

under the name "EM Gasohol". In the Hamilton region, Alberta Gas Chemicals and Sunoco in 1985 introduced a blend of 4.75% methanol, 4.75% IBA and 90.5% unleaded gasoline under the brand name "V-Plus". Canadian Methanol Canadien has carried out a demonstration marketing of methanol blends at two Domo stations in Winnipeg.

## 2. Ethanol

Ethanol is perhaps most familiar as beverage alcohol distilled from grains. Ethanol is also made from ethylene, in turn a product of oil refining, or made from ethane which is a constituent of natural gas. Ethanol can be added to gasoline as a cosolvent to methanol or blended with gasoline on its own to produce "gasohol" (a gasoline-alcohol mixture).

Ethanol is being blended in U.S. gasoline at a rate of more than 5000 m<sup>3</sup>/day, because of incentives introduced with the National Energy Act of 1978. These incentives apply only to ethanol derived from agricultural feedstocks. Many states have added incentives of their own and gasohol now exceeds 5% of U.S. gasoline sales.

The Brazilian government decided to develop a fuel ethanol industry based on sugarcane, with the target of satisfying 60% of the domestic demand for vehicle fuel with ethanol by 1995. Approximately 15% of Brazilian motor vehicles now operate on neat (essentially pure) ethanol and the remainder use a blend of 22% ethanol in gasoline. This program has been criticized in a recent European study for its alleged negative impact on Brazil's economy, for the environmental problem created with stillage disposal, and for the displacement of food production by fuel alcohol production (CEFIC, 1985).

Canadian ethanol production is limited. Commercial Alcohols Ltd. of Montreal can manufacture about 225 m<sup>3</sup>/day from ethylene purchased from Petromont, while Mohawk Oil Ltd. produces about 25 m<sup>3</sup>/day from cereals at a distillery in Minnedosa, Manitoba. Mohawk uses this ethanol in a 10% blend with gasoline which it has been marketing since 1981 in southern Manitoba under the name "E10 Gasohol". St. Lawrence Reactors Ltd. of Mississauga is selling a limited quantity of ethanol to Mohawk at a contract price of 44 cents per litre. Industrial grade ethanol reportedly sells today at a price closer to 50 cents per litre. Thus Canada's limited ethanol output is apparently available at a cost of 44 to 50 cents per litre.

Brazil exports substantial quantities of ethanol. Using the laid-down price in the United States as a guide, Brazilian ethanol could be delivered to Sarnia for about 30 to 35 cents (Cdn) per litre, not counting an import duty which raises the cost into the price range of domestic production. Four Canadian companies, including Commercial Alcohols and Mohawk, can benefit from a temporary remission of 7.7 cents per litre in the custom tariff on imported crude ethanol (ethanol containing water and requiring redistillation), but the remission order applies only to ethanol imported for industrial use, not fuel blending. Application has been made for a tariff remission on fuel ethanol imports (Agriculture Canada, personal communication and *Renewable Fuels Report*, 1985).

American ethanol producers charged Brazil with dumping this commodity into the U.S. market and sought anti-dumping duties on Brazilian fuel ethanol. Although the U.S. International Trade Commission did find that Brazilian ethanol was entering the United