

Alternative Fuels

An alternative fuel is any material or substance, other than petroleum, which is consumed to provide energy to power an engine. Alternative fuels are cleaner fuels, so they do not put as much pollution into the air and reduce emissions. Some of them even produce less carbon dioxide, a major greenhouse gas. And, because they can all be made from resources that we have here in Canada – natural gas, coal or corn – we depend less on oil.

Some popular alternative fuels are **biodiesel**, **ethanol**, **natural gas**, and **propane**.

Biodiesel

Biodiesel is an alternative to diesel fuel that is made from **vegetable oils, waste cooking oil, animal fats or tall oil** (a waste product from pulp and paper processing). Compared with conventional diesel, biodiesel combusts better and produces fewer greenhouse gas emissions that contribute to climate change.

Ethanol

The easiest alternative fuel to use is a low-level blend of ethanol and gasoline commonly referred to as "gasohol". Ethanol blended gasoline can **reduce greenhouse gas (GHG) emissions by 4% to 10%**. Most conventional automobiles and high trucks can use gasoline blended with up to 10% ethanol, without any modification to their fuel systems or engines, and still be covered by the manufacturer's warranty.

The **Environmental Choice^M Program** has branded some ethanol blends with its EcoLogo^M. To receive Environmental Choice certification, the ethanol portion must have been made from renewable resources such as corn, wheat, or wood products. To maximize the environmental benefits of using this gasoline, only use ethanol-blended gasoline carrying the EcoLogo^M. Using gasoline enhanced with 10% ethanol will reduce GHG 0.1 tonnes per year.

Natural Gas

Natural gas is a proven vehicle fuel that burns **more cleanly, efficiently and completely than gasoline or diesel fuel** and produces far fewer toxic pollutants and greenhouse gas emissions that contribute to climate change. Many manufacturers offer vehicles that run on natural gas. Conventional gasoline vehicles can also be converted to natural gas. Either way, the premium paid can be offset by the lower price of natural gas compared with gasoline. There are about 25 000 natural gas vehicles (NGVs) in Canada.

Propane

Propane is a **clean-burning, gaseous fuel** that is pressurized and stored as a liquid when used in vehicles. It is produced as a by-product of either natural gas processing or oil refining. Propane is dispensed in the same way as conventional gasoline, takes about the same amount of time to refuel and is sold in litres.

Vehicles can be factory-built to run on propane or can be converted to do so. Depending on the price and availability of propane where you live in Canada, it may be a viable alternative to gasoline. The majority of propane vehicles are used for high-mileage and heavy-fuel users, such as taxis and delivery vehicles.

The use of propane as an alternative fuel in factory-built vehicles can reduce greenhouse gas emissions by 20 percent in light-duty vehicles on a full fuel cycle basis (compared with conventional gasoline). Emissions reduction results from converted vehicles vary and are normally not as high as those built specifically to run on propane.

Internet Resources:

NRCan – Biodiesel

<http://oee.nrcan.gc.ca/transportation/fuels/biodiesel/biodiesel.cfm?attr=16>

NRCan – Ethanol

<http://oee.nrcan.gc.ca/transportation/fuels/ethanol/ethanol.cfm?attr=16>

NRCan – Natural Gas

<http://oee.nrcan.gc.ca/transportation/fuels/natural-gas/natural-gas.cfm?attr=16>

NRCan – Propane

<http://oee.nrcan.gc.ca/transportation/fuels/propane/propane.cfm?attr=16>