



September 10, 2019

**SENT VIA EMAIL TO COMMISSION.SECRETARY@BCUC.COM**

**Attention: BCUC Commission Secretary**

British Columbia Utilities Commission  
Suite 410, 900 Howe Street  
Vancouver, BC V6Z 2N3

Dear Commission Secretary:

**Re: Indigenous Utilities Regulation Inquiry - CanGEA Response to the Information Requests from the British Columbia Utilities Commission**

Attached please find the Canadian Geothermal Energy Association's response to the information requests from the British Columbia Utilities Commission.

Should you have any questions with regard to this matter, please do not hesitate to contact us.

Sincerely,

Zach Harmer, MPP  
Policy Director



**Indigenous Utilities Regulation Inquiry  
Information Request from:  
BCUC**

**1.0 Reference: Exhibit C7-2, Section 5.5, p. 39  
Inclusion of Indigenous Nation values**

The Canadian Geothermal Energy Association (CanGEA) states in Exhibit C7-2:

The NZ [New Zealand] Māori trust geothermal utility case studies serve as useful examples as to how Indigenous groups and communities can benefit from the ownership or partial ownership of geothermal utilities. The evolution of NZ's RMA is also demonstrative of how prudent government action can resolve regulatory issues that hinder development. The inclusion of Māori values in NZ's resource management laws has led to several successful geothermal utility Māori trust and government partnerships, which in turn has led to increased self-sufficiency, economic stimulus, jobs and other opportunities for the trusts and their members.

**1.1 Does CanGEA have a view on whether including Indigenous Nation values into legislation would help resolve some regulatory issues that might be faced by Indigenous utilities in British Columbia?**

**1.1.1 If so, does CanGEA have a view on any considerations for the integration of Indigenous Nations' values into British Columbian provincial legislation?**

CanGEA's mission is to accelerate Canadian exploration and development of geothermal resources. As such, CanGEA is limited in its response to information pertaining to geothermal Indigenous Utilities. Moreover, CanGEA humbly submits that we have a limited understanding of Indigenous Nations' values. However, with respect, CanGEA suggests that utilization of geothermal energy resources broadly conforms with the Indigenous value of environmental stewardship.

Geothermal energy is a baseload and dispatchable renewable resource. The production of geothermal heat and/or electricity does not produce greenhouse gases and has the smallest land footprint per MW amongst all generation sources. Additionally, geothermal energy developments have long lifecycles, replenish all the liquids utilized in the process and produce little to no disturbances to the surrounding area. Lastly, geothermal energy developments can produce electricity and heat, which can act as the backbone of a community – all the while having minimal impacts on their surrounding environment.

CanGEA would like to bring to your attention the recent testimonies of Mr. John Helin, Mayor of the Lax Kw'alaams Band and Chief Byron Louis of the Okanagan Indian Band representing behalf of the Assembly of First Nations in the Federal Standing Committee on Natural Resource's study on International Best Practices for Indigenous Engagement in Major Energy Projects.<sup>1</sup> Notably,

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<sup>1</sup> Standing Committee on Natural Resources, "International Best Practices for Indigenous Engagement in Major Energy Projects: Building Partnership on the Path to Reconciliation – Oral Testimonies," *Government of Canada*, February 5, 2019, <https://www.ourcommons.ca/DocumentViewer/en/42-1/RNNR/meeting-126/evidence#Int-10475974>.

Mayor Helin and Chief Louis both acknowledged that they view their Nations as stewards of their land and/or territories.<sup>2</sup> Furthermore, Mayor Helin stated that “[a]s stewards of the territories, the indigenous nation often has the most comprehensive appreciation of the state of the territory. This positions it well to understand the cumulative impacts of industry and development within the territory.”<sup>3</sup> Moreover, Chief Louis stated that First Nations are “increasingly joining Canada’s growing clean energy economy as a way to generate revenue in a manner that is consistent with our cultural and environmental values.”<sup>4</sup> Together, the views of Chief Louis and Mayor Helin suggest that the development of clean energy projects represents a sustainable path towards economic development, whilst maintaining their roles as stewards of their surrounding natural environment.

CanGEA believes that including Indigenous values in legislation would support geothermal Indigenous Utility development. However, it is unclear as to whether or not this would resolve potential and as yet identified regulatory issues.

## **2.0 Reference: Exhibit C7-2, Section 7.0, p. 42 Indigenous Utilities Regulation**

In Exhibit C7-2, CanGEA states (emphasis in original):

CanGEA’s mission is to accelerate Canadian exploration and development of geothermal resources in order to provide **secure, clean and sustainable energy** to Canada’s heat and electricity markets. The concepts of **secure, clean and sustainable energy** were common throughout the Indigenous Utility Regulation Inquiry’s Community Input Sessions, alongside the ideas of **socio-economic benefits and self-sufficiency**. As such, CanGEA submits that if Indigenous Utilities are to be regulated, CanGEA believes that **regulations should be designed in a way that promotes the development of Indigenous-owned utilities and facilitates the social, economic, and environmental benefits for their traditional territories and beyond**.

### **2.1 Does CanGEA have a view on how legislation, including existing legislation such as the *Utilities Commission Act*, can be designed to promote the development of Indigenous-owned utilities?**

CanGEA’s mission is to accelerate Canadian exploration and development of geothermal resources. As such, CanGEA is limited in its response to information pertaining to geothermal Indigenous Utilities. CanGEA submits that the current geothermal regulations and regulatory environment are flawed. With enabling geothermal regulations, CanGEA believes that further Indigenous geothermal utilities will be developed. The following section will provide a brief history of BC’s geothermal regulatory environment and the limitations that exist today. Then, CanGEA will propose certain amendments to the geothermal regulatory framework aimed at streamlining the regulatory process and thereby promoting the development of Indigenous-owned geothermal utilities.

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<sup>2</sup> *Ibid*, Chief Byron Louis (1645) and Mr. John Helin (1655).

<sup>3</sup> *Ibid*, Mr. John Helin (1655).

<sup>4</sup> *Ibid*, Chief Byron Louis (1645).

### *Reviewing BC's Geothermal Regulatory History*

Until 2015, the responsibility for regulation of exploration activities and administration and tenure management under the *GRA* was held by the British Columbia Ministry of Energy and Mines (MEM).<sup>5</sup> In November of 2015, the MEM initiated a stakeholder consultation regarding transferring the regulatory authority for geothermal drilling and geophysical activities to the BC Oil and Gas Commission (BCOGC).<sup>6</sup> Approximately 1.5 years after the consultation, on March 31, 2017, the BCOGC became the regulator for geothermal resources - from preliminary exploration and well authorizations, through to well abandonment or closure.<sup>7</sup> Therefore, the BCOGC is the regulator for geothermal energy resources or resources greater than or equal to 80°C at the surface.

Considering the production of geothermal electricity requires higher temperatures, flow rates and in general, drilling to deeper depths, the rationale behind the assigning of the BCOGC as the regulator for geothermal resources was likely due to their experience in the oil and gas sector and managing the risks associated with exploiting oil and gas resources. CanGEA would like to raise our concern with the BCOGC being the regulatory body for all activities associated with exploring and producing geothermal resources. See the following excerpt from CanGEA's written submission to the British Columbia Utilities Commission's Indigenous Utilities Regulation Inquiry submitted July 15, 2019:

CanGEA believes that the BCOGC does not currently possess the relevant technical competence or interpretive flexibility for the early stages of development of the vast proportion of BC's geothermal energy resources. It is believed that relatively deep, large diameter, high volume flowing wells, i.e. production and injection wells, are the specialty of the BCOGC, as well as all aspects of the [Hot Sedimentary Aquifers (HSA)] geothermal resources. Note: HSA projects do not require the early development stages of Hot Wet Rock/volcanic resources, as the HSA resources have already been largely delineated by the oil and gas industry.

Considering that the majority of geothermal energy projects in BC are located in areas with Hot Wet Rock or volcanic geothermal resources, it seems illogical that the early phases of exploration/development would be regulated by the BCOGC and assessed as being as hazardous as oil and gas wells. The administrative costs and time for approvals, reviews and permits are currently costly and burdensome, open to the interpretation of inexperienced regulators for the activities performed, and can lead to, or has led to, project delays or potential project failure. A later section of this submission will analyze various New Zealand (NZ) Indigenous-owned (Māori) geothermal utilities, however, there are two salient points regarding issues with NZ's current regulatory framework, a framework that was largely mimicked by BC in its Geothermal Resources Act, that is worth discussing here:

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<sup>5</sup> BC Ministry of Energy and Mines, "Geothermal Resources Act – Consequential Amendments and Supporting Regulations Consultation Paper," *Electricity and Alternative Energy Division*, accessed August 19, 2019, [https://www.cangea.ca/uploads/3/0/9/7/30973335/consultation\\_paper\\_october\\_2015\\_final.pdf](https://www.cangea.ca/uploads/3/0/9/7/30973335/consultation_paper_october_2015_final.pdf).

<sup>6</sup> *Ibid.*

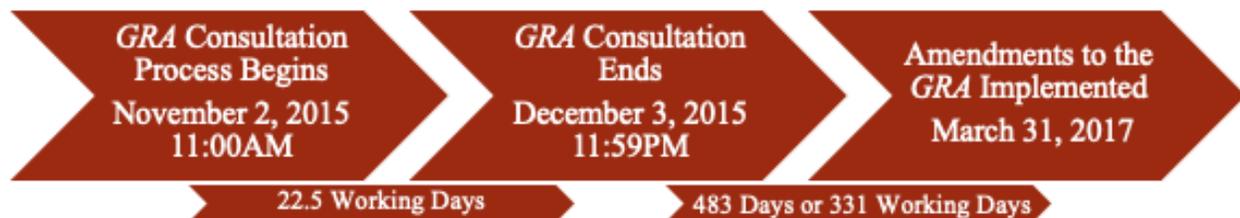
<sup>7</sup> British Columbia Oil & Gas Commission, "Geothermal Energy," accessed August 19, 2019, <https://www.bco.gc.ca/public-zone/geothermal-energy>.

- (1) “Some of the powers do not rest with the appropriate authority.”<sup>72</sup>
- (2) “The problem with wholesale adoption of the petroleum regulations to the less hazardous geothermal industry is that the costs of implementing the framework applied to petroleum operations will be higher in relation to the benefits. The geothermal industry drilling regime is similar to the petroleum industries, as emphasized by the many [American Petroleum Institute] API standards that are used in practice and referenced in NZS2403:1991 [New Zealand code of practice for deep geothermal wells] but is less hazardous.”<sup>73</sup>

The first point is salient in that the author recognizes that the development of NZ’s geothermal resources have been slow due to regulatory powers not being assigned to the right authority; something that CanGEA believes is the case with the BC Oil and Gas Commission regulating the early stages of development of [hot wet rock/volcanic] geothermal energy resources.

The second point is important as it speaks to the difficulty of adopting petroleum regulations for geothermal energy, which according to the author, the costs outweigh the benefits. The second sentence of the quote speaks to the similarities of the drilling of deep, large diameter, high volume flowing wells, i.e. production and injection wells and petroleum industry wells. What is absent from this quote is the early stage reconnaissance and exploratory drilling that is required to assess the viability of geothermal resources; in this case, the activities are not similar, which CanGEA believes should require a different regulatory body capable of providing user-friendly, flexible, and cost-effective services to geothermal developers in the feasibility and exploratory phases of their projects.

*Summary of CanGEA’s Views on the 2015 Geothermal Resources Act Consequential Amendments and Supporting Regulations Consultation Paper and Process:*



*Figure 1 - BC GRA Amendment Consultation Process*

Figure 1 above illustrates the timeline under which the 2015 BC *Geothermal Resources Act* (GRA) Consequential Amendments and Supporting Regulations consultation process was carried out. Within the document, the BC Government recognized their significant geothermal energy potential that “could generate firm renewable electricity.”<sup>8</sup> Moreover, the Government also stated its commitment to supporting geothermal energy development in the Province by “streamlining the regulatory framework for development.”<sup>9</sup> Having recognized the intent of the amendments and the

<sup>8</sup> Government of British Columbia, “*Geothermal Resources Act Consequential Amendments and Supporting Regulations Consultation Paper*,” pg. 2, [https://www.cangea.ca/uploads/3/0/9/7/30973335/consultation\\_paper\\_october\\_2015\\_final.pdf](https://www.cangea.ca/uploads/3/0/9/7/30973335/consultation_paper_october_2015_final.pdf).

<sup>9</sup> *Ibid.*

consultation process, CanGEA has assembled several comments regarding the consultation paper and the process, which are summarized below.

### *1. Limited Consultation Period*

The consultation was initiated on November 2, 2015, at 11:00 AM with a scheduled end date of December 3, 2015, at 11:59 PM. Thus, the consultation allowed participants 22.5 working days to review the document and provide written comments. Notably, CanGEA was only contacted once regarding the consultation process, despite CanGEA having several members in BC at the time, with 2 of them being project developers. CanGEA appreciates that the Government took steps to consult industry, however, given the Government's stated commitment to supporting the industry, CanGEA is of the opinion that further efforts could have been made to properly consult relevant stakeholders.

Despite the limited consultation period and attempts to contact industry participants, the BC Government took 483 days or 331 working days to implement the revised amendments to the *GRA*.

### *2. Lack of Input from First Nations*

CanGEA would also like to raise our concern with regard to the lack of attempts made to engage with First Nations on whose land geothermal permits and leases were active at the time of the notice. CanGEA member, Borealis Geopower, an Interested Party in this proceeding, owned a permit area near, and on, the traditional territories of BC First Nations and it does not appear that any First Nations were contacted in the *GRA* Consequential Amendments process. Furthermore, Kitselas Geothermal Inc., a registered Intervener in this Inquiry, held an active permit during the time of consultation and do not have any record of being directly contacted by the Ministry of Energy Mines and Petroleum Resources (MEMPR) regarding the proposed regulatory change consultation process.

### *3. Streamlining Geothermal Regulatory Framework Not Achieved*

The 2015 *GRA* consultation document contained several proposed changes that were aimed at streamlining the geothermal energy regulatory framework in BC. One of the most notable proposed changes was the creation of a well classification for Thermal Gradient Wells under the *GRA* that would be built to the standards of Geotechnical Wells licenced under the *Water Sustainability Act*.<sup>10</sup> The intended effect of the proposition was to expedite the permitting process for geothermal developers looking to drill exploratory shallow temperature gradient (TG) wells. The result of the proposition would be to have TG wells treated differently than other types of wells, i.e. oil and gas wells, as they are not targeting hydrocarbons, but instead looking to gauge the rate at which temperature increases per kilometre in a given area of interest. Additionally, TG wells are typically much shallower than oil and gas wells and do not have the same types of safety concerns. The overall goal of the MEMPR was to allow geothermal developers to gather data regarding geothermal resources in a more timely and cost-effective manner, which was supposed to help streamline the geothermal energy regulatory framework for development.

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<sup>10</sup> *Ibid*, 8.

### **Thermal Gradient Wells**

Shallow drilling to determine temperature or temperature gradient is a fundamental tool in the exploration of geothermal resources. Alignment of the [*Geothermal Resources Act* (GRA)] with the [*Oil and Gas Activities Act* (OGAA)] removes test holes, however, the [Oil and Gas Commission (OGC)] intends to define a well classification for Thermal Gradient Wells under the GRA that will be built to the standards of Geotechnical Wells licensed under the Water Sustainability Act. This will allow shallow, less expensive, non-producing wells constructed for stratigraphic, hydrologic or temperature information to be drilled to existing standards.

The information collected from these wells will be an integral part of the exploration program. Therefore[,] the Ministry [of Mines, Energy and Petroleum Resources] intends to include a requirement for the submission of data collected from Thermal Gradient Wells. Data collected would be submitted to the MEM as required for exploration permits and expenses for thermal gradient holes could be applied to the required value of geothermal exploration.<sup>11</sup>

The excerpt above is taken from the *GRA* Consequential Amendments document and illustrates the MEMPR/OGC's initial proposal. The key part of the proposition was that MEMPR/OGC had intended to create a well classification for Thermal Gradient Wells under the *GRA* that would have allowed for the exploratory wells to be licenced similar to Geotechnical Wells under the *Water Sustainability Act*. The result would have been a much less burdensome regulatory process for developers to obtain geothermal exploratory drilling licences. CanGEA submits that the OGC's decision to not develop a well classification for Thermal Gradient Wells has seriously hampered the ability of geothermal developers in BC to perform the exploratory activities necessary to advance their projects. CanGEA recognizes the document was not meant to provide any assurances as to whether the content of the consultation document will be implemented, however, given the document's stated intentions to support the industry, CanGEA had remained hopeful that the best interests for the industry would prevail and, indeed, our members believed they received the well classification proposal outlined by the MEMPR/OGC in good faith.

The resulting amendments to the *GRA* that were implemented on March 31, 2017 did not include the new proposed class of wells, which has resulted in difficulties securing permits for drilling exploratory wells, substantially increased project development costs, and slowed project growth amongst our members. CanGEA was not privy to the reasoning behind excluding the TG well classification in the implemented amendments.

#### *4. No Grandfathering Offered to Companies with Pre-Existing Geothermal Leases and/or Permits*

Considering that industry members had geothermal leases and permits before the amendments to the *GRA* enacted, CanGEA continues to be concerned that the BC Government did not offer to grandfather those with active projects and allow them to continue their projects under the original regulatory structure that existed when project and investment decisions were made. With the magnitude of the changes that were implemented, CanGEA expected a government response that

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<sup>11</sup> *Ibid*, 8.

would be supportive to existing industry participants and acknowledge the time and money that had already been spent on exploratory efforts and their potential to “generate firm renewable electricity.”<sup>12</sup>

CanGEA appreciates the consultation opportunity provided by the BC MEMPR/OGC, however, as previously stated, we do not believe that the goal of streamlining the geothermal regulatory process was achieved. As such, CanGEA recommends that the Commission:

**Urge the BC Government to reconsider the creation of a Well Classification for Thermal Gradient Wells under the GRA built to the standards of Geotechnical Wells licenced under the Water Sustainability Act.**

Streamlining the geothermal regulatory process would enable the development of BC’s geothermal resources and by extension, pave the way for Indigenous-owned geothermal utilities.

Further, CanGEA has suggestions for policies and programs that could be created to promote the development of Indigenous-owned utilities in BC. See recommendations below:

**1. Increased Indigenous Utility Development and Ownership Capacity Building Opportunities**

A 2017 study titled “First Nations and Renewable Energy Development in British Columbia” sought to address the knowledge gap that exists concerning the scope and implications of First Nations involvement in the renewable energy sphere.<sup>13</sup> The study engaged with 102 First Nations and three Tribal Councils.<sup>14</sup> The study found that 75% of survey respondents indicated that they had projects in mind but were unable to pursue them due to three main barriers, with one of them being community readiness.<sup>15</sup>

CanGEA recommends that the BCUC recommend the Government of BC work with BC utility companies to develop utility development and operation training programs to enhance community readiness. The programs should be designed in a way to accommodate different levels of Indigenous community readiness. Additionally, before development, the government should work with Indigenous Nations to identify targeted areas in need of electrical capacity development. This could be achieved by having BC utility companies identify areas of the grid with existing issues, such as excessively high lines losses, customer service delivery difficulties, and/or areas with frequent brownouts. Once areas in need have been identified, then BC utility companies can partner with Indigenous communities to advance projects that can help address the issues at hand.

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<sup>12</sup> *Ibid.*, 2.

<sup>13</sup> Cook, Dana *et al.*, “First Nations and Renewable Energy Development in British Columbia,” prepared for the BC First Nations Clean Energy Working Group, April 2017, [https://dspace.library.uvic.ca/bitstream/handle/1828/7919/Shaw\\_Karena\\_First\\_Nations\\_Renewable\\_Energy\\_BC-2017.pdf?sequence=1&isAllowed=y](https://dspace.library.uvic.ca/bitstream/handle/1828/7919/Shaw_Karena_First_Nations_Renewable_Energy_BC-2017.pdf?sequence=1&isAllowed=y).

<sup>14</sup> *Ibid.*

<sup>15</sup> *Ibid.*

## 2. Increased Opportunity for Public-Private Partnerships in Renewable Energy Projects

CanGEA submits that the Government of British Columbia should work with utility companies and Indigenous Nations to promote increased public-Indigenous partnerships in the utility sector. The Standing Committee on Natural Resources' (RNNR) recent report on International Best Practices for Indigenous Engagement in Major Energy Projects recommended that Canadian governments should encourage the development of community-owned and operated utilities through public-private partnerships and regional cooperatives.<sup>16</sup> Notably, the RNNR report also highlighted NZ Māori people for their leadership in Indigenous economic development and self-determination.<sup>17</sup>

CanGEA respectfully suggests that the BCUC to recommend the Government of BC work with BC utility companies to establish a public-Indigenous nation partnership program. The program could be synchronized with the capacity building program with a certain number of partnerships supported per year.

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<sup>16</sup> Standing Committee on Natural Resources, "International Best Practices for Indigenous Engagement in Major Energy Projects," 2.

<sup>17</sup> *Ibid.*, 29.