

The Province of Ontario, under its new five year Solar Energy Strategy has recently announced a program to demonstrate and stimulate the market for solar systems, principally for hot water, by providing up to 90% of purchasing and installing costs in the commercial, industrial or institutional sectors.

There is a small group of solar industries in Canada, which is maturing with the experience gained under the above programs. The technical challenge is to achieve high performance, reliability and durability and minimal production costs. Canadian production capabilities for water heating far exceed domestic markets at the present time, and will likely continue to do so even with the consumer incentives under the NEP. Consequently several firms are actively exploring foreign markets, and adapting their equipment for tropical use and eventual local fabrication (with local partners). Canadian equipment successfully competes with that from other industrialised countries. Considerable scope exists for joint ventures with developing countries. As with other sources, expertise also exists in the areas of resource assessment, system design and program evaluation which could be transferred to other governments or local industries.

Some other special applications of solar energy exist, such as crop drying, where Canadian expertise and research could contribute to developing country uses, although fabrication would likely be local. Federally and provincially sponsored research encompassing different scales of application for different crops is going on, particularly in Saskatchewan and Ontario. The Brace Research Institute has compiled information on solar crop drying activities, with an emphasis on the needs of the developing world.

2.10 Photovoltaics

Electric generation using solar cells in Canada is limited, as in most countries, to very specialized applications in remote areas where reliability and maintenance-free operation is important, and the electrical load is small - e.g. for navigational aids, environmental monitoring devices, rail signals, and communications installations. Nevertheless, the speed with which technological developments are occurring in this area, and with which costs are falling, due to aggressive programs of R&D in several countries, means that photovoltaics can no longer be regarded as important only in the dim and distant future. Canada is following world developments closely, with a view to introducing programs at the appropriate time to prove and demonstrate this technology in broader applications, and to help develop markets (both domestic and overseas) for a fledgling Canadian industry.