

Hot rocks: Alberta's geothermal legislative regime

Presentation to CGEF

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Bill 36

Introduced on October 20, 2020, will take effect on proclamation

- Aims to create legislative and policy certainty for geothermal developments

What will it do?

- Regulates geothermal development below the base of groundwater protection
- Creates the *Geothermal Resource Development Act*
- Amends several other acts, including the *Mines and Minerals Act*
- Gives the AER a great deal of responsibility in regulating geothermal development

Amendments to the *Mines and Minerals Act*

Vests the right to explore for, develop, recover and manage geothermal resources with the owner of mineral title

The Crown owns most of the mineral title in Alberta

- The province will collect royalties through ownership of mineral title
- There is a potential for disputes (as pointed out by Nigel Bankes, faculty of law at the UofC) between surface rights owners and mineral rights owners, and with freehold mineral rights owners where rights are divided by product

The AER's role is to ensure developments protect public safety and the environment by regulating as efficiently as possible

AER can make rules regarding issuing licenses, transfer, cancellation, or suspension of licenses, and shutting down or closing a well or facility

AER rules will provide the substance to Bill 36, many questions remain until AER rules are released

- The Lieutenant Governor in Council can also make regulations under the Geothermal Act
- Includes a potential geothermal royalty regime

Geothermal technology overview

Natural geothermal

Enhanced geothermal

- DEEP Corp.
- Super hot rock geothermal

Emerging geothermal

- Eavor-Loop



Alberta's geothermal resource potential

The promise

- Alberta has a significant inventory of wells with bottom-hole temperatures suitable for geothermal applications
- Synergistic with Alberta's oil and gas industry

However... **natural geothermal is a challenge in Alberta**



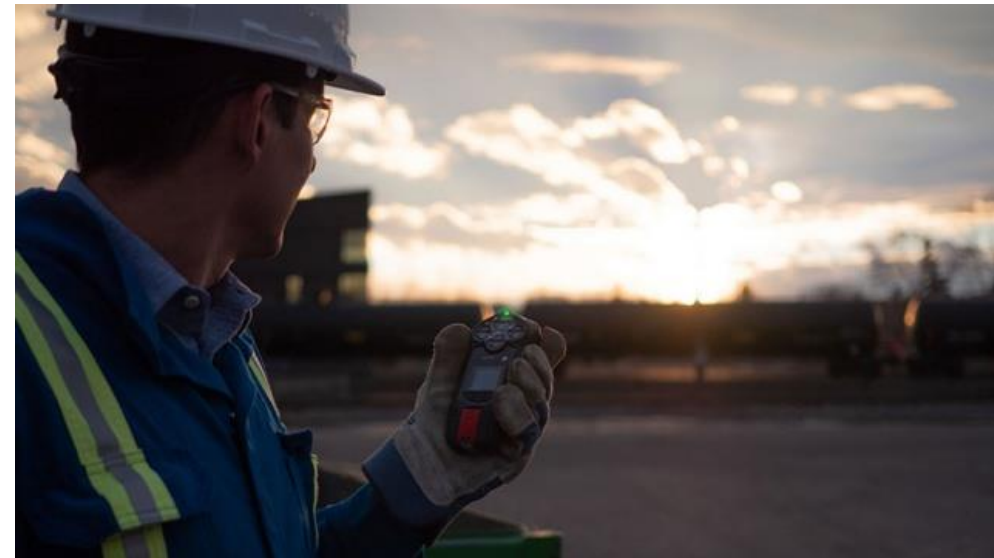
The Alberta advantage

Partnership between geothermal project proponents and owners of inactive oil and gas wells

- The AER will be watching closely...

World-class experience in drilling, completions and hydraulic fracturing

Co-production with oil and gas



Integrating geothermal with the electricity grid

The main challenge geothermal faces in Alberta is the presence of lower-cost alternative power sources

Alberta operates an "energy-only" model, not a "capacity model"

- Geothermal must compete in this market, possibly through taking advantages of subsidies



How can geothermal projects compete?

Contract for differences with a large power purchaser

Partnerships with government

Distributed generation

“Encouraging the development of low-emitting geothermal energy will play an important role in Alberta’s economic recovery by attracting investment and creating jobs in this emerging sector. Through this legislation, we are establishing a clear path forward for geothermal projects, while ensuring the resource is developed responsibly and in the best interests of Albertans, including landowners.”

- Sonya Savage, Minister of Energy



How BD&P can help

Collaboration from initial concept to commissioning and beyond

Tax, permitting (AER), structure, mineral rights, sales arrangements, finance, construction, exit strategies

Apply existing industry knowledge from the power and oil and gas sectors to this emerging opportunity

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