

local diesel generation (flying in the diesel fuel greatly increases its costs). A survey of British Columbia indicates that more than 50% of diesel-fired generation could be displaced in that province, saving (directly) some 250,000 barrels of fuel per year.

Some provincial utilities are already planning or installing small schemes, industrial firms are undertaking R&D to reduce equipment costs and government funded demonstration projects are being built to prove concepts and confirm performance: for example, a joint federal/provincial 425 KW demonstration is currently operating in Newfoundland, and a 150 KW unit in Ontario, and four federal/provincial high-head demonstrations ranging from 30 KW to 100 KW are under way in British Columbia. Most components are available from domestic manufacturers, and several Canadian firms report involvement in designing or installing small hydro facilities overseas. One firm has developed a prefabricated mini-hydro package which can be easily transported, and installed at a remote site with minimal preparation and skilled labour, and others are involved in the development and demonstration of micro hydro units in the 5-50 KW range.

For domestic sites, perhaps half would be technically and economically feasible for development at current diesel prices (based on a survey of British Columbia), and consideration is being given to government incentives under the oil substitution program. Equipment for sites of under 15 MW capacity is already classified in a category allowing a fast (2-year) tax write-off. In addition, a national inventory of sites is being prepared, and a Guidance Manual on survey procedures for feasibility studies of small hydro in remote communities has been produced by Canadian consulting firms with federal and provincial funding.

2.6 Geothermal Energy

Canada has considerable geothermal potential in two main areas: the sedimentary rocks of the prairies containing water at about 60-80°C, and the Rocky Mountains, where volcanic action brings rock temperatures into the 100° - 300°C range, within accessible drilling depths. Surveys are underway to locate and assess the potential of these localities, but there is no operating site in Canada and therefore no bank of private sector expertise.

Two demonstration projects have begun, with federal and provincial government assistance. The first, at the University of Regina, will supply 3-5 MW of 60°C water for space heating. A second, being developed by B.C. Hydro, is a proposal to build a 55 MW electrical generation site at