

Canadian Geothermal Energy Association
 P. O. Box 1462 St. M, Calgary, Alberta, T2P 2L6, Canada
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March 14, 2018

Dear Elected Official,

I am writing to inform you of the tremendous potential for geothermal energy in Saskatchewan, and to request your help in working for important changes that will promote geothermal development and prosperity.

A new Premier, even when the party in government has not changed, is an opportunity to move the province forward with new policy initiatives that will benefit Saskatchewan for years to come.

CanGEA is requesting a meeting with you at your earliest convenience to discuss the great potential of geothermal energy, the benefits it can bring to Saskatchewan, and the means by which we can work together to achieve those benefits.

Geothermal energy is thermal energy generated deep below the Earth's crust. This energy can be utilized for numerous applications including electricity generation, space heating, and agriculture. 82 nations around the world already utilize geothermal energy commercially for heating and 26 use it for electricity generation. **Canada and Saskatchewan can be a world leader in this industry with the right policies and political will.**

Saskatchewan has set a goal to generate 50% of its energy from renewable energy sources by 2030. At the same time Saskatchewan is facing population growth and increasing energy demand. Current estimates suggest that approximately 3,750 MW of additional power needs to be added to the current pool by 2033. Geothermal is a reliable, clean and renewable energy source that can meet both increased demand and environmental targets.

Saskatchewan has already taken one of the most proactive steps of any provincial government in initiating the development of geothermal energy in Canada. SaskPower entered into a Power Purchase Agreement with CanGEA member developer DEEP. This makes Saskatchewan the first province in Canada to actively support the commercialization of the industry.

However, more support is needed beyond a single test case. A supportive regulatory environment is needed before a burgeoning geothermal industry can flourish in the province. So far, British Columbia is the only province that has enacted legislation specific to geothermal energy. CanGEA requests your help in furthering the following policy recommendations:

Facilitate Geothermal Resource Studies

Resource maps are tremendously useful tools to demonstrate the potential for geothermal development in a given jurisdiction. **CanGEA has developed resource maps in the past and is ready and willing to assist in developing them for Saskatchewan.** CanGEA has made overtures to the Saskatchewan Research Council, the Saskatchewan Geological Survey, and

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SaskPower with respect to funding the generation of resource maps. **An R&D investment by the Government of Saskatchewan towards initial favourability mapping would provide a valuable resource for government and for developers to assess Saskatchewan's geothermal potential.**

Permitting and Leasing

Legislation is needed to develop a process for issuing permits and leases for geothermal energy. Presently there is no such process in Saskatchewan. In the US, the omnibus *Energy and Policy Act* of 2005 laid much of the groundwork for the current upswing in interest and investment in geothermal energy production through its new leasing system. Similar programs in Saskatchewan would spur similar interest. British Columbia has a permitting program, which has been used by CanGEA member Borealis GeoPower to advance two projects in the province. **A system for issuing permits and leases in Saskatchewan would give geothermal developers a consistent and predictable path to advance their projects.**

Facilitate "De-Risking"

A significant difficulty faced by prospective geothermal developers is front-load risk. Excessive risk will discourage investment and curtail development. Loan guarantees, drilling failure insurance, lending support mechanisms, grants, and government-led exploration are several examples of policies that would help de-risk potential geothermal projects. Many of the below policy recommendations would also serve to de-risk geothermal development. CanGEA is ready and willing to elaborate on additional de-risking measures.

Investor Tax Credit (ITC) Expansion

CanGEA recommends that the Government of Saskatchewan expand the Investor Tax Credit (ITC) program to facilitate further geothermal energy development. An ITC in support of renewable energy has been adopted successfully in other provinces. Alberta recently introduced the Alberta Investor Tax Credit (AITC) program, which is specific to non-traditional sectors such as geothermal. British Columbia has a similar program, which carries an additional provision that allows BC-based companies to qualify for credits on projects implemented out of province. With these programs, geothermal developers in Alberta and BC are better able to attract investors and reduce their capital expenditures.

Production Tax Credit (PTC) Introduction

The introduction of a Production Tax Credit (PTC) program would also foster renewable energy development in Saskatchewan. An example of a similar program is the Government of Canada's now-expired ecoEnergy Program, which provided a \$10/MWh incentive for renewable energy. The United States has had a PTC program for renewable energy in place since the early 1990s; it is inflation-adjusted and in 2016 stood at \$23/MWh of electricity produced.

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It would be particularly helpful for geothermal development if a PTC program allowed the net present value of the incentive to be paid out in full during the initial project stages, rather than spreading payments throughout the initial years of the project. This is because of the high capital expenditures associated with exploration and drilling. **The initial stages of geothermal projects require the most funding; hence the front-load risk mentioned above. An up-front grant or tax credit would reduce the funding requirements, and thus the financial risk, of a geothermal project.** This would make geothermal development more attractive to potential developers and investors, and spur growth in the geothermal industry.

Recognize Ancillary Benefits

When power developments strengthen the grid, this should be recognized. Specifically, ancillary services and any cost savings that can be derived (such as reduced pressure on transmission infrastructure) should be fully captured in market-based price signals. This will help to reflect the true value of base load energy sources such as geothermal energy.

As the price of wind and solar energy infrastructure decreases, it may be tempting to point to geothermal energy as too expensive a renewable source. However, the ancillary benefits that come along with geothermal development make it far more valuable than just the electricity produced, and this must be factored into any assessment of the cost.

Ancillary benefits of geothermal include: direct and indirect job creation; opportunity for retraining and utilization of unemployed oil & gas workers; space heating; food production; decarbonisation of the economy; greater independence, self-sustainability, and higher quality of life for remote/isolated communities; and increased opportunity for First Nations reconciliation and cooperation. While geothermal energy makes economic sense regardless, when the value of these services is factored in geothermal energy clearly represents a tremendous opportunity and value.

Not only will the above policy initiatives jumpstart Saskatchewan's geothermal industry, they will also assist in meeting the goal of 50% renewables by 2030.

Please do not hesitate to contact me with any additional questions or concerns you may have regarding geothermal energy and its potential for Saskatchewan.

Sincerely,

Nathan Coles
 Senior Policy Manager, CanGEO

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