



Alberta government lays the ground work for geothermal resource development

Energy Alert

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Alberta continues to evolve its legislative and regulatory framework to encourage the development of low-carbon and zero-carbon energy sources.

Lying on the eastern slopes of the Rocky Mountains, the province has long been recognized as having ideal conditions for the economic development of geothermal energy resources. One recent study on behalf of the Canadian Geothermal Energy Association¹ identified up to 6,100 MW of thermal energy capacity and up to 1,150 MW of electrical energy capacity from four central Alberta counties identified as the leading candidates for geothermal energy development in Alberta. Based on the quality of the resource, the depth of reservoirs and the existence of existing wells, the geothermal resource in these areas has been identified as being cost competitive to other sources of energy in Alberta.

Many of the reservoirs which have been identified as prime candidates for geothermal development have already been extensively drilled for oil and gas exploration and production. Where areas have not been drilled, there remains a large fleet of drilling equipment and skilled personnel available in Alberta for drilling operations.

Several pilot projects have been started to investigate technical aspects of resource development, however, major legislative and regulatory obstacles (typical of the obstacles that face a new industry) have been identified which inhibit the commercial development of the geothermal resource. These obstacles include: lack of clear ownership of the

geothermal resources, lack of a defined royalty regime for the withdrawal of the geothermal resource, and a lack of defined processes by which the government (through the Alberta Energy Regulator) may receive and process applications for geothermal energy projects, including the terms and condition upon which such projects may be approved. The pilot projects which have started thus far have all proceeded as “one off” projects.

In response to these issues, the Alberta government has introduced the *Geothermal Resource Development Act* (the “Act”) ². If passed, the Act would remove uncertainty in these areas and align the development of geothermal resources in Alberta with the development of mineral resources including oil and gas.

The Alberta Energy Regulator (“AER”) has been designated to administer the Act.

Under the Act, no person may drill a well for the purpose of developing a geothermal resource, nor operate a facility associated with the development, recovery or conversion of geothermal resources, unless they hold a license for such facility or well from the AER.

Recognizing that there are many locations in Alberta where wells have already been drilled into the resource zone, the Act provides a streamlined process for facilities and wells licensed under the *Oil and Gas Conservation Act* (“OGCA”). The AER is authorized under the Act to “designate” any well or facility under the OGCA as a well or facility under the Act. A new, separate license under the Act will not be required for any well or facility so designated.

The AER has been granted broad jurisdiction to issue licenses for development of wells or facilities, to impose terms and conditions, to modify licenses, and to suspend licenses for wells or facilities or make other orders in the case of non-compliance. The AER has also been granted customarily broad rule-making power (similar to its rule-making power in respect of other matters under its jurisdiction).

Mines and Minerals Act (“MMA”):

- First, and most importantly, the Act would amend the MMA to clarify that, in respect of any land, the owner of the mineral title for that land has the right to explore for, develop, recover and manage the geothermal resources associated with those minerals and with the subsurface reservoirs under that land³. Where a freehold title has been issued for minerals, the right to the geothermal resources would belong to the freehold mineral title owner⁴. Where the Crown has retained the mineral rights and subsequently issued a lease to explore and produce minerals, the Crown would retain the rights to the geothermal resource (see below).
- Second, the Act would amend the MMA to grant the Lieutenant Governor in Council the authority to make regulations respecting the determination of the royalty payable to the Crown for the development of geothermal resources associated with minerals or reservoirs that are the property of the Crown (e.g. Crown leases and not freehold). These provisions grant authority to set the royalty; the amount of the royalty that the Crown intends to charge will not be known until regulations are published.
- Third, the Act would amend a number of provisions in the MMA to expand the authority of the Crown to deal with “geothermal resources” under the MMA. The term “agreement” in the MMA would henceforth mean an agreement to grant rights in respect of “a mineral, subsurface reservoir, or geothermal resource”. All agreements to explore for and produce a mineral would be deemed to include the right to explore for, develop and recover the geothermal resource in the course of recovering the mineral. The provisions of the MMA which provide for the issue, by way of public tender or otherwise, of agreements for the exploration and development of resources would refer to the issue of agreements in respect of a “mineral, subsurface reservoir, or geothermal resource”. Producing a geothermal resource owned by the Crown will be prohibited in the same way that producing minerals owned by the Crown is currently prohibited. The net effect of the amendments would be that the geothermal resource will be included with mineral resource as part of all leases of Crown minerals.
- Finally, the Act would amend the *Environmental Protection and Enhancement Act* (“EPEA”) to provide that a “well” for the purposes of EPEA includes a well under the Act, and to add the recovery, transfer, injection or storage of natural heat from the Earth to the Schedule of Activities, such that the environmental assessment process set out in EPEA would apply to new geothermal projects. The scope of approvals and assessments required in respect of new geothermal projects will not be known until the EPEA regulations are published.

The Act has passed first reading in the Legislature. Representatives of the Minister of Energy have previously stated that they intend to consult with industry stakeholders on the legislation this fall. Presumably once the Act has been referred to a committee of the Legislature after second reading, there will be an opportunity for interested parties to provide consultation and feedback on the proposed Act before it makes its way back to the Legislature.

This article provides only general information about legal issues and developments, and is not intended to provide specific legal advice. Please see our [disclaimer](#) for more details.

[1] Deep-Dive Analysis of the Best Geothermal Reservoirs for Commercial Development in Alberta: Final Report, The University of Alberta

[2] Bill 36, *Geothermal Resource Development Act*, 2020

[3] This is in contrast to the ownership regime in place in British Columbia, where the applicable legislation (the *Geothermal Resources Act* RSBC 1996 c. 171) specifies that ownership of the geothermal resource is reserved to the Crown (regardless of ownership of minerals). This is also in contrast to jurisdictions where the ownership of the geothermal resources has not been specified and where it is speculated that the geothermal resources may belong to the owner of the surface lands, following the legal maxim "*cuius est solum, eius est usque ad coelum et ad inferos*".

[4] Unanswered is the question of which mineral title owner will own the geothermal resource where the mineral title has been split (e.g. where the mineral title has been severed with respect to petroleum, natural gas, and coal).

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