

## Alternative Fuels

Progress has been made in vehicle and fuel technologies that result in low or zero emissions. Electric vehicles, hybrid electric vehicles, and fuel cell power systems will all have a role to play in the future of the transportation sector. Fuel cell technology, such as that being developed by Ballard Power Systems of British Columbia, is currently being tested in small residential trials and transit buses in several North American cities. In addition, Iogen Corporation, in cooperation with Petro-Canada, is developing and demonstrating a cost-effective process for the production of ethanol from biomass. The process will turn straw, grasses, corncobs, and corn stalks into a clean-burning ethanol fuel.

The Montreal 2000—Electric Vehicle Project responds to commitments made by Canada to reduce greenhouse gas emissions. There are four project sponsors: Hydro-Québec, the governments of Canada and Quebec, and the Centre d'expérimentation des véhicules électriques du Québec. This project involves proposing an alternative to fossil fuel, gasoline, and other similar products in order to reduce greenhouse gas emissions. The purpose of the project is to facilitate the introduction of the first light electric vehicles into institutional and commercial vehicle fleets within the Greater Montreal region. The project will be carried out until March 2001 within the Greater Montreal region.

The federal government's new Natural Gas Vehicle Program is funded through the \$7 million Market Development Incentive Payments fund. A contribution of \$2 000 is payable to owners of factory-built natural gas vehicles purchased between 1 February 1999 and 31 January 2002. A contribution of \$500 per conversion, payable to the owner of the vehicle, is available to convert vehicles to natural gas operation.

Performance, reliability, and efficiency are the hallmark characteristics that make diesel engines the power source of choice for trucks, buses, ships, locomotives, and electricity generators worldwide. But their pollutant emissions harm the environment, health, and the global economy. Transit buses powered by electricity or alternate fuels may be capable of matching the performance of diesel-fuelled buses while far surpassing them with lower levels of carbon dioxide, carbon monoxide, and particulate emissions, as well as reduced noise, vibration, and fuel costs.

### Diesel to Clean-Burning Natural Gas

*Vancouver-based Westport Innovations Inc. is commercializing a technology that allows diesels to run on clean-burning natural gas. Its high pressure direct injection (HPDI) technology maintains the high efficiency and performance of diesels while drastically reducing particulate matter, smog-causing emissions of nitrogen oxides, and greenhouse gases. Nitrogen oxides and particulate matter are reduced by approximately 50 percent and greenhouse gas emissions by up to 25 percent compared to current diesel engines. HPDI has been tested successfully on transit buses in Canada and California and is being introduced in heavy-duty truck applications.*

*Learn more at <http://www.ec.gc.ca/pp/english/stories/westprte.html>.*