A Vancouver company is developing a vehicle propulsion system using electricity produced by a hydrogen fuel cell. Unlike conventional vehicles, which emit hydrocarbons, nitrogen oxides, carbon dioxide, particulates, and other pollutants, the chemical reaction between hydrogen and oxygen inside the cell produces only water. The state-of-the-art technology will help reduce local smog problems and global greenhouse gas emissions. The joint government–industry effort to develop and commercialize the zero-emission technology is a success. Application of the hydrogen fuel cell technology to a demonstration fleet of city buses is planned.

will enable some pulp and paper mills to meet more stringent environmental regulations and the rising environmental expectations of consumers.

Private Sector Initiatives

Some private sector initiatives are the result of the development of new technology. For example, a company in British Columbia, in partnership with the federal and British Columbia governments and B.C. Transit, is developing a vehicle propulsion system using a hydrogen fuel cell to produce electricity. Commercial development of this innovative technology is anticipated for buses and cars within a few years.

Other private sector initiatives are spurred by finding new processes that reduce costs and environmental impacts. Chemical suppliers at one vehicle assembly plant in Ontario are now paid on the basis of the number of vehicles produced at a set cost per unit. Previously they were paid for the total amount of chemicals used. Chemical suppliers have responded with new or adapted technologies that minimize chemical use significantly.

Canada has a large number of companies that provide environmental management expertise. In Quebec, one company does so from an Aboriginal perspective, capitalizing on traditional ecological knowledge and advanced technologies.

Technology Transfer—Domestic and International Partnership

A major focus since UNCED has been to increase access to environmental technologies and to forge new partnerships for technology transfer and commercialization. In 1994, the federal government, a number of provincial/territorial governments, private companies, and environment industry associations joined forces. They have established three Canadian Environmental Technology Advancement Centres (CETACs) across the country. CETACs provide support to small- and medium-sized environmental companies. They focus on international technologies information, technology assessment assistance, regulatory and financial advice, export support, business counselling, and other services on technology transfer and commercialization.

Government science and technology institutes undertake research and development on environmental technologies. The national institutes have performed much of their recent work in alliance with the private sector, academics, and other governments, including foreign ones.

Internationally, Canada has been active in technology transfer with other countries, such as China, Mexico, and Chile. Measures have included environmental trade missions, bilateral memoranda of understanding, and other institutional links and initiatives. Canada has transferred expertise on environmental regulations, policies, and technical programs to several developing countries under the International Environmental Management Initiative, an integral component of the CEIS. Similarly, IDRC has an ongoing Sustainable Technologies Program based in Asia that facilitates the