

Developing geothermal resources legislation in the Yukon

Geothermal resources

Our *Clean Future* is our strategic commitment to address climate change by increasing renewable energy, reducing carbon emissions, and expanding the green economy.

Under *Our Clean Future*, the Government of Yukon is prioritizing renewable energy solutions and clean alternatives like geothermal to help reduce our reliance on fossil fuels and meet our needs for electricity and heat.

In *Our Clean Future*, we committed to developing a Geothermal Resources Act (Action E11) that will regulate geothermal energy development in the Yukon.

Geothermal energy is a renewable source of power and heat that has the potential to help us achieve our goals. In fact, many countries already heat their homes, generate electricity, and grow fresh produce by tapping into their geothermal resources.

The legislation will outline the rules and procedures for how the exploration and development of geothermal resources can occur in an environmentally sustainable way.

The legislation will define a rights and tenure system for geothermal resource developers and regulate geothermal projects from their initial establishment through to their decommissioning and reclamation.

Proposed content for a geothermal resources regulatory regime

The Government of Yukon is proposing to include the following elements to administer and regulate geothermal resources:

- a definition of geothermal resources in the Yukon;
- a description of where the legislation will apply;
- a geothermal tenure and rights regime;
- a regulatory regime that encompasses the full spectrum of potential geothermal exploration and development activities that follow principles of environmental sustainability;
- prescription of decommissioning procedures and reclamation responsibilities;
- measures to address liability; and
- a royalty regime.



Discussion items

The Government of Yukon is engaging the public on the content for developing legislation to regulate geothermal resources.

Provide your response to the following:

- What are your thoughts on the Government of Yukon administering and regulating the Yukon's geothermal resource sector; and
- Are there any topics or areas of interest that are important for the Government of Yukon to consider in developing legislation to administer and regulate geothermal resources in the Yukon?

Providing your feedback

Submit your feedback by emailing geothermalact@yukon.ca.

The deadline for submitting your feedback is Thursday, September 29, 2022 at 4:30 pm.

For more information, call 867-667-3228 or toll free 1-800-661-0408 and ask to be transferred.

Background

What is geothermal energy?

Geothermal refers to naturally-derived heat originating from within the earth. As a resource, geothermal is often described as a renewable, clean and stable source of energy. Geothermal energy is stable and available all of the time, 24-hours a day. This unique feature distinguishes geothermal from other types of renewable energy resources.

What can geothermal energy be used for?

Geothermal energy has numerous applications depending on its temperature.

- High temperature resources can be used for generating electricity and large district (municipal) heating systems;
- Medium temperature resources can also be used for district heating as well as for a variety of agricultural and industrial processes; and
- Low temperature applications include greenhouses, residential space heating and cooling, water heating, fish farming and even recreational use. Hot springs are an example of a low temperature geothermal heat that is familiar to many Yukoners.



Where are there potential geothermal resources in the Yukon?

Geothermal heat is present in a variety of geological settings. To be useful, it needs to occur as close to the earth's surface as possible to make it economical to develop and use.

The Yukon is fortunate, as the territory lies close to the western edge of the North American continent, where shallow geothermal heat is present due to volcanoes and large fault systems.

The Yukon Geological Survey is working on defining and locating the Yukon's geothermal resource potential. Early indicators suggest that the southwestern and south-central parts of the territory are favorable for finding useable geothermal heat. We can expect a better understanding of Yukon's geothermal potential as research continues over the coming years.

Who will be regulating geothermal resource exploration, development and decommissioning in Yukon?

The Government of Yukon's Geothermal and Petroleum Resources Branch within the Department of Energy, Mines and Resources will be responsible for implementing this new regulatory regime.

Regulation of geothermal activities by oil and gas regulators is a common practice in other jurisdictions where geothermal legislation exists or is being developed (for example British Columbia, Alberta, Saskatchewan and California).

Further, any geothermal projects will be subject to necessary land use, licensing, permitting and impact assessment requirements (e.g. the *Yukon Environmental and Socioeconomic Assessment Act*), and other laws of general application.

