

ALTERNATIVE ENERGY AND ENVIRONMENTAL TECHNOLOGIES IN NORTHERN ONTARIO

Northern Ontario is a North American leader in the advancement and utilization of alternative renewable energy and environmental technologies.

Large scale alternative energy projects are both helping to diversify the economic base and enable the establishment of other industries seeking a source of clean and reliable energy. Likewise recognition of the need for the development and commercialization of protocols to mitigate the effects of industry while providing a sustainable environment for generations to come has brought about the forging of solid partnerships between industry, institutions and government.

Several private and publicly-owned projects including those derived from hydro-electric and biomass generation currently produce in excess of 1,300 megawatts of clean renewable energy. The latest example is AbitibiBowater's \$80 million, 46 megawatt (MW) biomass power generation project in Northwestern Ontario.

And there is a lot more....

Wind

Northern Ontario has the largest wind energy farm in Canada along the shores of Lake Superior with 126 towers generating 189 MW. This wind energy farm produces enough clean, renewable energy to power 40,000 homes on an annual basis.



Current mapping estimates of the region's wind resources indicate the potential for development of approximately 2,500 – 3,000 MW over the next ten to fifteen years.

Bio-Fuels

Several initiatives are currently underway which involve the utilization of various forms of feedstock from both virgin and waste sources as a means to create valuable fuels for the region's industrial and transportation energy needs. One such unique program entails the growing of "bio-crops" such as canola and corn on former industrial lands utilizing a mix of pathogen-free, composted municipal and forest products waste. Northern Ontario's major industries are investing in cogeneration power facilities to help offset their energy requirements. Such innovative approaches being developed in the region by private-public consortia will go a long way to helping solve future global energy needs.

Waste-to-Energy

Several Northern Ontario communities and their private sector partners are currently involved in the implementation of projects utilizing municipal solid waste as a means of producing synthetic and “bio” gases for the generation of electricity, secondary heat and related compost bi-products. These combined with several initiatives sponsored by the region’s agricultural and forestry sectors offer tremendous promise of a “green” answer to current challenges associated with domestic and industrial waste while at the same time contributing to the world’s energy solution.



Solar

Northern Ontario will have the largest solar energy farm in Canada with facilities in Sault Ste. Marie, Thunder Bay and Sudbury. The first \$400 million project will be a 60 MW facility in Sault Ste. Marie that will be operational in 2010.

Environmental Initiatives

Several Northern Ontario agencies, institutions and related initiatives are also involved in the research, collaboration and promotion of environment processes and solutions. These include such facilities and projects as:

- Northern Ontario Centre for Advanced Technology (NORCAT)
- Science Enterprise Algoma
- Mines and Research Rehabilitation Centre of Ontario (MIRARCO)
- Bio-Health North
- Living With Lakes Freshwater Ecology Centre

And Much More!

Several Northern Ontario communities and companies are engaged in initiatives incorporating the capture, combining and processing of various forms of waste including methane recovery, pyrolysis, algae to oil, biomass, off-peak hydrogen and geothermal extraction.

And this is just the beginning!