



HUDSON'S
HOPE

PLAYGROUND OF THE PEACE

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Open Letter to BC Minister of Energy and Mines Bill Bennett

Via E-mail

November 18, 2014

The Honourable Bill Bennett
Minister of Energy and Mines and
Minister Responsible for Core Review
Government of British Columbia
PO Box 9041 Stn. Prov. Govt.
Victoria, BC V8W 9E1

Dear Minister Bennett:

Re: Referral of Proposed Site C Dam Project to BC Utilities Commission

I am writing in response to your letter dated October 31, 2014 received on November 12, 2014.

The District of Hudson's Hope, a community of 1,100 people in the heart of the Peace River Valley, will be more adversely impacted than any other municipality by the proposed Site C dam.

We have reviewed your letter and respectfully remain firmly of the view that the BC Utilities Commission should hold an inquiry and public hearing on the economic effects of the proposed Site C Dam Project ("Site C") prior to Executive Council making a final decision on Site C, especially in view of key recommendations #46 to #49 of the Joint Review Panel.

The Joint Review Panel noted in its report that it did not have the information and analysis to fully, properly and transparently assess the economic effects of Site C:

The Panel **cannot conclude on the likely accuracy of Project cost estimates** because it does not have the information, time or resources. This affects all further calculations of unit costs, revenue requirements, and rates. [Page 280]

The Panel concludes that, **basing a \$7.9 billion Project on a 20-year demand forecast without an explicit 20-year scenario of prices is not good practice.** Electricity prices will strongly affect demand, including Liquefied Natural Gas facility demand. [Page 287]

The Panel concludes that **demand management does not appear to command the same degree of analytic effort as does new supply.** [Page 291]

The Panel concludes that **methodological problems in the weighing and comparison of alternatives** render unitized energy costs only generally reliable as a guide to investment...Uncosted attributes such as the ability to follow load, geographical diversity, or the ability to assist with the integration of intermittent sources need more analytic attention. [Page 298]

The Panel concludes that a **failure to pursue research over the last 30 years into B.C's geothermal resources** has left BC Hydro without information about a resource that BC Hydro thinks may offer up to 700 megawatts of firm, economic power with low environmental costs. [Page 299]

The Panel concludes that the Proponent has **not fully demonstrated the need for the Project on the timetable set forth**. [Page 306] *[emphasis added]*

As a result, Hudson's Hope, along with other participants in the Joint Review Panel public hearing, did not have an opportunity to review key information and analysis on Site C's economic effects.

The federal/provincial agreement governing the environmental assessment of Site C and the Panel's terms of reference highlight the importance of:

- (a) thorough review, and
- (b) meaningful participation of the public and interested groups through a public hearing,

to achieve a full, proper and transparent assessment of Site C.

Since the Joint Review Panel's release of its report on May 1st, 2014, interested parties including BC Hydro, the Ministry of Energy and Mines, other provincial government ministries and agencies, KPMG, the District of Hudson's Hope, and Clean Energy BC have prepared, or are preparing new information, analysis, reports, studies, forecasts and research ("New Material") in an effort to address the above concerns and recommendations of the Joint Review Panel. This New Material includes further examination of potentially less costly alternatives to Site C and the implications of Site C for the province's triple-A rating which has been given a negative outlook by Moody's.

However, unlike previous information and analysis on the environmental, economic, social, health and heritage effects of Site C, this New Material has been largely kept confidential. Most importantly, the New Material has not been the subject of independent and expert assessment and a public hearing as the terms of reference of the Joint Review Panel would have required. It is clear that further analysis of Site C is needed before Executive Council makes a final decision. As recently as November 13th, 2014, the Select Standing Committee on Finance and Government Services unanimously agreed that further fiscal and environmental review of Site C was needed. The issue is whether that additional analysis should include independent and expert review and a public hearing.

We continue to believe that the BC Utilities Commission (“BCUC”) offers the best avenue for further independent, expert review and a public hearing regarding the economic effects of Site C. A review under section 5 of the *Utilities Commission Act* could be structured in a way that addresses all of your stated concerns with a BCUC review.

The Task Force conducting the independent review of the BC Utilities Commission highlighted the efficacy of the section 5 review approach¹ in their October 2014 interim report:

This [section 5] provides the **benefit of a public process and independent verification of projects and plans** but reserves the final decision on plans and projects that have broader public interest criteria to be decided by elected officials. [page 37] *[emphasis added]*

We are enclosing draft section 5 terms of reference to illustrate how a BCUC review could be structured. Please note:

- The final decision on Site C still rests with Executive Council,
- BCUC is given a deadline of November 30, 2015 to complete its work²,
- The BCUC review is focused on new information and analysis regarding the economic effects of Site C to minimize duplication of previous assessment work, and
- Funding could be set aside by BC Hydro³ or the BC Government in 2015/2016 to ensure BCUC has the necessary resourcing to complete this work in a timely manner.

Site C is estimated to cost \$7.9 billion which would make it the largest provincial public expenditure of the next 20 years. It is essential to public confidence in Executive Council’s final decision on Site C, that a full, proper and transparent assessment of New Material on the economic effects of Site C is conducted. Further, that the assessment and analysis should come through an inquiry and public hearing, just as there was for previous information and analysis on Site C.

¹ As the Task Force noted –

Section 5 requires the BCUC, on Cabinet’s request, to provide advice on any matter regardless of whether it is in the Commission’s jurisdiction. Section 5 also allows Cabinet to issue Terms of Reference for the inquiry. Government, rather than exempting projects and/or plans through direction and legislation, could direct these projects be subject to a section 5 review and recommendation to Cabinet. This provides the benefit of a public process and independent verification of projects and plans but reserves the final decision on plans and projects that have broader public interest criteria to be decided by elected officials.

Broader use of section 5 is similar to the approach taken by the Federal government in its recent amendments to the National Energy Board Act. These amendments redefined the role of the Board, which is now mandated not to decide on applications for pipeline certificates, but to instead make a recommendation to the Federal Cabinet.

² There is time for this additional work: “The Panel concludes that, under the Low Liquefied Natural Gas Case, available resources could provide adequate energy and capacity until at least 2028” [Page 304 Joint Review Panel Report]

³ The funding required to support a BCUC inquiry and public hearing would be modest in comparison to the over \$300 million expended by BC Hydro to date on Site C.

For a project of this size and importance, we agree with the independent Joint Review Panel – the proper course of action is to refer Site C to the BC Utilities Commission.

In closing, we formally request that Executive Council

1. Place a one year moratorium on deciding whether to proceed with Site C, and
2. Refer the economic effects of Site C to the BC Utilities Commission for an inquiry and public hearing.

I request an opportunity to meet with you to discuss this letter before Executive Council decides whether or not to proceed with Site C.

Yours truly,

A handwritten signature in dark ink, appearing to read 'Gwen Johansson', with a stylized flourish at the end.

Gwen Johansson
Mayor

Cc: BC Government Executive Council Members
BC Opposition Party Leaders
UBCM Membership

Encl.

DRAFT TERMS OF REFERENCE

IN THE MATTER OF the *Utilities Commission Act* (the *Act*)

and

IN THE MATTER OF an Inquiry under Section 5 of the *Act* relating to the Site C Clean Energy Project

BACKGROUND

1. British Columbia Hydro and Power Authority (the “Proponent”) proposes to develop and operate a third dam and hydroelectric generating station on the Peace River in northern British Columbia which would provide up to 1,100 MW of capacity and about 5,100 gigawatt (GWh) of energy each year (the “Project”).
2. The Project is estimated to cost \$7.9 billion which would make it the largest provincial public expenditure of the next 20 years.
3. In August 2013, the federal and provincial governments named a Joint Review Panel (the “Panel”) to conduct an independent and expert assessment of the environmental, economic, social, health, and heritage effects of the Project.
4. The federal/provincial agreement governing environmental assessment of the Project and the terms of reference for the Panel (the “Panel Terms of Reference”) required the Panel to hold a public hearing in order to provide opportunities for timely and meaningful participation of aboriginal groups, the public, governments, the Proponent and other interested groups (the “Participants”) in the assessment of the Project.
5. The Panel Terms of Reference provide that the objective of the public hearing is to provide the Panel with relevant information from Participants, in a fair manner, to enable the Panel to conduct a thorough and timely review of the Project.
6. A public hearing conducted in accordance with the principles of procedural fairness inherently contributes to a full, proper and transparent assessment of the Project.
7. The Panel Terms of Reference require the Panel to consider the economic effects of the Project including:
 - (a) the need for the Project,
 - (b) alternatives to the Project,
 - (c) the economic effects of the Project,
 - (d) the significance of the economic effects of the Project,
 - (e) the value of electricity generated by the Project,
 - (f) initial capital construction cost and operating cost estimates,
 - (g) impacts on government revenue, and

(h) impacts on gross domestic product.

(the “Economic Effects”)

8. The Panel Terms of Reference require the Panel to prepare and deliver a Joint Review Panel Report on the Project (the “Report”) to the federal and provincial government who in turn are required to publish the Report.
9. On May 1st, 2014, the Panel delivered its Report to the federal and provincial government and the Report was published.
10. The Panel did not have the information, analysis, reports, studies, forecasts, and research to fully, properly and transparently assess the Economic Effects of the Project. In its Report the Panel notes:

“The Panel cannot conclude on the likely accuracy of Project cost estimates because it does not have the information, time or resources. This affects all further calculations of unit costs, revenue requirements, and rates.” [Page 280]

“The Panel concludes that, basing a \$7.9 billion Project on a 20-year demand forecast without an explicit 20-year scenario of prices is not good practice. Electricity prices will strongly affect demand, including Liquefied Natural Gas facility demand.” [Page 287]

“The Panel concludes that demand management does not appear to command the same degree of analytic effort as does new supply.” [Page 291]

“The Panel concludes that methodological problems in the weighing and comparison of alternatives render unitized energy costs only generally reliable as a guide to investment...Uncosted attributes such as the ability to follow load, geographical diversity, or the ability to assist with the integration of intermittent sources need more analytic attention.” [Page 298]

“The Panel concludes that a failure to pursue research over the last 30 years into B.C.’s geothermal resources has left BC Hydro without information about a resource that BC Hydro thinks may offer up to 700 megawatts of firm, economic power with low environmental costs.” [Page 299]

“The Panel concludes that the Proponent has not fully demonstrated the need for the Project on the timetable set forth.” [Page 306]

11. As a result, Participants in the Joint Review Panel Public Hearing did not have an opportunity to review key information, analysis, reports, studies, forecasts, and research necessary to a full, proper and transparent assessment of the Economic Effects of the Project.
12. The Panel made several recommendations to address the lack of a full, proper and transparent assessment of the Economic Effects of the Project:

RECOMMENDATION 46

“If it is decided that the Project should proceed, a first step should be the referral of the Project costs and hence unit energy costs and revenue requirements to the BC Utilities Commission for detailed examination.”

RECOMMENDATION 47

“The Panel recommends that BC Hydro construct a reasonable long-term pricing scenario for electricity and its substitutes and update the associated load forecast, including Liquefied Natural Gas demand, and that this be exposed for public and Commission comment in a BC Utilities Commission hearing, before construction begins.”

RECOMMENDATION 48

“The Panel recommends, regardless of the decision taken on Site C, that BC Hydro establish and research and development budget for the resource and engineering characterization of geographically diverse renewable resources, conservation techniques, the optimal integration of intermittent and firm sources, and climate-induced changes to hydrology, and that an appropriate allowance in its revenue requirements be approved by the BC Utilities Commission.”

RECOMMENDATION 49

“The Panel recommends that, if Ministers are inclined to proceed, they may wish to consider referring the load forecast and demand side management plan details to the BC Utilities Commission.”

13. Since the Joint Review Panel Report was released on May 1, 2014, Participants including BC Hydro, the BC Ministry of Energy and Mines, other provincial government ministries and agencies, the District of Hudson’s Hope, and Clean Energy BC have prepared, are preparing, or could prepare new information, analysis, reports, studies, forecasts, and research on the Economic Effects of the Project (the “New Material”) in an effort to address the concerns and recommendations of the Joint Review Panel set out in paragraphs 10 and 12 above.
14. However, unlike previous information and analysis on the environmental, economic, social, health, and heritage effects of the Project, this New Material is largely confidential and has not been the subject of independent and expert assessment and a public hearing as the Panel Terms of Reference would have required.
15. On October 14, 2014, the Minister of Environment and the Minister of Forests, Lands and Natural Resource Operations issued an environmental assessment certificate to BC Hydro allowing the Project to proceed, subject to remaining authorizations including that of Executive Council, without addressing how to ensure a full, proper and transparent assessment of the Economic Effects of the project, and without addressing Panel recommendations #46 to #49.

16. Before Executive Council makes a final decision on whether or not to proceed with this \$7.9 billion Project, Executive Council wishes to ensure that New Material is the subject of an independent and expert assessment and a public hearing, and by doing so seeks to ensure that there is a full, proper and transparent assessment of the Economic Effects of the Project, including the matters referenced in Panel recommendations #46 to #49.
17. Section 5 of the *Act* provides that the Lieutenant Governor in Council may ask the BC Utilities Commission (the "Commission") for advice on any matter, and further that the Lieutenant Governor in Council may specify terms of reference requiring and empowering the Commission to inquire into the matter.

REQUEST FOR ADVICE ON THE PROJECT AND TERMS OF REFERENCE

NOW THEREFORE the Lieutenant Governor in Council requests the advice of the Commission on the Economic Effects of the Project pursuant to subsection 5(1) of the *Act* and specifies the following Terms of Reference for the Commission's inquiry into the Project pursuant to subsection 5(2) of the *Act*:

1. The purpose of this inquiry is for the Commission to make an assessment of the Economic Effects of the Project, including the matters referenced in Panel recommendations #46 to #49.
2. The Commission must hold a public hearing in accordance with standard Commission policy and practice on the Economic Effects of the Project, including the matters referenced in Panel recommendations #46 to #49.
3. For the purpose of conducting this inquiry and public hearing, the Commission:
 - (a) must invite and consider submissions, evidence and presentations on the Economic Effects of the Project including the New Materias from any interested person, including without limitation, aboriginal groups, the public, governments, the Proponent, other utilities, power producers, ratepayer groups and other interested groups;
 - (b) must hold the public hearing in accordance with the Commission's Public Hearing Guidelines, except that the Commission will make recommendations to the Lieutenant Governor in Council rather than making determinations; and
 - (c) may use all of the powers provided to it under the *Act*.
4. The Commission must prepare a report and recommendations on its assessment of the Economic Effects of the Project, including the results of the public hearing and any implications of its assessment for the Project, BC Hydro ratepayers and BC taxpayers. The report must be provided to the Minister of Energy and Mines by November 30, 2015.
5. The Minister of Energy and Mines must publish the report within 10 days of receipt.

November 18, 2014

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The Canadian Geothermal Energy Association (CanGEA) is the collective voice of Canada's geothermal energy industry. As a non-profit industry association, we represent the interests of our member companies with the primary goal of unlocking the country's tremendous geothermal energy potential. Geothermal energy can provide competitively priced, renewable, round-the-clock energy to the Canadian and U.S. markets and a part of the solution to growing concerns about securing sustainable, cost-effective energy sources.

CanGEA promotes the industry and the potential of geothermal energy in Canada through outreach events, research, policy work and representation of Canadian interests internationally.

Honourable Bill Bennett, MLA
Government of British Columbia
Parliament Buildings
Victoria, BC
V8W 9E2
Via e-mail: MEM.minister@gov.bc.ca

And

Premier Christy Clark
Government of British Columbia
Victoria, BC
V8V 1X4
Via e-mail: premier@gov.bc.ca

CC: john.horgan.mla@leg.bc.ca
andrew.weaver.mla@leg.bc.ca
WStueck@globeandmail.com

November 27, 2014

Re: Correction of Inaccurate Information on Geothermal Energy in BC

The Canadian Geothermal Energy Association (CanGEA) would like to start by acknowledging the comments of Minister Bennett regarding to geothermal energy, which appear in an article in the Globe & Mail released on November 25, 2014. Specifically:

"In B.C. the market has been really slow to pick (geothermal) up (...) There have been a few licenses granted over the years and a few million dollars invested but nobody has actually found a geothermal resource that you can convert into electricity. So we are a ways away from actually being able to use it. (...) It is a good resource, we do want to use it (...) It will be important in B.C. in the future. It is not a replacement – it's not a way to get 1,100 megawatts of electricity that we need today."

Minister Bennett's comments are simply not true. It is clear that the Minister has not had an opportunity to read, or been briefed in any meaningful way, on the report that CanGEA released on November 25th; *Geothermal Energy: The Renewable and Cost Effective Alternative to Site C*.

We are writing to correct this inaccurate information and make the following observations:

1. CanGEA has, since the development of its geothermal favourability maps, graphs, tables and datasets, reached out to

brief all relevant government officials and organizations. While certain government entities have taken the time to inform themselves of our report's findings, others have simply avoided them.

We did brief officials in the Ministry of Energy and Mines and BC Hydro on November 25, 2014. However, many key officials did not attend the meeting, or departed before we were able to complete a full and effective briefing.

2. The CanGEA report outlines a portfolio utilizing only geothermal power projects that matches the Site C project's output and has a Unit Energy Cost (UEC) of \$73/MWh compared to the Site C projected \$83/MWh. This would result in a capital expenditure of \$3.3 billion, compared to \$7.9 billion for Site C. Not only will these savings help BC ratepayers, but they will also contribute to ensuring that BC's excellent AAA credit rating remains intact. These estimates were prepared by well respected experts.

Geothermal projects can also be strategically located to avoid the exorbitant transmission costs associated with the Site C project, and can also reduce or eliminate the need for other transmission projects around the province.

Clearly, the pursuit of geothermal energy is in the best interests of BC Ratepayers and Taxpayers.

3. As our report notes, binary geothermal power plants, the type CanGEA advocates for use in BC in the near future, are internationally a very mature technology. They were developed in the 1980s and are currently operational around the world, including in the United States.

Moreover, the most conservative estimates released by CanGEA demonstrate the availability of 5,700 MW of potential geothermal power, verifiable from data obtained via oil and gas development. These estimates utilized internationally recognized procedures, and were peer reviewed by an international expert on the subject. The World Bank is considering adopting the estimation procedures used in the CanGEA report as best practices for use internationally.

4. CanGEA cites the Joint Review Panel of the Site C Project's finding that "available resources could provide adequate energy and capacity until at least 2028." We are confident that geothermal energy could be in production within the next 2-4 years, contrary to the claim that power plants could not be deployed in the required timeframe.
5. Your comments do not address concerns expressed by the citizens of BC that future energy strategies take into consideration the environmental footprints of generating

technologies. In terms of this, hydroelectric power is NOT considered a renewable energy source by international standards. Geothermal power is, and has a smaller environmental footprint than any other renewable source of power.

6. There are numerous other economic and environmental benefits to geothermal energy that will be of interest to a range of ministries, not just the Ministry of Energy and Mines.
7. In terms of policy impediments, the *Geothermal Resources Act (GRA)* requires immediate attention. Even when developers come to the table with stakeholder buy-in, wait times of years ensue. This does not occur to the same extent in regards to shale gas wells, or oil and gas development. Furthermore, if permits are granted, they are often not those originally requested by the permittee. The lack of a timely and effective regulatory framework is the main reason geothermal energy has not been expanded in British Columbia.

Governments around the world that are serious about developing geothermal energy have been quick to address such concerns. A recent example close to BC is the State of Washington, which just passed legislation streamlining the geothermal project permitting process.

8. It is also worthy of note that a Request for Proposals (RFP) for a study of “the Economic Viability of Geothermal Resources in British Columbia” was announced by Geoscience BC the day before CanGEA’s report was released. We are pleased to advise that the CanGEA report substantively addresses the economics of geothermal production in BC, rendering this RFP largely unnecessary in its present form. As well, with a December 11, 2014 deadline for the RFP, the quality of proposals that will be received is debatable.

Request to you

Considering the substantial positive implications of our report findings for BC Taxpayers and Ratepayers, we request an immediate opportunity to meet with you and the BC Cabinet to brief you on our report. We believe this is a prudent and essential course of action prior to Cabinet’s final decision on Site C.

We look forward to your early response to our request to meet with Cabinet.

Sincerely,



Alison Thompson, Chair and Co-Founder, CanGEA

From: Rob Botterell [mailto:botterell@lidstone.info]
Sent: Tuesday, November 18, 2014 5:04 PM
To: OfficeofthePremier, Office PREM:EX
Cc: Minister, ABR ABR:EX; Minister, AVED AVED:EX; Minister, AGRI AGRI:EX; Minister, MCF MCF:EX; Minister, CSCD CSCD:EX; Minister, EDUC EDUC:EX; Minister, ENV ENV:EX; Minister, FIN FIN:EX; Minister, FLNR FLNR:EX; Health, HLTH HLTH:EX; Rob Botterell; Minister, MIT MIT:EX; Minister, JTST JTST:EX; Minister, JAG JAG:EX; Minister, MNGD MNGD:EX; Minister, SDSI SDSI:EX; Minister, MTIC MTIC:EX; Transportation, Minister TRAN:EX; Horgan.MLA, John LASS:EX; Huntington.MLA, Vicki LASS:EX; Weaver.MLA, Andrew LASS:EX; ubcm@ubcm.ca; Todd Pugh
Subject: District of Hudson's Hope Letter Regarding Proposed Site C Dam Project

> Please find attached correspondence of today's date from Mayor Gwen Johansson of the District of Hudson's Hope. Please confirm receipt.

Rob Botterell
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From: Alison Thompson [mailto:alison@cangea.ca]
Sent: Thursday, November 27, 2014 3:16 PM
To: Minister, MEM MEM:EX; OfficeofthePremier, Office PREM:EX
Cc: Horgan.MLA, John LASS:EX; Weaver.MLA, Andrew LASS:EX;
WStueck@globeandmail.com
Subject: Re: Correction of Inaccurate Information on Geothermal Energy in BC

Dear Honourable Bill Bennett and Premier Christy Clark,
Attached is correspondence concerning recent comments made by Minister Bennett to the media. The Canadian Geothermal Energy Association objects to these statements, and urges that our recent report, Geothermal Energy: The Renewable and Cost Effective Alternative to Site C, be reviewed. We also recommend an immediate briefing on the report's findings, in order that you may be informed on current developments in this important area of public policy. We request that you please confirm the receipt of this message.

Warm Regards,

alison

Alison Thompson, MBA, M.Eng, P.Eng
Chair, Canadian Geothermal Energy Association | Executive Committee, International Energy Agency's Geothermal Implementing Agreement | Director and Resources & Reserves Committee Member, International Geothermal Association | Box 1462 Stn M | Calgary, AB | T2P 2L6
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Join CanGEA

<http://www.cangea.ca/join/>

From: Alison Thompson [mailto:alison@cangea.ca]
Sent: Tuesday, December 2, 2014 3:05 PM
To: OfficeofthePremier, Office PREM:EX
Cc: Alison Thompson; Coleman.MLA, Rich LASS:EX
Subject: RE: Follow up to "Correction of Inaccurate Information on Geothermal Energy in BC"

Dear Premier Christy Clark,

s 22 as I am participating in an International Geothermal Association (IGA) workshop in Europe.

I have been invited as an expert stakeholder, for the drafting of "Geothermal Specifications" for the UNFC-2009 classification scheme. This is part of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources.

During this time I will be available sporadically for teleconferences, and could arrange to provide you with a briefing of CanGEA's recent report. In order to schedule, please contact CanGEA's policy advisor, Justin Crewson. He can be reached by email at justin@cangea.ca, or over the phone a s 22

s 22 You can also contact our policy advisor to schedule this.

I am hopeful that you will accept our offer of an in depth briefing of this important geothermal power generation option for British Columbia.

Warm Regards,
alison