

Finland pushes development of bioenergy

HELSINKI—The Finnish legislature's crushing rejection of plans to build the country's fifth nuclear-power plant has once again energized the center-right administration's interest in cultivating a broad-based national energy policy focusing on natural gas or coal and containing a strong bioenergy component.

The Ministry of Trade & Industry (MoTI, Helsinki), along with the Ministry of Agriculture (MoA, Helsinki), wants the government to approve funds to build a network of 5 to 10 . The plants, which would burn a rapeseed oil/alcohol fuel, would produce electricity for local heating and would supply up to 2 percent of Finland's annual fuel consumption. Construction and startup costs would reach \$14 million per plant. Each would burn 45 million liters of biodiesel a year.

A recent MoTI/MoA report championing a national bioenergy policy emphasizes the need for state subsidies and a "friendly tax environment" to support the biodiesel project. Without a doubt, a liberal helping of state funds would be essential to give biodiesel a competitive edge over conventional fuels.

- Annual subsidies amounting to \$34 million would be needed to promote rapeseed planting. Additionally, rapeseed growers would need subsidies of 50 cents/kg of rapeseed oil.

- Support of \$10 million would be required to startup a national alcohol-additive facility, while support for alcohol raw materials would come to 27 cents/liter of alcohol.

- Biodiesel-production facilities would need support totaling 53 cents/kg of rapeseed oil.

MoTI/MoA also have an ongoing bioenergy research program (BRP), which aims to develop Finland's potential in wood and peat production. Active since 1988, the BRP receives annual funding of \$7 million, with \$2.5 million coming from the MoTI, \$2 million from the MoA, and \$2.5 million from private industry. However, this level of funding, particularly from the MoTI and MoA, should increase with the rejuvenated interest in alternative fuels. Among the BRP's goals:

- To cut production costs of wood fuels—compacted saw dust and wood chips—by as much as 10 percent, with the aim of wood-fuel use reaching 1 million tons oil equivalent (TOE).

- To cut production costs of peat fuels by 20 percent.

- To develop at least three large-scale biofuel-end-use technologies, each of which would have the potential of generating up to 300,000 TOE a year by 2000. The MoTI/

MoA biodiesel-fired power plants are an example of such technologies.

- To produce basic-research results on the conversion of biomasses, including an evaluation of their quality, usability, and environmental effects.

Ultimately, the BRP would like to create at least two new bioenergy technologies that industry would further develop.

—Gerard O'Dwyer

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