling stations that carry E85 gasoline which means that for most Canadians, it is impractical to consider using E85 fuel on a regular basis. In addition to support for infrastructure, alternative fuel retail price support is required in the initial stages in order for the fuel to compete with the long established full scale industry producing petrochemical based fuels. These retail fuel price supports will facilitate consumer adoption of the alternative green fuels and would not be required in the longer term once the green fuel industry matures and is scaled up sufficiently. Supports for green alternative fuels infrastructure and retail pricing have been used by leading alternative fuel using jurisdictions such as the U.S., Sweden and Brazil.

Therefore, if Canada is to make meaningful steps towards joining other leading jurisdictions in the use of these green alternative fuels and realize the associated GHG and other emissions benefits, the federal and provincial governments will need to seriously consider the following recommendations that are consistent with policies of these other leading jurisdictions.

### **Recommendations**

That the federal government work with the provinces and territories to improve the availability of alternative fuels in Canada, with the level of support dependant on and scaled based on the lifecycle emissions of the particular fuel, through:

1. Providing exemptions from provincial fuel road taxes and federal fuel excise taxes for alternative lower-emission fuels
2. Providing incentives through tax credits for the installation of alternative fuel infrastructure such as natural gas, hydrogen, propane, E85 ethanol, bio-diesel and/or biobutanol pumps at filling stations (such as the US IRS Credit 8911)
3. Supporting the development, manufacture and sales of vehicles that can operate using alternative fuels
4. Supporting increased purchases of low emission alternative fuel capable vehicles for government & private fleets.