

Geothermal Energy Potential in Canada

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Current world energy consumption is dominantly (87%) supplied by non-renewable resources (coal, oil, gas, uranium). On the long-term these non-renewable energy sources will have to be substituted. This combined with concerns over greenhouse gas emissions has enhanced interest in renewable energy supply. Geothermal energy currently provides only a minor component of world energy, although for some countries it forms a significant contribution to national energy needs. Of all the renewable resources, geothermal has some of the most significant potential. Recent technological advances has reduced the temperature required for power generation which in turn reduces the depth required to access the resources as well as broadens the area where the resource is assessable.

Although used extensively throughout the world, geothermal energy has not been significantly developed to date in Canada. Still historic work and pilot projects by the National Geothermal Program from 1975 to 1985 has shown Canada has regions of high potential. New work has focused on compilation of historic data and national-scale mapping of key geothermal parameters to help better define regions best suited for exploration activity. Sedimentary basins of Canada have many regions that hold high temperature waters that could produce electricity from co-produced fluids.

This presentation will provide an overview of the various geothermal energy resources and potential uses in Canada.