

## Hybrids

In simplest terms a Hybrid-Electric Vehicle (hybrids) is a vehicle that uses a combination of an internal combustion engine and electric motor, powered by a large rechargeable battery, to move a vehicle and/or to power other functions in the vehicle. The battery in a hybrid is recharged either from the engine or from energy captured while braking, or both. There has been substantial interest in hybrids as fuel use reductions from 25 &ndash; 50% have been reported, depending on model, hybrid technology and end use application.

Hybrids first entered the Canadian market in 2000 with both Honda and Toyota marketing small passenger car models like the Civic and Prius. This was followed by Ford introducing the Escape, the first SUV hybrid model.

The market has accelerated with many vehicle manufacturers introducing many different car, SUV and light truck models, or about to do so. This light duty vehicle market has been supported by incentives from both the British Columbia and Federal Governments.

Manufacturers of trucks and buses have also been actively developing technologies for a variety of medium and heavy duty applications including delivery vans, shuttle, school and urban buses, ambulances, utility trucks and Class 8 long haul trucks. The Central Okanagan School District is currently evaluating one hybrid school bus (pdf) in its fleet.

Purolator Courier operates a fleet of step vans using hybrid technology manufactured by Azure Dynamics in Burnaby, BC. Purolator has achieved up to 40% reduction in fuel use with this technology.

A number of manufacturers are now offering hybrid product lines or will have hybrid product lines available for sale at BC dealerships by 2010. A key factor to the growth of hybrid technology has been increasing market acceptance. BC Transit has successfully operated a number of hybrid buses in its Victoria fleet since 2005. Wal-Mart's recent introduction of the first Class 8 hybrid truck, as part of its corporate wide plan to increase fleet efficiency by 25%, is expected to have a major impact on wider adoption of this technology across the entire trucking industry. Navistar announced that it is now selling 2008 model medium duty hybrid trucks across North America.

A new technical variation of the hybrid has emerged called the "plug-in hybrid" which has a larger battery, is recharged principally by plugging the vehicle into the electrical grid, and can travel in an all electric mode for up to 60 kilometres. Major announcements have been made by auto manufacturers that will bring this technology into the consumer market in the 2010 &ndash; 2012 period. As well, the technology is being tested in other vehicle platforms such as school buses.

Chevrolet Volt Plug-In Hybrid

IC Plug-In Hybrid School Bus

For more detailed information on hybrids see our partner website [www.hybridexperience.ca](http://www.hybridexperience.ca)