

**Integrated Resource Plan**

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**Appendix 7I**

**Public and Stakeholder Consultation Report:  
Written Responses Received September 3 to  
October 18, 2013**

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# INTEGRATED RESOURCE PLAN

*Meeting B.C.'s Future Electricity Needs*

Public and Stakeholder Consultation Report  
For the September 3 to October 18, 2013 Consultation Period

November 15, 2013

**INTEGRATED RESOURCE PLAN**  
**Meeting B.C.'s Future Electricity Needs**

**Public and Stakeholder Consultation Report**

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### 1. INTRODUCTION

The Integrated Resource Plan (IRP) is BC Hydro's long-term plan for acquiring the resources needed to meet customers' demand for electricity over the next 20 years. Integrated electricity systems are inherently complex and capital intensive and most new resources require significant lead times to develop. As a result, electric utilities such as BC Hydro must plan ahead to ensure the required resources will be in place when needed.

According to B.C.'s *Clean Energy Act*, BC Hydro is required to submit its plan to government at least once every five years, and may submit periodic updates in the interim period.

### 2. OVERVIEW OF CONSULTATION PROCESS

The consultation process for the IRP included four phases described below. Note that during each phase, there were three separate streams of consultation: public and stakeholder, First Nations and a technical consultation stream involving the IRP Technical Advisory Committee (TAC). This consultation report focuses on the feedback collected from the public and stakeholders in the last of the four phases. Separate reports have been prepared based on the written comments received from First Nations and from the IRP TAC.

#### *Technical Review and Foundation for Integrated Resource Planning (Fall 2010)*

In the first phase of developing the IRP, BC Hydro focused on assembling key pieces of technical data necessary to construct a plan, and sought input from selected First Nations and stakeholders with regard to the design of the consultation process. BC Hydro also worked with its Electricity Conservation and Efficiency Advisory Committee as it constructed options for energy conservation. An IRP TAC was also established to assist BC Hydro by providing detailed technical advisory input and feedback. Reports on consultation from this period are available online at [http://www.bchydro.com/energy-in-bc/meeting\\_demand\\_growth/irp/development\\_process/fall2010.html](http://www.bchydro.com/energy-in-bc/meeting_demand_growth/irp/development_process/fall2010.html).

### *Considering Our Clean Energy Future—Assessing and Evaluating Options (March/April 2011)*

In March and April 2011, BC Hydro gathered public and stakeholder input for the development of the draft IRP. BC Hydro asked the public, stakeholders and First Nations to consider the topics that were being addressed in the IRP: BC Hydro's approach to conservation and efficiency, electricity generation options, electrification, planning transmission and export market potential. Input received through consultation was considered along with technical, financial, environmental and economic development input as BC Hydro evaluated alternatives and prepared the draft IRP. Reports on consultation from this period are available online at [http://www.bchydro.com/energy-in-bc/meeting\\_demand\\_growth/irp/development\\_process/spring2011.html](http://www.bchydro.com/energy-in-bc/meeting_demand_growth/irp/development_process/spring2011.html).

### *Reviewing the Draft Integrated Resource Plan (May-August 2012)*

In this phase, the public, stakeholders and First Nations were invited to provide feedback on the draft IRP. As part of this process, BC Hydro sought feedback on 11 recommended actions of the IRP, associated with: Conserving More, Building and Reinvesting More, Buying More and Preparing for Potentially Greater Demand. Reports on consultation from this period are available online at [http://www.bchydro.com/energy-in-bc/meeting\\_demand\\_growth/irp/development\\_process/spring2012.html](http://www.bchydro.com/energy-in-bc/meeting_demand_growth/irp/development_process/spring2012.html).

### *Written Comment Period on the August 2013 Integrated Resource Plan (September 3 to October 18, 2013)*

The August 2013 IRP was submitted to the provincial government on August 2, 2013. In a letter dated August 23, 2013, (Appendix A) the B.C. Minister of Energy and Mines (Minister) instructed BC Hydro to provide public notice it had submitted the IRP to Government, to provide public access to the IRP and to conduct a final round of consultation related to the IRP by October 18, before re-submitting the IRP to government by November 15, 2013. In the letter, the Minister noted that "while the consultations should cover the IRP in its entirety, of particular interest is feedback on the changes to the IRP since BC Hydro undertook consultations in spring and summer 2012, and on uncertainty over the 20-year period and the contingency plans BC Hydro is proposing to deal with that uncertainty."

From September 3 to October 18, BC Hydro invited written feedback from the public, stakeholders and First Nations. Comments collected during this period were considered as BC Hydro finalized the IRP for submission to government for approval by November 15, 2013.

### 3. CONSULTATION METHODOLOGY

The IRP submitted to government on August 2, along with a summary document, were made publicly available on BC Hydro's website following the provincial news release on August 23. On August 26 BC Hydro notified stakeholders who had participated in previous rounds of the IRP consultation and members of the public who had requested to be on the IRP mailing list (800 people) of the upcoming written comment period by email (Appendix B). In addition, notification was delivered to 220,000 customers through its customer e-newsletter (Appendix B) on September 7, along with 800 recipients of BC Hydro's annual community relations reports during the week of September 10. A reminder notification was sent on September 24. Note that a few interested stakeholder groups also promoted the opportunity to provide comment by advising their members of the notification, as evidenced by a high proportion of identical responses under the topic areas.

Feedback was sought from public and stakeholders through an online written comment form available on BC Hydro's website and by email. Participants were asked to provide their level of support with BC Hydro's recommended actions under the following topic areas: Supporting Liquefied Natural Gas, Conserving First, Powering Tomorrow, Managing Resources, and Planning for the Unexpected. Participants were asked to provide the reasons for their level of agreement and/or to provide additional comments under each section, as well as to provide any additional comments under a general comment section. A copy of the comment form is available in Appendix C.

***Note that views collected during the comment period and contained in this report reflect the priorities and concerns of members of the public and stakeholders who chose to provide written comments. As with other consultation processes, they are not necessarily representative of the views of the public and other stakeholders because participants self-selected into the consultation process.***

## 4. SUMMARY OF ONLINE FEEDBACK FORM RESPONSES

During the written comment period, BC Hydro received 425 completed comment forms from members of the public and stakeholders.

These responses are contained in Appendix D. Names and other personal information of private individuals are not included in this report. Providing this information was made optional in the online written comment form, and participants were advised it would be collected only for the purposes of keeping them informed of future consultations on integrated resource planning.

The following is a summary of written comments received through the online feedback form between September 3 and October 18, 2013. The large majority of respondents took the time to provide written comments under each topic area to explain their broad level of agreement with the recommended actions, and these written comments have been used in developing the summary below.

### *Supporting LNG*

***Participants were asked to provide their level of support for BC Hydro's recommended actions to: "support the Liquefied Natural Gas (LNG) industry" by reinforcing an existing 500 kilovolt transmission line from Prince George to Terrace; working with industry to explore natural gas supply options on the north coast to enhance transmission reliability to help meet the expected load; and being prepared to acquire clean energy supply in the future if LNG needs exceed existing, contracted supply. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on supporting LNG.***

The large majority of respondents who completed the comment form responded with strong disagreement. It is evident from the responses received that the respondents who voiced strong disagreement did so because of their lack of support for the LNG industry versus a specific, secondary lack of support for BC Hydro's recommended actions designed to ensure electricity is available to serve the LNG industry should it be needed. Reasons given for lack of support for the LNG industry included the following themes: LNG is not a clean energy source, fracking has negative environmental impacts, and the economic benefits are doubtful. Specific to electricity service from BC Hydro to the LNG industry, themes included BC Hydro should not subsidize the LNG industry with low-cost electricity and the focus should be on clean energy alternatives such as wind versus gas.

Those who responded with support did so because of support for the LNG industry versus specific support for BC Hydro's recommended actions designed to ensure electricity is available to serve the LNG industry should it be needed. The primary reasons given for support for the LNG industry were jobs and economic prosperity for B.C.

### *Conserving First*

***Participants were asked to provide their level of support with BC Hydro's recommended actions: to support 'conserving first' by maintaining BC Hydro's demand-side management measures at the same level going forward as has been undertaken in recent years, and preparing to increase these measures as load increases. BC Hydro is relying on all three customer classes to undertake demand-side activities and meet our 7,800 gigawatt hour target in fiscal 2021. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on conserving first.***

The majority of respondents voiced strong support for these recommended actions. Reasons voiced included that conservation is the best, most cost-effective way to meet future energy needs, it reduces waste, it has the least negative consequences and it's a win-win (lower bills). At the same time as providing strong agreement, many of these respondents voiced the opinion that BC Hydro was not doing enough. Ideas provided for what BC Hydro could do more of included time-of-use rates, peak shaving, policies to encourage big business and industry to conserve more, model European standards and processes, and encourage conservation through higher prices as well as more education and promotion of the use of new building technologies.

Many of those who voiced disagreement with this recommended action provided comments that were generally aligned with those that agreed with this recommended. In essence they support conservation and would like to see more done. Other reasons given for disagreement included: lack of confidence conservation goals could be achieved, the lack of affordability of energy efficiency technologies, and a preference for clean energy technologies over conservation. There was also concern that if prices were increased as a way to encourage customers to conserve, this would have a negative effect on low/fixed income customers.

### *Powering Tomorrow*

***Participants were asked to provide their level of support for BC Hydro's recommended actions to: 'power tomorrow' by building Site C, a proposed***

***third dam and generating station on the Peace River, which would provide cost-effective, reliable and renewable electricity for generations. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on powering tomorrow.***

The large majority of respondents who completed the comment form responded with strong disagreement with the recommended action to advance Site C. Reasons given included lack of demonstrated need; the flooding of agricultural land, wildlife habitat and First Nations heritage sites in the Peace River Valley; lack of affordability; and lack of First Nations support. Many respondents believed that Site C is being built to serve projected LNG load, which they expressed opposition to in the first question. Some respondents encouraged BC Hydro to look to alternative energy options such as wind, tidal, geothermal and solar instead of building Site C.

With regard to those who voiced support for Site C, reasons included: it's the best source of clean, economical energy and it is smart economics because it uses a developed river system. Amongst those that neither agreed nor disagreed, it was remarked that they lack understanding of the cost to build Site C.

### ***Managing Resources***

***Participants were asked to provide their level of support for BC Hydro's recommended action: to 'manage resources' by managing the costs associated with BC Hydro's current energy portfolio of Electricity Purchase Agreements and selecting the most-cost effective plan to meet customers' needs within the context of the Clean Energy Act. In the background it was explained that Independent Power Producers (IPPs) currently supply about 20 per cent of BC Hydro customers' electricity requirements. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on managing resources.***

The majority of respondents who completed the comment form responded with strong disagreement. It is apparent from the responses that this disagreement stemmed largely from opposition to IPP energy outright. They remarked that BC Hydro should cancel all IPP contracts because of negative impacts of run-of-river developments on fish and wildlife habitat and the price BC Hydro pays for the energy being too high. Other reasons for disagreement included that cost effectiveness does not have to be at the expense of environmental impacts and that protecting the environment is a

higher priority than electricity being low cost. A number of respondents noted that BC Hydro should move away from IPP contracts and invest in its own development of renewable resources such as wind, solar, geothermal and ocean energy, with particular emphasis on wind and solar energy.

Amongst those that supported this recommend action, the primary reasons given were support for the development of the renewable energy sector in B.C., economic development, and benefits to First Nations.

A significant portion of respondents indicated that they did not understand what was being asked of them and that the question was unclear.

### *Planning for the Unexpected*

***Participants were asked to provide their level of support for BC Hydro's contingency plans that: continue to advance capacity resource options, including advancing the Revelstoke Generating Station Unit 6 Resource Smart Project; the GM Shrum Station Resource Smart Project; and working with industry to explore natural gas supply options. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on planning for the unexpected.***

Respondents were largely supportive of upgrading existing infrastructure and using existing dams to their full potential. From the written comments, it is evident there is greater concern with the proposed contingency plan to work with industry to explore natural gas because of climate change concerns, while the proposed contingency actions to advance the Revelstoke Generating Station Unit 6 and the GM Shrum Generating Station Resource Smart Projects are supported. These split views are reflected in both the "somewhat agree" and "disagree" response sets.

A number of respondents indicated that they did not have enough knowledge to respond to this question or that there was a lack of information to allow them to respond. It is also evident from the responses that there is frequently a lack of understanding of the differences between electrical energy and capacity.

## 5. SUMMARY OF OTHER WRITTEN RESPONSES

Beyond submissions received through the online feedback form, BC Hydro received 344 additional written responses. Of these responses, 308 were submitted by individuals, and 36 from various associations. These responses can be found in Appendix E.

### *Responses from Individuals*

BC Hydro received 308 written submissions from individuals of which 270 contained identical responses opposed to Site C, with another 34 submissions containing similar responses but with additional comments included. These written submissions expressed opposition to plans to build Site C in the Peace River Valley and stated their belief that Site C is not needed for domestic consumption but rather for powering the LNG industry. They expressed concern for the rate impacts of building Site C and for the environmental and social impacts that Site C would have, including the flooding of agricultural land, wildlife habitat and First Nations heritage sites. They also encouraged the provincial government to return Site C and other exempted projects to BCUC oversight; and for BC Hydro to consider other renewable sources of energy over Site C.

The other four written submissions included comments expressing opposition to the development and electrification of the LNG industry, preferences for further Demand Side Management options and fewer IPP contracts, opposition to Site C, and support for the renewable energy industry.

### *Responses from Organizations*

Of the 36 letters received from organizations, 31 were from the clean energy sector. The prevailing concern was that the IRP provided limited opportunities for IPPs and limited economic development opportunities related to IPP projects for First Nations. Some expressed concern that deliverability risks of DSM are too high and that the electricity savings from DSM measures were overstated. Several commenters recommended that BC Hydro should revisit its load forecast as they believed that the amount of required energy forecast was too low, particularly the amount of energy BC Hydro estimated would be required to serve the LNG industry. The Clean Energy Act and the commitment to greenhouse gas reductions were cited as driving factors for BC Hydro to bear in mind when considering the benefits of IPPs. Many expressed concern that IPP alternatives to Site C were not accurately portrayed or assessed and that BC Hydro should consider underutilized renewable sources, such as wind, ocean energy, geothermal, and pumped storage to diversify supply. Many expressed the view that BC Hydro should do more to advance the interests of specific technologies,



advance the opportunities for clean energy projects to serve new northern industrial loads, and consider providing all electric solutions for LNG facilities with IPP electricity.

BC Hydro also received five letters from environmental organizations, large customers and local governments. These letters covered issues such as opposition to building Site C and plans for the LNG industry, while encouraging further emphasis on DSM options and renewable energy. In addition, concern was raised that rate uncertainty and potential increases negatively impact business competitiveness with other jurisdictions. One organization provided a detailed critique of BC Hydro’s DSM plans and encouraged further study.

<i>List of Organizations</i>		
Aeolis Wind Power Corporation	Chinook Power Corp.	Marine Renewables Canada
AltaGas Ltd.	Clean Balance Power Inc.	Peace Valley Environmental Association
Association of Consulting Engineering Companies	ENERCON Canada Inc.	Regional District of Nanaimo
BC Advanced Conservation & Efficiency Association	Finavera Wind Energy	Renewable Energy Systems Canada Inc.
Belkorp Environmental Services Inc.	Fortis BC	Rupert Peace Power Corp.
Borex Inc.	Fraser Valley Regional District	Sea Breeze Power Projects Inc.
Brookfield Renewable Energy Group	GDF SUEZ Canada Inc.	Siemens Canada Limited
Burke Mountain Naturalists	GE Canada	SRM Projects Ltd.
Canadian Association of Petroleum Producers	GL Gerrard Hassan	Timber West Forest Corp. and EDP Renewables North America LLC
Canadian Geothermal Energy Association	Hudson’s Hope	United Flower Growers Co-operative Association BC Greenhouse Growers’ Association
Canadian Wind Energy Association	Innergex Renewable Energy Inc.	Western Tidal Holdings Ltd.
Catalyst Paper Corporation	M.K. Ince and Associates Ltd.	wpd Mountain Wind Inc.

**6. APPENDICES**

- A. Letter from Minister*
- B. Notifications*
- C. Online Feedback Form*
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- E. Other Written Responses*

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*Appendix A – Minister's Letter*



August 23, 2013

Ref.: 80844

Mr. Stephen Bellringer  
Chair  
British Columbia Hydro and Power Authority  
18<sup>th</sup> Floor – 333 Dunsmuir Street  
Vancouver, BC V6B 5R3

Dear Mr. Bellringer:

On August 2, 2013, the British Columbia Hydro and Power Authority (BC Hydro) submitted its Integrated Resource Plan (IRP) in accordance with Subsection 3(6)(a) of the *Clean Energy Act* (Act). I have been briefed by Ministry of Energy and Mines staff on the actions BC Hydro recommends be undertaken to meet the electricity needs of the Province over the next 20 years.

I am writing to inform you that, prior to any Lieutenant Governor in Council (LGIC) decision concerning the IRP pursuant to Subsection 4(1)(a) of the Act, the following will be required:

1. On receipt of this letter, BC Hydro will give public notice that it has submitted its IRP to Government, and it will provide public access to the IRP on its website and other means BC Hydro feels are appropriate;
2. BC Hydro will conduct a final round of consultations related to its IRP with First Nations, key stakeholders and the public. Consultation must be carried out by October 18, 2013. While the consultations should cover the IRP in its entirety, of particular interest is feedback on the changes to the IRP since BC Hydro undertook consultations in the spring and summer of 2012, and on uncertainty over the 20-year period and the contingency plans BC Hydro is proposing to deal with that uncertainty; and
3. By November 15, 2013, BC Hydro is to re-submit its IRP for consideration by the LGIC.

.../2

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Should you have any questions, please do not hesitate to contact Mr. Les MacLaren, Assistant Deputy Minister, Electricity and Alternative Energy Division, Ministry of Energy and Mines, at 250-952-0204 or [Les.MacLaren@gov.bc.ca](mailto:Les.MacLaren@gov.bc.ca).

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Bennett". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Bill Bennett  
Minister

pc: Mr. Dave Nikolejsin  
Deputy Minister  
Ministry of Energy and Mines

Mr. Les MacLaren  
Assistant Deputy Minister  
Electricity and Alternative Energy Division  
Ministry of Energy and Mines

Mr. Charles Reid  
President and Chief Executive Officer  
BC Hydro

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*Appendix B – Notifications*

**From:** Integrated, Resource Planning  
**Sent:** 2013, August 29 1:05 PM  
**To:** Integrated, Resource Planning  
**Subject:** BC Hydro's Integrated Resource Plan

BC Hydro is inviting the public, stakeholders and First Nations to provide written comments on the Integrated Resource Plan (IRP) from **September 3 to October 18, 2013**.

The IRP is BC Hydro's long-term plan to cost-effectively meet the forecast electricity needs of its customers over the next 20 years as a result of growing population, broad economic expansion and the development of a liquefied natural gas (LNG) industry. In developing the IRP, BC Hydro consulted with the public, stakeholders and First Nations in 2011 and 2012. BC Hydro submitted its plan to government on August 2, 2013, as required under the *BC Clean Energy Act*.

In a [letter](#) to BC Hydro received on August 23, Minister of Energy and Mines Bill Bennett directed BC Hydro to undertake final consultation on the IRP before government considers its approval of the plan and to complete this consultation by October 18, 2013. While the consultation should cover the IRP in its entirety, of particular interest is feedback on aspects of the IRP that have changed since the May 2012 draft IRP and on BC Hydro's contingency plans to deal with uncertainty over the 20-year planning horizon.

The IRP submitted to government is now available on our website, along with a summary document and online comment form. Please go to [IRP Consultation Fall 2013](#) to view the plan, an IRP summary document, related background materials, and to provide your comments.

BC Hydro will review written comments it receives during the comment period and those comments will help inform the final IRP that will be submitted for government's approval by November 15, 2013.

Thank you for your continued interest in BC Hydro's long-term electricity plan, and we look forward to your final feedback. If you have any questions about the IRP, please call us toll free at 1-800-747-4832.

Sincerely,  
Integrated Resource Planning Team

### [ABOUT THE INTEGRATED RESOURCE PLAN](#)

For background information on the IRP, including reports on consultation to date, go to [www.bchydro.com/irp](http://www.bchydro.com/irp).

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**From:** Integrated, Resource Planning  
**Sent:** 2013, September 24 3:19 PM  
**Subject:** Provide your comments on BC Hydro's Integrated Resource Plan

As indicated in our email of August 29, BC Hydro is inviting the public, stakeholders and First Nations to provide written comments on the Integrated Resource Plan (IRP) until **October 18, 2013**.

It's easy to provide your feedback; simply complete our [online comment form](#).

BC Hydro will review written comments it receives during the comment period and those comments will help inform the final IRP that will be submitted for government's approval by November 15, 2013. Please go to [IRP Consultation Fall 2013](#) to view the plan, an IRP summary document and related background materials. If you have any questions about the IRP, please call us toll free at 1-800-747-4832.

Thank you for your continued interest in BC Hydro's long-term electricity plan.

Sincerely,

Integrated Resource Planning Team



[Annual photo contest](#) back for another year.

[Read this email online](#)



September 2013

Hi <Customer Name>,

This month, our newsletter has a new look, and the annual [Team Power Smart photo contest](#) has a new twist. ... Go paperless with your bill and you could [win a Samsung Galaxy Tab 3](#). ... See how the [Integrated Resource Plan](#) will shape the next 20 years of energy planning, and [learn how B.C. wasn't always as Power Smart as it is today](#).



[Popular photo contest back for 2013](#)

The annual Team Power Smart photo contest is back for the fifth year – this time with a twist. One talented winner will take home a prize package featuring a Microsoft Surface Pro tablet and more.

[Learn more](#)



## [Demand for electricity is growing](#)

BC Hydro has released the Integrated Resource Plan, how we'll meet energy needs for the next 20 years. See what it means for you...

[Learn more](#)



## [Win a Samsung Galaxy Tab 3](#)

Go paperless with your BC Hydro bill this month and you could win one of three Samsung Galaxy tablets...

[Learn more](#)

## Recently on [bchydro.com](http://bchydro.com)

### [New substation meets growing demand as Mount Pleasant booms](#)

It's the first substation built in Vancouver since 1984. See what it's all about.

[Learn more](#)

### [Walk for Reconciliation resonates with Hydro employee](#)

This month's Reconciliation Week in Vancouver hits home with BC Hydro's Darrell Mounsey, a proud member of the Simpcw Nation whose mother could only dream of the opportunities her grandkids now enjoy. [Learn more](#)

- [History recalled: We weren't always so Power Smart](#)
- [View spawning kokanee when bears aren't dining](#)
- [2013 Community Champions program now open](#)
- [Pay attention to safety around water](#)

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## THIS MONTH'S CONTEST

You could win one of three Monster GreenPower Surge Protectors to help manage your energy use, thanks to Team Power Smart in partnership with Future Shop.

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## NEWS

Sep 6, 2013

### BC Hydro outlines how to meet energy needs for the next 20 years



On August 2, BC Hydro filed the [Integrated Resource Plan \(IRP\)](#), which outlines our plan to meet British Columbia's forecast electricity needs for the next 20 years.

The IRP is a long-term look at how BC Hydro can cost-effectively meet our customers' needs, from continuing a focus on electricity conservation, to developing new renewable energy resources, and planning for emerging industries like liquefied natural gas.

[See our visual guide to B.C.'s future energy needs](#) [JPEG, 454 KB]

There's one thing clear about the future of electricity in British Columbia: demand for it is growing. Before conservation measures are considered, B.C.'s demand for electricity in 20 years is forecast to be 23,000 gigawatt hours per year (GWh/yr) greater than it is today – that's an increase of 40 per cent over what British Columbians use today.

That's like powering five additional cities the size of Vancouver each year.

Learn more about the IRP and what it means for you:

- [Why electricity demand is increasing](#)
- [A growing economy means growing electricity needs](#)
- [Conservation: the first and best way to meet demand growth](#)
- [Have your say on the IRP: public consultation until October 18, 2013](#)

### Why electricity demand is increasing

The last major investment in BC Hydro's generating facilities was in the 1980s, when we completed construction on some of our [heritage assets in the Columbia region](#). Since then, the population of B.C. has grown by about 1.6 million people, and continues to grow.

In two decades, British Columbia's population is forecast to be nearly 5.7 million people. That means we will have to support the energy needs of 1.1 million more British Columbians and the economic activity that they'll generate.

Even before we add more people to the province, the people that we already have are using more power than ever before. Our lives have changed dramatically since the last major investment in renewable energy sources.

For example, we have many more consumer electronics than we used to, and our wired lifestyles add up.

Consider our living rooms: an average a non-ENERGY STAR PVR uses about 270 kilowatt hours a year, and many British Columbians have more than one. Running two PVRs for a year can use 60 per cent of the power it takes for the average family to wash and dry their clothes over 12 months.

Looking ahead also means planning for the growth and adoption of technology like electric vehicles, which will increase the load needed to serve residential and business customers alike, through charging stations, new building codes and more widespread adoption of vehicles by consumers and fleets.

### A growing economy means growing electricity needs

Industry and business in B.C., particularly in the northwest region, also need more electricity. For example, BC Hydro currently has adequate supply to meet the initial 3,000 GHW of anticipated load from new liquefied natural gas projects and will prepare to meet further requirements as they emerge.

But other industries, like mining, continue to grow and BC Hydro needs to consider those industries when mapping out what electricity demand will look like in 20 years. In B.C.'s northwest region alone, there are 11 mine sites either operating or in higher levels of development.

Large industrial customers like mines and pulp mills have major impacts on the province's overall electricity needs. A large industrial customer, such as a pulp mill, might use 400 GWh in a year, equal to the consumption of 40,000 households. A typical large office building of 20–25 storeys might consume 5 GWh in a year, equal to the consumption of 500 households.

### **Conservation: the first and best way to meet demand growth**

BC Hydro has had a focus on the importance of electricity conservation since the introduction of [Power Smart](#). And conservation will continue to play a key role in meeting future electricity needs.

Conservation measures, or what we call demand-side management, are cost-effective, have the lowest environmental impact, and directly help our customers reduce their electricity bills.

Going forward, the IRP recommends a continued focus on Power Smart, helping to build and maintain British Columbia's conservation culture. Through conservation we can reduce new electricity demand by 75 per cent.

### **Have your say on the IRP: public consultation continues until October 18, 2013**

Developing the IRP included extensive consultation with the public, stakeholders and First Nations through 2011 and 2012, and working with outside technical experts and interested parties.

Now the public has the chance to comment through the next stage of consultation, by submitting written feedback online.

Share your thoughts on the Integrated Resource Plan by reviewing the [full plan](#) and [submitting your feedback](#).

Public consultation on the IRP will take place until October 18, 2013.

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*Appendix C – Online Feedback Form*



## INTEGRATED RESOURCE PLAN COMMENT FORM

Over the next six screens you will have the opportunity to provide your comments on the IRP and recommended actions by the following topic areas:

- Supporting LNG
- Conserving First
- Powering Tomorrow
- Managing Resources
- Planning for the Unexpected (Contingency Plans)
- General IRP Comments

You will be able to go back and forth between the screens and provide comments on any or all sets of recommended actions.

Unless you have received a private link to this form, the information you provide will be saved but you will not be able to return and continue where you left off after closing the form. If you anticipate completing the form over time, please request your private link at [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com).

BC Hydro will review written comments it receives during the comment period before it considers whether or not to make any revisions to the IRP. It will then request government's approval on the IRP by November 15, 2013.

BC Hydro is collecting information for its Integrated Resource Plan in accordance with BC Hydro's mandate under the Hydro and Power Authority Act, the BC Hydro Tariff, the Clean Energy Act and related Regulations and Directions. The personal information (your name, address, phone number and email address) is collected, used and disclosed in accordance with the provisions of the **Freedom of Information and Protection of Privacy Act** for the purpose of contacting you and keeping you updated about future consultations on integrated resource planning. If you have any questions regarding the information collection undertaken on this form, please contact the IRP Project Team Administrator at 1-888-747-4832.

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# INTEGRATED RESOURCE PLAN COMMENT FORM

**Please submit your feedback by OCTOBER 18, 2013**

*The following contact information is optional. The personal information (your name, address, phone number and email address) is collected, used and disclosed in accordance with the provisions of the Freedom of Information and Protection of Privacy Act for the purpose of contacting you and keeping you updated about future consultations on integrated resource planning. Please refer to the terms of use and privacy statement from the previous page.*

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## INTEGRATED RESOURCE PLAN COMMENT FORM

[Supporting LNG](#) – [Conserving First](#) – [Powering Tomorrow](#) – [Managing Resources](#) – [Planning for the Unexpected](#) – [General Comments](#)

### SUPPORTING LNG

BC HYDRO HAS ADEQUATE SUPPLY TO MEET THE INITIAL 3,000 GWH OF LNG LOAD AND WILL PREPARE TO MEET FURTHER REQUIREMENTS AS THEY EMERGE.

Just as previous generations invested wisely in the heritage system that currently serves British Columbians with affordable and reliable electricity, new choices must be made now to support the province's unique opportunities for economic growth and prosperity.

One of the most important economic opportunities for the province is the development of B.C.'s LNG industry.

Today, there are approximately a dozen publicly announced LNG projects proposed for Kitimat, Prince Rupert and other areas of the province, including the north coast, Howe Sound and Vancouver Island.

After undertaking the recommended actions in this IRP, BC Hydro will have sufficient supply to meet the initial 3,000 gigawatt hours of LNG load and will prepare to meet further LNG requirements as they emerge.

BC Hydro understands that while most LNG producers will use direct-drive natural gas turbines to run the cooling process to convert natural gas to liquid form, many are expected to take electricity for ancillary requirements, such as lighting, control systems and office requirements. Others may choose electricity for all their energy needs. As the LNG industry develops, BC Hydro will continue to support the needs of this sector.

The IRP recommends actions to support the development of the LNG industry, including reinforcing an existing 500 kilovolt transmission line from Prince George to Terrace; working with industry to explore natural gas supply options on the north coast to enhance transmission reliability and to help meet the expected load; and being prepared to acquire clean energy supply in the future if LNG needs exceed existing, contracted supply.

*For a complete set of current IRP recommended actions on supporting LNG, [click here](#).*

*For more information about changes since the May 2012 draft IRP recommended actions, [click here](#) to go to the topic on 'transmission and supply to Liquefied Natural Gas (LNG) industry' found in Chapter 7, Table 7.2 of the IRP.*

Please provide your level of support for BC Hydro's recommended action: to 'support the LNG industry' by reinforcing an existing 500 kilovolt transmission line from Prince George to Terrace; working with industry to explore natural gas supply options on the north coast to enhance transmission reliability to help meet the expected load; and being prepared to acquire clean energy supply in the future if LNG needs exceed existing, contracted supply.

- Strongly Agree
- Somewhat Agree
- Neither Agree or Disagree
- Somewhat Disagree
- Strongly Disagree

Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on supporting LNG.

*In consideration of privacy issues, please do not identify any third parties (or yourself if you have opted not to provide your contact information).*

## INTEGRATED RESOURCE PLAN COMMENT FORM

Supporting LNG – Conserving First – Powering Tomorrow – Managing Resources – Planning for the Unexpected – General Comments

### CONSERVING FIRST

POWER SMART ENCOURAGES RESIDENTS, BUSINESSES AND COMMUNITIES ACROSS B.C. TO TAKE A LEADERSHIP ROLE IN CONSERVATION.

Conservation is the first and best choice to meet future demand growth. Not only are such measures cost-effective and have low environmental impact, they also help reduce customers' electricity bills.

Through our Power Smart program, BC Hydro is a recognized leader in conservation, providing a range of programs and incentives to help our customers conserve, be more efficient, use power wisely, and ultimately use less. British Columbians are now saving the equivalent amount of electricity to meet the annual needs of approximately 425,000 homes.

Placing a high priority on conservation and efficiency is consistent with government policy as well as public, First Nations and stakeholder input collected from IRP consultation to date.

BC Hydro believes that building and maintaining a conservation culture and achieving associated savings



requires sustained effort. For this reason, the IRP recommends maintaining BC Hydro's demand-side management measures at the same level going forward as has been undertaken in recent years, and preparing to increase these measures as load increases.

For a complete set of current IRP recommended actions on conserving first, [click here](#).

For more information about changes since the May 2012 draft IRP recommended actions, [click here](#) to go to the topic on 'conserve - reduce energy consumption and encourage less consumption during peak demand periods', found in Chapter 7, Table 7.2 of the IRP.

Please provide your level of support for BC Hydro's recommended action: to support 'conserve first' by maintaining BC Hydro's demand-side management measures at the same level going forward as has been undertaken in recent years, and preparing to increase these measures as load increases. BC Hydro is relying on all three customer classes to undertake demand-side activities and meet our 7,800 gigawatt hour target in fiscal 2021.

- Strongly Agree
- Somewhat Agree
- Neither Agree or Disagree
- Somewhat Disagree
- Strongly Disagree

Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on conserving first.

*In consideration of privacy issues, please do not identify any third parties (or yourself if you have opted not to provide your contact information)*



## INTEGRATED RESOURCE PLAN COMMENT FORM

Supporting LNG – Conserving First – Powering Tomorrow – Managing Resources – Planning for the Unexpected – General Comments

### POWERING TOMORROW

LIKE BC HYDRO'S OTHER HERITAGE ASSETS, SITE C WOULD PROVIDE RELIABLE AND COST-EFFECTIVE ELECTRICITY FOR GENERATIONS.

Electricity systems are inherently complex, capital intensive and require significant lead time to construct.

As B.C.'s population and economy continue to grow, so will our demand for electricity. And while BC Hydro continues to upgrade the capacity, safety and reliability of our aging facilities, even these important investments will not be sufficient to meet future demand.

To meet that demand, the IRP recommends building Site C, a proposed third dam and generating station on the Peace River, which would provide cost-effective, reliable and renewable electricity for generations.

Analysis of alternative portfolios in the IRP shows that Site C provides the best combination of financial, technical, environmental and economic development attributes and is the most cost-effective way to meet the long-term need for energy and dependable capacity.



For a complete set of current IRP recommended actions on powering tomorrow, [click here](#).

For more information about changes since the May 2012 draft IRP recommended actions, [click here](#) to go to the topic on 'Site C' found in Chapter 7, Table 7.2 of the IRP, and [click here](#) to go to the topic on 'filling the short term capacity gap' found in Chapter 7, Table 7.2 of the IRP.

Please provide your level of support for BC Hydro's recommended action: to 'power tomorrow' by building Site C, a proposed third dam and generating station on the Peace River, which would provide cost-effective, reliable and renewable electricity for generations.

- Strongly Agree
- Somewhat Agree
- Neither Agree or Disagree
- Somewhat Disagree
- Strongly Disagree

Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on powering tomorrow.

*In consideration of privacy issues, please do not identify any third parties (or yourself if you have opted not to provide your contact information)*

## INTEGRATED RESOURCE PLAN COMMENT FORM

Supporting LNG -- Conserving First -- Powering Tomorrow -- Managing Resources -- Planning for the Unexpected -- General Comments

### MANAGING RESOURCES

BC HYDRO IS FOCUSED ON MANAGING COSTS TO KEEP ELECTRICITY RATES AMONG THE LOWEST IN NORTH AMERICA.

BC Hydro is fortunate to have several clean energy resource options to help meet the electricity needs of our customers, including biomass facilities, run-of-river hydro and wind projects.

Independent power producers (IPP) have been bringing value to BC Hydro's system since the late 1980s, and they will continue to have an important role in providing clean, renewable electricity for decades to come.

BC Hydro currently has 128 Electricity Purchase Agreements (EPAs) with IPPs, of which 81 are in operation providing about 20 per cent of BC Hydro customers' electricity needs. These EPAs provide clean, renewable power for the long term.

As BC Hydro plans to meet the future needs of customers for decades to come, it also needs to stay focused on keeping electricity rates competitive with those charged by other public utilities in North America.

The IRP recommends managing the costs associated with BC Hydro's current energy portfolio of EPAs and selecting the most cost-effective plan to meet customers' needs within the context of the *Clean Energy Act*. As part of this cost-management effort, the IRP recommends reviewing IPP projects not yet in commercial operation and renewing cost-effective EPAs that provide benefits such as enhanced system reliability and economic activity.

For a complete set of current IRP recommended actions on managing resources, [click here](#).

For more information about changes since the May 2012 draft IRP recommended actions, [click here](#) to go to the topic on 'buy energy from BC-based energy producers', found in Chapter 7, Table 7.2 of the IRP.

Please provide your level of support for BC Hydro's recommended action: to 'manage resources' by managing the costs associated with BC Hydro's current energy portfolio of EPAs and selecting the most cost-effective plan to meet customers' needs within the context of the *Clean Energy Act*.

- Strongly Agree
- Somewhat Agree
- Neither Agree or Disagree
- Somewhat Disagree
- Strongly Disagree

Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on managing resources.

*In consideration of privacy issues, please do not identify any third parties (or yourself if you have opted not to provide your contact information)*



## INTEGRATED RESOURCE PLAN COMMENT FORM

Supporting LNG -- Conserving First -- Powering Tomorrow -- Managing Resources -- Planning for the Unexpected -- General Comments

### PLANNING FOR THE UNEXPECTED

BC HYDRO WILL CONTINUE TO EXPLORE AND ADVANCE CAPACITY RESOURCE OPTIONS FOR CONTINGENCY PURPOSES.

BC Hydro's long-term planning also takes account of future uncertainties. As part of good utility practice, BC Hydro must have contingency plans in place in case electricity demand grows faster than forecast, or if planned resources don't become available when expected. If more large projects than expected come on line (e.g., LNG facilities or mines), or efficiency and conservation measures do not achieve their intended results, the need for new supply may be advanced.

Ensuring BC Hydro can meet future peak capacity requirements is a specific objective because capacity resources must be available the instant they are needed. New, clean capacity resources are more limited than clean energy resources that could be secured on relatively short notice through a procurement process.

To ensure that contingency plans are in place, the IRP recommends continuing to explore and advance capacity resource options, including:

- Advancing the Revelstoke Generating Station Unit 6 Resource Smart project to preserve its earliest in-service date of F2021 with the potential to add up to 500 megawatts of peak capacity.
- Advancing GM Shrum Generating Station upgrades with the potential to gradually add up to 220 megawatts of peak capacity starting in F2021.
- Working with industry to explore natural gas supply options to reduce their potential in-service lead time and to develop an understanding of where and how to site such resources, should they be needed.

For a complete set of current IRP recommended actions on planning for the unexpected (contingency plans), [click here](#).

For more information about changes since the May 2012 draft IRP recommended actions, [click here](#) to go to the section on 'Resource Smart projects' in Chapter 7, Table 7.2; and [click here](#) to go to the topic on 'prepare for potentially greater demand - peak capacity resources - natural gas' found in Chapter 7, Table 7.2 of the IRP.

Please provide your level of support for BC Hydro's recommended contingency plans that: continue to advance capacity resource options, including advancing the Revelstoke Generating Station Unit 6 Resource Smart Project; the GM Shrum Generating Station Resource Smart project; and working with industry to explore natural gas supply options.

- Strongly Agree
- Somewhat Agree
- Neither Agree or Disagree
- Somewhat Disagree
- Strongly Disagree

Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on planning for the unexpected (contingency plans).

*In consideration of privacy issues, please do not identify any third parties (or yourself if you have opted not to provide your contact information)*

# INTEGRATED RESOURCE PLAN COMMENT FORM

Supporting LNG -- Conserving First -- Powering Tomorrow -- Managing Resources -- Planning for the Unexpected -- [General Comments](#)

## GENERAL COMMENTS

Please provide any additional comments you have on the IRP and the set of recommended actions.

To view the complete set of recommended actions, [click here](#).

In consideration of privacy issues, please do not identify any third parties (or yourself if you have opted not to provide your contact information).

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## INTEGRATED RESOURCE PLAN COMMENT FORM

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**Thank you for taking the time to provide your comments on BC Hydro's Integrated Resource Plan.**

**Once you click the *Submit* button below, you will not be able to return to these comment pages.**

BC Hydro will review written comments it receives during the comment period before it considers whether or not to make any revisions to the IRP. It will then request government's approval on the IRP by November 15, 2013.

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**INTEGRATED RESOURCE PLAN**  
**Meeting B.C.'s Future Electricity Needs**

**Public and Stakeholder Consultation Report**  
*Appendix D – IRP Online Feedback Form Responses*

**SUPPORTING LNG**

*Participants were asked to provide their level of support for BC Hydro’s recommended actions to: ‘support the LNG industry’ by reinforcing an existing 500 kilovolt transmission line from Prince George to Terrace; working with industry to explore natural gas supply options on the north coast to enhance transmission reliability to help meet the expected load; and being prepared to acquire clean energy supply in the future if LNG needs exceed existing, contracted supply. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on supporting LNG.*

Response	Frequency
<b>Strongly Agree</b>	36
<b>Somewhat Agree</b>	27
<b>Neither Agree or Disagree</b>	9
<b>Somewhat Disagree</b>	30
<b>Strongly Disagree</b>	323
<b>Total</b>	425

**Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on supporting LNG.**

Strongly Agree	BC needs the LNG terminals ASAP - support for the economy, jobs, lifestyle, and make way for the future and those generations.
Strongly Agree	
Strongly Agree	BC's LNG potential represents the largest single industrial opportunity in BC's history. With the decline of forestry etc. this is a much needed 100% made in BC answer to many interests. The only issue I see is the potential air shed pollution problem in Kitimat if all LNG proponents are allowed to run ng generators for their power needs. Part of allowing LNG to grow and prosper should be their contribution to the long term benefit of all BC residents and rate-payers by using wind power for their electrical requirements.
Strongly Agree	BC needs industries. In BC, we have a large supply of under educated workers who cannot survive outside of the mining, oil and gas or forestry industries. We need to do everything we can to keep the economy going. Supporting the LNG industry is very important.
Strongly Agree	LNG seems like a cleaner safer energy source than OIL and is less likely to create an environmental issue
Strongly Agree	
Strongly Agree	LNG is a preferred alternative to any coal based generation
Strongly Agree	We need to support industry and build our province. I totally agree with the natural gas pipeline and other improvements .

**Integrated Resource Plan Appendix 7I**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Strongly Agree	We must act fast to get into the global LNG market early. Hydro electric power is the most effective use.
Strongly Agree	We have a resource that provides no jobs and no tax revenue if left in the ground. It is extremely important to make use of the employment and tax creation power of this resource.
Strongly Agree	I have always supported economic development which is likely to raise wages and improve the standard of living for working people. Little if anything -- certainly not environmentalist values -- should be allowed to stand in the way of economic development.     At the same time, I would like to see economic development make a positive contribution to the environment wherever possible, and impose as little negative impact on the environment as is economically feasible given state of the art technology.     If I have a reservation about this IRP recommendation, it is that LNG appears to be accorded priority for meeting power generation needs on the north coast for the foreseeable future. I would prefer to see preference given to some form of renewable resource, such as hydro, tidal, thermal current, wind, and biomass -- unless the cost differential heavily favors LNG.
Strongly Agree	Cleaner than coal.
Strongly Agree	Because LNG is one of the economic drivers of our future economic success both in BC and Canada.
Strongly Agree	This offers an incredible economic boost for BC and Canada. To reject this undertaking would be ridiculous
Strongly Agree	LNG currently speculative; many Run Of River projects available to choose from
Strongly Agree	economic opportunity
Strongly Agree	
Strongly Agree	Comments to IRP 2013-10-14   As part of our mandate, we invest in renewable energy projects. One such investment is in a wind project located on the coast of northwest British Columbia. We have been developing this project for a number of years with our partner and the local First Nation and have invested several million dollars to date.   We provide the following comments concerning the Integrated Resource Plan (â€œIRPâ€):   First, we recognize that BC Hydro must balance competing interests when developing the IRP, including providing affordable pricing to end-users versus reducing greenhouse gas (â€œGHGâ€) emissions and other environmental impacts caused by power generation.   Furthermore, we understand the Provinceâ€™s desire to encourage economic development, including development of liquefied natural gas (â€œLNGâ€) facilities.   One such competing interest is the LNG developersâ€™ desire to obtain the lowest cost for their electricity consumption in order to remain competitive on world LNG markets, balanced against the need for them to pay for additional infrastructure (both generation and transmission) required to service the additional load which they bring to the grid.   However, the LNG developers have been able to obtain some very significant concessions, including the ability to generate some, if not all, of their electricity requirements by burning their own natural gas (both compression load to cool the natural gas into liquid form and non-compression load). In particular, we note the following:   1. Section 8.3.2.2 of the IRP states that, with regards to supply of electricity to LNG facilities:   â€œFuture LNG supply, as per the British Columbiaâ€™s Energy Objectives Regulation and to ensure supplies will continue to make LNG

	<p>proponents cost-effective, can be a mix of clean or renewable and natural gas fired generation.   2. Chapter 7, Table 7-2 at Page 7-61 of the IRP states: "Any use of natural gas-fired generation will be planned in such a way to achieve the 93% clean electricity objective for customer demand outside that designed to serve the LNG industry on the North Coast. In July 2012, the British Columbia's Energy Objective Regulation was deposited, which modifies the CEA Chapter 2(c) objective by providing that electricity to serve LNG demand is not included in the 93% clean or renewable target. Refer to Chapter 1.2.4 in Chapter 1. This enables BC Hydro to ensure the LNG industry is competitive with other self-supplying LNG plants, while allowing for the use of cost-effective clean or renewable resources."   3. In other places in the IRP it is stated that natural gas fired generation is to be preferred because it is lower cost and can be brought on line more quickly than clean or renewable generation.   4. As identified in the IRP, in 2012 the Province's Energy Objectives Regulation modified the energy objective in section 2(d) of the B.C. Clean Energy Act, ("CEA") by providing that electricity generated to serve LNG demand is not included in the 93% clean or renewable target.   5. The LNG Strategy states that: "To offset the increased expense of operating new LNG facilities in the Province, Government will ensure that LNG developers contribute capital for infrastructure development and to the electricity supply required to serve each operation."   We refer to the recently issued Tides Canada report which says that current plans by the LNG industry would emit three times more carbon into the atmosphere than other world-leading LNG operations. We urge the Province to stick to its pledge to build the cleanest LNG industry in the world.   This is an opportune time to require a mix of natural gas fired generation, together with clean and renewable generation, to service this load. It is not apparent that there is any real balancing being taken into account, but only a focus on price to the exclusion of increased GHG emissions and other environmental considerations.   BC Hydro has the ability to influence this process when entering into electricity supply agreements with LNG proponents. (See IRP Section 8.3.1.1 lines 14 to 17.)   There is also an opportunity to further the energy objective set out in Section 2(1) of the CEA to foster the development of First Nations and rural communities through the use and development of clean or renewable resources. BC Hydro notes that it has been engaged in consultation with First Nations since the spring of 2012 in the area regarding the potential supply of electricity to LNG proponents. We encourage BC Hydro to continue down this path as it may lead to reduced GHG emissions and also result in First Nation support for the Province's LNG initiative.   We support Recommended Action 11 in Section 8.3.2 of the IRP that BC Hydro explores clean or renewable supply options, in particular in the North Coast region, if LNG demand exceeds available resources.    </p>
Strongly Agree	<p>Considering climate change and that BC is rich in renewable energy, the LNG plants must NOT be allowed to self-generate with natural gas or use direct-drive natural gas turbines for compressing and cooling. All the energy needed for the whole LNG process must come from hydro (small and large) and wind power. BC needs to have the cleanest-greenest LNG on the planet. We have the potential hydropower (small and large) and wind power to do that. Nothing less will be acceptable.</p>
Strongly Agree	<p>I believe BC hydro, along with wind power capacity, should be developing additional capacity in natural gas and avoid relying solely on small hydro to supply the remote regions.</p>
Strongly Agree	<p>As long as the future expanded demand is from CLEAN energy sources, I support this industry as a good basis for economic development.</p>
Strongly Agree	<p>Development of LNG is critical to the future economic prosperity of British Columbia, and requires BC Hydro grid infrastructure investment and support. Developing the "cleanest LNG in the world" also requires the development of clean and renewable wind and hydro projects for BC to capture the benefits of GHG offsets and clean energy investments.</p>

**Integrated Resource Plan Appendix 71**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Strongly Agree	I support the LNG industry - it will bring jobs to the region. Powering this development by as many clean and cost effective renewable projects as possible will help offset the large amount of GHG produced up and down-stream
Strongly Agree	.
Strongly Agree	Electricity from hydro will have far less greenhouse gas emissions than natural gas
Strongly Agree	
Strongly Agree	I do not agree with exploring natural gas supplies. It MUST all 100% be renewable energy.   Why is your question contradictory? You ask if we want clean energy and then also you want natural gas generation?
Strongly Agree	
Strongly Agree	It is important to preserve the nature as much as possible.
Strongly Agree	BC hydro should not be involved in LNG at this time. There are massive deposits of this throughout the world. The LNG market is likely going to become a race to the bottom price. Our largest energy trading partners have there own deposits.
Strongly Agree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Agree	The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Agree	BC has to compete with other jurisdictions that can supply natural gas more cheaply that BC can. Therefore, it makes no sense to shape BC Hydro around an industry without known profitability.   No matter what the energy source, powering up LNG plants requires a lot of energy and has the potential to release massive amounts of climate-changing greenhouse gas emissions. BC should be working to meet its carbon reduction targets and not encouraging industry that will make that difficult or impossible.   The LNG industry is based on fracking, which contaminates critical water supplies, produces emissions and results in other negative environmental impacts.
Strongly Agree	cleaner air, climate change, reduce pollution and all. we need a better clean planet, save earth.
Strongly Agree	

**Integrated Resource Plan Appendix 7I**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Strongly Agree	natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	More action should be taken to promote clean, electric-drive LNG facilities, rather than having them utilized direct-drive natural gas turbines for the liquefaction process.
Somewhat Agree	What is clean energy? The source of the additional power is a concern.
Somewhat Agree	It would depend on what "clean energy" source is sought. I do not support run of river.
Somewhat Agree	I do not like to see all y eggs in one basket. Lets be sure we are looking at the alternatives objectively and are transparent about the obstacles and challenges of this particular process.
Somewhat Agree	With climate change and the desire on the part of Canadians to mitigate this issue, it makes sense to look at look at alternate sources of clean sources such as natural gas.
Somewhat Agree	Jobs, future growth and prosperity
Somewhat Agree	
Somewhat Agree	Our level of support entirely depends on the level of integral and meaningful accommodation, compensation and participation of BC First Nations.
Somewhat Agree	
Somewhat Agree	BC Hydro should consider using natural gas to provide power for British Columbia. The natural gas powered Shepherd Energy Centre in Calgary will produce electricity \$30.00 per mwh. This is a far cry from the Site C project and the run of the river projects. BC has an abundant natural gas supply too which would supply BC Hydro's gas powered plants for years to come.
Somewhat Agree	Capital requirements for increases in LNG consumption should be met by the LNG corporations.
Somewhat Agree	If LNG is going ahead, this seems like a necessary course of action.
Somewhat Agree	People have pushed back from natural gas fired generation in BC before and will likely do so again when they figure out what a direct drive natural gas turbine is.   Both Sumas and Nanaimo where shut down in the planning stage and I expect that Campbell River will face the same opposition to self-generation as was the case elsewhere in the Georgia Basin. I do support the reinforcement of transmission to the coast but suggest that it be used to reach out for real 'clean' power from the NE (i.e. wind or hydro). Firming with gas may be acceptable if it is firming truly clean power from other sources.

**Integrated Resource Plan Appendix 71**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Somewhat Agree	
Somewhat Agree	I agree with supporting economic growth but what about solar or wind or other alternatives?   BC has the mighty Columbia river she provides all the electricity BC citizens require according to BC Hydros own documents
Somewhat Agree	i support the LNG industry' by reinforcing an existing 500 kilovolt transmission line from Prince George to Terrace; working with industry to explore natural gas supply options on the north coast to enhance transmission reliability to help meet the expected load; and being prepared to acquire clean energy supply in the future if LNG needs exceed existing, contracted supply.
Somewhat Agree	alternate sources of energy have hardly been investigated or publicly presented.
Somewhat Agree	Hard to answer when you don't give us the cost of this recommendation.
Somewhat Agree	LNG while still a greenhouse gas is better than coal, oil or other carbon sources. There's lots in the province and may reduce the need for IPP run of river sources.
Somewhat Agree	Good action
Somewhat Agree	
Somewhat Agree	I believe that the LNG Industry should provide it's own power by using it's own product. IE: let them build their own power source.
Somewhat Agree	LNG has more merits than Tar Sand Crude thru pipelines and Freighter traffic along our fragile west coast.
Somewhat Agree	
Somewhat Agree	All producers of LNG should use direct drive natural gas turbines. They should be as self sufficient as possible so as not to over draw power. The technology is out there.
Neither Agree or Disagree	I strongly disagree with burning natural gas for power.   I strongly agree with acquiring BC made clean energy.
Neither Agree or Disagree	I appreciate the need to supply the LNG with clean electricity, and the opportunity to sell LNG to Asia to benefit the BC and Canadian economy and balance this with some concerns regarding extracting, processing and burning hydrocarbons (worldwide) at the rate these activities imply.
Neither Agree or Disagree	Invest in BC technology renewable energy supply!
Neither Agree or Disagree	Where are the applicants' contracts and socio-economic and environmental assessments.
Neither Agree or Disagree	see comments at the end



**Integrated Resource Plan Appendix 71**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	I don't know enough about what it does to the environment overall.
Neither Agree or Disagree	
Somewhat Disagree	
Somewhat Disagree	
Somewhat Disagree	i understand that the LNG industry will rely heavily on 'fracking' to recover natural gas, & i do not believe the province should support this industry whole heartedly because of concerns about the safety of fracking for groundwater supplies.
Somewhat Disagree	need to aquire green energy for future, LNG should be accountable for their emmissions not download emmissions or flooding of valleys on BCH
Somewhat Disagree	LNG is reasonable at a small more sustainable scale but still has too much of a carbon footprint to develop at the scale which is being pushed by big business.
Somewhat Disagree	How will this benefit the wellbeing of British Columbians and future generations beyond the more immediate economic benefits and jobs. I understand that this industry requires huge amounts of water and electricity and has the capacity to damage the natural aquifers of fresh clean water and replace it with dirty water. How will the environment and wildlife be affected. Who is going to benefit most from this. Has global warming and climate change been factored into this and will the rights of residents be protected and respected. Have all the voices been heard. Is there a gold rush mentality present. Is there acknowledgment of the science that warns of activities that increase greenhouse gases and the cumulative effect on our air, water, and quality of life.
Somewhat Disagree	I see LNG as an interim measure to reduce dependence on oil, not as a long-term strategy. Long-term strategy should be to convert to renewable energy resources: wind, sun, tide.
Somewhat Disagree	Clean energy supply sources should be acquired now as a priority not in the future
Somewhat Disagree	
Somewhat Disagree	There is no need to export large quantities of natural gas. Export requires liquification, which needs the huge amount of power you speak of. Domestic use of gas does not, it just gets compressed and pumped via pipeline. This is how we will maintain our competitive edge in the future, with economical energy supply.
Somewhat Disagree	LNG will no longer be needed as a fuel source due to the new energies like LENR,, E-cat, Broullion, Defkalion etc and a few others who will have or already have large megawatt generators for sale. This will be a huge supply or other new energies as well as this one. This one uses hydrogen gas

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	mixed with minute amounts of nickel and produces huge amounts of hot water, steam etc. As there is a media blackout on these new energies you may not have heard of them yet.
Somewhat Disagree	Although this is a more attractive option for generating economic growth than the proposed expansion of the Alberta oil industry, it is still ultimately reliant on fossil fuels. It is time our global society takes a step forward, and away from fossil fuels. Yes, this will mean initial sacrifices, but if our province can become a LEADER in greener, cleaner energy technology, we will reap the long term benefits. I fervently believe there is still a possibility to meet the needs of economy and our environment. Although I would gladly take LNG over Northern Gateway (which in my view is a colossal step backwards), I would still prefer our province focuses its efforts on developing cleaner energy options; such as wind, solar, or even the Ballard fuel cell.
Somewhat Disagree	I agree that the transmission line needs upgrading. I disagree that the industry has been sufficiently responsible with respect to LNG exploration. More safeguards and public information is needed before exploration and supply expansion proceeds. In addition, the focus should be on switching to energy sources that do not increase ghg emissions.
Somewhat Disagree	
Somewhat Disagree	We believe that a transmission-only solution will not be completed in time for the startup of any of the LNG facilities. We also believe that it cannot be completed for the dollar amount that has been discussed, NWTL is a good example of that.     We do suport efforts on BC Hydro's behalf to acquire clean, North Coast energy to backstop new loads in the LNG sector.
Somewhat Disagree	Any upgrade should be paid for upfront by the end users
Somewhat Disagree	Cost-competitive renewable projects, such as large-scale wind energy, should be allowed to compete alongside both BC Hydro's Site C dam and natural gas-fired generation to supply BC's electricity requirements and those future requirements of the natural gas and other resource industries. Decisions should be made considering price, value (arising from reduced GHG emissions, job creation, system efficiencies, and First Nations support and participation) and risk (capital cost uncertainty, availability of construction resources and timing delays).
Somewhat Disagree	The logic of selling energy to energy supply companies seems bizarre. Surely they would only buy electricity from BCHydro if the energy were heavily subsidized, especially since they have fuel to produce their own electricity on site without the requirement of long distance transmission and associated losses.
Somewhat Disagree	
Somewhat Disagree	
Somewhat Disagree	
Somewhat Disagree	I don't think that the Government has put forth a business case that says this is an economically viable alternative.
Somewhat Disagree	We need to find options that are not based on "natural resources"

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Somewhat Disagree	LNG extraction processes and transportation may not be clean and can be harmful to the surrounding environment. Although the government, led by Christy Clark, claimed BC LNG is the cleanest in the world. There has a report by Tides Canada that refutes the claim. Therefore, further study and public involvement/information should be made before committing to these new projects. Also, these seem to undermine the goal of energy efficiency that I thought was going and being supported by the government also.
Somewhat Disagree	LNG is not clean energy. It requires a lot of energy to produce. We would land up subsidizing the gas companies.
Somewhat Disagree	i dont want to see any more dams. we understand and appreciate nature more now than when we ripped out province apart building 40 plus years ago.
Somewhat Disagree	I have heard it stated that in BC there is an estimated 100 years worth of Natural Gas underground in BC. (When looking at current consumption rates in the province) It seems as though they are planning on extracting as much of this resource as soon as possible. I think that we should regulate the rate of natural gas extraction until we fully understand the side effects of the much misunderstood practices of hydro fracking. Our economy is based on our resources, these resourced need to be managed with a much larger perspective in mind.
Somewhat Disagree	Although the prospect of increased jobs and lower fuel prices is enticing, at this time we already have too many environmental problems and cannot afford to add problems associated with LNG development such as fracking and transmission line problems. First let the industry develop in areas better suited and then consider the options. For now, concentrate on improving environmental concerns already existing.
Somewhat Disagree	I believe that the move towards LNG and fracking is not the course of action that the Province in general should be taking. It is still an extraction of fossil fuels, adding to climate change. Also, fracking is a process that uses excessive amounts of water and makes that water, our most precious resource, unusable for future generations. It is a short-term loss, a medium-term break-even and a long-term loss to the planet, including our precious economy, which will drive us into oblivion. If you need to build the Power Line, make the bill out to the LNG producers, not the tax-payers.
Somewhat Disagree	Who are your secured customers who will pay the market price to justify the expenditures, direct and indirect to justify establishing this sales venture, given the fact that supply elsewhere is plentiful and closer to Asian markets. What is there to guarantee future stability given the fact that gas prices are in free fall
Strongly Disagree	The world is awash in natural gas. Our LNG supply will be high cost and cannot compete within the world markets. LNG from BC is doomed to fail. Money spent to supply the LNG industry will be wasted.
Strongly Disagree	NG development via fracking as presently practiced is too environmentally damaging and risky. Water use is unacceptably enormous and the risk of ground water contamination is high and cannot be remedied. Methane leakage from wells often means that gas extraction and burning has more greenhouse warming effects than extraction and burning coal. There should be no increase in the rate of extraction and burning of fossil fuels in BC or Canada: reduction is essential to try to stave off catastrophic climate change. There is shale gas all over the world and development of LNG is far further advanced in Australia. A lucrative LNG industry in BC is only a bad political dream that could become a nightmare. NG development in BC should be used for the benefit of BC consumers, businesses, and industries. Shipping it offshore to the highest bidder, if there are any, will drive up its price, to the detriment of everyone in BC.
Strongly Disagree	â€œ Electrification: We support electrification (including to upstream and downstream LNG and other resource development) and the development of infrastructure to support electrification in British Columbia. However, we believe that ratepayers should realize the full value (through reduced GHG emissions, job creation, system efficiencies, and First Nations participation) and risk mitigation through an increase of clean and competitive wind energy in the supply mix.   â€œ

	<p>Climate: BC Hydro’s IRP needs to facilitate the Province meeting its climate targets and to provide a framework for the next 5 years that will foster the development of clean and competitive wind energy. Further integrating clean and competitive wind energy into the supply mix will assist the Province in meeting its climate objectives. Through its environmental attributes and inherent lack of GHG, clean and competitive wind energy can counterbalance the greenhouse gas impacts associated with natural gas-fired generation.   <b>Equal Opportunity:</b> Clean and competitive wind energy should be provided an equal opportunity to compete with BC Hydro’s Site C dam and other supply options in meeting the needs of upstream and downstream LNG. The IRP should recognize the advantages of increasing clean and competitive wind energy in the BC Hydro system, with virtually a zero GHG emission footprint, versus natural gas-fired generation which, although being deemed “clean”, produces greenhouse gases. The IRP should recognize that a diverse supply mix of technologies, separated geographically, will deliver more value and present a lower risk to ratepayers than solely planning for a single, large project funded by ratepayers and taxpayers alike. Clean and competitive wind energy is in the best interest of BC Hydro, its ratepayers, and the development of British Columbia’s natural resources, and will help the BC Government fulfill its objectives for managing climate change, building jobs and ensuring First Nations participation.   <b>Competitive:</b> Large-scale wind energy can and will compete with BC Hydro’s Site C dam and other supply resources on price, value and risk. When the environmental attributes of wind energy and emissions of natural gas-fired generation are fully accounted for, large-scale wind energy offers a reasonable alternative to natural gas-fired generation for LNG projects and permits not only the LNG projects, but also British Columbia, to achieve their environmental impact goals and to maintain social license.   <b>Public/Private Partnerships:</b> BC Hydro’s system has been paid for by ratepayers and taxpayers and should be considered a “public good”. If the system can support additional competitive sources of power generation, Government should look to BC Hydro to facilitate and enable such sources which provide value to ratepayers and taxpayers. BC Hydro should encourage full use of existing publicly funded infrastructure, and facilitate and enable market arrangements between LNG and wind energy projects. There are strong examples of very successful public-private partnerships in British Columbia, and BC Hydro should be encouraged to facilitate market-based solutions (through transmission services) to make it easy for clean and competitive wind energy projects to serve new load.   <b>Integration:</b> British Columbia is blessed with many options to acquire and store incremental power. In a portfolio such as BC Hydro’s, wind generation, with BC Hydro’s cooperation, can be made “firm”. Wind in a portfolio is a viable supply source for loads (such as upstream and downstream LNG) requiring dependable supply.   <b>Sharing LNG Benefits:</b> The Province should consider the benefits of distributing the wealth generated by upstream and downstream LNG development to other areas of the province less endowed with natural resources and opportunities. Procurement of clean and competitive wind energy by BC Hydro not only provides an opportunity for BC Hydro to optimize its system but also returns incremental economic multiples to the Province. By advancing competitive wind energy developments close to load, economic gains can be geographically dispersed throughout the Province.  </p>
Strongly Disagree	<p>People in my community are opposed to LNG export. The fuel is a touted as being clean, but that is a half truth at best, because proponents falsely look at only the CO2 from combustion and ignore the upstream Methane leakage. The bottom line is shale gas is dirtier than coal when viewed without blinders on, adding around 50% more CO2 equivalent emissions, and LNG is another addition to the Carbon footprint. Leave it in the ground for the next generation, if it is needed at all.     Power for LNG plants should be from offshore Wind, or industrial solar on site, not from the Site C Dam, there should not be another Dam. The last thing we want is tax payer funds used to harm the environment with a Dam, so cheap power can be given to highly profitable foreign Corporations for their private Industrial needs. One thing worse would be burning shale gas to power the LNG process, that would dramatically add to the BC Carbon emissions increase, and violate current law..    </p>

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Strongly Disagree	LNG is not an environmentally energy source. Switching from coal to LNG as a measure to mitigate climate change is like switching from vodka to beer as a way to get sober.     Using public resources to provide low-cost electricity to the LNG industry represents an obscene theft from BC taxpayers.     Expansion of LNG industry in BC may never happen. don't plan for something so economically uncertain.
Strongly Disagree	No need at this time.
Strongly Disagree	The LNG project is totally wrong for the province of BC, Canada, and the world. By the time BC could even get the systems in place, the world market will be flooded with LNG from US, Australia, China, and Russia. There will little or no market for this product.   A sustainable energy plan for BC should not include shipping our resources across the globe. We need to concentrate on conserving energy.   At the very least if this wrong-headed project does go ahead the industrial users should pay premium rates for the use of this electricity.
Strongly Disagree	
Strongly Disagree	I believe that the development/support of an LNG industry is counter to carbon reduction goals and will harm the north, the province, and the global community in the future. I don't believe that developing large, centralized generating systems with extensive distribution over long-distances to be a forward thinking approach to future economic development or contributing effectively to a healthier future.
Strongly Disagree	LNG export is not sustainable or in the best interest of future generations. It will exaserbate climate change, and deplete a non-renewable resource within a generation. New hydro-electric dams on major rivers are not "green" energy, unless it can be done without flooding watersheds, destroying carbon capturing farms and forests, and displacing hundreds of people and thousands of animals.     There is no valid business or environmental. case to be made to bc taxpayers that supports LNG exports or mega-power projects. Believe the science! Defend your grandchildren!
Strongly Disagree	
Strongly Disagree	The idea that LNG, particularly from fracking, is low in GHG emissions is fallacious. The research is out there. And water use, particularly for small agriculture, is more important. Lastly, most LNG will be for export but the market is volatile on the one hand which could make prices and therefore profit plummet; on the other, it will in all likelihood not be as cleanly burnt by the anticipated purchasers.
Strongly Disagree	B.C has the choice to develop its clean tech sector, rather than an environmentally degrading industry choice such as LNG. What sort of legacy do we want to hand down to the future generations?
Strongly Disagree	The LNG portion of the IRP is morally and economically wrong, for the following reasons:   - We cannot just say "GHG emissions caused by LNG don't count". BC's GHG emissions are its total emissions, period. Any other stance is morally wrong, and seriously damages our credibility.   - The latest IPP report confirms the planet is, and will continue to be, seriously damaged by the GHG's we have already emitted. If we continue to increase our GHG emissions, the damage will be catastrophic. BC should be a leader in GHG reduction, not a source of GHG increase.   - Low carbon energy technology and investment is growing much faster than most other sectors. BC should build on its existing low carbon industry, and aim to be a world leader in this sector. Even China is now realizing the serious consequences of massive coal burning, and is investing heavily in low carbon energy generation.   - Future offshore LNG prices will likely drop significantly as abundant worldwide sources of shale gas are developed, especially such as those in Russia, that will not require huge energy inputs to liquefy the gas.

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Strongly Disagree	polluting water and destroying 'Beautiful BC' to export LNG is not beneficial to BC
Strongly Disagree	Supporting LNG     The United Nations Intergovernmental Panel on Climate Change (IPCC) released its 5th Assessment Report about one month after the public release of the Integrated Resource Plan. It shows that human-caused carbon dioxide emissions are almost certainly the cause of global climate change. This renders many of the IRP's perspectives subject to revision.     It is now clear that we cannot burn any more fossil carbon greater than the amount already burned since the start of the industrial revolution without causing serious damage to civilization and to our planet. Specifically, we can exploit only a small fraction of the hydrocarbon resources already identified.   A new study by climate scientist James Hansen shows that burning just one-third of remaining fossil fuels would render the Earth uninhabitable.     If we are to develop LNG, it must be first made abundantly clear which other fossil sources we are choosing not to exploit, not ever.     Liquefaction of natural gas is not what we would do if our goal is to avoid catastrophic climate change. The process of liquefaction consumes vast amounts of energy which is irrecoverably wasted. It renders an Energy Return on Energy Invested (EROI) of about 3:1, which compares extremely unfavourably with about 40:1 for hydro, 20 or 30 to 1 for wind, 10 or 20 to 1 for solar photovoltaic. Rather we should use the natural gas as a piped fuel to displace coal in thermal power generation, in areas where coal is now used. Natural gas that has been liquefied and subsequently regasified yields little net improvement in carbon emissions over coal.     This conclusion means the IRP must be reconsidered as to its recommendations for Liquefied Natural Gas.   Liquefaction of natural gas is only justifiable if it can be done using net sustainable energy from wind or solar. Otherwise we are forfeiting our chance to avert a 2 degree global temperature rise.
Strongly Disagree	
Strongly Disagree	B.C. has unique resource opportunities related to our heritage hydro power system and our incredible potential for wind energy, as well as geothermal. Meanwhile, similar LNG proposals in Australia are being pared back because methane is an abundant resource with better market access than B.C. will ever have. We should not waste taxpayer dollars on LNG development as they will only benefit corporations and wealthy business owners, and will not leave a legacy for all British Columbians.
Strongly Disagree	LNG will increase GHG emissions beyond what the science clearly indicates is acceptable for future generations.
Strongly Disagree	I strongly disagree with locating LNG terminals anywhere on the BC north Coast but Prince Rupert..There are far too many   players and a "gold rush" mentality that in the interests of accruing "economies of scale" are putting short term profit above sustainability.   Our resources will retain their value far into the future. There is no need to use it all up in a few decades. When we rush we make mistakes.
Strongly Disagree	LNG exports is a complete waste of energy, and will increase our carbon footprint. While shipping LNG abroad does not produce any new energy, it consumes a tremendous amount of energy to liquefy. It also highlights how hypocritical our 'Clean Energy Act' is when we are prepared to ship our natural gas abroad, where it will likely get burned to produce electricity, while we are restricted on how we produce electricity.
Strongly Disagree	BC Hydro should move away from fossil fuels in favour of sustainable renewables like solar, wind, and tidal. Fracking should be banned. If renewables are more expensive, so be it. I am willing to pay more for electricity from sustainable sources.
Strongly Disagree	Hydraulic fracturing uses chemicals that permanently poison BC's fresh water, and is known to precipitate earthquakes. It also releases methane, a potent greenhouse gas. Too much energy and water is used in the process of extracting and liquifying natural gas. It is not green energy.



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	Also many other areas of the world are moving toward extracting their supplies of shale gas. This means that our gambling on selling our LNG to other markets is a poor bet.
Strongly Disagree	LNG is a fossil fuel and we need to STOP mining and burning them NOW!! Invest in truly green alternatives like Solar, Wind etc. NOT new dams including small dam IPP's!!!!!!
Strongly Disagree	Support for the LNG industry has no place in a "clean energy" strategy. Regardless of the energy source, LNG development consumes an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions. Furthermore, the LNG industry would be fed by fracking, an absurdly destructive industrial process which contaminates an enormous amount of water, damages the natural water systems that nourish the land and people, and results in even more climate-changing greenhouse gas emissions. The LNG industry has all the makings of a classic "corporate rip-off" where, through BC Hydro, BC residents subsidize corporate profits and are left with the polluted/degraded environment when the companies leave.     We can and must do better than more "old world" industrial development.
Strongly Disagree	The demand for electricity in the province right now, excluding the addition of load from LNG development, is growing. To say that clean energy supply will be acquired in future if LNG needs exceed existing, contracted supply, means that no planning for it will be done until that point. If clean energy supply is only planned for in a reactive way, BC Hydro will be in a vulnerable position of meeting electricity demand through imports from the United States, for which pricing cannot be forecasted that many years in advance, and for which reliability of supply is not guaranteed.
Strongly Disagree	It is time to start investing in renewable energy and to move away from further support for the oil and gas industry. Climate change is upon us, and there is no time to waste in taking action to address it.
Strongly Disagree	I strongly disagree with the Clean Energy Act's claim that LNG is a clean, renewable energy strategy. That said I contend that this recommendation is not in keeping with the steps urgently needed to reduce BC's impact on climate change, environmental degradation and biodiversity loss. The extraordinary demand on freshwater supplies that LNG development would mean for Northern BC and for agriculture in particular is an unacceptable impact that the IRP fails to consider.     If LNG is to be used to power electricity this use should be limited and used only for providing power for BC not for export. This would serve to minimize the unpredictability of demand for LNG; anticipated and current depressed markets and their associated job losses.     The following aspect of the IRP is unacceptable as a reason to build Site C Dam:     11. Explore clean energy supply options, if LNG demand exceeds available resources:   Explore clean or renewable energy supply options and be prepared to advance a procurement process to acquire energy from clean power projects, as required to meet LNG needs that exceed existing and committed supply. 12.     This aspect of the IRP appears reasonable especially as it relates to LNG:   As set out in Chapter 5, BC Hydro's assessment concludes that there are no suitable market opportunities that warrant the development of new clean or renewable resources for the purpose of exporting electricity for the foreseeable future. As a result, BC Hydro is not proposing to pursue projects or contracts specifically to serve the export market as part of the Recommended Actions. 13. However, the IRP does contemplate providing electrical power to support LNG production which will be for export and thus effectively negates its own statement.     Rather than supporting LNG I believe the IRP should include a recommendation that BC Hydro support technological innovation around non fossil fuel/ zero carbon power production. Then it would be possible and cost effective to generate exports of new green energy technologies. At the very least the IRP should ensure that all costs of producing power would be included in the consideration of exports given that ratepayers will be subsidizing the provision of power to the potential exporters.
Strongly Disagree	This is the 21st century and we are (or should be) aware of the pending convergence of climatic, biological and economic catastrophes unless we curb our unsustainable appetites. Given that it is unlikely that developing countries will decline to follow in our previous footsteps, it is that much

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	more imperative that we curtail our "development" now to leave some room for their development. The level of waste and selfishness that characterize western "civilization's" present existence is such that we can afford to tighten our belts and not even impact the truly valuable aspects of our lives (or even improve them given the data that indicates that beyond meeting simple needs, greater wealth actually decreases life satisfaction). There is neither the need nor the moral justification for continued blind progress that this proposal entails. And this doesn't even address the removal of vast quantities of water from the earth's water cycle by toxifying it for use in natural gas fracking. That in itself should be reason enough not to proceed in this suicidal direction.
Strongly Disagree	LNG is dependent upon fracking which is a negligent waste of water - removing it from the earth's water cycle by toxifying it with chemicals and polluting the subsurface. BC Hydro should not be supporting such a criminally unsustainable practice. The rest of the LNG trajectory is also unsustainable and our dollars should not be supporting this.
Strongly Disagree	How much work will be done within the Matsqui First Nation Traditional Territory?     If there is to be meaningful consultation -BC Hydro needs to call,email ,write to Matsqui First Nation to set up a meeting.
Strongly Disagree	There are natural gas deposits all over the world now available through new technologies, and Asian nations that now import LNG will be able to find sources within their own borders or closer to home. The conversion process to LNG is hugely energy-consumptive. I don't see BC being able to compete cost-effectively. We'd have to bid so low that we wouldn't get the promised revenue to fill the provincial coffers, let alone repay the costs to the public of building the infrastructure.   That said, if any energy will be spent liquefying natural gas, it should come from the gas itself, not BC Hydro electricity. It strikes me as the worst sort of economy to hike the costs of electricity to us ratepayers in order to subsidize the LNG industry. An industry that needs subsidies is not a good bet for the economic future of BC.
Strongly Disagree	Leadership must come from many places in order for a society to change. We know that burning more fossil fuels will make life on earth easier for the people of today AND more difficult for future generations. The choice to increase our use of fossil fuels is irresponsible to those future generations. And it is ultimately unsustainable. The more we begin to say no to new development (i.e. burning of fossil fuels) the sooner we will move toward sustainable living. Ultimately, humans will be forced to live within the earth's capacity to meet our needs. The question is whether the forces of nature will impose change upon us in a drastic manner or whether we will voluntarily change our behaviours. I strongly encourage BC Hydro to display a leadership role to the extent such bold actions are possible.
Strongly Disagree	
Strongly Disagree	I think that there will be less natural gas available than presently thought.
Strongly Disagree	Current Natural Gas production methods are fundamentally environmentally destructive. B.C. does not need another greenhouse gas producing industry.
Strongly Disagree	environment including water
Strongly Disagree	I do not agree with developing LNG in the province period! We need to move towards green energy alternatives and away from non-renewable resources that will only further contribute to climate change, ultimately leading to further global species collapse.
Strongly Disagree	There are way too many LNG proposals in BC. Even if only half of them are built it will still be a foolish endeavour as ultimately world-wide competition will force most of them to close. There may be room for one or two BC LNG plants in the marketplace; less if most of the proposed LNG



	<p>plants world-wide get built and the price of gas plummets.     The BC green energy plan brought in by the BC Liberals was a small step towards where we need to go for our health, our environment, and to mitigate climate change. At the same time it was full of contradictions when compared to the rest of the Liberal's policies. The IPP policy was flawed from the outset. Incentives for gas and oil exploration, at the same time as bragging about being green, was completely immoral.     Allowing the LNG plants to connect to existing power distribution lines for lighting and other regular usage would be okay but no new distribution lines should be built to service these plants. The cooling and compression facilities should not be run by energy drawn from the provincial power grid. No new electricity generating plants should be built for servicing LNG plants.     Those plants can install their own electricity generators run off the natural gas they will be piping in. In fact, heat recovery from the cooling and compressing process can be used to increase the efficiency of the whole plant when incorporated into the electricity generation process.  </p>
<p>Strongly Disagree</p>	<p>Is the LNG program really going to happen? Basing our hydro facilities on an LNG dream that is not shown to be profitable in BC is foolhardy.   Also, I am against fracking which LNG would depend upon. Finally, LNG plants just use too much energy. This is not the direction BC should go.</p>
<p>Strongly Disagree</p>	<p>I do not support LNG development until the economic's of this development is more favourable.</p>
<p>Strongly Disagree</p>	<p>If LNG is going to be a strong economic engine, it won't need subsidies. LNG can pay its way, which is the only way BC Hydro will profit. However, LNG will likely not be a strong economic engine for BC, as many countries have far larger reserves (several of which are far closer to China than Canada is, mainly Russia).</p>
<p>Strongly Disagree</p>	<p>I do not support LNG extraction or energizing of LNG by B.C. Hydro.   Climate change is real and it is Now.   Here in the Kootenay region, we are experiencing continual years of supersaturation events that have caused the loss of life and grievous financial loss through landslides and floods. The Purcells, the Monashees, the Selkirks and the Rockies Mountains have suffered devastating damage from unprecedented rainfalls and floods. Colorado, USA is also the recipient of the same new weather pattern path. Previously, our weather pattern was a west-east flow. Now we are experiencing the north-south flow of weather from the Gulf of Mexico. Tornadoes, hurricanes are making their way north dumping a seasons worth of rain in 1 event. All of these mountain ranges were glaciated, and have widely deposited glacial till. Supersaturated, glacial till slides -often at the peril of the communities built on the mountainous slopes.   This weather pattern change is directly accountable to the human use of fossil fuels as evidenced by the latest IPCC 2013 report. There can be no more denial of this reality. To persevere in energizing and financing LNG facilities and using fossil fuels in any form is a dead-end industry and lifestyle. The Insurance industries are demanding changes to the insurance rules due to the financial losses of climate change. Much better for our families, their future families and the stability of our physical land for food supply and economy, is to divest of fossil fuels and invest in cleaner energy strategies. I quote Matt Kelsch, a hydro-meteorologist with the National Center for Atmospheric Research (NCAR), headquartered in Boulder: "research emerging that connects slow-moving weather systems like the one in Colorado to changes in the jet stream due to climate change. A 2012 report from the National Oceanic and Atmospheric Administration (NOAA) found that the rapid melting of the Arctic "affects the jet stream by slowing its west-to-east winds and by promoting larger north-south meanders in the flow." Thus, "with more solar energy going into the Arctic Ocean because of lost ice, there is reason to expect more extreme weather events, such as heavy snowfall, heat waves, and flooding in North America and Europe". Jennifer Francis, a research scientist at the Institute of Marine and Coastal Sciences at Rutgers University said "the Arctic is warming up much faster than other areas, which "must have an effect on the jet stream."   There are many sustainable energy alternatives. Combinations of energy systems may have to be utilized such as the wind generators on the existing reservoirs as</p>

suggested by Dr. Andrew Weaver of U. of V. Here is his article which I endorse as an energy source to invest in. "Over the next twenty years, BC Hydro has forecasted that our energy needs will increase by about 40% as a consequence of both population and economic growth. To meet this growing electricity demand, BC Hydro has proposed to build the Site C Dam on the Peace River near Fort St. John. Here I explore whether or not there are better ways from an economic, social and environmental perspective to meet our future power needs. | | The Site C dam | | Upon completion, this dam would produce 1,100 MW (megawatts, i.e. millions of Watts) of power capacity and up to 5,100 GWh (gigawatt hours, i.e. billions of watt hours) of electricity each year. According to BC Hydro, this is enough electricity to power about 450,000 homes. | The price tag for the construction of the Site C dam was estimated in 2011 to be 7.9 billion dollars. Assuming a real discount rate (accounting for inflation) of between 5.5% and 6%, BC Hydro estimates that Site C would produce electricity for a cost of between 8.7¢ and 9.5¢ per kWh (kilowatt hour). At present, BC Hydro residential customers are charged 6.9¢ per kWh for their first 1,350 kWh of electricity usage over a two-month billing period and 10.34¢ per kWh after that. | | The Potential for Wind Power | | Currently only about 1.5% of BC's electricity production is supplied by wind energy (see Table 1). With British Columbia's mountainous terrain and coastal boundary, the potential for both onshore and offshore wind power production is enormous. The Canadian Wind Energy Association and the BC Hydro Integrated Resource Plan 2013 indicate that 5,100 GWh of wind generated electricity could be produced in British Columbia for about the same price as the electricity to be produced by the Site C dam. And this despite the fact that all costs (including land acquisition costs) incurred to date by BC Hydro with respect to the Site C project are not counted in their estimate for future construction costs. The potential scalability of Site C is minimal; the potential scalability of wind energy is very large. | The minimal production of wind power in British Columbia compared to other jurisdictions (Table 1) is particularly surprising in light of the fact that BC is the home of a number of existing large-scale hydro projects. These include, but are not limited to, the W.A.C. Bennett and Peace Canyon dams already on the Peace River and the Mica, Duncan, Keenleyside, Revelstoke and Seven Mile dams on the Columbia River system. Hydro reservoirs are ideally suited for coupling with wind power generation to stabilize base-load supply. That is, when the wind is not blowing, hydro is used; when the wind is blowing, the reservoirs refill and hydropower is not used. In fact, hydro dams act just like rechargeable batteries with wind providing the renewable recharge to the battery system. And British Columbia is one of the few places in the world that can take advantage of such reservoirs as wind power is introduced into the grid. | | Given that wind power can easily be introduced into British Columbia at the same, or even lower, price than equivalent power from the Site C dam, we should ask if there are any other reasons that would favour Site C over wind for the production of power to meet BC energy needs. I can think of none. In fact, I can think of a number of reasons why wind power should be considered over Site C to produce the equivalent 5,100 GWh per year of electrical power: | | The construction of the Site C dam will flood 6,427 acres of Class 1 & 2 agricultural land (a total of 15,985 acres of Class 1-7 agricultural land). Wind power sites would not affect agricultural land. In fact, the Peace River valley contains the only Class 1 agricultural land north of Quesnel. | Key regions in the archive of British Columbia history will be flooded. The Peace River has been designated as a BC Heritage River. It was, in fact, traversed by the explorers Alexander MacKenzie, John Finlay, Simon Fraser, John Stuart, A.R. MacLeod and David Thompson (and others) in their early ventures during the 17th and 18th century. Rocky Mountain Fort, thought to be the first trading post established in British Columbia (by John Finlay in 1794) as well as Rocky Mountain Portage House (across the river from Hudson Hope and established by John Finlay and Simon Fraser in 1805) are both located in the valley. | Job creation associated with wind power is province-wide. Job creation associated with the Site C dam is constrained to one region. | The risk of any cost overruns associated with the construction of the Site C dam is borne by the taxpayer. The risk of any cost overruns associated with the construction wind farms is borne by industry. This is important as it limits any risk to the taxpayer. | The installation of wind farms can be done in partnership with First Nations who

	would benefit from both local jobs as well as revenue from the installed facilities. In contrast, the affected Treaty 8 Tribal Association has already expressed a number of serious concerns regarding the Site C dam proposal.   It would take much longer to complete the Site C dam project than it would to install wind farms. In addition, wind power is scalable where as the Site C dam is not.   Wind farms are distributed and so can be located close to where the energy is needed thereby reducing energy loss during transmission.     To summarize, it is clear to me that the development of the Site C project makes little sense. For the same, or even lower cost, we could develop a similar capacity for wind-power in British Columbia. And the co-benefits of choosing wind power over the Site C project are profound.     Wind power instead of the Site C dam both makes sense and cents."     I close my comment by urging B.C. Hydro to invest in a sustainable future for our grandchildren, and their grandchildren, by not investing and energizing in fossil fuels, including LNG, but rather investing in clean, sustainable energy systems such as wind, city sewage, and kinetic systems, such as the Tokyo kinetic subway system.
Strongly Disagree	1. Exaggerated focus on LNG and natural gas in general is misguided given the volatility of future price fluctuations.   2. Much of this development will be through use of fracking which is an obscene squandering of energy and water, which in turn pollutes aquifers.   3. To do the above at the cost of 52 sq kilometres of northern choice farmland is more than crazy, its criminal.   4. The result will be for BC Hydro customers to be subsidizing already profitable international energy corporations. WTF?
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC - it is also true that it is very likely that none - or very few - of them will ever get built. That's because Natural Gas is plentiful in many parts of the world and there are other jurisdictions that can supply Natural Gas at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case BC Hydro may be used to subsidize the LNG companies with low-cost electricity, paid for by the general public. If this were to happen, the LNG companies would be richer, BC Hydro would be run into the ground, and the people of BC would be much poorer.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few " or none of them " will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a "clean energy" strategy. LNG contributes to climate changing greenhouse gas emissions. British Colombians have already expressed their concern on this matter. we strongly believe in mitigating our provinces GHG emissions. How are you helping us with that?
Strongly Disagree	We currently do not know what the long term impact on the environment and man will be from LNG but we do know it is another fossil fuel. It burns cleaner than oil but has little else to support it apart from our Government. It is time we took renewable energy seriously and stopped grasping at short term stop gaps.
Strongly Disagree	BC's gas reserves are not going anywhere " this is a finite resource after all " so why the rush to liquidate?     A real commitment to reforming the gas royalty regime is needed to ensure that British Columbians receive fair compensation.     Activity in the non-renewable resource sector needs to be managed for wind-down, not ramp-up.   Natural gas may be the cleanest burning fossil fuel, but it's still a significant contributor to global warming, which is now breaking weather records all over the world and causing tens of billions of dollars per year in

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	<p>damage to housing, infrastructure and food production.     BC's plans for expanding the natural gas industry would be like adding 24 million cars to the roads of the world. And emissions from extraction and production would mean BC breaking with 2007's Greenhouse Gas Reduction Targets Act, and its 2020 target of a 33% reduction in GHG emissions.     As well, natural gas involves fracking, the use of toxic chemicals such as hydrochloric acid and ethylene glycol (antifreeze) which are pumped underground to help release natural gas through hydraulic fracturing, according to a database operated by the B.C. Oil and Gas Commission.     There is growing evidence in the U.S. that fracking does affect groundwater supplies. In Colorado and Wyoming where tests have been done of signatures of gas showing up in drinking water supply. The troubling thing about these findings is that the gas originates in very deep zones.     Above all, BC Hydro should not be invested or involved in non-renewable resources of any kind as its not sustainable, contributes to pollution and wastes tax and rate payer money.   BC Hydro needs to focus on renewable energy innovation and community based, and controlled power.     British Columbians will not allow the LNG to happen, nor any other toxic, climate changing, non renewable energy plan to happen!  </p>
Strongly Disagree	<p>The LNG industry is reliant on an environmentally destructive hydro fracking process that will contaminate millions of gallons of fresh water and lay waste to thousands of square kms of northern BC. It is planned to occur at a time of massive global build out of LNG capacity across the world including Australia, Qatar, USA, China...that will lead to low global pricing at a time of slowing global economic growth. Today's Business plans are likely to be dramatically scaled back or cancelled leaving stranded assets in their wake as well as little or no lasting contribution to government revenues.</p>
Strongly Disagree	<p>Leaving aside whether Hydro supplies are adequate, LNG represents an unacceptable increase in BC and Canada's green house gas emissions. At a time when it is essential that the world reduce carbon emissions, you would propose LNG that would increase our overall contribution (it doesn't matter where on earth it is burned, it ends up in earth's atmosphere) of carbon pollution.     What we need is conservation, retrofitting and less carbon intensive energy options such as wind and solar or geothermal. Much of our carbon source raw materials (such as fracked gas) must stay in the ground for this reason alone. Add to this the leaks, losses and other pollution of both fracking and liquifying natural gas and Strongly Disagreeing with a proposal for enabling an LNG industry in BC is a no brainer for me.</p>
Strongly Disagree	<p>Fractured gas is not a "clean" source of energy. This is well known from all the current experiences people who live near these wells have had. It is well documented that this process removes massive amounts of water from the rivers and lakes of the region, mixes it with sand and toxic chemicals and forces into the ground to ultimately release the gas. Further, the energy required to complete this process is adding inordinate amounts of Carbon emissions to the atmosphere. Why then would I as a tax payer want to subsidize this process?? The transmission line has far overrun its estimated budget and we as taxpayers are again footing the bill for industry. This is wrong. I do not support BC Hydro developing its future direction based on an industry that at present is so very uncertain.</p>
Strongly Disagree	<p>How liquid gas is extracted</p>
Strongly Disagree	<p>study needed regarding demand vs. enviromental impact. Not satisfied this has been a non-partisan study. Any proof on a 3rd party accessment regarding environment?</p>
Strongly Disagree	<p>I don't agree with responding to greater need with simply supplying more. There are many other options than simply continuing to meet the required load, that will apparently forever expand. The growth cannot continue ad infinitum. So what are the other options. How do we figure out how to need less. It seems to not so different from the need for nuclear energy to fuel energy needs during peak times. But as a society we have created this arbitrary norm of 9-5pm and all people's activities are organized around this. as such peak load periods exist. So, sure, yeah let's</p>

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	<p>just keep tapping into more and more of earth's resources, forever, as we continue to live according to industry supporting norms rather than changing the way we live and do business. It is known that there are other options, that there are brains out there who have shared incredible theories and practical plans to do this many different ways. If an industry is not sustainable with out continuing to seek more and more resources, continually growing, that is that really a solid business plan?</p>
Strongly Disagree	<p>It is not the job of the government to interfere with the market. We should not subsidize industry at the cost of individual rate payers in this province. BC's clean electricity should be used to benefit those who need it in the province, not to subsidize the export of a fossil fuel which will result in BC exceeding it's greenhouse gas emission targets.</p>
Strongly Disagree	<p>Using electricity to compress natural gas from "fracked" structures is just about the worst idea, aside from dilbit tankers on the Salish Sea, that I have heard in my 35 years plus experience with the energy sector. BC Hydro, thanks to a myopic view of "net social benefits" by its controlling shareholder, is about to make another irreversible step towards its financial collapse. Integrated Energy Resource Planning is grounded in welfare economics -- the present value of social, economic and environmental costs over the life cycle of the project determines its rank in the resource "stack". There is no way in this universe that the rigour of "net social benefits" can be met with "fracking, daming, exporting LNG". This is bad policy being forced upon BCH by an essentially ignorant provincial government with only one view of the world -- short-run economic gain. A key principle of IRP is "multiple objectives" or "multi- dimensions" and those are at least social, environmental and ethically economic.     Since when is IRP a requirement of the BC Government placed upon the BCUC? The requirement for strategic and operational planning based upon principles of IRP was enshrined in the BCUC Act by the BCUC to protect the public interest. This is a 1984 double speak, and simply not true.     The economic fiasco that is currently undermining BC Hydro has been caused by a uni-dimensional political world view, resulting in so called   "Deferred Regulatory Charges" - actually, according to GAAP, more honestly treated for what these are - losses to be charged to equity. The incredibly stupid supply/demand negative contribution margin realized by too many IPPs is another fantasy gone horribly wrong. This is negligent, incompetent and fraudulent abuse of the public trust. The "Clean Energy for LNG" is a horrible mistake.     PowerSmart was originally targeted at about 1,000 MW, roughly the capacity of Site C. That level has been achieved long ago. And by 2016 BCH's IRP is only forecasting a 40% increase in the magnitude of this resource. There is a systemic bias operating that originates with the BC government and is perpetrated by its minions on BC Hydro's Board of Directors. The bottom line is that BC Hydro is consistently and by sizeable magnitude undershooting   its potential "net social benefits" and as such is defrauding the public interest and betraying the public trust. The most likely result will be a bankrupt BC Hydro causing a near bankrupt BC government - both sufficient grounds for a huge civil law suit as well as criminal prosecution of the perpetrators.     It is well past time that BC Hydro honoured its duty to all of BC's citizens, and that duty surpasses its obligations to the BC Government. It is a tragedy that our provincial and federal governments are both one small step from destroying BC and Canada's future. BC Hydro need not be complicit.</p>
Strongly Disagree	<p>I do not support the expansion of export of LNG. We need to look long term and build support for BC to become self reliant on basic needs using CED principles. Expanding the exports gives short term gain with no long term future.</p>
Strongly Disagree	<p>The reasons for not enabling fracking are well known, and the reason for accepting fracking to procure LNG is greed. The extraction and use of natural gas is harmful to the environment and the profits to the taxpayers of B.C. are most dubious! I remember the early mining of natural gas in B.C. in the late 60's. We were all assured cheap fuel for a century here in B.C. But B.C. Gas ownership was eventually allowed outside B.C. (thanks to G. Campbell). People of B.C. do not own any of the resources in their province, We are just a source of raw materials for other nations.</p>



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Strongly Disagree	There are many alternative choices to be made for power and electricity now that do no further harm to our rivers and waterways. We are in a new era of finding feal solutions to people's and industrial power supplies and those corporations and homes and families who have adopted these alternatives are so far ahead of what is still taking place in what you call "renewable resource" extraction, you are very much barking up the wrong tree to continue in this old paradigm. Even the auto industry and buyers are showing how this is happening with people all over the world chosing alternative powered vehicles. This is a new era of good possibilities and those people and corporations who are initiating this will be away ahead of you while you are still struggling to put in power lines, drill into the earth, establish old fashioned energy systems and more resource extraction and destruction. Time to switch to real energy solutions.
Strongly Disagree	Why are you dumping Money into private industry ,that should not be expecting tax payers to pick up the needless suport ,of a product you will end up giving away at a loss ?
Strongly Disagree	Trading water for gas? Are we crazy? Gas will run out. In the meantime we are spending no effort or time on developing BC's green energy sector. Madness.
Strongly Disagree	LNG market prices are at the mercy of international competition and supply. We should not be subsidizing LNG extraction and sale through increased BC hydro rates. Neither LNG or IPP are clean power sources. IPP projects damage rivers and ecosystems. LNG extraction pollutes scarce fresh water resources, and produces greenhouse gases. Clean water is a valuable BC and international trade resource. Do not commoditize nature.
Strongly Disagree	It is somewhat of an Abbott and Costello "Who's on first?" scenario. It does not make any sense to use a large amount of energy to liquefy natural gas solely for the purpose of transporting it to the other side of the world when we can transport it very economically in pipelines for domestic use. My grandchildren will look back at the decision makers of today and shake their heads. Reserves will have been depleted domestically while our present potential customers will still have untapped reserves of their own. My grandchildren will be not have a competitive edge as pricing will increase due to profit taking of foreign corporations. In this case not only foreign corporations but foreign governments. This is a very irresponsible direction to take in one is making even a modest effort to reduce GHG emissions and promote general efficiency. A major concern for me is BC Hydro subsidizing the LNG industry by way of increasing rates for residential users. If the LNG industry needs electricity they need to bear the full cost. Even then, the full cost is much more than monetary. BC Hydro will be industrializing our natural watersheds and rivers, doing irreversible damageâ€¦,there comes a point where use of natural gas to generate required electricity is actually less harmful to the environment than major hydro projects. I include IPP so called "œrun of river" as major projects that degrade our wilderness areas far more than purported. To summarizeâ€¦,..it is extremely inefficient to use hydropower to liquefy natural gasâ€¦, ..the only thing that makes it appear efficient is improper allocation of true cost of generation.
Strongly Disagree	LNG encourages use of fossil hydro carbons, thus increasing atmospheric CO2 levels, thus increasing global climate change and ocean acidification. Fossil fuel use should be stopped as rapidly as possible.
Strongly Disagree	The prospect of LNG development in BC is concerning given the severe health and environmental impacts of fracking and drilling (sour gas leaks, contamination of groundwater, excessive use of water), the impact of laying pipeline and its attendant roads and infrastructure across BC's wildness, and in the incredible energy use of LNG processing facilities. I am concerned about the lack of oversight and consideration of the cumulative impacts of thousands of LNG operations that are being set up across the province and the uncertainty surrounding the global demand for LNG which may leave BC taxpayers footing the bill for uneconomical projects. And finally, I am concerned about how LNG ties into other big dirty energy projects, such as the Site C dam (from which many LNG projects will draw power) and the oil sands (to which the LNG will be sent).

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Strongly Disagree	<p>I am opposed to the fracking which is used to release the natural gas. Thus I am opposed to anything which enables the fracking industry.   The whole project will make a significant contribution to climate change for two reasons:   (a) Liquefying natural gas makes use of an enormous amount of energy. If this energy is provided by burning natural gas the consequence will be an enormous amount of greenhouse gas emissions, and no prospect of meeting the BC GHG emission legislated limits. The Premier's declaration that such greenhouse gas emissions are "green" and not to be counted is ludicrous - something only a politician could dream up (perhaps like the US legislature (Indiana I thnk) that legislated the value of pi to be 3.).   (b) Someone somewhere will be burning all this natural gas, and that itself will create greenhouse gas emissions.     I also think the premier's vision is pie in the sky and will not generate anywhere near as much as she promises. Spending public money to this end is thus public money wasted.     Instead we should be transitioning to a "green" economy. There are more jobs in that.</p>
Strongly Disagree	<p>I am opposed to the fracking which is used to release the natural gas. Thus I am opposed to anything which enables the fracking industry. The reasons are: fracking pollutes the underground environment with the unknown chemicals it uses, it uses large quantities of fresh water, and it is likely to contaminate the fresh water supply in the future as the chemical migrate.     The whole project will make a significant contribution to climate change for two reasons:   (a) Liquefying natural gas makes use of an enormous amount of energy. If this energy is provided by burning natural gas the consequence will be an enormous amount of greenhouse gas emissions, and no prospect of meeting the BC GHG emission legislated limits. The Premier's declaration that such greenhouse gas emissions are "green" and not to be counted is ludicrous - something only a politician could dream up (perhaps like the US legislature (Indiana I think) that legislated the value of pi to be 3.).   (b) Someone somewhere will be burning all this natural gas, and that itself will create greenhouse gas emissions.     I also think the premier's vision is pie in the sky and will not generate anywhere near as much revenue as she promises. Spending public money to this end is thus public money wasted.     Instead we should be transitioning to a "green" economy. There are more jobs in that</p>
Strongly Disagree	<p>the concerns for the environmental effects and our health and safety are too large for me to support the LNG industry and I believe that you are underestimating the rapidity of advancement in solar energy as well as miscalculating how quickly populations will adopt new energy sources   there is strong support for these alternative energies and there will be even more solutions coming forth within this decade    </p>
Strongly Disagree	<p>ELECTRIFICATION: We support electrification (including to upstream and downstream LNG and other resource development) and the development of infrastructure to support electrification in British Columbia. However, we believe that ratepayers should realize the full value (through reduced GHG emissions, job creation, system efficiencies, and First Nations participation) and risk mitigation through an increase of clean and competitive wind energy in the supply mix.     CLIMATE: BC Hydro's IRP needs to facilitate the Province meeting its climate targets and to provide a framework for the next 5 years that will foster the development of clean and competitive wind energy. Further integrating clean and competitive wind energy into the supply mix will assist the Province in meeting its climate objectives. Through its environmental attributes and inherent lack of GHG, clean and competitive wind energy can counterbalance the greenhouse gas impacts associated with natural gas-fired generation.     EQUAL OPPORTUNITY: Clean and competitive wind energy should be provided an equal opportunity to compete with BC Hydro's Site C dam and other supply options in meeting the needs of upstream and downstream LNG. The IRP should recognize the advantages of increasing clean and competitive wind energy in the BC Hydro system, with virtually a zero GHG emission footprint, versus natural gas-fired generation which, although being deemed "clean", produces greenhouse gases. The IRP should recognize that a diverse supply mix of technologies, separated geographically, will deliver more value and present a lower risk to ratepayers than solely planning for a single, large project funded by ratepayers and taxpayers alike. Clean and competitive wind energy is in the best interest of BC Hydro, its ratepayers, and the development of British Columbia's natural</p>

	<p>resources, and will help the BC Government fulfill its objectives for managing climate change, building jobs and ensuring First Nations participation.     <b>COMPETITIVE:</b> Large-scale wind energy can and will compete with BC Hydro’s Site C dam and other supply resources on price, value and risk. When the environmental attributes of wind energy and emissions of natural gas-fired generation are fully accounted for, large-scale wind energy offers a reasonable alternative to natural gas-fired generation for LNG projects and permits not only the LNG projects, but also British Columbia, to achieve their environmental impact goals and to maintain social license.     <b>PUBLIC/PRIVATE PARTNERSHIPS:</b> BC Hydro’s system has been paid for by ratepayers and taxpayers and should be considered a “public good”. If the system can support additional competitive sources of power generation, Government should look to BC Hydro to facilitate and enable such sources which provide value to ratepayers and taxpayers. BC Hydro should encourage full use of existing publicly funded infrastructure, and facilitate and enable market arrangements between LNG and wind energy projects. There are strong examples of very successful public-private partnerships in British Columbia, and BC Hydro should be encouraged to facilitate market-based solutions (through transmission services) to make it easy for clean and competitive wind energy projects to serve new load.     <b>INTEGRATION:</b> British Columbia is blessed with many options to acquire and store incremental power. In a portfolio such as BC Hydro’s, wind generation, with BC Hydro’s cooperation, can be made “firm”. Wind in a portfolio is a viable supply source for loads (such as upstream and downstream LNG) requiring dependable supply.     <b>SHARING LNG BENEFITS:</b> The Province should consider the benefits of distributing the wealth generated by upstream and downstream LNG development to other areas of the province less endowed with natural resources and opportunities. Procurement of clean and competitive wind energy by BC Hydro not only provides an opportunity for BC Hydro to optimize its system but also returns incremental economic multiples to the Province. By advancing competitive wind energy developments close to load, economic gains can be geographically dispersed throughout the Province.  </p>
Strongly Disagree	<p>Cost-competitive renewable projects, such as large-scale wind energy, should be allowed to compete alongside both BC Hydro’s Site C dam and natural gas-fired generation to supply BC’s electricity requirements and those future requirements of the natural gas and other resource industries. Decisions should be made considering price, value (arising from reduced GHG emissions, job creation, system efficiencies, and First Nations participation) and risk (capital cost uncertainty, availability of construction resources and timing delays).</p>
Strongly Disagree	<p>there is a lot of natural gas in the world. We don't need to compete in this area? Why would we want to create more greenhouse gases?</p>
Strongly Disagree	<p>Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.</p>
Strongly Disagree	<p>We need more sustainable green energy projects! Let's be a leader!</p>



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Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	BC's precious hydro and wind electricity is a vital building block for a rapid transition to a post-carbon economy. Supporting LNG, which is a major greenhouse gas producing industry is not in the best interests of society. Planning for possible natural gas generation to enhance supply reliability leads to an increased BC Hydro's greenhouse gas emissions factor, and by proxy all BC Hydro customer's carbon footprint. Public sector organizations who have legal obligation for carbon neutrality would be unfairly burdened with rising carbon offset requirements and society as a whole would be further subsidizing carbon intensive industry. This approach to resource use is unacceptable and very dangerous for the climate.
Strongly Disagree	I think BC needs to be a leader in clean energy and start the move away from fossil fuels. We need to protect our coastal environment.
Strongly Disagree	BCH should be exploring renewable, non-polluting resources
Strongly Disagree	Working in economic geology and the resource industry, I do not see the overseas LNG market remaining strong enough to support this level of government support. I believe the onus should be on the companies themselves to develop the resource, since the long term benefits to residents will be minimal.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	I believe that the development of LNG resources is a false 'prosperity'. The costs of cleaning and dealing with the pollution and environmental damage that will be left will far out weigh any long term benefits. Aside from this, I cannot agree that the average person must subsidize the electrical needs of the large LNG corporations by paying for the additional hydro projects that are required.
Strongly Disagree	I am not in support of developing natural gas for export. The government has put regulations in place about our own power being produced by clean or renewable sources, and then waives some of those requirements if they are supporting the export by ship of a "dirty", non-renewable resource. Also, flooding another valley (Site C) to support the extraction and export of a non-renewable resource is ludicrous.

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Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	This industry is unlikely to be profitable for the people of BC. It is wrong that BC Hydro could be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. Powering up LNG plants has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	
Strongly Disagree	We live in a changing world. Global economies are contracting not expanding, as the material economic expansion driver, energy, becomes more expensive to extract at the margins. New oil supply no longer bubbles up out of the ground, nor does natural gas lie in large concentrated pockets. As if this was not enough of an incentive to de-energize our economies, climate disruption from greenhouse gas build-up, must be. BC could be a leader in moving to radical energy efficiency and de-centralized renewable energy generation and this is the only sustainable way forward.     In addition, we should not be supporting an extractive non-sustainable industrial operation, which generates very few jobs per dollar and which only serves to further the transfer of wealth from the public to the private sector. Furthermore, many countries globally are chasing the fracked LNG market and even if supporting a non-sustainable greenhouse gas intensive sector was advisable, which it is not, the global market for gas will likely crash in the near term, leaving us with overbuilt infrastructure and a large unserviceable debt burden.
Strongly Disagree	The Clark government's LNG plans are a huge mistake and public investment through BC Hydro to support them should not be undertaken:   a) LNG plants on the north coast are intended to support shipments to Asia. The US DOE estimates that China has more shale gas reserves than the US and Canada combined. Exploitation there has only just begun, but will undoubtedly expand rapidly despite huge risks due to the geology of the shale gas reserve areas. As it does, the Asian price differential will fall rapidly and BC LNG plants will be hugely expensive white elephants.   b) Climate change is THE existential issue of our time. Macroeconomic theory as well as observation do not support the Clark government's contention that LNG will displace burning of thermal coal in Asia. Rather, the price of thermal coal drops quickly as gas becomes available at lower cost, permitting its use in more marginal economies; the quantity of coal mined has been increasing rather than decreasing with greater availability of shale gas. This is an unmitigated disaster!
Strongly Disagree	LNG uses too much energy, pollutes ground water, fragments wildlands with more roads; also a risky business to build an industry infrastructure projected on future sales as new sources of LNG flood the market.
Strongly Disagree	The math is simple. We cannot afford to invest in LNG AND reduce our carbon emissions by the needed amount by the needed time. In other words, if Canada is to follow through on its commitment to the UN that we must restrict climate change to 2 degrees, then we will have to shut down almost all LNG and Tar Sands production within the next 30 years. It will simply be too

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	expensive to do that so we must not waste the money in the first place.
Strongly Disagree	LNG is going to push our greenhouse gas emissions way up. Hydro should be focusing on Site C and BC Hydro sponsored solar, tidal, or new dam initiatives which bring cleaner energy at state controlled prices to the public.
Strongly Disagree	Environmental issues
Strongly Disagree	it is ill planned, expensive and not enough is known about the environmental ramifications of projects like these.
Strongly Disagree	LNG is NOT clean. It's effects on the atmosphere (greenhouse gases) is about seven times as bad as oil. If it comes from fracking, it's even worse because then it's causing all sorts of other problems like the polluting water supplies forever.
Strongly Disagree	
Strongly Disagree	Our province does not require more energy, it requires a leader who will shift away from old energy technology and move into the new age of using ancient technology. Electricity does not require wires for transmission, as proven by Tesla. The energy of the Earth's ley lines can be harvested, as proven by Michael Tellinger at Adam's Calender in South Africa.
Strongly Disagree	Natural Gas is not a reliable natural resource and the process of it is dirty. It can affect the water table which humans and animals thrive on. As seen in the US with the undrinkable water in many states. Will BC Hydro compensate the people that will be affected from undrinkable water? Secondly these areas are sensitive Eco-systems... I understand you are a large corporation that could care less about the environment with plans of natural gas and hydro damn projects in sensitive habitats. These habitats feed our salmon, our trees and eventually us with food, water and air we consume. I wish that your organization look at what other provinces are doing that are faced with the same situation growing demand for electricity and a growing population. A good example is Ontario. Ontario is embracing solar and wind power to meet the demands of that province energy consumption. The other factor the put it back to the consumer how to be more energy efficient by setting up a 3 tier cost system which is simple and easy to follow right on the person bill. Which means if you use hydro on the none peak hours you save money and/or it cost less then if you used it during peak hours which is 9-5 when everyone is using the system. Put the power back to consumer to make the decision on how to consume less energy. Everyone likes to save so it is a win win situation.
Strongly Disagree	
Strongly Disagree	Cumulative impacts of LNG extraction, transport, processing and shipping create heavy carbon emissions, social consequences for fishery dependent communities, and potential long-term impacts on drinking water of landowners in areas where gas is fracked. For these reasons a source for energy that is renewable is the option I support for BC Hydro's investment and BC's energy sector.
Strongly Disagree	Natural gas is a plentiful resource worldwide. I don't think we should be subsidizing the extraction of natural gas that frequently uses hydraulic fracturing, which uses & pollutes huge amounts of water. I think the "LNG industry" is not viable and I don't think BC Hydro should be planning for the future by building infrastructure which is aimed exclusively at supporting a non-profitable industry which would use massive amounts of energy and produce large amounts of greenhouse gases and contaminated water.

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Strongly Disagree	I don't believe that LNG is the silver bullet for the BC economy. It's available all over the world already. We should not be using our electricity to support a dirtier power source. In addition, I'm not a supporter of fracking. It's also not a good choice because of its huge water use.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	Sustainability should be our key concern.
Strongly Disagree	It is my understanding that LNG is increasingly available world wide, thanks to the very environmentally dangerous process of "fracking".   I don't support this because there is NOT an assured market for LNG, but we, the rate payers, be left with paying for a white elephant industry.   I don't support this because "fracking" is a very environmentally dangerous process.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy
Strongly Disagree	. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets.   Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	I am opposed to these endeavours because as I understand it there would be fracking involved, and I don't believe the environmental costs are being adequately considered.
Strongly Disagree	THERE MUST BE AN AUTHENTIC ENVIRONMENTAL ASSESSMENT   PROCESS AND IF THERE WERE ONE, UNDOUBTEDLY FRACKING AND LNG WOULD NOT PROCEED.       APPLICATION OF THE INTERNATIONAL INTERPRETATION OF THE   PRECAUTIONARY PRINCIPLE     An important principle that was agreed to at the UN Conference on the   Environment and Development was the Precautionary principle. The   precautionary principle appears in the following documents;     In the Rio Declaration all member states of the United Nations adopted;   this principle which reads;     Where there are threats of serious or irreversible damage, lack of full   scientific certainty should not be used as a reason for postponing   cost-effective measures to prevent environmental degradation." (Rio   Declaration, UNCED1992).       In the Convention on Biological Biodiversity, the adherence to the   precautionary principle is a legal obligation of most of the members of the   United Nation reads     Where there is a threat of significant

	<p>reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat       and in the UN Framework Convention on climate change there was the   obligation     to take precautionary measures to anticipate, prevent or minimize the   causes of climate change and mitigate its adverse effects. Where   there are threats of serious or irreversible damage, lack of full     Under article 6 are obligations for implementing precautionary   measures     6 3(d) develop data collection and research programmes to assess   the impact of fishing on non-target and associated or dependent   species and their environment, and adopt plans which are necessary   to ensure the conservation of such species and to protect habitats of   special concern.     To apply preventive and precautionary approaches in project   planning and implementation, including prior assessment and   systematic observation of the impacts of major projects;   (Chapter 17 protection of the oceans, 17.5. d)       There is sufficient evidence that there could be serious irreversible   damage, loss of significant biological diversity harm to marine life to justify   invoking the precautionary principle and prohibit the SITE C       THE HARPER GOVERNMENT HAS MISCONSTRUED THE   PRECAUTIONARY PRINCIPLE       The Harper government has failed to implement the precautionary principle in the way the principle is interpreted internationally     For example in the Department of Natural Resources there is the following version of the principle.     "The precautionary principle recognizes that the absence of full   scientific certainty shall not be used as a reason for postponing   decisions where there is a risk of serious irreversible harm"       I.e. you do not have to wait until there is scientific certainty [that there will   be no harm] in order to decide to proceed.       Rather than the international interpretation; Where there is a threat of   irreversible harm, loss of biodiversity/ climate change, the lack of scientific   certainty- the threat will occur -, should not be used as a reason to prevent   the threat.     TREATS RELATED TO LNG   - There is increasing scientific evidence that Fracking causes irreversible harm to human health and the environment. Many jurisdictions are acting on the precautionary principle and banning this process. And there will be boycotts of LNG   - Natural gas while producing less greenhouse gases it still is a contributor to Climate change and it continues to displace socially equitable and environmentally sound technologies such as wind and solar; the latter technologies would have assisted Canada in not continuing violating Article 2 of the UN Framework Convention on Climate change.  </p>
Strongly Disagree	<p>I do not agree that liquid natural gas as currently obtained, supplied, and used, constitutes a clean energy source, and I do not support using the relatively (or potentially) cleaner energy of hydro power, to support LNG projects.</p>
Strongly Disagree	<p>Any increasing of power generation or building of new power lines/reinforcing existing lines represents a taxpayer subsidy for an industry that will leave nothing but devastation in its wake.   -1) If the industry can't make it on its own, it can shut down.   -2) The gas wells only run for a few years: the poisoned ground water lasts for centuries... essentially forever as far as humans are concerned.   -3) The price which we are told we will get has been greatly exaggerated in every jurisdiction in which it has been talked up. Prices immediately collapse - see Pennsylvania as an example. The government then forgoes royalties in order to keep the industry afloat, while landowners are stiffed.   -4) In order to "keep the industry going", Industry will then demand to export as much as possible as quickly as possible. In advocating this, they will quote numbers as to how many hundreds of years supply there is - but once the exports begin, the fields soon decline. (for example, a New Zealand field was supposed to have over 120 years domestic supply, so the government approved a fertilizer plant. The field was exhausted in just 17 years). As in Australia, the domestic price will double or triple very rapidly once international contracts are signed and exports begin, while foreign consumers will get cheap gas subsidized by us. On the other side, the increased flow of gas will result in a lower price on the market, at which point the government will surrender the taxes and benefits that exporting was supposed to bring.   -5) While I understand consumers and economies in Asia want to live in luxury, that is, as the word suggests, a luxury. Heating in Canada during the winter is a necessity. If you do not believe me, turn off the heat this winter and see for yourself. There is no such thing as a "surplus". Someone</p>

	- however far in the future - will need it as a matter of survival.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	I believe that LNG is just a pipe dream. Other countries will more than meet the demand at prices that we cannot match.
Strongly Disagree	I strongly disagree with supporting an LNG industry with BC Hydro assets financed by increased hydro rates paid by the domestic residential and small commercial customers.   The hydro plan is predicated on clean energy and was previously handcuffed by only deriving 7% of its electricity from the burning of natural gas. After that plan was set in place, the government deemed burning natural gas for electricity as clean energy, handing the LNGs another giant plum. 50% of the drilling is paid for by the subsidies on future royalties by the government, LNGs aren't charged the carbon tax for their tens of megatonnes of GHGs emitted in methane, CO2 and water vapour, and now BC Hydro has to create infrastructure to support their potential demands. Promoted sequestering megatonnes of CO2 is untested and potentially lethal if released back to the surface. At the current price of NG, according to officials from Spectre Energy, sequestering doesn't make financial sense.   Beside the above, we're rolling dice and building a transmission line on the possibility these plants will go ahead. With natural gas emerging in a number of markets, can the world afford to burn natural gas to compress it, when natural gas is being so prevalent in the market that BC intends to deliver to. What happens if China develops their own natural gas reserves and reduce the intended import of BC Gas. If the transmission line isn't needed on the possibility of the import market drying up, who really believes that Spectre Energys, Shell Oil, Petronas and other LNG companies will pay their portion for the line.   BC promotes and finances natural gas while ignoring financing residential solar to make residents more self sufficient. Residential solar can save hydro energy that can later be redistributed to LNG and pipeline projects if the projects do become viable
Strongly Disagree	LNG does not appear to be a particularly prosperous (in terms of long-term ROI) or healthy (in terms of low GHG emission scenarios) energy direction, according to many sources. I do not support ANY further investments in fossil fuel infrastructure that will bind us into a heavy carbon output future for generations. I therefore do not support any detouring of hydroelectric energy towards supporting unnecessary LNG projects.
Strongly Disagree	The LNG industry is committed to providing its shareholders with profit. We are not bankrolling them with public money. They should be paying the same rates for electricity as we, the BC residents are, including some version of "step two" pricing - not the reverse that is now in practice. (the more you use, the cheaper the rates).   They should also be paying for the water they take from BC water courses. They should also be paying to clean up the water they "put back" and be prepared to pay the province and local residents a penalty for contaminated water that is (inadvertantly) put into the local water sheds.   This is not "clean" energy in that it does use carbon resources, does emit CO2, is capable of contaminating the soil, water, air where it is taken from the ground and where it is transported. It has many characteristics of the tarsand



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	extraction method   I oppose the process of extraction of LNG and I strongly oppose the use of public money to supplement the company's cost of doing its business.
Strongly Disagree	The LNG firms are in the business of producing natural gas to supply their shareholders with monetary returns. The Government is not in that business.   The LNG companies can pay for their own power lines, can buy our water (not freely haul it out of crown owned watercourses), and can pay full price for the electricity needed to run their enterprises. It is called the cost of doing business.   For the BCHydro to see them power, at less than the rate that all BC users pay and then ask BC users to pay extra to develop another dam and accoutremonts is reprehensible.
Strongly Disagree	BCHydro should not be burdening the ratepayers of Hydro and the taxpayers of BC with the cost of supporting an LNG industry that is unlikely to emerge on the scale that is being projected , given the global competition for the LNG market. We should not be using "clean" hydroelectric power to support an industry that is contaminating groundwater and will produce greenhouse gases to an extent that will make it impossible for BC to meet it's greenhouse gas reduction targets.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few " or none of them " will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a "clean energy" strategy.
Strongly Disagree	Not if fracking is involved which uses and contaminates an enormous amount of water. Not a green solution at all!
Strongly Disagree	This is LNG for export that will not benefit our own natural gas needs. In order to liquify it is extremely energy intensive and the BC taxpayer is essentially subsidizing the natural gas industry while flooding a very fertile landscape and creating more GHG emissions (especially methane) at home and abroad once burned. It is completely unnecessary. Furthermore, if conservation was really in focus, a more substantive decetralized grid would be much more beneficial to meeting peak demands with renewable resources beyond conventional hydro. Tidal, wave, PV solar, wind (offshore and on land), biomass and geothermal should all be prioritized for greater efficiency and resiliency. Putting PV panels on rooftops with storage in batteries (or better yet V2G or vehicle to grid technologies) would be a much more effective way to encourage conservation at peak demand with greater adoption of electric and plug-in hybrid vehicles. As smart-metering is brought online, the consumer would also benefit from a time-of-use pricing mechanism such as with most utilities in the US.
Strongly Disagree	LNG has no future and moves resources away from pursuing green energy solutions
Strongly Disagree	The public, in the form of BCH ratepayers, should NOT be subsidizing the LNG industry whether through infrastructure enhancements (transmission) or resource additions (Site C). The principle of "user pay" should apply, and hence the LNG industry should pay any & all costs incurred to supply their loads.   Likewise the LNG industry should face the marginal cost of supplying their incremental step load, and not be subsidized by exisiting ratepayers through (partial) access to heritage assets.

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Strongly Disagree	Exploring natural gas supply options and acquiring natural gas through current extraction methods is detrimental to the quality of air and water in BC and across the world. Further development of the natural gas industry is not in the best interest of British Columbians and will do little more than further degrade the province.
Strongly Disagree	BC Hydro surely you have heard of Climate De-Stablization. You are in denial. The science is saying we will ALL stop our denial as extreme weather events become the new norm within the next ten(10) years. Have you got that fact ( not fiction ) considered in your IRP...?
Strongly Disagree	I do not agree with the extraction of natural gas, from our BC North. I believe the fracking process to be devastating to water, and the environment. The water use will be huge, the waste water will be contaminated and all this in the headwaters of pristine salmon breeding habitat. Already, the exploration has degraded huge sections of that remote area, because it is remote and can't be easily seen.     Secondly, the need for more hydro power and the building of Site C dam, flooding arable land of which we do not have large amounts in our province. We as a province do not need more power at present, and if the rationale for the Site C project is the LNG extraction, it is devastation for the wrong reason. Please do not do it.     Thirdly, the financial gains are not proven. The market price of LNG has fallen and the prediction is that it will continue to fall. The government financial projections advertised using an inflated LNG market price, and did not consider the cost of construction, the need for power and the cost of getting that, and the devastation of this environment. The jobs that would be created are somewhat erroneous also, especially if temporary Immigrant workers (cheap workers) were allowed to be used. Have we not learned anything from the huge debt that BC Hydro has incurred related to Private Enerprise and IPPs, that is hidden away from public scrutiny.
Strongly Disagree	What if the LNG projects do not go ahead? BC Hydro's ratepayers are already on the hook for electricity we do not need for ourselves and are subsidizing these industries. Those industries will be gone as soon as the prices drop. And there is a lot of LNG around elsewhere in the world.
Strongly Disagree	Using public power and public dollars to subsidize shale gas development is not ethical. The development of shale gas (fracking) is environmentally disastrous and should never be allowed to happen, let alone to happen at the expense of the average consumer. The benefits of the shale gas industry are few, and are more about making money for a few big investors. The jobs created can be created elsewhere, we have choices as to where we create jobs and are not slaves to dirty industry that as a collective we somehow feel we are. Those jobs are not worth the environmental devastation that shale gas creates. If we were brave enough to truly look at the cost of both the oil and gas industries, we would be ashamed at what we are doing. Until we truly take into account the cost of environmental damage, then our economic models are completely false, enabling us to drive ourselves into a potentially irreversible climate situation. If we could see what we are doing objectively, we would stop it all immediately.     Do NOT subsidize this dirty industry.
Strongly Disagree	All of BC Hydro's efforts should be going into conservation. To support the LNG industry as you have it, is to support the further destruction of the planet   and possibly our species because any further burning of fossil fuels will result in dramatic climate change . It's sickening that government and industry continue to act as if nothing is array.
Strongly Disagree	
Strongly Disagree	I do not support fracking; I do not support flooding the Peace River to supply power for LNG
Strongly Disagree	I cannot support the LNG proposal because fracking using groundwater/surface fresh water is involved, not to mention chemicals that are left in the ground with no clear information about what these chemicals are. Furthermore, the proposal would continue to increase the amount of CO2 we are putting into the atmosphere. With care, we have enough normally obtained natural gas to meet our needs until we are able to look after ourselves with renewable energy only.

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Strongly Disagree	LNG will most likely be obtained from fracking which is so damaging to the earth and contaminates underground water reserve. Water is our most important resource, along with agricultural land, which will be lost because the Site C Dam will need to provide power for LNG.
Strongly Disagree	Most of the gas for the LNG industry would be obtained using hazardous extraction methods...Hydraulic Fracturing. I feel this is one of the greatest risks to underground water reserves. BC Hydro should not be using energy to support fracking and promote more greenhouse gas from using the last fossil fuels .
Strongly Disagree	
Strongly Disagree	I do not support the development of LNG in BC as it will not reduce emissions of green house gases and may lead to higher electricity prices for British Columbians.
Strongly Disagree	
Strongly Disagree	Screw LNG
Strongly Disagree	I do NOT agree that BC should be supporting growth in the LNG industry. The process for mining shale gas is extremely damaging to the environment - how it is mined using huge quantities of water and deadly chemicals. And then the processing afterwards causes high carbon emissions. LNG is NOT at all friendly to our local or global environments.     Just because there is the opportunity for BC to make some money from LNG production does NOT make it acceptable. The environmental cost is too great.
Strongly Disagree	Bad idea. LNG is available world-wide in large quantity. BC will not be able to compete on the world market for LNG, and BC Hydro needs to remain outside of this bad investment. BC Hydro has already made financial mistakes and cannot afford to make more.
Strongly Disagree	BCH is being asked to take a long position with regard to potential new type of load whose economics is sketchy. Competition from other countries may result in BC's competitiveness quickly disappearing. One only needs to recall the last northern development foray with Tumbler Ridge coal. Shortly after developing the infrastructure, the buyers backed out of their commitments and the facilities were abandoned. LNG has similar risks.   Furthermore, while there may be enough energy on a total annual basis, the fact that it is a constant load may put on further pressures on BCH's infrastructure to manage new peaks.   BCH and BC should adopt a position similar to the one taken in the 1950's with Alcan whereby the private sector was encouraged to develop their own power facilities. With the present situation whereby the tariff rates, especially the industrial rates, are tens of thousands of dollars less per MWh than the marginal cost of new supply, for BCH to supply the LNG load makes it a subsidy by the existing ratepayers.
Strongly Disagree	I am completely in disagreement of the amount of energy that is being spent on supporting an industry that does not currently exist and may never exist here in BC. LNG is not a clean energy and I do not support it.
Strongly Disagree	
Strongly Disagree	We need to invest in sustainable, non eco-destructive sources of energy and we need to encourage folks to use less energy rather than continuing to focus on the use of finite and potentially destructive energy sources
Strongly Disagree	powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets

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Strongly Disagree	LNG is a non-renewable energy form and is not "clean" in carbon footprint. This sounds like a 1955 solution.
Strongly Disagree	
Strongly Disagree	
Strongly Disagree	I believe that fracking and natural gas extraction and export is 100% unsustainable for our rivers, forests, water tables, and marine eco-systems. Period
Strongly Disagree	
Strongly Disagree	I do not support development of LNG which will be exported, the profits if any are possible in a marketplace where other countries are rushing to fill demand, Also oreign workers will come to BC as they are now coming to Alberta.   BC Hydro and BC ratepayers should not be subsidizing private corporations.
Strongly Disagree	
Strongly Disagree	BC should be putting energy into developing actually clean (read: non-fossil fuel based or related) energy sources such as wind. Climate change is happening because of anthropogenically produced green house gases, and we need to develop energy infrastructure that does not contribute to the burning of fossil fuels: liquified natural gas included.     As well, there should be NO RUSH on developing a limited resource like the shale gas plays in northeastern BC. Anytime profit motivates short-sighted action, no good can come of it.
Strongly Disagree	Until BC Hydro STOPS its installment of Smart Meters against the will of the people it cannot be trusted on any matter! BC Hydro is a corrupted fascist organization & until it can prove itself to be otherwise I will not support ANYTHING it proposes to do.
Strongly Disagree	
Strongly Disagree	Makes no sense!Does not provide jobs .Doubfullimporters
Strongly Disagree	Power at the cost of our ecosystem is wrong. We can not survive if we destroy the environment and we can not sell our water in any way shape or form
Strongly Disagree	LNG is based on fracking, a criminally wasteful and toxic destruction of precious water. BC Hydro should not be supporting this unsustainable activity.
Strongly Disagree	The South China Sea and other areas close to Asian industries have huge and easily accessible gas and oil deposits. Our gas will only be competitive in price if the Canadian tax payers subsidize the gathering and delivery of the gas to consuming countries. This will be a terrible waste of money and a diversion away from Canadian industries producing value added products for export.
Strongly Disagree	The LNG industry is not as green as the government suggests. In order to prevent climate catastrophes in the next 20 years, we need a moratorium on expansion of any and all carbon-based energy sources. It is for this reason I disagree strongly with the government's plan to support the LNG industry.

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Strongly Disagree	there's not enough water to waste; LNG is not clean; LNG destroys the environment as much as oil and coal
Strongly Disagree	Climate change is becoming a very serious issue globally. In order to prevent more than a two degree temperature rise, we can't really develop any new infrastructure for oil and gas. The amount we are already taking out of the ground is likely to exceed our allowable emissions already. In addition, by Bill 17: Clean Energy Act, BC is not allowed to produce more than 7% of its electricity from non-renewable resources and it is our goal to reduce greenhouse gas emissions by 80% of 2007 emission levels by 2050. Our province should be investing in new technologies to reduce emissions rather than investing in LNG that we should not really be using. In the years to come, climate change will become more apparent if we do not take action to slow it down now. At this time, we will likely have to stop using the LNG plants and they'll be done before they even reach their payback period.
Strongly Disagree	Natural Gas is not to way forward. It is barely profitable, and is poisoning our land and water. Be bold and move towards different energy resources that dont require us to rape and destroy our cultural heritage.
Strongly Disagree	LNG is not so "clean" when you consider the incredible amount of energy required to get it into liquid form and to transport it. Getting the natural gas out of the ground is also a problem using vast quantities of water, and poisoning so many aquifers. It all seems like a disaster to me
Strongly Disagree	This will involve fracking. That is my main objection. But I also disagree with B.C. Hydro providing cheap energy to industry while raising our rates.
Strongly Disagree	It is irresponsible to burn gas for power
Strongly Disagree	I strongly disagree that LNG is the way of the future. Fracking to extract LNG is devastating for surrounding communities as it draws umpteen litres of fresh water and pollutes it with 500+ of the most toxic and persistent chemicals known to man as well as radioactive wastes. This cannot be ignored in the final equation. How can that possibly benefit BC in anyway shape or form? This is not supporting the BC economy! It is supporting the multi-billionaire-corporation and Asia. You are ready to destroy naturally beautiful and life supporting BC to make the rich richer and enrich a human rights abuser and Communist Country at that . This project should not have been exempt from the oversight of the BCU. THIS IS WRONG WRONG WRONG! NO MATTER HOW YOU DRESS IT UP! AS WELL MOST FIRST NATIONS OPPOSE IT. THE ONES THAT HAVE NOT BEEN LIED TO AND BOUGHT, THAT IS.   Another point is that the LNG market is actually far from secure. Where will we sell this LNG from hell? Unfortunately most countries have already fallen in front of the promised-money God and are too, sacrificing their environment, their citizens and future generations on the LNG altar.
Strongly Disagree	Public expense; private, corporate benefit. NO WAY.
Strongly Disagree	We should not be selling so much natural gas to foreign countries. What will we do when we run out which will eventually happen. We should not look for the quick buck, but rather consider our own long term needs.
Strongly Disagree	
Strongly Disagree	Invest in building infrastructure on green energy instead. Shale gas exploitation should be banned and export of fossil fuel as well.

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Strongly Disagree	LNG export is of little benefit to BC (few jobs, risk of explosion, increase in fuel prices for local industry) yet increases our carbon footprint considerably, as well as increasing the 'need' for Site C
Strongly Disagree	
Strongly Disagree	LNG costs almost as much much energy to produce and transport as it offers as an energy source. It is available all over the world at cheap rates. Fracking uses disastrous amounts of water and can have seismic repercussions. Supporting it is short sighted and could be a disaster.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That’s because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Recent reports have shown how waste water from fracking contains enormous amounts of radium. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	There is a glut of natural gas on the market right now and at this time I don't think the cost for this line is worth it now.
Strongly Disagree	LNG is not a clean energy. It requires too much electricity to process, which is also accompanied by a slough of environmental problems. There are far better options for meeting our energy needs, such as on-site generation (ground source heat pumps, solar, etc), that we haven't even begun to tap into. Using LNG to bolster BC's economy is not worth it!
Strongly Disagree	Further development of the fossil fuel industry with its enormous problems of pollution and negative impact on climate change. Move to renewables now.
Strongly Disagree	Not only can other places provide cheaper natural gas, spending money to provide short-term, non-renewable resources is a waste, terrible for the environment , and detrimental to the move towards sustainability (both environmentally and economically) and clean power.
Strongly Disagree	I think it's a bad idea for BC Hydro to invest in LNG. British Colombians have not been educated about the fracking process, and this is a short sighted plan even economically. Perhaps there could be a temporary boom of money, but it's so much more in our long term interest that we invest in real clean technologies. We shouldn't be making out money by polluting the earth anymore. This is an old way of thinking that will destroy us if we don't become wise.
Strongly Disagree	I believe we should be very cautious in spending resources to support extensive LNG development. Natural gas is suddenly spectacularly available world wide, notably in Australia and Asia which would be our logical markets. The plans to develop this resource for export from BC could quickly run into an impossible market situation in which we have spent public (BCHydro) money on developing a privately held resource that nobody wants to buy.
Strongly Disagree	We do not have much easily accessible NG, most of it must be got by fracking. This entails forcing an unknown amount of chemicals , some of which are radioactive as tracers, at unknown concentrations, into the bedrock, cracking it and pumping out the resulting mix of gas and water. Surface water will be contaminated by the large volumes of this polluted water over time, and the underground water flow and rock stability will be changed in unknown ways. We may be contaminating the underground watersources for the next 500 years, we may be increasing the likelihood of earthquakes, and we will definitely be increasing our carbon footprint and climate



	change. It's a dumb thing to do, even if you earn enough to get a new car from it.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	The LNG proposals may never come to fruition since there is an abundance of natural gas at less expensive rates elsewhere. It is , therefore, folly to spend taxpayer money on unproven business ventures. The crowning factor is the fact that this gas is available only through 'fracking' which is becoming a large environmental problem wherever it occurs and the long term effects are unclear and qualify for much more study and consideration before commitment to a complete industry.
Strongly Disagree	you are asking me to help finance a dam to make power so that a private party can use the power to ship energy overseas. no. a thousand times no.   use the energy here. don't ship it there. don't subsidize private profit with public funds. hydro is a public monopoly and must be very careful to serve the best interest of all British Columbians. let them burn all their gas first...after that the price of gas will rise, and then the sale of the gas will provide sufficient profit for the gas shippers to make their own electricity, and sell some to bc at a discount. I think the future prices of gas and lng in particular will never justify this investment.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.

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Strongly Disagree	Price of LNG has declined because of an over abundance of supply by the US. Proposed gas plants aren't an economical solution, so BC Hydro building power transmission lines to the coast would be akin to building a bridge to nowhere. LNG is another contributor to green house gas emissions. And if fracking is a method used to gather natural gas, then the process will require vast amounts of water and leave a chemical soup in the shale, which will never be reclaimed.
Strongly Disagree	This is a pipe dream. The world is awash in LNG. This looks like another subsidy in the making like IPP.
Strongly Disagree	This dam will seriously impact the indigenous people living in the area. Wind farms or solar area would be much better   method to produce electricity with minimal impact to the local inhabitants.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	Natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can, so there is no certainty that these plants will move forward. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of B, and one that is taking a very short sided approach to energy resources. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	The business case for long-term LNG exports to Asia are not strong enough to support the considerable provincial investment needed to enable this trade. Nat Gas reserves that can be accessed and extracted in an environmentally sustainable method in BC are also not sufficient to support the trade. If and when these reserves can be extracted safely, future generations of BC and Canadian residents may well wish to have access to this gas. Removing them now closes

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	down future options for a sustainable BC economy.
Strongly Disagree	I don't support the building of LNG infrastructure because I don't believe it is environmentally or economically responsible.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	I am not supportive of the proposed scale of natural gas exploitation. It is unwise to shape BC Hydros policies around and industry that may or may not be profitable for the people of BC and the environmental impact of gas extraction processes are unacceptable.
Strongly Disagree	Support for this industry has no place in a “clean energy” strategy, which is the only viable forward option.
Strongly Disagree	Few if any of the approximately 12 proposed LNG plants are likely to get built. There is an abundance of natural gas in other parts of the world that can be supplied at lower prices than B.C. can. B.C. Hydro could also end up being used to subsidize the LNG industry with low cost electricity which would run B.C. Hydro into the ground and the price would be paid by the people of B.C.     LNG uses huge quantities of energy and has the potential to create massive amounts of climate changing greenhouse gas emissions. This would cause B.C. to exceed its reduction targets for greenhouse gas emissions. The LNG industry would also be fed by an extraction method known as hydraulic fracturing or “fracking” which contaminates vast quantities of water and results in even more greenhouse gas emissions. There should be no support for fossil fuels in any clean energy strategy for the province.
Strongly Disagree	
Strongly Disagree	There is no RELIABILITY !

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Strongly Disagree	I do not support LNG at all, it will increase the carbon we pump into our atmosphere and exacerbate Climate Change - effectively compromising the next generations. We have got to transition from fossil fuels to a green economy and LNG is not the way to do that. I also do not support ANYTHING that compromises such a vital resources as groundwater - we will regret making that mistake if we do proceed with LNG.     NO TO LNG!!!
Strongly Disagree	
Strongly Disagree	LNG industry development means the strong possibility of fracking, an environmentally unsound practice that uses incredible amounts of water. BC does not need to generate more power in unclean, damaging ways. We have more electricity than we need in the province.
Strongly Disagree	Supporting the LNG industry will mean supporting fracking which is dangerous and environmentally devastating. This recommended action should be scrapped- fracking contaminates water and destroys habitat.
Strongly Disagree	Governments in BC have been consistent LIARS in my 53 years in this province!   Stop all political agendas in BC until we can get a government we can trust!!!!   Bloated over-paid executives must end their reign of terror!!! (Yes Terror!)   My children, and their children don't stand a chance in this society of EVIL!!!!   If we do not put Mother Earth first and foremost, the human race will DIE!!!!   Anyone who doesn't believe this is an idiot, an imbecile, and probably psychopathic!!!!   As fore energy, we have enough if we use it wisely.   Stop importing garbage electronics from China that die in one year, and support only China and not CANADA!!!   We need true leadership that doesn't pander to business!!!! (Business Is Evil in it's present state.)   We need fish, not dams!!!   We need wild rivers and lakes, not politicians!!!   Liars, Cheaters, and Thieves ALL!!!!!!!!!!!!!!!!!!!!   It is time to rock this society of evil with civil disobedience!!!
Strongly Disagree	LNG is a bad move for BC. There are cheaper and more accessible sources of this product. BC's version will lead to increased global warming and use unsustainable amounts of water and cause irreversible pollution since most of it is to be derived from fracking technology. BC Hydro will have to provide electricity at a low cost to support this industry, causing even more financial problems for BC Hydro. Exporting resources is last century's economic model. We should be creating real value added industries here - ones that actually make something.
Strongly Disagree	No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a "clean energy" strategy.
Strongly Disagree	Enough is enough! Every inch of land which is yours and mine is being destroyed by development and corporations that take no regard for the environmental, wildlife, marine life consequences. Start implementing wind technology with protective measures for birds and maybe just maybe all of us can stand in history for making a true difference for our children and grandchildren.
Strongly Disagree	The LNG industry is unlikely to develop in a profitable manner, despite the claims of government. There are too many obstacles; first and foremost, BC will not be able to supply LNG at a lower cost than other jurisdictions. If BC pushes ahead with this, we will be stuck subsidising the industry with little benefit. Therefore, it makes no sense to commit infrastructure for a pie-in-the-sky development dream.
Strongly Disagree	Liquid natural gas isn't as clean as it sounds. It relies on fracking, which is an extremely dangerous proposition.
Strongly Disagree	I am totally opposed to out of control development of LnG prior to appropriate and badly needed research on environmental impacts including growing concern regarding the fracking process to extract the gas. First Nation near Fort St James have expressed serious concerns about the significant escalation in reequets for licences to explore and in addition numerous requests for water licences. They have serious concerns about the mammoth volumes of fresh water that are

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	needed just for one well, In my view there are huge environmental concerns about LNG and it's impact on our GHG levels. We will not be able to meet our GHG reduction targets if even half of what is proposed goes ahead. First Nation concerns must be adressed before we continue further with this industry. LNG is not clean energy!!   I am totally opposed to us using the power from Site C to power LNG production in Kitimat.
Strongly Disagree	Support for the LNG industry has no place in a clean energy strategy and no place in our already climate-change-impacted world.
Strongly Disagree	
Strongly Disagree	BC does not support LNG at all. Nobody wants it. It is a horrifying and terrible investment and does nothing but destroy our vital water sources. Stay away from it if you have any conscious at all, or just watch the documentary Gasland if you really don't have time to look into what fracking does to communities. Communities in the North are already being poisoned by LNG fracking.
Strongly Disagree	It makes no sence to wreak beautiful and productive farm land to produce non-renewable gas which, when burned will increase carbon in the atmosphere and worsen global climate changes.
Strongly Disagree	I strongly disagree that BC Hydro should support the "LNG industry." LNG is not a clean energy source and is hindering BC from meeting our greenhoyse gas emissions targets. It also contaminates water with a slurry of undisclosed chemicals. I would like to see BC Hydro develop truly clean, renewable energy infrastructure like wind and solar.
Strongly Disagree	The loss of farmland and wildlife habitat resulting from flooding for the dam and the use and contamination of vast quantities of fresh water for fracking for natural gas make this entire project undesirable.
Strongly Disagree	
Strongly Disagree	It should be obvious from the latest IPCC report if it wasn't already, that most fossil fuels need to stay in the ground. We should be focusing exclusively on clean energy sources at this time, and not building any further infrastructure to support fossil fuels. In addition, natural gas extraction normally involves fracking, which is known to contaminate the water supply.
Strongly Disagree	Lng requires way too much electricity to be profitable, and the government is jumping on the LNG bandwagon completely without thought for the futureof BC..
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	I'm very worried about this kind of Energy. It's totally against the precious nature, which is so beautiful and special. BC is one of the few places on earth. Please be very kind with this place.

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Strongly Disagree	'natural gas supply options' is not clean energy.
Strongly Disagree	I don't believe it is needed!
Strongly Disagree	We shouldn't be supplying any industry with cheap energy, number one. Number two, why support an industry that is going to contribute to an increase in the amount of carbon dioxide being emitted into the atmosphere? It doesn't make sense seeing that the latest Intergovernmental Panel on Climate Change (IPCC) report from the UN states that the future is becoming dire with respect to CO2 levels.
Strongly Disagree	LNG production is theoretical at best. LNG production will add to carbon emissions that cause global warming.
Strongly Disagree	Comments: Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	We, the public of BC, need to first go through a proper planning process that considers the pros and cons of LNG development before any major investments or developments are undertaken. The EA process is focused on individual projects like Site C; we need a broader public process to consider the broader questions of LNG development, from extraction to export.
Strongly Disagree	Site C will be MASSIVELY environmentally destructive. As is hydraulic fracking, the process used to extract natural gas. The potential destruction of the environment and the carbon footprint of these projects is staggering, and disgusting.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy. I do not support fracking and don't want to wait for the water table to be contaminated to be proven correct. 35% of fracking concrete sleeves fail and allow toxic chemicals to seep into water tables.
Strongly Disagree	The LNG process is going to rely on fracking which uses incredible amounts of water and pollutes this water at the same time. This is not a clean energy form at all. In addition LNG is going to need a very high amount of energy which counteracts the argument for its use in the first place. Thirdly, there is lots of natural gas around the world that can be supplied at a lower price than that which B.C. can. Because LNG plants require so much energy the amount of greenhouse gas



	emissions would be excessive and undermine the need to reduce these emissions.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	
Strongly Disagree	Natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity.     No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	LNG is not a "clean energy". I would much rather support wind and solar power development than invest so heavily in LNG. Diversify. Both dams and fracking are DANGEROUS for our environment.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by

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	fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	un-economical
Strongly Disagree	un-economical for Province
Strongly Disagree	
Strongly Disagree	LNG is abundant throughout the world. The process to retrieve it, fracking, is extremely wasteful   and harmful. Ground water will be forever contaminated. We would be smarter to start producing energy from the sun.
Strongly Disagree	For one thing, we do not know the underground systems of aquifers, water flow or underground water pools. Once these are contaminated by fracking chemicals, they can not be decontaminated. Why do we keep playing Russian roulette with our natural resources?? Quite simply, when we can't drink the water, we die. How difficult is that to understand??
Strongly Disagree	I don't understand why anyone would support anything that supports fracking!!!! Evidence exists to show that this practice contaminates the water supply, uses incredible amounts of water in the first place, and leaves dirty water behind. Please explain to me why this would be a good idea.
Strongly Disagree	
Strongly Disagree	Tax payers are already subsidizing BC Hydro because of the IPP mess. Is the LNG industry going to pay the 110+ per MWH for the IPP power or are the bc hydro customers going to be subsidizing that industry too? Right now there is a worker shortage for the trades that would be required to build the LNG pipeline and infrastructure. Until there are BC citizen able to do the jobs the gas should just stay in the ground. It has been there for millions of years, another 10-20 is not going to hurt it. Also why sell LNG when there is a glut on the market even if BC has to wait a 100 years to get top dollar for it is worth the wait. BC has to think very long term about its non renewable resources. If it is not a benefit to BC workers they can stay in the ground until they are.
Strongly Disagree	There's lots of cheap natural gas elsewhere in the world. Why would anyone want to pay more for LNG from BC? It is a mistake to shape BC Hydro around an industry that will likely never produce a profit for residents of BC. The LNG industry will be fed by fracking, which will contaminate an enormous quantity of water and will result in even more emissions. Support for an LNG industry has no place in a “clean energy” strategy.
Strongly Disagree	As a former resident of northern British Columbia and currently a occupation health, safety and Environmental professional working in the natural gas industry in western Canada; it is misleading to suggest that 12 LNG projects will be approved. It is most likely that due to the cost, the need to protect the environment and the lack of qualified workers will limit the potential construction to a maximum of the potential developments. BC Hydro is over estimating potential growth capacity to create an addition revenue stream not to provide actual needed power. If BC hydro must increase capacity to the north coast it would be better served to build green generation capacity closer to the end use. Solar, Wave and Geothermal should be invested into before building another dam.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be

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	used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. Natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can.
Strongly Disagree	Why support the use of natural gas when it is pollutes the environment
Strongly Disagree	The LNG exporters can use LNG to generate power required to liquify - the power need for other uses in the province should come first and we should not increase generation such as run of river IPPs and building site C for this purpose.
Strongly Disagree	LNG is a climate-changing gas product that should remain in the ground.
Strongly Disagree	LNG is not needed as the world wide supply is huge. Fracking is about the worst thing you can do for poisoning water tables . BC Hydro needs to look into the future and diversify in wind, solar and other green technologies. No to LNG projects . LNG sucks.
Strongly Disagree	The Province of BC has set fossil fuel emission targets that won't be met with further exploitation of gas reserves. UN Climate Change Panel has made recommendations to the global community that a transition to renewables is key if the climate change is to be held at current levels, or reduced to 360 parts/per million. BC cannot continue to be the warehouse of raw resources to the world.
Strongly Disagree	
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	
Strongly Disagree	
Strongly Disagree	LNG has no place in a clean energy strategy

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Strongly Disagree	LNG is not an environmentally sensible option and should not be encouraged.
Strongly Disagree	All of this hype about LNG is just that. There is so much supply of natural gas world wide that if these plants were to be built we would never recover the costs. Russia is loaded with the stuff and \I think most people are worried about the damage from fracking mostly to the water supply.
Strongly Disagree	The pipelime industry can not be trusted
Strongly Disagree	I don't support the 'fracking' method. Also there are lots of existing LNG resources globally and I don't feel BC will have a competitive edge in this industry. Also BC Hydro should not be in the business of 'prospecting'.
Strongly Disagree	Comments: Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “œclean energy” strategy.
Strongly Disagree	Destroying the environment in order to obtain "cheap" energy is shortsighted, greedy, and quite idiotic in the long-term, which is not being considered.
Strongly Disagree	Poorly conceived business plan...
Strongly Disagree	BC Hydro should not subsidize the extraction and liquifying of fracked BC gas anywhere in the province. Gas is a non-renewable resource, has a carbon footprint and the fracking extraction process is damaging to surface and subsurface water. In addition, a huge amount of energy is needed to liquify the gas and most will be supplied by burning gas itself, adding a huge amount of greenhouse gases into the atmosphere. In addition, if BC Hydro is required to subsidize the LNG industry, ratepayers will also have to pay huge amounts to a polluting industry that may not even be profitable.
Strongly Disagree	The LNG industry is carbon-intensive and will make it impossible to meet B.C.'s legislated emissions reduction targets. In other words, the LNG expansion would break the law in B.C.! Given the most recent report by the international panel of climate scientists, it is an irresponsible thing to do.   B.C. Hydro should not be a party to this reckless plan.
Strongly Disagree	We are planning to ship natural gas to China. But Russia has lots more natural gas than we have, and is much closer to China, and it makes a lot more sense for China to get it from Russia. Its not clear that the Natural Gas produced in BC will ever find a market, and this whole issue is so much pie-in-the-sky.
Strongly Disagree	The LNG industry should be required to pay for this upgrade if required. The LNG projects should be required to run on clean electricity and not burn natural gas to power their compressors. In addition the LNG industry should not be given legacy rates but should be charged the cost of the current IPP contract rates plus a line charge.
Strongly Disagree	Problem # 1 is that the natural gas is, by and large, to be obtained by fracking. This approach contaminates water and can destabilize geological formations and is very energy intensive - not sustainable.   Problem # 2: There is lots of natural gas becoming available around the world so it

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	is financially irresponsible to essentially subsidize LNG exports through BC Hydro. There is even a chance BC ratepayers could be left paying for a failed gamble by the BC government.
Strongly Disagree	The LNG industry has not yet been proven to be a viable or environmentally acceptable industry in B.C. and even if it is viable what is the business benefit for BC Hydro to make significant infrastructure upgrades to support it. Especially considering the ability for self-sustained energy from gas turbine generation sets etc.. So the key statement above is "invested wisely" and is LNG really a wise investment?
Strongly Disagree	We do not need to get into LNG . Some negatives are - it 's environmental demands on the water and demands on subsidized hydro (or expansion of hydro).
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	Although this is being sold as clean energy, it is only really cleaner than coal, however still has a substantial impact on the environment. Furthermore, it is subsidizing other industries and is not a sustainable long-term approach, as the private citizens-tax payers are the ones ultimately holding the responsibility.
Strongly Disagree	There is a glut of LNG showing up in World markets. The plants are unnecessary and may not even be built.
Strongly Disagree	I am totally opposed to any furthering of the natural gas industry. BC and the planet need green energy. Natural gas, fracked in BC, then made into LNG,   and shipped to Asia, then burned, creates a very high total CO2e. Just when we, and the world, are beginning to see the terrible impending effects of   continuing to use fossil fuels, it is absolutely incumbent on all of us to turn to the green alternatives. These costly LNG operations are a commitment   to a terrible, and for BC and Canada, a shameful future.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	I strongly disagree with BC Hydro or rather tax payers subsidizing LNG, which may or may not take off in BC given the glut of LNG in many countries. Tax payers should not subsidize industry, let alone LNG, which is a hugely polluting industry. Furthermore LNG is unlikely to be willing to pay BC Hydro rates and rely on their own energy. Another long transmission line is unacceptable

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	in terms of environmental degradation of the landscape, its impact on wildlife and as already mentioned on BC tax and rate payers. LNG will cause BC to fail spectacularly in meeting its GHG emission commitments. There is nothing clean about LNG and BC Hydro should not support it.
Strongly Disagree	LNG is not the future BC needs to take to move towards a green economy.
Strongly Disagree	No Dams! The ecosystem will be destroyed!
Strongly Disagree	Exporting LNG from BC is a very bad idea. It would use a huge amount of energy. The economics of LNG export from BC are not favourable.     Using clean, renewable energy from BC Hydro to power non-renewable, CO2-emitting LNG is insane.     LNG would require new power from BC Hydro - new power sources such as IPPs and Site C cost more than the sale price, meaning losses for BC Hydro, and higher rates for BC Hydro customers.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	
Strongly Disagree	LNG plants consume too much energy and will create huge amounts of greenhouse gases, which would cause BC to drastically exceed its reduction goals. I would like to see BC Hydro invest in an environmentally safe action plan. We need to refuse to repeat our prior environmental mistakes and look to the future.
Strongly Disagree	BC Hydro already has huge deferral accounts and is now seeking huge rate increases of 26 per cent. Why should ratepayers pay for the development of the LNG industry? What's the industry going to give us back -- 800 permanent jobs at best? We probably shouldn't expect much more than that. Prospective LNG producers are lobbying the socks off Christy Clark right now, trying to get the LNG industry reclassified as a manufacturing industry so they can write off all provincial taxes, as well as 30% of capital costs “ subsidies worth up to \$2 billion across 7 years. I think what this means is that the public will largely pay for the roads into the LNG plants, the pipelines from the gas wells, the dams and power stations to feed the industry, and the transmission system upgrades, while the gas companies take the profits and run.     There's also a lot of uncertainty about the LNG dream. Gas prices are currently falling due to too much supply in North America. Low prices have led to drilling being severely cut back in places like the Horn River Basin in northeastern BC. Pennsylvania's Marcellus Shale is also producing a glut of natural gas. If the U.S. reacts as predicted, it will move into exports, thereby competing with our own. Then, too, there was a big announcement in the early summer about Japan’s technical success in extracting gas from offshore deposits of methane hydrate. If Japan finds a way of bringing such gas to market, it will be a game-changer for that country given its proximity to the hungry Asian markets, and also a game-changer for our own if we've become committed to LNG.     There's also the significant problem of a projected LNG industry depended on fracked gas -- a process that uses exorbitant amounts of water, injects lethal chemical cocktails into wells, has dire effects



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	on drinking water and surrounding land and air, and causes earthquakes.     Lastly there's the problem that most LNG plants will be gas-fired; that burning gas to create the heat to liquefy the gas for export would make LNG one of the most carbon-intensive fossil fuels around; that BC will not meet its Greenhouse Gas Reduction Target Act of 2007 if we go ahead.     It's incredible when you think about it. The plans are to throw all our public money into LNG-related infrastructure and at LNG producers, which will ultimately defeat our environmental goals in an era of promised climate change calamity. There seems to be no sane leadership on this matter at all.
Strongly Disagree	There is natural gas all over the world, most of it much more easily accessible than by "fracking". The proven disastrous effects of fracking are devastating for generations, and we have no right to poison our descendants' future. Let's start SERIOUSLY looking at CLEAN energy, and stop destroying our planet.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few " or none of them " will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a "clean energy" strategy.
Strongly Disagree	Quite a few LNG plants are being proposed for BC, it is very likely that very few " or none of them " will ever get built. Natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a "clean energy" strategy.
Strongly Disagree	Several LNG plants are being proposed for BC, but it is very likely that very few " or none of them " will ever get built. Natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a "clean energy" strategy.
Strongly Disagree	This is a boondoggle of the highest order. The future is not in more investment in expensive and environmentally damaging fossil fuel development. This a bad investment for BC Hydro and the BC taxpayers and rate payers who will be left holding the bag.

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Strongly Disagree	The notion of becoming an LNG province is Absurd and very dangerous to my grandchildren. I did not vote for the gov't that is spending my tax dollars on this project and will not vote in future for any party that supports this idea.
Strongly Disagree	Comments: While a dozen LNG plants are being proposed for BC, it is very likely that very few “ or none of them “ will ever get built because natural gas is plentiful and cheaper in many parts of the world than from BC. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro should not be used to subsidize the LNG companies with low-cost electricity. This would entail increase rate for the people of BC. LNG plants are notorious to requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.   Further, the same applies to the Northern Gateway twin pipeline project for which the power consumption would be very substantial and another form of subsidy.
Strongly Disagree	
Strongly Disagree	
Strongly Disagree	Many "pie-in-the-sky" LNG plants are planned for BC, but few will ever get built due to the worldwide glut of lower priced gas. BC Hydro belongs to the people of BC and to gamble with their resource in such a speculative and uninformed way is not acceptable. Citizens of BC do not want to subsidize this LNG industry for private profit. We do not want to bail out the foolish decisions of BC politicians who are rushing into this scheme in an ignorant way. Why should we pay for the excessive amount of energy needed to produce this gas? What is the government doing about its carbon emissions? Nothing but some grandiose profit scheme that will result in terrible environmental devastation especially to the precious water resources. Finally there is no legal transfer of First Nations land title which must be done prior to exploiting the gas by foreign corporations. The only development in BC must be a “clean energy” strategy and gas is not clean.
Strongly Disagree	
Strongly Disagree	Why would you support LNG when we clearly need to put our support on 'non-damaging' renewable resources not 'natuaral' gas which is released through fracking and huge water sacrifice. We must not do this!
Strongly Disagree	Site c dam is a joke. And not needed . It is just another growth of useless bureacracy. We are supposed to pay about 14 billion flor a dam for foreign interests while flooding prime land and creating a lake fifty two miles long. To supply fracking companies with more water to permanently pollute . wind power currently provides the most hydro and tidal and current power is not used. The future offed iced markets, whining from gas   LNG is very suspect as supposed buyers will have their own supplies so we get whining from gas producers, increased local costs and. More tax breaks for suppliers. We, the taxpayers, take the hit.
Strongly Disagree	Stop subsidies to oil and gas.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that

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	likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	
Strongly Disagree	I do not believe that natural gas is a "clean energy supply", especially the way that it is acquired. Cleaner than oil? Yes. That is about it.
Strongly Disagree	I believe there will be an oversupply of natural gas by the time all of the LNG facilities are completed and all the plans will not come to fruition. Therefore there is not a need for an oversupply of electricity.
Strongly Disagree	I feel that this investment in LNG is not a very good idea. The hype over LNG may remain just that as time moves on. Personally, I'm beginning to feel that any fossil fuel commodity is getting to be a problematical resource, because, in this day-and-age, it is a well-known fact that this form of energy is dangerous and destructive. Much more should be done to develop alternate sustainable resources.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	Though it is true that approximately a dozen LNG plants are being proposed for BC, it is also very likely that very few “ or none of them “ will ever get built. That's because natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. In a worst case scenario, BC Hydro may be used to subsidize the LNG companies with low-cost electricity. If this were to happen, BC Hydro would be run into the ground, and the people of BC would pay the price. No matter what the energy source, powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a “clean energy” strategy.
Strongly Disagree	
Strongly Disagree	The LNG industry may not be profitable. It could end up COSTING the tax-payers more money.   It uses fracking, which contaminates huge amounts of water, and also contaminates land.   LNG is therefore not a CLEAN energy resource.

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Strongly Disagree	It makes no sense to destroy beautiful and productive farm land to produce non-renewable gas which, when burned will worsed global climate changes.
Strongly Disagree	Development of LNG should not be supported in any way. The climate crisis dictates that fossil fuel reserves be left in the ground. The latest IPCC report includes a significantly increased Global Warming Potential of methane, with the implication that natural gas, when fugitive emissions are included, is equivalent to coal in terms of GWP.
Strongly Disagree	Focus on your current business before branching out to new sources of energy.....
Strongly Disagree	Destruction of environment and endangering drinking water.
Strongly Disagree	Strongly opposed to fracking.
Strongly Disagree	I do NOT believe that LNG is a good option for meeting future energy needs in BC. In fact we should be reducing our overall energy needs as a province and as individuals, and switching away from all hydrocarbons with the greatest urgency. In particular I strongly oppose your recommendation to "support the LNG industry" because I object to the fracking process which poses grave risks to underground water supplies and uses a great deal of energy in the production process.
Strongly Disagree	LNG development requires massive amounts of energy. Better we use our energy more wisely and let conservation guide our future.   Fracking is known to be environmentally destructive and contaminates ground water. We don't really know the long term environmental impacts of this activity.
Strongly Disagree	Developing LNG requires tremendous amounts of additional energy. Better we use what we have more wisely than use more to create more. (At some point it's all finite, and there are future generations to consider!) Other parts of the world also have huge LNG reserves and BC will not be in the forefront of any great new fuel supply: we will likely be competing for markets and disadvantaged by transportation costs. The environmental consequences of fracking are severe and also not completely understood. We are foolish to create such widespread impacts to the landscape and damage our precious groundwater for a blip in some political economic forecast.
Strongly Disagree	
Strongly Disagree	BC is too far behind in developing LNG and most plants if any probably won't be built. If they are built and there is no market for the LNG BC residents will be holding the debt and our Grandchildren will be burdened with the payout of this debt,
Strongly Disagree	I am not in favour of the methods used to bring Lng to the surface.In other words i do not agree with fracking as a lot of the methods used are questionable and a lot of jurisdictions have forbid it.
Strongly Disagree	
Strongly Disagree	BC Hydro should not be making commitments to an industry that may never be beneficial to the people of British Columbia, who could actually end up subsidizing it with low-cost electricity.
Strongly Disagree	In my opinion, the LNG resource sector is a very questionable investment for BC. There are too many competitors around the world for us to be confident that we will make good profits on this. Additionally, shale gas extraction by fracking is harmful to groundwater resources, and natural gas perpetuates our addiction to fossil fuels, which should be anathema in the current global

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	warming crisis. We must move away from fossil fuel development, including natural gas, and so I oppose BC Hydro undertaking any projects in this vein.
Strongly Disagree	L.N.G. equals fracking, fracking monopolises water, pollutes water and will more than likely poison the land and the animals that depend on it
No level of agreement selected	Totally opposed to supporting LNG.   LNG is not environmentally sound. Switching from coal to LNG as a measure to mitigate climate change is like switching from vodka to beer as a way to get sober.   It's obscene that BC Hydro is planning so spend public money to subsidize a destructive private industry.
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	We live in a changing world. Global economies are contracting not expanding, as the material economic expansion driver, energy, becomes more expensive to extract at the margins. New oil supply no longer bubbles up out of the ground, nor does natural gas lie in large concentrated pockets. As if this was not enough of an incentive to de-energize our economies, climate disruption from greenhouse gas build-up, must be. BC could be a leader in moving to radical energy efficiency and de-centralized renewable energy generation and this is the only sustainable way forward.     In addition, we should not be supporting an extractive non-sustainable industrial operation, which generates very few jobs per dollar and which only serves to further the transfer of wealth from the public to the private sector. Furthermore, many countries globally are chasing the fracked LNG market and even if supporting a non-sustainable greenhouse gas intensive sector was advisable, which it is not, the global market for gas will likely crash in the near term, leaving us with overbuilt infrastructure and a large unserviceable debt burden.
No level of agreement selected	I am in opposition to this plan as I believe it involves fracking, which is extremely harmful to the environment and local landscapes and wildlife, as well as any citizens living in the area. It is too problematic to go ahead with, and morally unjust. There are other far more cost effective and benign ways of garnering energy, such as with solar energy. It is foolish to focus only on profit and ignore the other costs of such projects, especially in light of the recent report on climate change. We need to be preserving and protecting our lands and waters, not continuing all this violent extraction for the sake of financial gain for a few corporations. This practice of prioritizing short term monetary gains at the expense of the land, water, wildlife, and citizens of this province has got to stop. It's time BC Hydro stepped up to lead this province, and the rest of this country, forward into such energy endeavours as solar and wind power.
No level of agreement selected	Why should the public pay for the development of the LNG industry? What's the industry going to do for us -- provide 800 permanent jobs, at best? We probably shouldn't expect much more, given that LNG producers are currently lobbying the socks off Christy Clark, trying to have the LNG industry reclassified as a manufacturing industry so they can write off all provincial taxes, as well as 30 per cent of capital costs "subsidies worth up to \$2 billion across 7 years. I think what this means is that the public will largely pay for the roads into the LNG plants, the pipelines from the gas wells, the dams and power stations to feed the industry, and the transmission system upgrades, while the gas companies take the profits and run.     There's also the problem of uncertainty surrounding the LNG industry. Gas prices are falling due to too much supply in North America. Low prices have led to drilling being severely cut back in places like the Horn River Basin in northeastern BC. Pennsylvania's Marcellus Shale is also producing a glut of natural gas. If the U.S. reacts as predicted, it will move into exports, thereby competing with our own. There was also a big announcement in the early summer about Japan's technical success in extracting gas from offshore deposits of methane hydrate. If Japan finds a way of bringing such gas to

	<p>market, it will be a game-changer for that country given its proximity to the hungry Asian markets, and also a game-changer for our own if we've committed to LNG.     This is to say nothing about the problem of an LNG industry depending on fracked gas -- a process that requires exorbitant amounts of water to inject lethal chemical cocktails into wells, contaminating drinking water and surrounding land and air, and causing earthquakes.     There's also the problem that most LNG plants would be gas-fired; that burning gas to create the heat to liquefy the gas for export would make LNG one of the most carbon-intensive fossil fuels around; that BC will not meet its Greenhouse Gas Reduction Target Act of 2007 if we go ahead.     It's incredible when you think about it. The plans are to throw all our public money into LNG-related infrastructure and at LNG producers, which will ultimately defeat our environmental goals in an era of promised climate change calamity.</p>
<p>No level of agreement selected</p>	
<p>No level of agreement selected</p>	
<p>No level of agreement selected</p>	
<p>No level of agreement selected</p>	<p>Natural gas is plentiful in many parts of the world, and there are other jurisdictions that can supply it at lower prices than BC can. It is foolhardy at this stage to start shaping BC Hydro around an industry that likely will never be profitable for the people of BC. Powering up LNG plants requires an excessive amount of energy and has the potential to create massive amounts of climate-changing greenhouse gas emissions that would cause BC to drastically exceed its reduction targets. The LNG industry would also be fed by fracking, which contaminates an enormous amount of water and results in even more emissions. Support for this industry has no place in a "clean energy" strategy.</p>
<p>No level of agreement selected</p>	



**CONSERVING FIRST**

*Participants were asked to provide their level of support with BC Hydro’s recommended actions: to support ‘conserve first’ by maintaining BC Hydro’s demand-side management measures at the same level going forward as has been undertaken in recent years, and preparing to increase these measures as load increases. BC Hydro is relying on all three customer classes to undertake demand-side activities and meet our 7,800 gigawatt hour target in fiscal 2021. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on conserving first.*

<b>Response</b>	<b>Frequency</b>
<b>Strongly Agree</b>	231
<b>Somewhat Agree</b>	97
<b>Neither Agree or Disagree</b>	19
<b>Somewhat Disagree</b>	21
<b>Strongly Disagree</b>	36
<b>Total</b>	404

**Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on conserving first.**

Strongly Agree	As one of the first people in BC to completely convert my home to LED bulbs I know first hand how much power can be saved if an effort is made to convert to energy efficient LED bulbs... I re-lamped over 120 bulbs in my home and did a power audit which has resulted in ~50% drop in energy use... I'm now regularly only paying at the tier one lower cost lever every month excluding summer months where I use A/C to cool my house... Focusing on saving energy is the smart way to prepare for the future. Education is also key. People need to be shown where the power hogs in their house are. A power audit is the best way to accomplish this. Here's the article the BC Hydro folks did on my LED re-lamp project... <a href="http://www.bchydro.com/news/conservation/2012/house-full-of-LEDs.html">http://www.bchydro.com/news/conservation/2012/house-full-of-LEDs.html</a>
Strongly Agree	We all, including business & industry, need to work on conservation of our energy resources.
Strongly Agree	Conservation in anything is good and the best way to preserve our resources.
Strongly Agree	If electricity is wasted there is no getting it back. We must use this and all our resources wisely.
Strongly Agree	We need to be prepared, while ready to take advantage of new sources,

Strongly Agree	
Strongly Agree	Prudent management of resources
Strongly Agree	Demand-side measures, until proven otherwise, remain the most cost-effective way of reducing the pressure on the load therefore reducing risks of rotational blackouts as well as increasing the reliability of the grid.
Strongly Agree	I do NOT want increased prices to accompany the message to conserve. Recently, seniors have been negatively impacted by the rising prices, and they are already good at conserving energy.
Strongly Agree	Conservation and efficiency make economic and environmental sense
Strongly Agree	
Strongly Agree	Conservation must always be considered above all other factors.
Strongly Agree	
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	wow, im just saying right now we need a climate change, no more fueled cars, using gasoline and stinky oil and all. i use unleaded gas, as to not pollute that air and all even my car engine. i think it would be sweet, solar powered, even battery powered cars are our future.
Strongly Agree	
Strongly Agree	
Strongly Agree	Conservation should be a primary method to save energy if the cost is cheaper than the long run marginal cost of acquiring new generation.
Strongly Agree	Please bring in reduced domestic rates for night-time use.     Encourage high rise business towers to keep lights off at night. It would save power and also save the lives of millions of birds.     Find better street lighting so that energy is wasted lighting up the sky above, but is only used to light of the street and walkways below.

Strongly Agree	efficient and effective conservation is key.
Strongly Agree	I believe conserving energy as a first priority is a win-win-win solution. The consumers win by saving money on bills, the utility requires less supply infrastructure, and all the social and environmental benefits associated with energy supply and consumption, since less is required in the first place. Furthermore, British Columbians are relatively highly inefficient with energy use, and there is an enormous opportunity to conserve energy through available technologies and smart demand-side management. This is the greatest "bang-for-buck" solution when all things short and long term are considered.
Strongly Agree	
Strongly Agree	
Strongly Agree	Time of day metering needs to be brought in to reduce peak load and save rate-payers the cost of building more capacity
Strongly Agree	the obvious choice
Strongly Agree	I propose that BC Hydro put more emphasis on conservation.
Strongly Agree	Power conserved is the best thing
Strongly Agree	
Strongly Agree	Conservation and measures that support conservation should be top priority to optimize use of resources and avoid waste. Policy tools, including codes and standards can be used to increase participation in conservation efforts. Multiple approaches can be considered, including community based marketing, incentive programs and education solutions from schools, to colleges and universities, to continuing education and professional development. Time-of-use rates could be used to reinforce energy conservation goals and prompt users to more even demand on the grid. Care should be taken that the measures are fair and do not place a burden on less affluent members of society or exempt large users from the need for conservation measures.
Strongly Agree	BC must serve its residents, communities and businesses first.
Strongly Agree	It is by far the best way to address energy challenges in the future. PowerSmart is a good program.
Strongly Agree	
Strongly Agree	A sensible conclusion to come to.

Strongly Agree	
Strongly Agree	
Strongly Agree	
Strongly Agree	conserve first is green and cost effective
Strongly Agree	
Strongly Agree	
Strongly Agree	History has taught us that humans have an endless capacity to use up their habitat's resources, no matter how abundant it may seem. Even if we successfully make the painful yet necessary switch to green energy, we must assume that our new sources of energy will encounter unforeseen problems when future demand increases. The most logical way to mitigate unforeseen energy problems is to limit our energy use to only what is necessary. Of course this is MUCH easier said than done. This is why the power-smart program is absolutely vital. It simultaneously promotes a message of smart economy and healthy environment. There are few adds that don't annoy me when I want to watch a You Tube video, but I am willing to hear what the Power Smart program has to say, even when I'm relaxing online.
Strongly Agree	
Strongly Agree	This is a fantastic program and it aids home and business owners to take matters into their own hands. This program has been working and will continue to work as long as it is around.
Strongly Agree	
Strongly Agree	
Strongly Agree	I think this a huge opportunity and very aggressive targets need to be set. I don't mind paying more for electricity if it helps the conservation strategy.
Strongly Agree	It is up to citizens to conserve energy and "natural resources"
Strongly Agree	We need to help people understand the conservation measures. More programs like this should be planned, this will allow gradual change in unsustainable energy habits.
Strongly Agree	Conservation will reduce the need for new power plants.

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Strongly Agree	I believe this is a very important facet of BC Hydro. The public needs to be constantly reminded and educated on power usage. Offering incentives for residential and commercial users for opting to use more efficient fixtures and practices in their daily routine is key.
Strongly Agree	BC already produces more electricity than needed. Concentration should be on wise use of this resource. Follow some of the European plans for conservation and development of future needs.
Strongly Agree	
Strongly Agree	
Strongly Agree	We are terribly wasteful as a people, and could reduce our power consumption dramatically. The problem is power is so cheap, that conserving does not seem worth it for the majority. What we need is a carrot and stick approach to effect change. Give large incentives to retrofit homes with solar heating and power, but also raise rates to fund the incentives, so those that do not change feel the price pressure. Right now, policy is not strong enough to create large change, it needs a major movement in price signals.     There are emerging solar heating technologies that are less than the cost of electricity, and with site generation, offset 3 times the electrical from a Central location.
Strongly Agree	It's clear that despite the dishonest rhetoric, BC hydro is putting conservation last in terms of hard cash invested.
Strongly Agree	Using energy wisely by conserving is the way to go before undergoing any massive project that will cost us invaluable farmland.
Strongly Agree	Conservation needs to be the driving force of a made-in-BC energy plan. And we should keep increasing the costs for heavy users for residential, business, and industrial.   It is not necessary to meet everyone's DEMAND for energy. Those of us who are working hard to conserve energy and use less should be the beneficiaries of lower rates.
Strongly Agree	
Strongly Agree	Reducing our demand ges a long way to address long-term issues. We have developed a need to consume in recent decades, it will take decades to wean ourselves off this habit - or find ways to mitigate our increased power usage.
Strongly Agree	It only make sense and is key to savings.
Strongly Agree	well played
Strongly Agree	Conservation is an important and cost effective means of increasing the number of households and businesses B.C. Hydro can serve. We need to do more by increasing price incentives to consumers and encouraging more household power generation (solar or wind), by allowing customers to sell their excess energy back to the grid.
Strongly Agree	There are many oppourtunities for conservation and this help insure future generations will enjoy the same quality of life we have.
Strongly Agree	Conservation is key. Prices should be increased to prompt more conservation by consumers. Electricity is so cheap in BC that consumers have little incentive to conserve.

Strongly Agree	Encouraging usage during off-peak periods by charging lower rates would be a very effective method of conservation.
Strongly Agree	Reducing energy consumption must be the FIRST thing we do! All sectors, especially corporate/industrial should be doing this. And promoting site-produced power, so individuals and communities are not tied into the corporatocracy must be encouraged before any mega-projects.
Strongly Agree	Excellent idea!
Strongly Agree	The reasons BC Hydro states are obvious and supportable. However, it is hypocritical in the extreme to build Site C to support fracked LNG, especially when Premier Campbell misrepresented Site C as being necessary to meet society's energy needs, not that of the greedy and short-sighted dinosaurs of the petroenergy consortium. And what about our rates increasing despite conservation and smart meters because of the hanky-panky BC Hydro got itself mixed up with in California - we had nothing to do with that and realize NO rewards for our constraint - it is also hypocritical to expect us to conserve when there has been no accountability for this expensive hanky-panky on the part of the 'responsible' BC Hydro executives - they probably got raises, bonuses and/or golden parachutes. Remember, we the people own BC Hydro and some day maybe there will be enough who see through the politics to do something about it - I'm not holding my breath, though, I'm conserving to help Gaia.
Strongly Agree	BC Hydro's statements are of course a no brainer and the conservation net should be cast far wider - urban centres are grossly wasteful, for example, excessive light pollution and empty buildings heated and lit all night long with nobody in them. It's hypocritical for us to conserve and yet our rates go up anyway because BC Hydro got caught up in hanky panky energy scams south of the border - this disincentifies and penalizes us. Where is the accountability on the part of BC Hydro's executives who got into this mess? Did they get raises, bonuses, golden handshakes or what? Where's the disincentives for BC Hydro's managers?
Strongly Agree	It benefits everyone when consumers get help conserving. Consumers save on energy bills, and we can postpone the need for costly infrastructure for new power sources.
Strongly Agree	We simply must consume less energy as we move towards sustainable living. If anything I hope BC Hydro puts more resources into demand-side management. For example I would hope that BC Hydro already has a program of going into schools to educate young people about the importance of conservation. If BC Hydro does not have such a program, please pass along this suggestion to management.
Strongly Agree	
Strongly Agree	
Strongly Agree	Conservation makes the most sense. People use way too much power without realizing the consequences. industry and big bussiness on the other hand, should be enticed to conserve power much more than the domestic consumer.
Strongly Agree	We should push as far as we can with conservation measures before any new developments are considered. Have you considered the practice of charging more for peak hour use?
Strongly Agree	Conservation is the first and most economical and environmentally responsible choice , although i have no confidence that this will effect BC Hydro's plans for development



<p>Strongly Agree</p>	<p>I strongly agree with conserving energy.     I still see many ways to cut back on energy use.     #1. Turn off the lights at night.   Office towers can turn their lights off and save birds lives. Cleaners can turn the needed lights off and on. Keeping the office lights on to save start-up energy is a fallacy. entire flocks of migrating birds are dying due to needless electrical wastage. Turn off decorative bridge lights. Put a limit on Xmas light wattage used. All this energy has to come from somewhere.     #2.: Shade street lights and yard lights -reduce the wattage!   Macro-degeneration of the eyes which many of us elders experience is really irritated by all the overly-lit light sources. Driving from an overly-lit highway junction into the dark highway results in night-blindness and inability to see what is in the periphery. The lit junction ends up being more dangerous that if it was left unlit!     Formerly there weren't so many lit up areas -I believe we are in the time of overkill. More isn't better.     The orange lights have alienated many communities. The Red Mtn ski-hill condominium community and the Kaslo main-street have sabotaged their good intentions to create an intimate old-fashioned feeling by creating an over-lit orange penal institution feeling instead. People avoid these uncomfortable-feeling areas and are actually selling their condos as unlivable.     3#. Ban phantom lights on all the appliances.   In a 560 square foot apartment there are 20 phantom load lights. We can no longer attain darkness and have electrical appliances -which can have deadly results for our health. Cancers are triggered by lack of melatonin, especially breast cancers.     #4. Make household electricity use more efficient.   A diesel -engined commercial fishing-boat can power the boat, heat the boat, provide heat, heat the water and cook the food and power the communications systems and radar.   Why isn't electrical use as efficient? One energy feed should do the entire function.   There is a lot of waste heat in fridges, and appliances in general.     #5. The dark isn't scary.   Communities who have turned off their lights at night are reported to sleep better, be healthier, have less crime and their Observatory functions now, due to less night-sky glare.( Denver, Colorado)   Having grown up comfortably in night darkness, I still have excellent night vision, and am very comfortable walking without a flashlight at night. Most of my friends who grew up in cities have no idea that normal night-vision is possible and can be preserved. It is time for normal night-vision to become a reality again.</p>
<p>Strongly Agree</p>	<p>Conservation improvement is inarguably the most effective tool we have. However, I am skeptical if the incentive to industry is sufficient to induce compliance.</p>
<p>Strongly Agree</p>	<p>However we also need to encourage BC resident s to generate their own power with solar panels, geothermal power or wind. When you create your own power you have a much better understanding of what uses alot of power and what does not and can thus adapt your behaviour accordingly.</p>
<p>Strongly Agree</p>	
<p>Strongly Agree</p>	<p>Forecasts of BC power requirements are typically too high. Strong measures to spread out peak loading, encourage energy efficiency in building design/upgrades and investment in passive solar installations for hot water heating should reduce future peak loading infrastructure build out. (And with that any increase in BC Hydro debt load)</p>
<p>Strongly Agree</p>	<p>Conserving energy (using less) by such methods as retrofitting commercial, private and gov't buildings should be #1; incentives to do so are appropriate, along with removal of incentives for extractive, non-renewable energy sources such as coal and natural gas; stop subsidizing dirty, energy-intensive industries.</p>
<p>Strongly Agree</p>	<p>Conservation of energy is a no brainer - just good common sense. Many other countries such as Japan have demonstrated the savings in energy that can be made when all consumers are conscious of the wastage of energy. I believe BC Hydro should continue its focus on energy savings rather than finding yet more new ways to destroy the environment by developing more new energy.</p>

Strongly Agree	As stated, conservation should be the first, and is the best, choice to meet future demand growth. Canada is already a relatively inefficient energy user. We should do all we can to catch up and exceed the efficiency of the most efficient countries in the world.
Strongly Agree	Investing in demand side management initiatives promotes self reliance and innovation.
Strongly Agree	
Strongly Agree	To do this BC Hydro needs to cancel all pending IPP "run of river" contracts. These only add electricity to the grid and encourage increased consumption. These projects do not make electricity when it is needed most domestically. They come on line at the time of year air conditioning use in out of province areas skyrockets. Air conditioning is very inefficient and an energy hog. It costs far more environmentally to keep offices and shopping malls a couple of degrees cooler than it does to do the opposite and keep them warm to acceptable levels in winter. "Run of river" serves only to promote use, not conservation as there is an excess at the time of generation.
Strongly Agree	Conserve energy by higher prices as well as education.
Strongly Agree	I believe that DSM is an integral part of energy "production" in BC. An important way to incentivize conservation is simply to increase the cost of electricity, as economics are the only impetus that consumers, whether they be industrial, commercial or residential, respond to. While this may approach may not please the masses, if BC Hydro and the Province is truly committed to energy conservation and meeting out environmental and emissions targets, the fact that consumers respond to high prices (either through conservation or innovation) cannot be ignored.
Strongly Agree	Absolutely.   All the energy we use is wasted - ultimately transformed into heat. There is no lower limit to the energy we need. [I exclude from this the energy required to separate aluminium form its ore, and comparable chemical separations]. For example, in theory, no energy is needed to take a car down a mountain and backup again (try Hot Wheels if you do not know this); in practice some energy is required because of friction and air resistance, but there is no lower limit to this.   Buildings should all be constructed with sufficient insulation that they are thermally isolated (almost) fromt the surroundings; then a central heating system will not be needed. I have a friend who built a nice such house in New Brunswick, and I understand these are built in Germany.   To encourage this we must put price on "carbon". More than we do now. We will also have to put a carbon price on imports from countries that do not have their own.
Strongly Agree	Absolutely.   All the energy we use is wasted - ultimately transformed into heat. There is no lower limit to the energy we need. [I exclude from this the energy required to separate aluminium form its ore, and comparable chemical separations]. For example, in theory, no energy is needed to take a car down a mountain and backup again (try Hot Wheels if you do not know this); in practice some energy is required because of friction and air resistance, but there is no lower limit to this.   Buildings should all be constructed with sufficient insulation that they are thermally isolated (almost) from the surroundings; then a central heating system will not be needed. I have a friend who built a nice such house in New Brunswick, and I understand these are built in Germany.   To encourage this we must put price on "carbon". More than we do now. We will also have to put a carbon price on imports from countries that do not have their own comparable carbon taxes.
Strongly Agree	with the disasters we have seen the past year such as floods and tornadoes and many of these disasters being linked to Climate Change and with recent warnings by scientists the public has a new awareness and intent to be mindful about their consumption and has a

	willingness to conserve
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	all about conservation
Strongly Agree	
Strongly Agree	I strongly support conservation and efficiency measures.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	This is the area where our economy really can grow. Moving towards factor 10 or higher radical energy efficiency is where a sustainable future lies. Currently BC Hydro's plans in this area are way too timid. Referring to the work done by Amory Lovins and the Rocky Mountain Institute, in their "Reinventing Fire" initiative, we can see where dramatic increases in energy efficiencies are not only possible with today's technologies, but cost us far less than new generation.
Strongly Agree	For residential customers, the smart-meter program should have made it possible to begin time-of-use pricing, and my understanding is that the BC government is looking at time-of-use pricing for industries as well. BC Hydro should move forward with this to encourage off-peak power use as quickly as possible.

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Strongly Agree	the smartest option by far
Strongly Agree	According to studies I've seen, conservation is the cheapest option while creating many more jobs per \$ invested than any other energy investment.
Strongly Agree	Common sense in an age of rising populations and greater demand leads to a policies which promote conservation. This is a common sense proposal which most people would support.
Strongly Agree	conservation is the wave of the future as the population explodes. If we destroy our environment in the process of constantly increasing our electricity output, and destroying valuable water and land features, we will all suffer and our whole system will collapse. Great job for your conservation efforts - industry must also pay their fair share and participate in conservation initiatives.
Strongly Agree	Many countries and other provinces are going with the conserve first then to how to generate more power. As I stated in my previous comment ... Ontario is a good example
Strongly Agree	
Strongly Agree	I would encourage and utilize incentivized programs to reduce energy use through grants, rebates, and equity loans to retrofit homes and public buildings.
Strongly Agree	We can all do more to conserve energy, individuals, government and especially business. We should be looking for clean energy sources such as solar, wind and possibly tidal energy to supplement our hydro power. Incentives to develop and increase those technologies should be an important part of our energy plans.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times.
Strongly Agree	Yes. Conservation should be a top priority. Awareness of energy use by all consumers of energy is an essential first step, and promoting conservation through public awareness campaigns and financial incentives to use energy less and more effectively, is something I fully support.
Strongly Agree	Conservation should always be a priority. It would be great if Hydro was able to charge lower rates for low usage times and higher rates for high usage times.
Strongly Agree	This just makes the most sense. The energy saved through educated and thrifty consumption choices has been shown to be equivalent to some entire power projects. Scores highest on environmental impacts (none) and distributed economic impacts, with a focus on user-pay. I am also a supporter of time-of-use billing to encourage consumers to spread the load, so that we don't need to plan for huge max load scenarios.
Strongly Agree	Energy conservation should be encouraged at all levels. Industrial users should be charged the same rates as residential users to further encourage conservation in that sector. This will encourage innovative research on strategies to increase energy efficiency and this expertise can be sold to companies in other countries.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.

	In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	Much more should be done to force big business and office towers to conserve, besides homeowners. Also, hydro shouldn't support dirty, carbon producing   projects like coal mines .
Strongly Agree	Largely ineffective without a time-of-use pricing that would have much better results to conserving at peak demand periods.
Strongly Agree	Conservation is more cost-effective, and is inherently environmentally friendly compared to building new resources such as Site C.
Strongly Agree	Conservation is paramount. The first R is reduce because reducing consumption and waste is the most effective means of greening our impact on the environment of BC.
Strongly Agree	Absolutely ... we ALL need to use less for the sake of the future generations.
Strongly Agree	Goes without saying
Strongly Agree	Subsidies for conservation initiatives are a much better way of supplying our energy needs. There is a lot of opportunity for smaller businesses to, if not manufacture, at least assemble and install small, local and household "smart" energy. There are a lot more jobs in building and installing small systems for tidal and wind, and for household installation of not only photovoltaic, but also passive solar.   Demand side management is a better way to stem BC Hydro's financial bleeding and pending bankruptcy.
Strongly Agree	As a society, we need to be conserving rather than expanding. But this must go beyond the ordinary household. It is industry where we need to conserve and stop expansion. On a finite planet, infinite economic growth is a fallacy. We must change the model to ensure a future for our children. Anything else is complete madness, driven by greed.
Strongly Agree	see the comments on the prior question
Strongly Agree	
Strongly Agree	Educate the public.. get the message across.
Strongly Agree	I think the biggest power savings are possible through conservation measures first and foremost.....then comes the fancy/new, and complicated expensive technology such as solar and wind power. Developing alternative energy sources should be secondary to conservation. Not focusing on power conservation   would be similar to driving large pickup trucks instead of small cars for no actual useful and productive reason.
Strongly Agree	

Strongly Agree	I strongly agree that conservation is very important for ALL private AND corporate citizens to undertake. Do NOT force the general public to conserve unless corporations are forced to as well.
Strongly Agree	
Strongly Agree	Actions to educate to reduce the demand for electricity are important but more can be done. For example, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	
Strongly Agree	
Strongly Agree	Canadians use more electricity per capita and per household than any other country in the world, including the US. Obviously conservation does not go far enough. Germany for example uses one one quarter the energy that Canadians use due to better conservation-- insulated houses, thermal windows and incentives for conservation, such as higher pricing. Despite having insolation that is the same as Alaska, Germany gets 25% of its energy from solar because of support for solar such as feed-in tariffs.   BC needs to reduce domestic consumption by time-of-day pricing and industrial consumption can be decreased by not subsidizing it with unrealistically low rates.
Strongly Agree	
Strongly Agree	
Strongly Agree	This is a no brainer for the reasons BC Hydro states. However, whatever savings we might realize are for naught because we have to pay for the hanky panky BC Hydro got caught up in south of the border. Where is the accountability for these bad decisions?
Strongly Agree	In order to transition to alternative energy sources, we will need to walk back on our energy consumption while this is ramping up. Conservation will play a huge role and wasting energy should be a crime.
Strongly Agree	The amount of "clean" energy that we can produce is limited. As demand grows, conservation and efficiency are the best way to limit the demand and stress on our natural resources. A smart grid to help moderate when electricity should be used would be beneficial. This would help moderate when the dams are used and cut down on peak energy times and the need to buy additional energy or run water through dams at less than optimal times.
Strongly Agree	Using less is the best way to save more.



**Integrated Resource Plan Appendix 7I**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Strongly Agree	So many users are still so incredibly wasteful, I had a neighbor who kept his hot tub running all summer even though he was away the whole time. There is a lot of energy out there that is just wasted. The conservation of energy would free up a tremendous amount of energy without spending bucketfuls of money on new energy projects.
Strongly Agree	further action should be taken on this, even more action should be focused on industry
Strongly Agree	I am willing to curtail my energy use as I have been doing fro the last 30 years but I feel it is inappropriate to expect the masses to do so and then be faced with un-precedented rate hikes, to have health endangering so called "Smart meters" shoved down our throats and all of this so that the BC's CEO's can continue to pocket obscene salaries and cover up their poor fiscal decisions.
Strongly Agree	Your first paragraph above says it all, conservation is the cheapest and most easily attained means of reducing future growth needs.
Strongly Agree	
Strongly Agree	Conservatio first is a 'no-brainer'--we should explore every measure feasible for demand reduction before increasing supply
Strongly Agree	
Strongly Agree	Conservation is something everyone understands and supports. Individuals and families are doing their best. Let's mandate businesses to do the same. By instituting monthly "power downs" when all unnecessary devices and appliances are turned off between 7pm - midnight people would gain awareness and start creative events and initiatives in their communities when devices are down.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	
Strongly Agree	Conservation is a key to the need for new facilities to generate energy.
Strongly Agree	You said it all. Conservation and efficiency are paramount goals for the sake of BC resources, carbon conservation to limit global warming and our pocket books as well.
Strongly Agree	I think we are very wasteful of energy, partly because it is so cheap, and partly because we don't realise how much our appliances and communication devices use, even on standby, so that education, development of alternatives such as solar, and price consciousness could be improved a lot.

Strongly Agree	Comments: Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	Conservation is the only plan that makes total sense. Energy prices should be related to time of use - peak hour use should be higher than off hours.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	If BC follows Ontario's play-book, the cost of energy savings equals the cost of energy supply-side development, without the carbon footprint. They have made a commitment to \$4 Billion in energy conservation initiatives. The math around the comparative carbon footprint speaks for itself.... two wins with one initiative.
Strongly Agree	Right now energy is still so cheap we don't even think about it. We could use, far, far less. When I was in Denmark, I saw that they treat energy as the precious resource that it is - because it's costly. There is huge potential for conservation.
Strongly Agree	Providing incentives for energy conservation and changing behaviors is essential. However, more importantly, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building

	infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	More conservation is needed A.S.A.P.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity
Strongly Agree	BC Hydro can do more. Bill us all according to when we use electricity ie it costs more per kw during peak times. Encourage govt to provide more energy reduction incentives for both homeowners and businesses.
Strongly Agree	
Strongly Agree	'Conserve first' is a vital part of any resource plan and managing load increases by focusing on the demand-side is a key strategy.
Strongly Agree	Conservation is the key to a sustainable electrical system. There is lots of opportunity to increase efficiency by all users and BC Hydro should actively encourage this. As well, BC Hydro should not be enabling energy intensive, polluting industries such as coal mining with the use of clean hydroelectric power.
Strongly Agree	This should be a number 1 priority. We can start by using our smart meters to price energy at varying rates, depending on the time of day. I believe BC Hydro could do a lot more to support conservation first.
Strongly Agree	
Strongly Agree	Clearly, we need to conserve and be more mindful of consumption of all things, especially power. Please continue to encourage conservation and gear all operations towards the future of conservation.
Strongly Agree	This description of policy is worded in an unusually confusing manner but if it means should conservation be the principle focus before any expansion of supply is considered I "strongly agree".

Strongly Agree	We should be doing much more to decrease load on BC Hydro by enabling BC residents to 1) see their power consumption inside the house using the new smart meters. Observing consumption will result in reduction of use 2) Get on to net metering much more easily. BC hydro should be encouraging the use of solar panels on every home and business to make all users as independent as possible and have a very distributed energy production grid.   3) Get consumers to change their power usage habits by charging different rates at different times of the day, diminishing the peak load requirement.
Strongly Agree	This is a good step, but more steps must be taken like different rates with peak & down time moments during the day.
Strongly Agree	Demand-side decreases is the only way to promote sustainable energy usage. We over consume as a society. Builders and appliance manufacturers ought to have legal requires to produce only low-usage products. Higher tariffs could be put in place to decrease manufacture and residential usage. An LED lightbulb campaign could make a huge difference in our provinces needs. Education is required, not expansion or additional dams.
Strongly Agree	I think conservation is incredibly important!
Strongly Agree	Conservation should be a priority.
Strongly Agree	A conservation culture is essential to the long-term survival of the planet.
Strongly Agree	Comments: Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.   In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	
Strongly Agree	when future growth is so fraught with pitfalls conservation IS the best first approach.
Strongly Agree	Conservation is the key to our energy future. To reinforce conservation, activities which pollute such as coal mining, need to be discouraged. People should be encouraged to conserve by pricing the use of energy according to the time of day. During peak times of energy use, the charges should be higher to encourage people to use energy at low-use times to balance out the demand
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more

	during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	I was trying to find on your website when is the "cheapest" time for me to use my dryer. I believe right now you have no price difference between High and Low load time. I would highly encourage it so we can make better choices as customers. Understanding the business and "educating" the public is way more important that keep increasing production to support wasteful usage.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	Conservation still has a lot of room for improvement. Definately the first important step.
Strongly Agree	We could be paying more for power use in high demand times, and less for power in low demand times, which would help conserve energy. People would begin to think more about conservation of energy, which in the long run, will be much more effective in preserving the planet.
Strongly Agree	
Strongly Agree	Conservation and adding green power like solar panels is what is needed. IPP are not green power
Strongly Agree	In addition to providing incentives for energy conservation, BC Hydro must stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing energy-intensive, dirty industries with clean, green citizen-funded hydroelectricity.
Strongly Agree	Conserve first is an absolute must do solution. Current light pollution is having a considerable impact on human, animal and plant life. Lights generate heat contributing to global warming. All efforts to reduce both power use, intensity and heat is needed.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.

Strongly Agree	Actions taken to reduce the demand for electricity are critical.
Strongly Agree	We must put in place user subsidies to encourage conservation through home renovation and new power sources such as geothermal, solar and wind generation.
Strongly Agree	We have to reduce reliance on electricity.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	It would be nice to see more focus on industry and a little less on individuals, but certainly all should be encouraged and assisted to reduce consumption and move as much as possible to non-peak times.
Strongly Agree	I agree with the principle but differ on management measures: industrial load curtailment program not just voluntary, BC has many rural communities & private customers who can generate micro-hydro, wind, solar, etc.. Why is there no buy-back program (re Germany) to encourage small impact power generation? Better and more meaningful public education efforts, starting in schools and not just flyers sent with your monthly bill...
Strongly Agree	More must be done, as in rates should be higher for users during peak periods to change behaviour and reduce strain on the system at peak times.
Strongly Agree	This program should be made even stronger. Reducing industry wastefulness and freeloading by increasing industry rates and/or instituting mandatory conservation program for industrial users should also be included.
Strongly Agree	I think that conservation is key. Pricing should be introduced to help consumption. BC Hydro should also lobby the provincial government to implement higher building code standards so that new and retrofit buildings are more energy efficient.
Strongly Agree	I like the BC Hydro ads that point out that the way we waste electricity is ridiculous (like spilling dog food all over the floor). We need to do much more. I support time of day billing, and with an intelligent outreach campaign, maybe involving citizen ambassadors, not just PR ads, more people could be convinced that such a policy makes sense.   Ideally, our whole society would be geared towards conservation. For instance, any new construction should be built with conservation in mind. This would require collaboration between different sectors of society towards this common goal.   BC Hydro must not invest in new projects such as the Northwest transmission line, which would facilitate development of dirty energy such as coal mines. It is false to speak of "clean" energy when such projects are being facilitated and effectively subsidized.
Strongly Agree	I have been a Power Smart member for some time now and fully support this initiative. Keep up the great work !!!
Strongly Agree	agree with overall conservation and managing use at peak times



Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	There is a significant amount of excess capacity that is being overused. Both billing structures and further consumer education can easily meet the demand shortfalls that are perceived in the province. This should be the first and most invested in action plan by BC Hydro showing true leadership and holistic improvement in the system.   A simple option is rates based on time of day eg, most appliances now have timers, users would be motivated by setting timers to use power at cheaper rate times.
Strongly Agree	Conservation is the cheapest and most effective way to manage energy demands.
Strongly Agree	There are great energy savings to be made, if the will is there. Let's get serious about this( I am waiting for a small electric car to be sold, which I will   charge by pv power, with surplus feed back to the grid.)     In general, I support items 1,2 and 3 , Conserving First
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	I strongly agree that BC Hydro should promote conservation, which is why it is so important that power be produced by BC Hydro and not independent power producers (IPPs). IPPs have no interest in energy conservation as the latter will affect their bottom line. BC Hydro should invest more money in energy conservation and work with other government bodies to for example lobby for amending BC Building Code so that all buildings meet passive house standards. All rate payers should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with tax payers' money.
Strongly Agree	Conservation is an excellent strategy. Coming hydro rate hikes will encourage people and businesses in BC to use less electricity.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve

	during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity
Strongly Agree	Conservation through the Power Smart program is a no-brainer. But other measures must also be considered. For example, homeowners, businesses and industrial facilities should pay less in low load times and more during high load times. The possibility of saving on energy bills will lead to a necessary change in behaviour, reducing the need for BC Hydro to plan for very high peak loads. That Crown corporation should also be promoting the new building technologies that will reduce energy consumption by leaps and bounds.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.     And BC Hydro needs to listen to itself. We're a net exporter of power and we're projected to have a big surplus (enough to power 472,000 homes) for at least the next ten years. With an emphasis on conservation, we might stave off the need for new infrastructure for much longer than that.
Strongly Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	
Strongly Agree	Reducing the demand for electricity is critical. Not enough is being done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day like being done presently in France. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Agree	
Strongly Agree	Electricity use must be drastically reduced. Industrial users must pay the bulk of the cost of electricity instead of the present corporate give a way. User pay rates should be based on the time of day. servation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.

Strongly Agree	
Strongly Agree	I do not think that homeowners are the only ones that should be subject to these conditions.
Strongly Agree	Encouraging conservation is a good idea and identifying peak times for people.
Strongly Agree	In footprint surveys I have taken, I use less than 10% of energy used by the average BC user. There is a lot of room for conservation to cut demand.   Give people more education.   Give people financial incentives to use energy at different times; to heat only some rooms in the winter, to change clothing to adapt to weather.   Reduce the cost of energy by keeping it a publicly controlled company... we know what happened to privatized energy in Central America... prices sky-rocketed.
Strongly Agree	Conservation is the only solution - for BC and for the planet.   Business and industry should be required to participate and pay their fair share.
Strongly Agree	Conservation should be our highest priority. We can make what we have enough.   Industry and business should pay their fair share and serious efforts to conserve and use energy wisely should be mandatory.
Strongly Agree	More incentives are needed to conserve power. We overlook our city and it is lit up like a Christmas tree at night. Use of power in non peak times as suggested is great.
Strongly Agree	
Strongly Agree	Continue the "conserve first" program. Consider a polluter pay policy - i.e., carbon-producing industries should be charged for hydroelectricity based on a calculation of their greenhouse gas emissions.
Strongly Agree	I think DSM is the critical approach to meeting future energy needs. We must strongly encourage conservation by all consumers, starting with the largest.
Strongly Agree	This is the right way to go. Users should pay less in low load times and more in peak times. Keep clean hydro, drop dirty coal.
Strongly Agree	It just makes the most sense to not waste any power.
Strongly Agree	Conserving power is important to protect the environment and reduce GHG's emissions.
Strongly Agree	
Somewhat Agree	
Somewhat Agree	Compact fluorescent lamps don't live up to their advertised lifetime.   LED lamps still too expensive.

Somewhat Agree	
Somewhat Agree	While I agree conservation is important, I think the conservation targets are far too generous and customers will be unable to meet these goals. BC Hydro should be pragmatic and prepare for the likely shortfall. This shortfall should be replaced with lowest cost renewable energy. As BC Hydro is aware, wind power is among the cheapest form of power - plenty is available in the Peace Region.
Somewhat Agree	As the province continues to grow we all need to do more to lessen our impact on the environment. Conserving electricity would prevent more dams and other electricity producing plants being built.
Somewhat Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Somewhat Agree	What happened to the differential rates depending on the time of day?
Somewhat Agree	Basic principals of conservation
Somewhat Agree	Our level of support entirely depends on the level of integral and meaningful accommodation, compensation and participation of BC First Nations.
Somewhat Agree	Conserving begins at the top how long does it take to produce 7800 gigawatt per hour target using the current resources noted in the introduction     How much money does 7800 gigawatt hour target in fiscal 2021?     How much does "Conserve first" cost in administrative and other operating expenses per quarter or every 3 months?
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	Educating the " public " is always a good place to start a saving program.....but not the only !
Somewhat Agree	
Somewhat Agree	The main focus has to be on industry. Greater consumer subsidies and incentives are needed to encourage (using concepts of "libertarian paternalism." Pricing points should not be used to coerce consumers, as this damages the economy and hurts the most economically challenged most.

Somewhat Agree	i would like to see more rewards and consequences for wasting power.
Somewhat Agree	This is at best idealistic thinking. We are preaching conservation, but modern energy efficient home heating solutions (air-air and geo-thermal heat pumps) need more power than the current ubiquitous gas furnace and if battery powered cars are in our future, this will also increase demand hugely. The conservation and efficiency movement should start from the BC building code, and not from changing a light-bulb. Better insulated, longer-lasting homes like those found in Europe are the solution, not some public awareness campaign. Nonetheless, all efforts combined will get the right result.
Somewhat Agree	Demand side management measures are necessary to encourage conservation but are unfair to those who do not have access to natural gas (i.e. for heating). Demand side management measures should only be increased in areas that have access to natural gas.
Somewhat Agree	Two tiers of charges are not enough to drive conservation. Many water districts have 5 levels of charge for levels of consumption with significant incremental increase in cost for increased consumption. The lowest consumers of power should be significantly subsidized by the large users. Net metering should be priced so that it incentivises people to install solar and wind generation, cut their own consumption, and pump power back into the grid, thereby eliminating the need for mega-projects. This is proven to work very well in parts of Europe.
Somewhat Agree	I agree "conserve first" is a good goal. This should be supported by increased investment in these measures now, not some time in the future.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	Actions to reduce consumption are critical, and support for individuals and communities will make conservation a reality. The obstacle to meeting our needs through conservation and truly green energy is BC Hydro subsidizing energy-hungry, carbon producing industrial projects like coal mines and LNG plants (isn't this the 21st century?) by building infrastructure like the Northwest Transmission Line that contribute to climate change by subsidizing dirty, energy-intensive industries with citizen funded, clean hydroelectricity. We can and must do better ... plan for less consumption, not more.
Somewhat Agree	The IRP undervalues conservation as a strategy for reducing demand and potentially reducing the need to build expensive infrastructure. While conservation may be subject to "deliverability risk," conservation programs and incentives can be used to decrease overall load demands, so this risk should not be used to justify a lower emphasis on DSM measures nor to build Site C Dam. It is not good enough just to "Maintain" conservation measures. The IRP should set conservation as the highest priority and the level of DSM measures should be significantly increased to meet increased load going forward. I believe that voluntary industrial load curtailment will only be realized by increasing rates to drive down consumption. This may be supported by a system that rewards effective curtailments with lowered rates. Rather than "relying on all three customer classes" the concept of supporting the achievement of conservation savings through DSM should be expanded by innovative programs that encourage a range of sustainable, green, alternative energy systems to be investigated, produced and implemented across BC for residential, commercial and industrial customer classes. This should be combined with an expansion and enhancement of existing BC Hydro Electricity Purchase Agreements (EPAs) and Standing Offer programs for all three classes. The IRP should recognize and promote passive solar energy as a means of conservation given that incremental gains of passive solar

	would have an effect similar to conservation measures. Hydro should be promoting and possibly funding business or residential uses of solar powered technologies such as water heaters, space heaters, or lighting.     The IRP fails to recognize the conservation opportunities possible with net metering. With the declining cost of PV systems, and increasing electricity rates, BC Hydro should create a public awareness and incentive program for net metering to increase the amount of electricity put back onto the grid. This could reduce or eliminate the need for expensive grid expansions.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	I agree with actions taken to reduce the demand for electricity. But more must be done. For example. To shape peak load, home owners, businesses, and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will change the behaviour of some and lessen the need for BC Hydro to plan for very high peak loads. In addition - BC Hydro should not be building infrastructure like the Northwest Powerline, because it's main purpose is to facilitate energy hungry, carbon producing projects like dirty coal mines. This type of policy contributes to climate change by subsidizing dirty energy-intensive industries with citizen-funded clean hydro-electricity.
Somewhat Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Somewhat Agree	I totally agree with "conserve first" but would like to see much more of the effort to be directed at industry not families and individual community members. Industry seems to be supported no matter what the cost to the community, the earth, and our precious resources. Even if the business and its needs are not sustainable, even if its' not a solid long term business plan (that only becomes solid if we make drastic changes to tap into even more earth resource). I know we need to continue to build a solid economy. Which means industry matters, of course. But industry needs to be able to adjust to changing circumstances, and consider the needs of the community at large, including people and nature. There should be limits to how much we are willing to expand our exploitation of natural resources to sustain communities and industry. When does industry adjust to function within the limits of today?
Somewhat Agree	reducing demand is essential. Let's reward those who use energy in non peak times!
Somewhat Agree	
Somewhat Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more



	during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	Conservation is a fine idea, however, ultimately, we need corporations to modify their products to require less power to run. Really, does a coffee making machine need to use 700 watts to brew a pot! No!
Somewhat Agree	More should be done to shape energy use with incentives to reduce use in peak times by lower pricing in low-load times. BC Hydro should not waste money on providing cheap electricity to dirty, carbon-producing industries such as coal mines by building infrastructure like the Northwest transmission line. This subsidizes dirty, energy-intensive industries with citizen-funded clean hydroelectricity.
Somewhat Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Somewhat Agree	
Somewhat Agree	I agree that conservation is essential And if encouraged there will be little need for Hydro to proceed with the Site C Dam and the LNG PROJECT. ; To complement conservation there must be an investment in socially equitable and environmentally sound technology, such as solar and wind. So many countries are moving in that direction. In both conservation and alternative energy, Canada has been a laggard.     I disagree with the statement above : "going forward as has been undertaken in recent years and preparing to increase these measures as load increases"; This state, if agreed to, might be perceived as an endorsement for the LNG and Site C projects and other projects that are not socially equitable and environmentally sound. .
Somewhat Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Somewhat Agree	Normally I'd strongly agree. However the conservation plan involves price increases to the public, some of whom can afford to remove themselves from hydro demand by purchasing solar panels and some of those that can't. The poor and lower middle class will be the ones

	<p>that will be paying the excess rates financing infrastructure need for industrial demand customers. Any increase of rates by 20% for residential customers will approach a 15 or lower year payback for a solar producing system for those than can pay for or finance a system.   While the 7800 Gwatt target is stated, why is Hydro forecasting a 1.7% increase for residential customers for the next 20 years when population increase is set at 1.2%. The 2013 annual report mentioned there was a 3.8% reduction in residential customer demand. Commercial demand is forecast to increase by 2% a year for the next 20 years while the actual commercial demand only increased by 2.6% for all of the last ten years. That's a ten year history of .25%/year versus the current overestimate of 2%/year for future years. Hydro's own forecast ignores the conservation that is currently taking place and that will continue.   In referring to conservation, I can't see any measurement of energy wasted by the increased use of Hydro spillways. Can you please publish that report as well? Isn't it simply poor management when government measures force BC Hydro into energy contracts using water generated energy. When IPP energy from water has to be purchased, then the cheaper water energy on BC Hydro dams must be dumped and the consumer has to pay the difference.</p>
Somewhat Agree	<p>BC Hydro has implemented good measures to bring the residential customers on side with conservation - smart meters and their readouts, paybacks on low electricity use furnaces, lights, insulation, etc., plus implementing stage 2 power use rates higher than stage 1 rates.   However, there has been no such measures for the industries using large amounts of power - in fact there has been the opposite - lower and lower rates, the more power is used. This is not encouraging conservation for such industries - LNG and mining being such prime industries/   To build another dam - paid for by citizens - and to encourage such use is not energy saving.</p>
Somewhat Agree	
Somewhat Agree	<p>I believe in conserving energy, but I don't necessarily trust future means of achieving it.</p>
Somewhat Agree	
Somewhat Agree	<p>BC Hydro made a huge -- and bad -- investment in 'smart' meters. The fact that the BC government did an end run around the Public Utilities Board makes it even worse, as the PUB may well have questioned the merits of this program. There are plenty of measures that could have been taken to make the BC Hydro grid more efficient, particularly since we are now hearing that major upgrades to the grid are needed. The 'smart' meter funding should have gone to the back end grid infrastructure where it is needed, not for the controversial meters.</p>
Somewhat Agree	<p>Arguing against conservation is somewhat like arguing against motherhood. Yet, the BCH Power Smart program is nearly 25 years old and much of the low hanging fruit must have been picked and we may be approaching the point where the costs are getting quite high per kWh saved. PS needs to be maintained in order to reinforce the conservation culture but a stronger discipline needs to be applied to the provision of incentives.   I would also suggest that PS adopt a paradigm shift and begin using language that is more in tune with conservation. Rather than speaking of "savings", use the words reduction and efficiency. The big problem with PS savings is that the biggest rewards go to the inefficient which is like rewarding an obese person for losing weight. When I first joined the PS challenge, I did reduce my consumption by 10% but that was done by shutting off the hot tub. Now, that I have downsized to a townhouse, my daily usage averages less than 30 kWh and I would be hard pressed to reduce a further 10%.</p>

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Somewhat Agree	
Somewhat Agree	As long as this "demand-side" is voluntary, great, but if it becomes a billing issue, not a good idea.
Somewhat Agree	Inclined block structures are good, just make sure that some significant percentile of the users can, in any typical month, stay in the first block, and also make an allowance for winter base use rates being higher due to our climate.
Somewhat Agree	
Somewhat Agree	While I agree with encouraging the public and private sector to conserve energy, I am opposed without exception to the smart meter program. The expense of buying and installing them was reckless. The health risks are conclusive and extensively documented by researchers from such institutes as Harvard U, Their forced installment was dictatorial and irresponsible. Based on the health risks and their real potential to abrogate personal privacy rights their installment violates the Canadian constitution.
Somewhat Agree	
Somewhat Agree	Of course conservation should be an ongoing goal. But, B.C. should take advantage of it's plentiful hydro power to help make our value added industries more competitive internationally. Pricing should not limit this. Our hydro should be for B.C. use primarily.
Somewhat Agree	I agree, but I have reservations about "time of use" billing. Many working people have no choice about using energy in peak hours because they can't do it when they are at work or sleeping! This has the potential to place burden on the working poor. However, if rates are kept affordable for everyone by Hydro this will not matter as much.
Somewhat Agree	If the demand side measures include higher, stepped rates then there should be offsetting grants for low-income people. If the demand side measures include time-of-day pricing, via Smart Meters then forget it.
Somewhat Agree	I agree with conservation first, but I do not agree that BC is doing enough. Every consumer should be required to have on-site electricity generation (ground source heat pump, solar, etc ) to whatever extent is feasible.
Somewhat Agree	I fully agree with conservation, efficiency and waste reduction policies, and think that these efforts should continue. The priority should be on finding and building an environmentally friendly energy infrastructure, and supporting the people of BC in making that transition as efficiently and cheaply as possible. However, there is more to be done on that journey than simply continuing on as BC Hydro has been. Additional steps must be taken by the company to move away from funding and supporting non-renewable, dirty energy sources such as coal and natural gas. BC Hydro needs to be more proactive itself.
Somewhat Agree	People need to be aware of how much energy they use, and they will respect it more. Daily, people should pay less during low load times and more in high load times so they will become more conscious of their use.
Somewhat Agree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate

	change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Somewhat Agree	Reducing the demand for electricity is of highest importance. Demand management, including time of day pricing, are critical policies to achieve this goal. Now that we have these smart meters, let's use them.     Using low carbon energy to subsidize high carbon sources like coal through mine extraction is self-defeating. Publicly-funded hydro power must support public opinion and demands for reducing BC's carbon and ecological footprints.     We must live without an energy budget, using conservation to power economic development in the north and the exploration of mine and other activities that have both local support and fully-costed and recognized ecological impacts.
Somewhat Agree	Conservation efforts need to be driven at the consumer/user levels. Continue to inform and educate people/industry on conservation matters
Somewhat Agree	Conservation efforts by B.C. Hydro are both useful and desirable. Hydro should also charge rates for residential, business and industrial facilities based in part on the time of day. This could be done to encourage a shift in consumption from high load times to lower load times and help prevent the need for B.C. Hydro to plan for very high peak loads.     B.C. Hydro should also stop facilitating high energy consumption carbon producing projects such as coal mines by building infrastructure such as the Northwest Transmission Line. These would be subsidies of clean citizen funded hydro electricity to energy intensive and climate destabilizing fossil fuel projects.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	Of course we should conserve, but household conservation has to be one component in a sensible, environmentally sensitive plan for protecting water, habitat and other resources. BC Hydro cannot continue to engage in practices that are devastating to the health of BC.
Somewhat Agree	I am totally in favour of conserving energy resources in all forms. BC should increase building standards, make recycling of energy efficient lightbulbs better and provide incentives to customers of all kinds. Innovative ways include turning off office buildings at night, directed street lights, solar, green roofs etc etc. All this is out there - is anyone doing anything? It's not just about peak periods. Funding LNG with cheap electricity will not lead to conservation.
Somewhat Agree	We do need to reduce demand for electricity across the board - general public, industry and businesses. It should cost a lot more during peak times than off peak times but everyone could be way more energy conscious at all times. I see a lot of waste...in businesses and homes. For example I just moved into a relatively new home (7 years old) and the previous owners were paying a lot monthly even on an Equal Payment Plan. So I've been searching for the reasons and they are....lots of hot light fixtures....60 watt incandescents & halogens, an electric baseboard heater in the garage, an electric baseboard in the basement instead of a more efficient central heating system with zones and programmable thermostats.....all sorts of poor planning & construction.
Somewhat Agree	
Somewhat Agree	

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Somewhat Agree	
Somewhat Agree	
Somewhat Agree	<p>Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.</p>
Somewhat Agree	bigger user should pay more
Somewhat Agree	you use more, you pay more
Somewhat Agree	BC Hydro could charge more for usage in high demand times, and less for usage in low demand times. Customer use would change over time.
Somewhat Agree	Conservation is key. I still do not understand why I need a sweater in a temperature controlled building in the summer. The temperature is too cold. Everywhere. What are you doing about that? That is why you will not be needing the Peace River Site !
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	<p>Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.   In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.</p>
Somewhat Agree	I have reduced my consumption by 50% with little effort... BC Hydro should preach that focus.
Somewhat Agree	<p>Actions taken to reduce the high demand for power are extremely important. I believe that BC Hydro should try to reduce the amount of energy used in every day life by charging its customers accordingly. High energy demands can be reduced by charging customers according to what time of day it is, whether energy is in high demand or low demand. Higher prices during peak times during the day or night will discourage households and businesses to use energy without really needing it.</p>

Somewhat Agree	
Somewhat Agree	<p>Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.    </p> <p>In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.  </p>
Somewhat Agree	<p>Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.    </p> <p>In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.  </p>
Somewhat Agree	I think we could do much more than what BC Hydro proposes to manage demands on energy.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	Conserving must be a priority. continuing to support carbon producing polluting, harmful energy sources must be stopped.
Somewhat Agree	<p>Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.    </p> <p>In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.</p>
Somewhat Agree	
Somewhat Agree	<p>Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve</p>



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	during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Somewhat Agree	"Conservation first" is a great policy but it was never followed by BC Hydro. Much more should be done in the conservation or demand side management.   The goal has gradually shifted from power to the people to profits for private power 'producers'.
Somewhat Agree	Conservation is the cheapest form of energy. In so far as demand-side management refers to conservation and efficiency measures, programs should be strengthened for all three customer classes immediately to enable some fuel switching from fossil fuels to electricity without increasing overall demand. However load shifting through peak load pricing should not apply to residential customers for a number of reasons, including potential hardship for the elderly and lower income families.
Somewhat Agree	
Somewhat Agree	I appreciate the stress that BC Hydro has placed on demand-side management to date, and I think it should be taken to greater levels, not just maintained at the same level. In particular, BC Hydro should not be encouraging or supporting the development of infrastructure to support major industrial consumers of energy, such as mines and LNG extraction activities. Not just households and public services should be given incentives to consume less -- so should industrial consumers of all types.
Somewhat Agree	I think a lot can be acheived by conserving alone..i am willing to do my share to protect the environment...we do not need to sell out our rivers and streams to private corporations..lets try to conserve.
Neither Agree or Disagree	Be careful with the economic impacts on existing custmers especailly fixed income and seniors who have limited or margianl incomes. They cannot financially support increased electric rates.
Neither Agree or Disagree	Conserve First is a nice sounding idea, however, at best it is a bandaid that costs a lot of money. At worst it sets us up for major supply issues when immigration increases to cover the jobs Canadians do not want to do. The new immigrants will not be trained and demand will increase. electric cars could also be a factor in this. There are many scenarios which could lead to demand issues.     Truthfully though, how much money is spent to save this amount (425,000 homes worth) of electricity. Is it more than what creating new generation capabilities would cost? We need to look at the intrinsic and extrinsic costs?
Neither Agree or Disagree	Clean electric energy has minimal impact on the increase in the level of green house gases.
Neither Agree or Disagree	
Neither Agree or Disagree	If we all learn to conserve now and in the future the we can all do without more demand on the system.
Neither Agree or Disagree	Invest in BC technology renewable energy supply!
Neither Agree or Disagree	If this is the goal why is there discussion of raising hydro 20%. This is insane, I have read in the paper this Sunday how many managers hydro has and how much cash you make... Doesn't look good

Neither Agree or Disagree	<p>â€œ Conserving Resources: BC Hydroâ€™s system is an investment made by ratepayers and taxpayers, and should be considered a â€œpublic goodâ€. Where the system can offer a return to ratepayers and taxpayers by supporting additional competitive sources of power generation, then BC Hydro should facilitate and enable such sources to come on-stream. BC Hydroâ€™s conservation objective should be expanded to include fullest use of existing infrastructure (lessening the timing, financial burden and risks of building new infrastructure) and to consider transmission losses associated with moving power for long distances from source to load. Clean and competitive wind energy close to load offers BC Hydro an opportunity to reduce costs and increase system efficiencies.   â€œ Conservation Target Contingency: The IRP sets very aggressive goals for energy conservation and demand side management. While we applaud such ambitious targets, BC Hydro should commit to procure clean and competitive wind energy as a contingency where these conservation targets are not met and a supply gap needs to be filled.  </p>
Neither Agree or Disagree	Need to call ,email or write the Matsqui First Nation to conduct a meaningful meeting
Neither Agree or Disagree	
Neither Agree or Disagree	Really depends on what actions are taken
Neither Agree or Disagree	<p>CONSERVING RESOURCES: BC Hydroâ€™s system is an investment made by ratepayers and taxpayers, and should be considered a â€œpublic goodâ€. Where the system can offer a return to ratepayers and taxpayers by supporting additional competitive sources of power generation, then BC Hydro should facilitate and enable such sources to come on-stream. BC Hydroâ€™s conservation objective should be expanded to include fullest use of existing infrastructure (lessening the timing, financial burden and risks of building new infrastructure) and to consider transmission losses associated with moving power for long distances from source to load. Clean and competitive wind energy close to load offers BC Hydro an opportunity to reduce costs and increase system efficiencies.     CONSERVATION TARGET CONTINGENCY: The IRP sets very aggressive goals for energy conservation and demand side management. While we applaud such ambitious targets, BC Hydro should commit to procure clean and competitive wind energy as a contingency where these conservation targets are not met and a supply gap needs to be filled.  </p>
Neither Agree or Disagree	The goal of â€œconservationâ€ needs to be expanded to recognize the value of utilizing BC Hydroâ€™s existing transmission infrastructure. Why would we build new infrastructure before fully utilizing what the public has already previously funded? New cost-competitive wind energy projects located close to load will use existing infrastructure and will avoid line losses associated with transporting electricity over long distances from remote locations.
Neither Agree or Disagree	
Neither Agree or Disagree	I am nervous to answer this question because you need to clarify what you mean by "demand-side" management. If you mean peak time billing, through the terrible idea of smart meters then I refuse to answer this question. We DO need to conserve energy absolutely and I fully support conservation BUT smart meters do not conserve energy, and the smart meter program has been a true boondoggle. Expensive, insecure and dangerous meters that increase our exposure to EMR are not the way to conserve energy. I believe in conservation - I do not believe in whatever you mean by demand side management. Trick question in my opinion...

Neither Agree or Disagree	
Neither Agree or Disagree	I don't think that we should plan on using more energy. We should -that is -Hydro should find ways of not increasing to the 2021 target. I think that an idea has been floated to charge different fees for usage at peak and non peak times. Those Smart Meters should be smart enough to calculate this.
Neither Agree or Disagree	I definitely agree that BC Hydro does much in the area of conservation and efficiency but I am somewhat concerned what is meant by 'increased demand". If the LNG is being considered as a substantial part of the necessity to increase power output, then BC Hydro is not helping conservation.
Neither Agree or Disagree	
Somewhat Disagree	1 - I do not believe the conservation numbers can be achieved 2 - voluntary curtailment would mean a slowdown in other industries resulting in lost GDP ?   3 - leverage codes = increased (shuffled) costs to consumers to upgrade to new codes 4 - kill non-compliant RoR operators contracts build wind farms so the power is available during peak winter season unlike RoR operations 5 - pricing systems = peak hour premiums, you can put the wash on before you go to bed but you have to set the alarm to move it to the dryer at 3:00 a.m. 6 - too many obstacles to built either on time or anywhere near on budget - continue to pursue for the purpose of longer term water retention and firming applications for wind farm power generation (for generations to come) 7 - IPP wind power should be pursued ..... good luck with the CRT it goes straight to Obamas desk and they want our firming capability to promote their wind industry - which is what we should be doing for the long term benefit of all BC 8 - needs to be done to pull wind power from the west coast 9 - needs to be done once we are sure we are losing our shirt on the new CRT deal when it's done
Somewhat Disagree	It is possible to conserve energy, although most households are adding more equipment, electronica etc in there homes. So, electricity demand per household will grow
Somewhat Disagree	Conservation is important, but power is required by new business and industry to grow. Conservation and growth can be in conflict.
Somewhat Disagree	Conservation is to be encouraged, but the target may be too aggressive. Setting an unreasonably high target discourages private sector investment in development of cost effective clean renewable projects which can support LNG development, jobs and economic opportunities. Power projects take many years to plan and permit, and complete First Nations consultation.
Somewhat Disagree	While conservation is important, the conservation targets may be too ambitious. Hydro should prepare for eventual shortfalls and consider the need for future procurement of IPP power to offset any shortcomings.
Somewhat Disagree	Gabriola is heated by hydro power, with supplemental wood, and a little propane. The peak load is dawn on the five coldest days of the year when the cold outflow whistles out of Howe Sound. There is no PR comments on using the fireplace, and no support for heat pumps. Just the nonsense about lings, and the price increases masked under demand-side management.
Somewhat Disagree	BCHydro needs to be much stronger on the conservation side that it has been.
Somewhat Disagree	Given the present controversies about the management of the energy sector in BC and the changes that seem to have put the interests of private sector in charge, I believe there is much work and correction of failed policies and respect for other values that needs to occur.

Somewhat Disagree	These new energies will be much cheaper than hydro power and likely conservation will not be necessary.
Somewhat Disagree	Whilst conservation of energy is a win/win situation for everyone, coercive demand management pricing can lead both to consumer hardship and price gouging.
Somewhat Disagree	i disagree with the site C option.The Columbia River Basin provides many more opportunities for increasing generation capacity at lower cost and environmental disruption.
Somewhat Disagree	Yes, Power Smart has been a good program. However, BC Hydro's committment to is has wavered and floundered over the years. If Power Smart was truly seen as the effective program it is, it could have achieved so much more since its inception. The problems have been management didn't fully embrace the program, politicians have meddled in BC Hydro operations, and some of the actions under the name 'Power Smart' weren't very smart or productive.     The Smart Meter program is a good example of something that could have great benefits but the implimentation was so badly flawed. The Smart Meters are available in a variety of models. Unfortunately BC Hydro chose the wireless model and chose to do a wholesale change of meters in the province. Smaller utilities like Fortis are following suit. What should have been done, could have been done, without the present outcry over the new meters, and it would have been cheaper. The wired model should have been chosen with data lines run to a community relay station where the data could be sent wirelessly to the collection site. All new installations would use the Smart Meters and existing meters would be changed out as they stopped working or their certification expired. Money would be saved by using regular staff doing regular work instead of contractors, and by not replacing working meters. The issue of radio frequencines in people's homes, whether a concern or not, would have been completely avoided. What BC Hydro came up with and executed was a very poorly developed plan.     The public trust has been damaged by the Smart Meter change-over. There is a great deal of mistrust about how the meters will affect power users in the furture. The Smart Meters will allow greater opportunaties for monitoring and billing based on peak demand. Customers are concerned their bills will increase substantially even if the rates do not go up.     Reports that rates will be climbing significantly in the near future are very worrying. Those with big incomes, lots of square footage of living space, and lots of toys will feel a rate increase but their budget will just get adjusted a bit. Those living on low and fixed incomes probably already live in as small a space as practical and do not have any room in their budgets for big adjustments.
Somewhat Disagree	I am all for conservation and efficiency but the jury is out on smart meters and their effects on peoples health.
Somewhat Disagree	
Somewhat Disagree	The use of smart meters to provide feedback to residential customers re their usage is admirable - and I strongly support this   The promotion of cleaner energy home heating and paybacks for such, I feel, is also admirable and supportable.   We, the public, are always willing to cut back, turn down, invest in items that decrease our usage or power, esp. when we can see savings in our bills!     However, there is still no such motivation for highusage customers in industry whose rates of power costs actually decrease the more they use!   I therefore feel that it is poor practice to continue to provide this way of paying for these customers. They should only be charged the same ratesystem as   residential customers.   Or, if it is "low use time" power usage you want, give us the option of using that too! We are clearly motivated customers!

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Appendix D – Online Feedback Form Responses

Somewhat Disagree	"Conserve first" is absolutely important. What is wrong is the kind of smart meters being used. It would be possible to have meters that are harmless.
Somewhat Disagree	How do we know Power Smart is in fact saving as much as they say; i.e. how do they continue to meet their energy targets while being massively under spent vs what they said they were going to spend. Seems fishy!
Somewhat Disagree	Point 6: Continuing to advance the Development of Site C does not make economic, environmental, or social sense. This recommendation does not consider future climate change implications and I do not support this project.
Somewhat Disagree	you suggest that I spend money to buy expensive light bulbs and new fixtures, some of which are quite toxic. you have failed to internalize the total expense of these fixtures to the environment. yes, we save power, but the overall footprint is huge when considering the mercury and other substances poisoning me and the environment. you have not provided me with any incentive that makes sense for the cooperative housing I live in. cooperative housing is not owned by members, and needs special incentives to make sense long term.   I understand that industry often pays less for power than I do, and I resent that. you have not provided me any options to save power during peak times.
Somewhat Disagree	Industry conservation, household conservation, and a forward looking public utility that will PROTECT our most precious resource is what we need to see as components of a workable plan for the future. But conservation by individual users can only be a viable part of the strategy if BC Hydro does its part- Past and current policies reveal BC Hydro decisions are never based on public input (how about those absurd smart meters?) or based on considerations of long term sustainability of resources.
Somewhat Disagree	We can still do much more in our efforts in conservation of energy, and more efforts need to be made before we even consider a project like Site C. We must make more efforts in the area of renewable and alternate energy sources, before we start to flood more precious farmland.
Strongly Disagree	
Strongly Disagree	I favor a rising standard of living, not an attenuated style of making do with less. We have the technology and resources to produce an abundance of cheap power and even to export more. Only conservationists and environmentalists stand in the way. They are enemies of working people, especially poor working people.     Expensive power hurts poor families more than affluent consumers.     Why should residential users, who consume approximately 30% of electricity, be asked to provide 40% of conservation? This hurts working people.
Strongly Disagree	I have the most efficient lights that I can afford, I have the most efficient electrical appliances that I can afford. I can't afford any more higher efficiency. As my electrical components need replacing I will replace them with the most cost effective efficient that I can afford at the time. The avoided cost of the next kWh of green renewable electricity is less costly then the most efficient appliances available today.     The BChydro power smart program has been around to more then 20-years. How much most efficiency can be achieved and at what cost. At some point the making the next kWh is more cost effective then trying to save the next kWh.
Strongly Disagree	DSM is a ruse and a scam for executives to line their pockets and for ratepayers to assume a billion in debt.
Strongly Disagree	I do not think that your target for DSM is attainable and heavy reliance on DSM may well leave us in the dark in the near future.

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Strongly Disagree	
Strongly Disagree	Conservation never works and BC Hydro is wasting lots of money doing something that cannot be measured, and then BC Hydro will claim it to be a success.
Strongly Disagree	We do not believe that the target level for DSM is even close to being attainable; it is unrealistic and misleading to the public. We also believe that the true cost of DSM is well over \$100/MWh, as evidenced by several studies on the issue. DSM is not a silver bullet, it can't be relied on to help balance off new load.
Strongly Disagree	
Strongly Disagree	Conserving First   BC Hydro is not currently part of the carbon emissions problem. It can and should be part of the global solution. Please, let us recognize that capability, and act on it.   Almost all of BC Hydro's "Power Smart" efforts to date have not reduced our net energy consumption, they have merely shifted it from electrical (sustainable) to fossil energy, mainly to natural gas (not sustainable). This is exactly the wrong thing to do.   All building heating in BC can be done efficiently by electrically-driven heat pumping, rather than by burning fossil fuels. We could transition away from fossil fuel heating to sustainable in a very short time if BC Hydro would embrace that goal. The reduction on our carbon emissions would be huge.   The current rate structure works counter to this goal, since those who have installed heat pumps in their homes inevitably end up paying the higher tier rate for electricity.
Strongly Disagree	This target means reducing new demand by 66%. This means British Columbians will have to change their behaviour and reduce their electricity usage over the next ten years more than they have done over the past 30 years, since BC Hydro first started its conservation and efficiency programs. This is extremely unrealistic, especially with the undetermined increase in load from LNG development and even the increase in load under normal population and business growth. The updated load forecast should include more potential new loads; I suggest the targets identified in the BC Jobs Plan of three LNG terminals by 2020, plus 8 new mines and 9 expanded mines by 2015 are reasonable assumptions to use for the revised forecast.
Strongly Disagree	Your mixing your questions for a common answer?   Conserve first ..... yes, but your target 7.8 gw for 2021???? Perhaps conserving with the new application of : LED lighting, feed-in alternate source via solar, wind etc. ....where does this figure in or are you able too allow for this?
Strongly Disagree	Absolutely NO to any further fracking, drilling, oil and gas extraction and shipping and any further destruction of our planet. Time to get with the times and invest in positive alternative methods of energy like the auto industry and many other corporations are doing. There are many good examples of how well those who are investing in good technology are moving forward, people no longer support you in your dinosaur approach to energy.
Strongly Disagree	I am not sure why i'm sitting here when it is getting more obviouse that there should be a new inititave for BCHydro to start a common sence dept..   We the poor little tax payers are watching at arms length ,while you spend money like drunken sailors on projects that are going to produce power at three times the cost
Strongly Disagree	The wording of this action, and some of the details actually show a weakening of BC Hydro's conservation mandate. Preparing to increase demand side management measure in the distant future rather than in the immediate future demonstrates a lack of will in the single biggest opportunity to meet society's energy needs cost effectively.
Strongly Disagree	conserve for who? The USA still owes us money so now you want us to pay.



Strongly Disagree	The flooding of Peace River isn't taking a role in conservancy. Domestic energy use is down...industry use is on the rise.
Strongly Disagree	While conservation should be encouraged in every way possible, charging less at low-use times will lessen the need for BC Hydro to plan for such high-use times. When I lived in England, we used energy outside of business hours, lessening the need for power producers to raise their peak production levels. Also, I would like to see low-use customers should pay a much lower rate than high-use customers.
Strongly Disagree	The Site C dam plan is a poor choice, given the environmental impacts and impacts upon the First Nations in the area, who are in opposition also. I think it is a far better plan to invest the money in no-impact, green energy initiatives that customers can participate in, such as solar energy incentive plans in collaboration with municipal, provincial, and federal support, to assist customers in installing solar panels to generate their own power and feed into the larger grid when there is surplus, as well as other endeavours and incentives for optimizing the home to conserve heat and energy.
Strongly Disagree	You don't know how much is being saved or why: the number is just for propaganda. If you want to really conserve, stop signing and renewing long term low cost "stable" power sales to the United States: Americans should pay the highest price, not the lowest. We can now re-negotiate the Columbia River Treaty (described by one of the American negotiators as "the sort of treaty you would force on a defeated enemy... but they were willing to sign..."). Do it. Any dam which has been built on the basis of selling the downstream benefits to the Americans and then the power should be paid for by the Americans, not the B.C. consumers and taxpayers. Including both principle, interest, subsidies already paid by us, and the interest on those subsidies - at non-preferential interest rates, not those achieved because of B.C. government guarantees on Hydro bonds.
Strongly Disagree	BC Hydro is a corrupt organization that cannot be trusted to tell the truth about anything it is up to!
Strongly Disagree	I don't like anything BC Hydro does none of it is in the public interest
Strongly Disagree	Negatively impact local inhabitants. Much better and cheaper to create wind farm and/or solar display   to create electricity.
Strongly Disagree	Another political message from the liars!!   Stop all communication via advertising!   Advertising is 99% LIES!!!   This medium is no longer useful for all the lies it spews!!!
Strongly Disagree	There is truly nothing more to say.
Strongly Disagree	I agree with conserving first, but not to "increase as load increases" .
Strongly Disagree	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean

	hydroelectricity.
Strongly Disagree	The "demand side management measures" are again environmentally retrograde and buying from private operators is too expensive - especially if sold at a lower price to the US.
Strongly Disagree	conservation is the most important. Everybody from homeowners to Industry could be charged rates determined by the time of day. Pay less in low load times and more in high load times. Stop facilitating energy hungry projects like dirty coal mines.
Strongly Disagree	I live in Vancouver and my sole source of energy for household use is electricity. Because of thisd. most of my bill is at the higher cost
Strongly Disagree	Instead of expanding energy production infrastructure, why not increase efficiency to reduce waste so new infrastructure which damages the environment is unnecessary?
Strongly Disagree	I am opposed to building any more mega-dams, and I believe that the Site C dam will reduce the amount of farmland by an unacceptable amount. I find the choices included in this section of this survey very dangerous - it reads a bit like the Harper governments mega bills, that mix contentious issues with non-contentious ones in an effort to force their will on the Canadian Public. it is not democratic and it makes me wonder about the real intentions about surveys...even while I take the time to answer them, because I do believe in democracy and the need for forums to express our vies.
Strongly Disagree	You are taking the focus off of the big issue!
Strongly Disagree	
Strongly Disagree	
Strongly Disagree	This ridiculous hugely expensive smart meter campaign is supposed to make people monitor their useage and then increase rates when during high useage times - penalizes families that aren't home during the day and need electricity to at night.
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	

No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	see comments at end of questionnaire
No level of agreement selected	
No level of agreement selected	
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No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	I don't actually under the question. What is demand-side? Good for conserving electricity--bad is where you get your power. No more ruin-of -river projects

No level of agreement selected	
No level of agreement selected	I would be very strongly in favor of putting conservation first, but it's clear that despite the rhetoric BC Hydro is putting conservation last in terms of actual dollars invested. With a true conservation program we could reduce energy use to the point that no new capacity was needed, without any loss of essential energy services.
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	This is the area where our economy really can grow. Moving towards factor 10 or higher radical energy efficiency is where a sustainable future lies. Currently BC Hydro's plans in this area are way too timid. Referring to the work done by Amory Lovins and the Rocky Mountain Institute, in their "Reinventing Fire" initiative, we can see where dramatic increases in energy efficiencies are not only possible with today's technologies, but cost us far less than new generation.
No level of agreement selected	I very much disagree with proceeding with the Site 'C' dam plan. This plan should not go ahead based on the First Nations opposition to it, and the horrendous environmental impacts this dam would have on the wildlife in the area as well. It's a bad plan, again made from the perspective of profit at all costs.
No level of agreement selected	Energy conservation through the Power Smart program is a no-brainer. But more has to be done than that. For example, homeowners, businesses and industrial facilities should pay less in low load times and more during high load times. The possibility of savings on energy costs would cause a necessary change in behaviour and lessen the need for BC Hydro to plan for very high peak loads. Additionally, our Crown Corporation should promote the use of new building technologies that promise reduced energy consumption and conservation.     BC Hydro also needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.     It's a good time to mention that BC is a net exporter of power right now and we're projected to have a big surplus (enough to power 472,000 homes) for at least the next ten years. With strong conservation programs in place, we might not need to build additional power-generating infrastructure for many more years than that.
No level of agreement selected	
No level of agreement selected	Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.

**POWERING TOMORROW**

*Participants were asked to provide their level of support for BC Hydro’s recommended actions to: ‘power tomorrow’ by building Site C, a proposed third dam and generating station on the Peace River, which would provide cost-effective, reliable and renewable electricity for generations. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on powering tomorrow.*

<b>Response</b>	<b>Frequency</b>
<b>Strongly Agree</b>	30
<b>Somewhat Agree</b>	20
<b>Neither Agree or Disagree</b>	19
<b>Somewhat Disagree</b>	24
<b>Strongly Disagree</b>	309
<b>Total</b>	402

**Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on conserving first.**

Strongly Agree	As our population grows and economic active grows with additional power will be needed. While conservation can help extend the time line we need to prepare for the future by planning to build site C... Ideally we should be looking at other ways to generate renewable energy as they become cost effective. e.g. Solar and Wind Power...
Strongly Agree	Damming a river and using the same water to produce electricity multiple times is a wise use of the water resource.
Strongly Agree	The Peace is already a developed river and another dam makes more efficient use of the water than building a power dam on a new untapped river.   Site C is smart economics
Strongly Agree	It's a no-brainer. Don't ever waiver from that direction, please.
Strongly Agree	A no-brainer
Strongly Agree	Prudent planning for future; not based on oil, gas (fossil fuels) or nuclear
Strongly Agree	
Strongly Agree	Energy from Site C is not needed. This is a very costly project both economically and environmentally. We cannot afford to flood valuable farmland or destroy critical wildlife habitat. The negative impacts of Site C are just too great to justify this project.
Strongly Agree	thats good

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Appendix D – Online Feedback Form Responses

Strongly Agree	Site C represents the best source of clean, firm, economical energy in the province. BC Hydro should look at developing/acquiring as much clean, firm, affordable hydroelectricity as possible.
Strongly Agree	Its unfortunate that farmland would have to be flooded. As the river is already compromised by 2 dams, I would agree with proceeding with site C. Reservoirs are so efficient at providing power when its needed whereas wind, solar, and run of river do not present the same reliability.
Strongly Agree	I have not yet seen a comprehensive and understandable summary of the environmental effects so my stong agreement is somewhat qualified.
Strongly Agree	If the site C dam will eliminate ALL IPP's and any future plans for IPP's, I highly recommend the building of the Dam
Strongly Agree	I prefer hydro electric power to fossil fuel based energy
Strongly Agree	Should have been done 15 years ago, but instead the government would rather allow private companies to rip off the public and hold BC Hydro hostage to long term money losing contracts
Strongly Agree	
Strongly Agree	Hydro Power is the easiest type to match load demands.
Strongly Agree	I accept dams as the only way to secure a long term steady supply.
Strongly Agree	Important for future generations
Strongly Agree	In the long run....Site C is my choice for new clean power
Strongly Agree	Destroying prime agricultural land for power we will waist does not make sense... conservation does!!!
Strongly Agree	
Strongly Agree	BC will continue over the next 50 years to expand its population. We need to be prepared. Also, the opportunity to sell electricity to the US creates an export for BC. We need to generate as much trade as we can.
Strongly Agree	this should have done 10 years ago
Strongly Agree	Driving through the Peace River, we found twelve very small aluvial fans that would be flooded. Most were not in production because they were not economic.
Strongly Agree	Do it



Strongly Agree	I strongly favor production of enough electricity not only for self-sufficiency but for massive exports. And I want this electricity to come, as much as possible, from renewable and reliable sources, hydro being the best.     It is a shame to lose the farms of the Site C basin, but every alternative hydro location is going to have serious drawbacks. To me, loss of those farms -- I have driven past them on several occasions -- is a sad but necessary cost to achieve a greater benefit for far more people.
Strongly Agree	Even though I support more small-scale hydro plants (note that Europe has over 10,000 under 10 MW hydro plants) at some point BC will need a large hydro plant with storage in combination with small-scale hydro project. Site C is limited in that it takes the water released at GMS, 3 plus hours to get the Site C.
Strongly Agree	<p>Powering Tomorrow     If we are to replace the ~80% of our total energy that presently comes from fossil fuels we will require a huge increase in our ability to generate carbon-free electricity from sustainable sources. The IRP totally fails to acknowledge this fact!     Geothermal energy can be developed for ~10c/kWh, and BC has immense potential for this resource.     Wind power is the least expensive form of new electrical generation capacity. Currently, wind electricity is being generated in the USA for about 6.2c/kWh. That cost includes real estate, transmission, taxes and wind farm owner profits. It's the "delivered to the utility company door" cost of electricity, not just the generation price.     British Columbia is the "best place on Earth" for marrying wind capacity to hydro, since we have reservoir-to-reservoir capability that can produce power without downstream effects, as needed.     Nothing compares to solar power in terms of potential amounts, reliability, security.   The cost of photovoltaic cells has dropped about 99% in recent decades, and is still dropping. It is time to re-examine all our assumptions!   Solar is now hitting 10c/kWh and should be fairly close to 5c/kWh six years from now.     (<a href="http://www.greentechmedia.com/articles/read/four-charts-that-prove-the-future-of-clean-energy-has-arrived">http://www.greentechmedia.com/articles/read/four-charts-that-prove-the-future-of-clean-energy-has-arrived</a>)     The cost of licensing and installing solar photovoltaic panels now outweighs the cost of the panels themselves. However, in the US there are clear signs the cost of licensing, installing and inspecting will soon fall to \$1 per installed watt.     It's quite achievable that every residence can be a net-zero consumer of electricity, that is producing as much as it consumes over an annual cycle, while maintaining operability from the grid at all times. Why doesn't the IRP recognize this? Why does BC Hydro not promote net metering for everyone?   Many jurisdictions are realizing that individuals and businesses will leap at the opportunity to supply photovoltaic electricity. In Germany, even major industries are becoming net-zero users of electrical energy, without fossil carbon emissions:(<a href="http://www.sustainablebrands.com/news_and_views/clean_tech/closing-loop-waste-helping-german-brewery-become-net-zero-2018">http://www.sustainablebrands.com/news_and_views/clean_tech/closing-loop-waste-helping-german-brewery-become-net-zero-2018</a>)     The bottom line is that BC Hydro must open up its policies on net metering to be citizen-friendly.  </p>
Strongly Agree	
Somewhat Agree	This valley is very beautiful and it will be sad to see it go. However, this option is the lowest impact of the options for large new sources of power which are firm.     I don't agree that this project is as low cost and cost-effective as stated. The capital cost of over \$7 million per installed MW is double what IPP's are building for. I know that this project has very firm energy but shouldn't there be economies of scale?     I am surprised that this project is being touted as providing energy at a cost of \$85-\$95. There must be cost items missing from the analysis. Comparing that cost to IPP's is not correct as there is no profit in that cost.
Somewhat Agree	Comparing other energy supply alternatives, such as fossil fuels, this is the better long term solution for providing safe, reliable, and more sustainable way of generating electricity.

Somewhat Agree	
Somewhat Agree	my biggest concern is if bchydro can build site c at a reasonable cost
Somewhat Agree	In addition to site C, BC Hydro should be pursuing other Clean Energy sources now to supplement its long term demand, and diversify our clean energy options
Somewhat Agree	I only somewhat agree. I am aware we will need more power in the future but am unconvinced the lasting harm to the environment will be sufficiently offset. I believe BC Hydro needs to take the LNG industry out of the equation and limit the "Abbott and Costello" effect mentioned in previous comments. The gas industry can use gas for generation purposes.....provincial government documents state that use of gas to generate electricity is indeed "green". I also believe Canada has the technology to build safe nuclear power generation facilities that make use of molten salt reactors and thorium. There is no free lunch. There is equal cost to the environment in one way or another no matter the method of generation. A horsepower is a horsepower is a horsepower. BC Hydro needs to make the public more aware of the extent of damage to wilderness areas every time they plug in an appliance or electric car.
Somewhat Agree	OKay ... but only if it is necessary, as it is a low-carbon source after construction.
Somewhat Agree	
Somewhat Agree	There is definitely downsides to building Site C such as the drowning of forest and loss of land for the reservoir. However, it is probably the best way to meet the growing demand.
Somewhat Agree	How many gigawatts per hour?     will this project or any of the expenses be added to the deferral payment account already on the books at BC Hydro heritage assets?
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	While this is not the ideal solution, I believe that it is better than many alternatives. In return for the land destroyed, twice the equivalent area should be put under protection somewhere else in the province.
Somewhat Agree	I struggle with this one. I know that water sourced hydro is an effective natural resource. But I also know that each dam destroys massive amounts of nature - that area will no longer be able to support the many species that current live there (flora and fauna). I would like to see counter measures provided if this dam is put in. Counter measures that support either further growth of existing natural areas (flora and fauna) or support to rehabilitate other adversely affected natural areas.

Somewhat Agree	
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	Build the dam thing
Somewhat Agree	It has worked so far, and it'll likely work for Site C
Neither Agree or Disagree	I would feel more in favor if conservation efforts were more robust and adopted by the majority of power users. I also take into account the First Nations objections. I am not sure that we should continue using electricity and resources at the rate we are using them, but do balance these points of view with the long term benefits of "clean" energy from hydroelectric generation.
Neither Agree or Disagree	No doubt BC Hydro would provide cost-effective, reliable and renewable electricity for generations if BC Hydro doesn't have to supply electric power to the unproven LNG proposals on the west coast.
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	My opinion on site C is slightly softer than the plan to develop LNG, however I still have concerns. Is site C absolutely necessary? We already have several hydro-electric dams. Can't we make up the gap in energy demand with the energy sources of tomorrow, while using Power Smart to encourage citizens to think wisely about their consumption? It seems to me that that hydro-electric dams create a smaller carbon footprint than LNG or oil, but what would the impact be on wildlife in the area? If it came down to a choice of: a) Kinder Morgan pipeline expansions, b) LNG, or c) Site C, I would ABSOLUTELY prefer Site C...by a long shot! BUT - again I must harp on the green energy sources of tomorrow, what are we doing about this?
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	I know too little about it.
Neither Agree or Disagree	I don't know enough. The damage dams such as this one cause is severe and irreversible. Despite this, it may be the lesser of the range of possible evils. I would only support this dam if BC actually needed the energy for itself - NOT if the extra power is needed to power LNG or other fossil fuel extraction. We need to be smart now and fossil fuels are decidedly not smart anymore.

**Integrated Resource Plan Appendix 71**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Neither Agree or Disagree	
Neither Agree or Disagree	BCH has had Site C in its plans for the last 40 years. The sad part is that the project does not have a leader who can simply explain how and why it can be an important and vital part of the BCH infrastructure. Instead, the public is being asked to accept a menu of value laden statements describing it as cost-effective, reliable and renewable from a government which over the past decade has continually used these adjectives to describe the proverbially sow's ear. At least we should be thankful that we have been spared the phrase "it's the right thing to do!"
Neither Agree or Disagree	There are concerns over possible cost overruns at this site....it has been proposed for several decades now and id I recall correctly, even 30 years ago it was said it'd be needed in 10 years' time. Renewable energy alternatives (e.g. wind, tidal) should be explored and supported in long-term contracts if their cost per kWh is in the ballpark of what Site C is projected to cost. Also, how about repatriating the Columbia River Treaty downstream benefits as power instead of having Powerex selling it on the US spot market?
Neither Agree or Disagree	I don't know enough about this. Why isn't there a summary here of the environmental impacts? Where are the transmission lines going to be routed?
Neither Agree or Disagree	We currently do not have the demand for Site C power, let's just shelve it for now!
Neither Agree or Disagree	What does this do to the fish and ecosystems     Need to call,write,email Matsqui First Nation to conduct a meaningful consultation meeting
Neither Agree or Disagree	In environmental terms, is the proposed Site C dam not going against environmental concerns? Other clean-energy sources will not create the huge environmental impact that a dam will have.
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	Site C, in my oppinion would serve as a much better firming tool for other intermitant renewables such as wind that natural gas fired generation.
Somewhat Disagree	
Somewhat Disagree	Develop wind,geothermal and other low impact non renewable energy instead of site c
Somewhat Disagree	The cost of building Site C is about \$7 million per installed megawatt - twice the cost of other energy projects recently built in BC. Shouldn't there be economies of scale which would be expected to make Site C less expensive than small projects? Look at the cost of Columbia Power's recent projects to understand my point.     Also, the cost of energy from Site C of \$85-\$95 per MWh does not seem correct. BC Hydro has not published details, but I expect there are cost items being excluded from the analysis.     I know the energy from Site C is valuable because it is dispatchable and firm, but at this cost I don't think it should be built.

Somewhat Disagree	
Somewhat Disagree	This isn't about the future for people. This is about the future for LNG. If LNG weren't on the table, it's unlikely BC Hydro would be looking at Site C. There is plenty of good, functional infrastructure that can be expanded to meet any growing demands, especially if ramping up existing facilities is done in conjunction with demand side management.
Somewhat Disagree	Why not add power from other renewable sources? hydro capacity seems quite sufficient and adding renewables will diversify our energy system and allow for future opportunities that may not be clear at this point in time.
Somewhat Disagree	
Somewhat Disagree	I believe that if we don't chase the LNG pipe dream and we aggressively pursue energy efficiency that site C may not be necessary. However, I believe it would be preferable to new coal or natural gas fired generation.
Somewhat Disagree	I feel that expanding other renewable energy bases such as wind, tidal, and geothermal power should be looked at. Wind power is much more modular and easily expanded closer to the power demand location. This greatly reduces transmission losses associated with power generation in north central BC at the proposed site.
Somewhat Disagree	What is the true purpose of this development? I understand that more than half of the power is destined for resource extraction projects in the north-east, which is in contravention of the "power tomorrow" slogan. As mentioned already, since i am opposed to further infrastructure development in shale gas and other fossil fuels, i would not be able to support the Site C proposal.
Somewhat Disagree	I strongly disagree with building Site C insofar as it is "needed" to support the LNG export industry and shape IPP energy contracts - as those entities should be treated in a "user-pay" fashion, without subsidy from other BCH ratepayers.     I would somewhat agree insofar as Site C is necessary to support existing customer loads, however DSM options (e.g. Demand Response programs) should be implemented first if they are more cost-effective.
Somewhat Disagree	
Somewhat Disagree	Producing power up north at site C will probably be used to enable the LNG industry, which is wildly destructive of the environment, with a well for fracking approximately every square mile in the Peace country, with all the roads that entails, all the water polluted by the fracking chemicals, all the driving and drilling with its big carbon footprint, and the insanity of a pipeline over the rivers and through the mountains to Kitimat, and then the tankers through the narrow fast tidal channels with the katabatic winds off the mountains. Those tankers are longer than the channel is wide at some points, to imagine they will not have a catastrophic accident is wishful thinking. We should risk our own backyard here in Vancouver, then we might be more realistic.
Somewhat Disagree	While I understand the growing demand for energy, I would like to see wind and solar infrastructure built. The site C dam is a massive project and has negative effects on the ecosystem of Peace River.
Somewhat Disagree	Lets explore power options less harmful to our precious environment. The sun is still there, waiting for us to use it effectively. Wind, also.
Somewhat Disagree	Drown more farmland as has been done already up there in the Peace area and here in the Kootenays where people have not been fairly compensated then.

Somewhat Disagree	While steady power supply through hydroelectric generation is a generally a positive move, the amount of damage and impact on the Peace River is immense. This river and watershed will be impacted for generations. Equivalent power can be produced using a combination of gas and renewable energy with both options having a fraction of the environmental footprint. Additionally, gas and renewable energy can be procured through IPP contracts, providing long term savings.
Somewhat Disagree	Site C is not required except to support the LNG industry. Site C will be a net negative to the environment and flood valuable farmland. Site C should not be built unless it can be shown that non-LNG demand requires it.
Somewhat Disagree	
Somewhat Disagree	We haven't seen the case for this additional power as a means to reduce the ecological and carbon footprints of BC. No higher priority exists than preserving the earth upon which we live.     When the province can prove to all the people of BC that Site C will help to save the planet itself by reducing the use of non-renewable carbon-based fuels, then we shall revisit this question.
Somewhat Disagree	The impact on the environment needs to be measured and there must be satisfactory evidence provided that the impact on the environment is minimal, if not nil.
Somewhat Disagree	Hard to provide an expression of support when all of the impacts of the proposal are not well understood, and many impacted stakeholders and First Nations are opposed to the project.
Somewhat Disagree	Hydropower, when properly sighted can be a great form of electricity. Site C had a devastating impact on the local environment. Consideration should be given to a gas/wind combination of procurement to generate equivalent energy at or below the same costs.
Somewhat Disagree	
Strongly Disagree	I don't agree with flooding all that suitable farming country that is proposed in Site C dam project. We should be building smaller dams in rocky river canyons where no vegetation & wildlife will be lost. We don't need to make more power to sell to the United States. Let them dam their own rivers. Save & conserve our resources.
Strongly Disagree	If we took the money we plan to invest in Site C and used it on BC-developed alternative energy, we would not need Site C. Also, the agricultural land in that area is more valuable for producing food, and that's what we should be doing with it. I totally oppose Site C.
Strongly Disagree	
Strongly Disagree	
Strongly Disagree	BCHydro should look at building their own gas fired power plants such as the Shepherd Energy Centre in Calgary which will be producing power at \$30.00 pmh versus \$110.00 for the Site C dam. Also the environmental damage should be considered when building the Site C project.
Strongly Disagree	Too expensive and too damaging to local environment.
Strongly Disagree	Agricultural land flooded is gone til we're too hungry to justify reservoirs. Land compromised by flooding that may otherwise improve with the inevitable global warming is a lost opportunity to feed a burgeoning populace.



**Integrated Resource Plan Appendix 7I**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Strongly Disagree	I don't think we should dam an entire region to make power to sell to the states. Down the road, if we really need the power for Canadian use, we could revisit the issue.
Strongly Disagree	I don't think there is any strong or proven business case for Site C. In particular, there is an unknown level of risk that capital cost and LCOE ends up higher than claimed by BC Hydro. I support also the view of the FN and BCFNEMC. FN consultation with FN needs to be conclusive for the project to proceed.
Strongly Disagree	
Strongly Disagree	we should not lose any more agricultural land in bc, and nor should we further restrict flow in the peace river system, which is causing adverse effects downstream in the delta.
Strongly Disagree	Please don't flood any more land! Invest in wind power, solar power, tidal power instead.
Strongly Disagree	I am not convinced that a Crown Corporation is an effective way to build new power generation in BC
Strongly Disagree	I know this is what "Hydro" does, but I don't think hydro should be spending so much money on a project that will take 10 years to complete when there is a more cost effective and quicker way of obtaining the needed energy requirement... Wind! We have huge wind potential in this province and it is less likely to disturb the ecosystem. Wind also allows for the existing infrastructure to be utilized. A minimal amount of new high voltage transmission lines would need to be added.
Strongly Disagree	
Strongly Disagree	This is too destructive to the environment. I think future energy requirements can be met with more sustainable alternatives. There is nothing "creative" about this. Let's have some new thinking.
Strongly Disagree	Do not disturb the natural ecosystems anymore - find other ways of providing energy that do not injure or negatively impact nature
Strongly Disagree	We don't need it, we have enough electricity as it is. In fact, we don't need the ROR.s power , that is just a ponzi scheme.
Strongly Disagree	Having been through that many times I just cannot see the loss of all that land and ecosystem worth building a dam at that scale. It is my understanding that BC actually has a surplus of power and has had for several years, and exporting it. It is also my understanding that the First Nations of that area are very much opposed to the construction of this dam. Perhaps it is time for BC hydro to look into alternatives to generating clean power, solar and wind.
Strongly Disagree	The time for megaprojects is over. We must provide sustainable , less invasive means for any future development. Since we already produce a surplus of electricity we have time to study solutions and do it right. There is far too great a cost associated with such a project, both financially and environmentally. Shut down the plans for Site C !
Strongly Disagree	You are producing excess power now, and you are using poor sources like the run of the river projects that you are selling at a loss. So who are the customers that need this power, and what is the projected market that will absorb this power.

Strongly Disagree	It is not needed, except possibly for expanded resource extraction operations in BC. BC Hydro rate payers should not be subsidizing the power requirements of that sector.
Strongly Disagree	The Site C Dam involves unacceptable environmental consequences that must remove it from consideration. An honest look at the power generation benefit has to include the cost per GWh of environmental cost, that would likely add 50-100% to the rates.     The solution is simple, move to solar or wind site generated power, and it is 3 times more effective than Central energy production. BC can manage with what we have now, if we simply charge higher rates and include large incentives to switch to distributed renewable energy.
Strongly Disagree	IF we had a real conservation program and we didn't plan to subsidize the LNG industry, there would be no need to destroy good farm land and waste huge amounts of taxpayers money on Site C.
Strongly Disagree	Site C will mean the loss of irreplaceable farmland necessary for food sustainability now and in the future.
Strongly Disagree	This is another project that is not required for the energy needs of BC residents. The power generated will be used to support large industrial projects that should not even be part of a sustainable future for British Columbia.   And it is based on a continuing growth economy which is not going to be sustainable in the long term.     CONSERVATION CONSERVATION CONSERVATION is the key. NO SITE C
Strongly Disagree	The construction of this dam would have a catastrophic effect on wildlife and the surrounding environment. We do not need to keep building more dams. Instead we need better renewable energy that doesn't require flooding vast areas of land.
Strongly Disagree	Smaller, scalable, renewable power projects could meet the need in a similarly cost effective manner and in partnership with our First Nations. Site C remains controversial and concentrates job creation in the north at the expense of tax dollars from the south.
Strongly Disagree	Site C will flood valuable farmland and is not need if we support conservation and small-scale distributed renewable generation.
Strongly Disagree	Site C must not be allowed to go ahead. Building Site C would be an environmental travesty. The priority should be building sustainable renewables like wind, solar, and tidal. Also, electricity prices should be significantly increased to prompt consumers to conserve.
Strongly Disagree	I believe Site C is for the benefit of non green energy companies. The tar sands have an insatiable appetite for power to extract bitumen from sand. The compression of methane or natural gas requires a tremendous amount of energy as well, and I think this is the main reason our government wants to build it. But LNG is not clean energy. If we reject it, we don't need Site C. We produce enough hydro power for our needs. We recently spilled water over our public dams because we did not need the hydro it could provide. This of course is because you, BC Hydro, and therefore me, and all British Columbians, were forced to buy hydro power from private companies at far higher rates than we can provide it to ourselves with infrastructure we already own and have paid for. What kind of lunatic would write laws like that? Now we need to borrow billions of dollars to build another dam? No we definitely do not!
Strongly Disagree	Ridiculous, it would only power an LNG plant which is so 'Yesterday" it's not funny!!     Reducing energy consumption must be the FIRST thing we do! All sectors, especially corporate/industrial should be doing this. And promoting site-produced power, so individuals and communities are not tied into the corporatocracy must be encouraged before any mega-projects.
Strongly Disagree	This project would destroy valuable farmland and ecosystems. We need to stop building large dams and focus instead on renewable energy sources. With the massive human population that is continuing to expand, we need to protect our farmland and the natural ecosystems that provide us with clean air and clean water.

Strongly Disagree	This seems to be the same lie Gordon Campbell told us. It seems instead that Site C is going to power LNG and promote the destruction of water resources. Exactly how much power from Site C will actually get into the grid and be sent south?
Strongly Disagree	There are mixed messages - Gordon Campbell sold us on Site C as a future component of our energy grid but it seems that Site C power is going to support the unacceptable LNG industry. Exactly how much Site C power will find its way onto the grid and down south?
Strongly Disagree	The land that would be flooded by Site C is some of the most productive agricultural land in the province. We are going to need that land for growing food in the future, as global warming is likely to negatively impact agriculture in other areas. BC has so little valuable agricultural land and much of the Fraser Valley is being paved over. And the Peace River region could become if not breadbasket to the world, at least a vital food source for Canada.
Strongly Disagree	In general I support hydro electric power. It is part of a renewable resource system that can meet our electricity desires. However, I believe that as a society we are using vastly more electricity than we need. I support time-of-use pricing and virtually any other measures that will result in consumers thinking about and then choosing to use less energy. Many people who live simpler lives can comfortably meet their needs (and desires) with much less than half of the average per capita consumption of hydro. I believe the current capacity is plenty and that we must focus our efforts on education designed to eliminate so much wasted energy from within the system.
Strongly Disagree	Site C would be a huge mistake for a multitude of reasons. I have recently completed field work for my Masters thesis in the Upper Peace River Watershed, and the Peace River valley that stand to be flooded has been shown in this study to be an ecosystem service hotspot location for the people who live in the region. In order to maintain the human well-being of the people in the area, this area should be conserved. Additionally, the ALR land that stands to be flooded is class 1, which is rare this far north. For a province that already imports about 50% of its food, and in a time when global food shortages are becoming more common, we need to preserve our sacred ALR.
Strongly Disagree	I am a farmer who lives in the Kootenay region. We already made the mistake of flooding the best agricultural land in the Kootenays with the Columbia River Treaty dams. We cannot continue on this unsustainable course. We need to feed ourselves.   Have the First Nations agreed to this Peace River dam proposal?
Strongly Disagree	The environmental and social impacts of developing site C are too high.
Strongly Disagree	The proposed Site-C Dam is a very ill-thought out proposal.   Besides being built on an unstable foundation, the dam will flood invaluable crop-land. with climate change, Canada and the world will need this fertile land to grow food as much of the lower farm lands will be flooded out or the water-tables will be to high to grow the wheat, canola or whatever we require. Basically the worlds' and especially Canadas' fertile land-base will shrink. To deliberately flood such fertile land is a step backwards.     However, the most important point I wish to make is this: "It is well past the time that politicians and governments need to act to address these issues. This breakdown of the global atmospheric circulation pattern is well underway now, with a global average temperature only 0.8 oC above the pre-industrial revolution levels. With extreme weather events this terrible now, it is highly irrational, in fact reckless, to continue to have global meetings and discussions about whether or not 2 oC is safe. Only 0.8 oC is wreaking havoc on global infrastructure today. As climate change proceeds and accelerates and we move further from the stable state that we are familiar with (â€œold climateâ€œ) to a much warmer world (â€œnew climateâ€œ) we will experience worsening weather extremes and a huge â€œwhiplashingâ€œ of events (throughout our present â€œtransition periodâ€œ).     For a notion of whip-lashing, consider the Mississippi River. There were record river flow rates from high river basin rainfall in 2011, followed by record drought and record low river water levels in December, 2012 making it necessary for the U.S.

	<p>Army Corp of Engineers to hydraulically break apart rock on the riverbed to keep the countries vital economic transportation link open to barge traffic. Then, 6 months later, the river was back up to record levels. Incredible swings of fortune.   Mitigation at a global level is dysfunctional and inadequate     Adaption has not worked out too well for Calgary, or Toronto, or Colorado, or numerous other places. Let us not be surprised when a similar torrential rain event hits Ottawa, or Vancouver, or even the Alberta tar sand tailing ponds. In Alberta, tailings ponds would be breached and the toxic waters would overflow the Athabasca River and carry the pollutants up into the north to exit into the Arctic Ocean. Such an event would be catastrophic to the environment and economy of Canada."     How can this risk be ignored? Will the latest IPCC (Intergovernmental Panel on Climate Change) report AR5 released on September 27th once again be ignored by society?       So far, all information I am receiving from B.C. Hydro and the LNG proposals - is" business as usual".   What if the Site-C Dam had a super-saturation event during construction or when ponding? What if the the tar-sands tailings pond flooded?   I read that the banks of the Peace are largely glacial silt - that will not hold a 500 year flood event - like High River experienced.   Time to rethink B.C. Hydro:   " and so, while the end-of-the world scenario will be rife with unimaginable horrors, we believe that the pre-end period will be filled with unprecedented opportunities for profit"</p>
Strongly Disagree	<p>The information provided simply does not show the need for this massive project other than to benefit private industry but at staggering cost to future agricultural capacity, damage to norther wildlife habitat, isolation of subpopulations of species, and enormous financing costs. This dam is NOT for future domestic consumption needs but is simply a means of having the citizens of BC subsidize private corporations. This is neoliberal ideology run rampant but is NOT to the advantage of the total society.</p>
Strongly Disagree	<p>Site C will destroy the local environment and be an ugly and unnecessary scar in a beautiful valley.</p>
Strongly Disagree	<p>No to building Site C Dam!   This is not what BC Hydro should be investing in and developing!   BC Hydro needs to invest in wind, sun, geothermal to source more electrical power.   British Columbians want and need renewable energy that doesn't destroy ecosystems and indigenous cultures, precisely what Site C Dam will do!   BC Hydro needs to focus on conservation (work with the appliance and entertainment industry to build and then use energy efficient products), innovation (get consumers creating their own power through small scale technologies, energy generating bicycle machines for example).     BC Hydro, you will not build Site C Dam! Look to truly sustainable energy plans and projects.</p>
Strongly Disagree	<p>New mining and fracking business plans should be based on providing their energy requirements within their own capital expenditure plans/ investments/ profits. LNG and mining aside, power demands should be fall as incentives and efficiencies take hold. The need for site C, the loss of productive farm land/habitat and needless debt should be postponed for a long time if ever.</p>
Strongly Disagree	<p>Site c is not needed; BC already has enough capacity to meet out needs. In recent past years BC Hydro has spilled water from some of it's dams due to over capacity (no market for the juice). If more is needed, it should be a topic for discussion at the upcoming Columbia River Treaty negotiations.     We do not need more energy mega-projects like site c, that would have unacceptable consequences for the Peace River Valley.</p>
Strongly Disagree	<p>The Peace River valley has some of the best agricultural land in BC. At a time when there is world wide concern for adequate food supply it makes no sense to unnecessarily flood prime growing land. The already existing dams on the Peace River have resulted in a significant reduction in prime agricultural land, to destroy more is folly. There is no solid evidence that this power is needed in BC. Through conservation and finding alternative sources of power, industry, small business and residential needs for power can be satisfied for decades to come. Although there continues to be a massive amount of rhetoric flowing from politicians regarding the panacea of LNG, many qualified sources are seriously questioning the reality of</p>

	these plants every being built. It does not make sense to develop plans for massive expenditures on power expansion that may never be needed.
Strongly Disagree	No more flooding our land base! The long term environmental and social costs of the existing reservoirs has never been reconciled. Building more will only increase the deficit.
Strongly Disagree	Flooding land with significant agricultural and historical value is crazy given that we could develop wind power, which would cost consumers less and would spread the wealth around more evenly. Jobs created by wind power would be province-wide, unlike jobs created by the dam. First Nations who will be affected by the dam have already expressed their concerns. Need I go on?
Strongly Disagree	Site C will destroy valuable farm land which will become even more critical to BC's food supply as the climate changes. As well, large reservoirs are not carbon neutral, requiring large amounts of concrete emitting large amounts of CO2. The alteration of natural water flow is detrimental to fish and wildlife downstream, as well as the loss of terrestrial lowland habitat. Future energy needs should be met with alternative renewable sources of solar, wind and geothermal.
Strongly Disagree	I am opposed to the development of the Site C Dam since it is unnecessary, it is focussed on providing energy for the dirty LNG industry, it is not "green and clean" as it will create lots of methane through the decomposition of submerged vegetation, and it will waste vast tracts of highly productive agricultural land in a beautiful region of BC.
Strongly Disagree	No! Do not build Site C.   We do not need Site C.   It would destroy a significant amount of prime farm land.   It would destroy a very attractive river.   the river is a ice of nature that is alive, compared to a flooded lake which is dead.   this river is quite gentle and great for canoeing and other boating. (I have paddled a canoe on it)
Strongly Disagree	We do not need Site C.   It would destroy a significant amount of prime farm land.   It would destroy a very attractive river.   the river is a part of nature that is alive, compared to a flooded lake which is dead.   this river is quite gentle and great for canoeing (I have paddled a canoe on it) and other boating.
Strongly Disagree	you show graphs to illustrate what you believe to be in support of your need to meet peak capacity   what you neglect to show are graphs that illustrate our need to keep agricultural land to meet demand and to have adequate supply of growing areas in times of food scarcity as well as meeting food security concerns   i cannot support this loss of land
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the

	Site C Dam.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	As a resident living near a flooded valley, I cannot support flooding further valleys. Hydro power may be clean and renewable, but it is not environmentally friendly, and I think supporting other more friendly power sources should be the goal - like geothermal power. It is a proven technology, why aren't we using it here? If the investment requirements are too high to attract investors, government should be supporting THAT, not exporting another "dirty" non-renewable resource like natural gas.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	If the LNG industry is to move forward in BC. they must be responsible for providing their own renewable electricity. We do not need site C, instead the resources should be put to use supporting small scale, diffuse, renewable energy generation and radical energy efficiency



	upgrades. Besides, BC cannot afford to lose any more valuable agricultural land and the level of devastation caused by a large scale hydro project of this kind can no longer be justified, with our current state of scientific knowledge.
Strongly Disagree	Site C power is not needed to support existing customers and projected growth of energy use, exclusive of providing highly subsidized power to new and anticipated resource extraction, such as that enabled by the Northwest Transmission Line, the planned LNG plants and Black's bitumen refinery. While these may or may not provide addition revenues to government, such large resource industries are a cost-ineffective way to create jobs, and in general a terrible contributor to greenhouse gas emissions and global climate change. They should not go forward, and BC Hydro should certainly not incur huge expense in order to facilitate them, at great cost to existing customers.   Moreover, my understanding is that Site C will flood in excess of 6000 Ha of ALR class 1 and class 2 farmland, a loss the province can ill afford. It is strongly opposed by most residents, ranchers and First Nations bands in the area. It should not be built.
Strongly Disagree	This would be a huge mistake because this river valley is more valuable for future agriculture production as global climate change becomes more apparent; not too mention the damage that will be caused to wildlife populations and hardship to families displaced by the dam. We should have learned something about damage downstream caused by the current Peace dam to wildlife populations in the Peace delta.
Strongly Disagree	
Strongly Disagree	there are other options... cost them out
Strongly Disagree	
Strongly Disagree	Site C power will be used to liquefy natural gas. It will also render useless to First Nations large swaths of arable land and hunting territories. Large hydro dams are going out of fashion: for evidence based analysis visit <a href="http://www.internationalrivers.com">www.internationalrivers.com</a> . The prospect of paying to develop huge hydro infrastructure for the fracking industry to export LNG so it can release millions of tonnes of carbon at the burner tip in Asia is appalling to me in this day and age when we have the ingenuity, the public support, and the moral obligation to invest in renewable energy.
Strongly Disagree	We have enough power for our current and projected needs. If we need more, we can get it through the Columbia River Treaty. Site C would be expensive and extremely damaging to the Peace River Valley. Local First Nations oppose it and I don't believe we should be removing land from the ALR. I don't believe we should build a dam to support potential LNG demands for power.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley. The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history.
Strongly Disagree	BC Hydro already produces enough power. In addition, this project is opposed by important stakeholders in the area (most importantly, to my mind, First Nations in the area where it is proposed to be built) and would be environmentally harmful to a precious and beautiful part of the world. Leave the Peace River alone.
Strongly Disagree	Site 'C' is, in my opinion, a terrible idea. We don't need the extra power, and we do need the beautiful Peace River and all the lands that would be flooded. Also there will be problems with the First Nations. Additionally the cost is ridiculous. We will all end up paying for it.



Strongly Disagree	Site C should not be built. It will flood farmlands that should be kept in production. BC has a very low percentage of its land base in agricultural production and we should keep as much of it as possible available for future generations.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	No way! This is unnecessary, expensive, environmentally unsound, and puts in jeopardy our food sources as much farmland would be flooded. We don't want to depend on California for all our food.
Strongly Disagree	As stated in previous answer, this is largely supporting the energy needs of liquifying natural gas for consumption elsewhere while BCers take on environmental risk to pipelines, waterways from transporting of dangerously combustible LNG, leakage from extraction and transporting along with loss of fertile land in the Peace River region does not add up.
Strongly Disagree	Were it constructed, the Site C Dam would flood much of the arable, desirable agricultural land of the Peace River Valley. It would be too far from any major population hubs to feasibly provide power to them. It has been suggested the Site C Dam would in large part provide cheap power to coal and gas exploration companies in northern BC. This is not in the best interest of the province.
Strongly Disagree	See previous.   If this is being considered to supply the LNG production, I am 100% apposed.     We do not need it, there are other ways we can meet the growing power needs. This does not include IPPs that have tuned out to be our most expensive power source due to the 'sweetheart secret" deals these were given by the Government., Many rivers were devastated to build them., and BC Hydro was bankrupted in the process, a Crown Corporation that used to contribute hugely to the BC Finances, and is now virtually bankrupt.
Strongly Disagree	Site C may be more cost effective to build, but it is not being built to power even my LED lights, it is for industries that will ship natural gas and minerals offshore for manufacturing jobs there, leaving only the jobs in extraction here in BC. There is no benefit to British Columbians. The revenues gained from selling Site C power and extracting the resources will not offset the loss of some of the best wheat and grain farmland in BC, evict people from their homes and communities and destroy their way of life.
Strongly Disagree	The Peace River is an important food growing region and should never be on the table for a dam. Such a dam is not for the future of households, but would be put into place to subsidize shale gas and oil sands. Subsidizing the extraction of energy from the ground with electricity is madness. If we could objectively look at what we were doing, we would see it as such. The oil and gas industries only exist through heavy subsidies. They are made possible through

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Appendix D – Online Feedback Form Responses

	government policies who see no problem using tax dollars to subsidize these industries with infrastructure and tax breaks. With no subsidy, the oil would be best left in sands, the gas in the seams and we would regain our sanity by going an entirely different route.     As a biologist living in Golden BC, I see the devastation that giant dams produce in terms of wildlife, water quality, aesthetics, tourism, etc. I have surveyed birds along the edges of the Kinbasket Lake and found a desert where once was a thriving ecosystem. These places are dead places, and such places can only exist through our deadened hearts, addicted to oil and energy such as we are. It is these things that must change. The feeling that we need more power is counter to our survival as a species. We cannot expand without bounds into our finite planet. It strains under our load already. We need to make hard choices now, or we will not have a future for our children.     NO, the Peace River should never be dammed.
Strongly Disagree	To my knowledge BC is not short on power and conservation will meet future needs. I also think that flooding productive agricultural land is a terrible mistake.
Strongly Disagree	
Strongly Disagree	Agricultural land in the Peace River region will be key to our grandchildren's survival in the near future. Please do not destroy this land by flooding it.
Strongly Disagree	No more dams in BC! Flooding an ecologically significant valley such the one in peace river area would be a crime to future generations and the environment. It would also be unhealthy bilogically and energetically to all forms of life that depend on the water, its flow and energy. How would this project ever be reversible? The reason for this dam appears to be the coming demand for electricity by the LNG industry in BC and Perhaps also the oil sands in Alberta and Saskatchewan. Increased demand for power caused mainly by the big natural resource industry should be met by industry funds and not tax payers money and electricity price increases.
Strongly Disagree	Data provided only show forecast loads with an LNG industry, why? Because in last 20 years with 1.1M extra population, residential load increased by 6000 GWh/y (and has dropped since 2007), but forecast load with same population increase over next 20 y is suddenly 8000 GWh/y extra, despite regular advances in energy efficiency of electric-using equipment. The other forecast 15000 GWh/y extra will be due mostly to LNG development. Site C provides only 5100 GWh/y, so we would burn twice that in LNG-powered CO2-emitting generation (aside from small amounts of IPP's power).   I think we will do fine with continued conservation/efficiency, we have 3000 GWh/y in hand, no Site C and no LNG industry. Site C will trash prime ag land we will need, and LNG provides few jobs and boosts BC's CO2 footprint through the roof.
Strongly Disagree	
Strongly Disagree	It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     The proposed dam (site C) and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt. Taxpayers cannot pay for every little thing!!!
Strongly Disagree	

Strongly Disagree	
Strongly Disagree	A dam at Site C is an affront to Treaty 8 First Nations who are against it. The 8-10 Billion dollars would be better invested in renewable solar and thermal energy.   The Peace Valley if flooded will lose 3,500 acres of farmland, 18 percent of all Class 1 land in the Province. We must relocalize our food security from dependency on carbon transportation of produce from California, to a regional self-sufficiency and food sovereignty for the North.   The Peace River Valley has a priceless role to play in ecologic resiliency to climate change   The Lower Peace River and its associated ecosystems support a diverse range of wildlife, including threatened populations of bull trout, grizzly bears, wolverines, and countless other plants and animals.   The US in the Bakken Shales and other new oil and gas plays is replacing Saudi Arabia and will be an exporter of fossil fuel in the future, not an importer.   This means that the big energy export play now underway in BC is not needed.   What is irreplaceable is habitat for the biological diversity we have here, and the farmland of the Peace River Valley as the climate shifts north will be more valuable and is unique and must be preserved for the future.
Strongly Disagree	
Strongly Disagree	There are mixed messages being sent here - you and that liar Gordon Campbell insinuate that Site C is for our power needs, but isn't it actually just to support the toxic and unsustainable LNG industry? Exactly how much electricity from Site C will actually end up on the grid heading south?
Strongly Disagree	Dams cause too much environmental damage and ecosystem loss. As well, the land to be flooded is farm land which is also critical to human survival in a climate-changing world.
Strongly Disagree	People living on the Peace River have suffered so much as a result of hydro projects. The social and environmental costs of these hydro projects have disproportionately been shouldered by people on Peace River. It's unfair, unjust, and inequitable.
Strongly Disagree	This is just a waste of a lot of good farmland. Energy conservation is the answer
Strongly Disagree	This will flood invaluable farmland that will be required to feed our province in the future. Furthermore it will create a break in the connectivity for wildlife in this region that will be irreversible and very harmful.     This power is not needed for British Columbians.
Strongly Disagree	Destroying a beautiful and productive valley to provided power to LNG, Mines, Coal & Gas is a very short-sighted idea to say the least. How would you feel if someone decided today that your home has to go! It is to be flooded to produce more power for companies who will further destroy the BC that we know and love. Please give your head a shake! BC Hydro has not proven that this energy is needed. From all accounts we now have a SURPLUS of energy!   Why is BC expecting a population boom? Could it be more Chinese will be hired to work in unsafe mines and in "Fracking" etc?   Any moron can see through that veil. The citizens of BC will not be the beneficiaries, they again will be the scapegoats have their homes and water, air and soil polluted beyond repair for the benefit of the few. I oppose site C as unnecessary and foolish.
Strongly Disagree	The only justification for Site C big enough to justify the environmental damage it will engender is a future need for buffering storage if BC develops a very large wind generation capacity--something that seems very unlikely at present
Strongly Disagree	

Strongly Disagree	The people of BC don't need Site C for power. The LNG plants and the tar sands want that power and the people of BC don't need those either. Farmers, First Nations and all the amazing wildlife that depends on the Peace River would be devastated by a Site C dam.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	Site C is a very expensive project that will destroy the needed farmland BC depends on. Since the IPP's have been suppling power BC Hydro Dams are spiling water over their dam's instead of producing power, we have enough capacity to fullfill all our needs. Just get rid of the IPP's that are costing us so much.   The Columbia River Treaty is coming up for review, why not get your needed power from that.
Strongly Disagree	Flooding prime agricultural land of BC's 1%, displacing people and wildlife, unnecessary in the face of conservation. Most of the power is for export.
Strongly Disagree	The time for destructive mega projects may never have existed but certainly the time is not now and not in our very limited farm land.
Strongly Disagree	The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations,

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Strongly Disagree	<p>The proposed third dam on the Peace is totally unnecessary and too destructive of farmland and the ecological health of the valley. BC has the power it needs and building such an expensive facility to support a non-existent LNG industry is nonsense. The downstream benefits from the Columbia River Treaty should be exercised if more power is required.</p>
Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.</p>
Strongly Disagree	<p>Other than committing BC rate payers to \$billions of future debt to achieve over supply, I don't think First Nations would sanction activity which claims more of their land resources by placing them underwater. The reference to "underwater" is both financial for rate payers and land degradation.</p>
Strongly Disagree	<p>There is nothing in the world today that I am more opposed to than this dam. Conserve, charge more whatever we need to do. Destroying an exceptional, rare, irreplaceable wilderness should not be considered. Destroying valuable farmland should not be considered. I've never protested anything in my life. I'm a 52 year old businessman. But if this goes ahead, I will be laying down in front of the bulldozers. It is just so fundamentally wrong, I can hardly believe it's on the table.</p>
Strongly Disagree	<p>BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for</p>

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Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.  </p>
Strongly Disagree	<p>I do not support the construction of Site C; it will do too much damage, cost too much, have a big carbon footprint, and is not needed.</p>
Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the</p>



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Strongly Disagree	The cost of this project, both in monetary and environmental terms is too high.
Strongly Disagree	Building is dam would be very expensive to build, it is opposed by the region's First Nations and the dam would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	The Site C dam is unlikely to be cost-effective and will sacrifice too much viable productive farmland. Conservation measures and management of existing facilities should be employed to provide for the necessary demands of BC ratepayers. In addition, building a new large hydroelectric dam is not consistent with the idea of clean energy. The massive environmental impact of a dam and reservoir this large should not be discounted.
Strongly Disagree	We don't need another huge, expensive dam eating up huge amounts of farmland.
Strongly Disagree	
Strongly Disagree	As stated in the initial question. At this time of human history the last thing we should be doing is destroying productive farmland by flooding this area.

Strongly Disagree	We don't need this extra power and certainly do not want to build this dam just for the ill-fated LNG initiative. Also, it will do untold damage to the surrounding environment. Don't do it!
Strongly Disagree	We need to protect Peace River, the C Dam is not needed. BC produces more than enough electricity for our needs. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.
Strongly Disagree	The Peace river is a major water supply system. Building a dam there will have massive negative effects on wildlife habitat and watershed health.
Strongly Disagree	I don't agree with the building of the Site C Dam. We need to respect the First Nations People and their land!
Strongly Disagree	Flooding more lands on the Peace River would be a travesty -- conservation should be number one.
Strongly Disagree	The agricultural land in the Peace River should not be flooded but preserved for the future needs of the province.
Strongly Disagree	Comments: The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.   BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.   The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.   The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.   In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	I live a couple of miles from the proposed site and I am so concerned that the beautiful, fertile valley will be drowned for a project destined to go over budget to provide power we don't need and we will lose some of the only precious farmland that exists now in the far north of the province. The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental

	<p>damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.</p>
Strongly Disagree	<p>I strongly disagree with building Site C that would flood so much valuable farm land. This area is unique and so important to preserve. There is absolutely no way we should be considering this. There is plenty of energy available without resorting to this disastrous plan. We could not even sell enough electricity a few years ago to the point that B.C. Hydro had to spill water over some of its dams. The cost of this ill advised project is now at \$8 billion but would undoubtedly go up. Not only would 6,000 hectares of farm land be put under water but wildlife habitat would be destroyed and the sacred sites of First Nations people would be destroyed. I can not understand why such an irrational plan is even being considered.</p>
Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.    </p>
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	part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	Focus on what you currently have, invest in alternative energy instead. Didn't you have to pour water out of the WAC Bennett Dam on the Peace River because you couldn't sell all your electricity?
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	Why on EARTH would we want to destroy farmland, First Nations sacred sites, woodlands and animal, bird and fish habitat?? Especially since we keep being told we already have more than enough energy to fund us for generations!!! This dam is the most ridiculous idea ever proposed. And who gets to pay for it??
Strongly Disagree	
Strongly Disagree	Site C is only needed for the LNG sector . They can power their plants by building their own Natural gas fired generating stations. Building site C is just another subsidy to the LNG industry by BC Hydro users.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     Creation of the Site C Dam would be the single largest loss from the Agricultural Land Reserve in its history (6,000 hectares of farmland).     BC produces more than enough electricity for our needs. BC produces so much electricity that as recently as a couple years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not sell or use any more of its electricity. If BC needed more electricity, the province could access more hydroelectricity through the Columbia River Treaty.
Strongly Disagree	Site C Dam is not needed. The construction of yet another dam destroying hectares of valuable carbon capturing trees and vegetation will contribute to global warming and increased desertification downstream of the proposed site C dam. Other sources of power generation should be invested in, such as solar and geothermal.

Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.    </p>
Strongly Disagree	<p>It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.</p>
Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.</p>
Strongly Disagree	<p>This is a gigantic waste of agricultural land that can be used to feed our growing population.</p>
Strongly Disagree	<p>Actions taken to reduce the demand for electricity are critical. But more must be done. For example, homeowners, businesses and industrial facilities should be charged rates determined in part by the time of day. All users should pay less in low load times and more during high load times. This will lead to a change in behaviour to save money and conserve during peak times, and will lessen the need for BC Hydro to plan for very high peak loads.     In addition to providing incentives for energy conservation, BC Hydro needs to stop facilitating energy-</p>

**Integrated Resource Plan Appendix 71**  
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Appendix D – Online Feedback Form Responses

	hungry, carbon-producing projects like dirty coal mines by building infrastructure like the Northwest Transmission Line. These activities contribute to climate change by subsidizing dirty, energy-intensive industries with citizen-funded, clean hydroelectricity.
Strongly Disagree	Having power will not matter if we have no food. It is past time we started preserving agricultural land and, while this is not as valuable as land farther south, we have paved over much of the southern land, and climate change will render this area more valuable for food production in time. Of all the options for moving forward, Site C is almost the worst.
Strongly Disagree	Way to costly and environmentally damaging. In this day and age we can do better....
Strongly Disagree	Site C dam should not go ahead. BC Hydro already has a surplus of energy most of the time, so the energy is not needed. With better conservation and retrofitting existing dams, our energy needs could be satisfied for decades. Site C dam is very expensive, destructive to the environment - with further flooding of wildlife habitat and farmland in Peace Valley that already has two huge dams. Site C dam is not needed and should not be built.
Strongly Disagree	Absolutely not! Site C would drown some of BC's best agricultural land and jeopardise food security. It would also create greenhouse gas emissions. Added to which, it would enable the dirty, polluting and carbon-intensive LNG industry.
Strongly Disagree	I believe that BC Hydro currently has enough energy to power the province of BC. Site C will destroy large tracts of good farmland and sacred native sites. Looking at getting more power out of the Columbia River treaty would be a better way of getting additional power.
Strongly Disagree	We know that food growing will be of utmost importance as we move forward into the future so it is unethical to destroy so much farmland.   If the \$8 BILLION dam were built, this would mean destruction of the largest area of ALR land in BC's history. The dam would flood sacred and historical sites and is opposed by the Treaty 8 First Nations whose land includes part of the land that would be flooded.   The Site C dam is morally wrong.
Strongly Disagree	If this is the only viable option I would agree but is it really the only option ? Many places have introduced solar electricity plans where households can generate their own power and feed excess back into the grid. If we took the cost of building site C and invested it in programs such as that wouldn't that meet requirements in a much better way ?
Strongly Disagree	save the Peace for agriculture not power.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the



	Site C Dam.
Strongly Disagree	This infrastructure is not needed. It is opposed by first nations, and is an irreversible, commitment by BC hydro and the tax payers.   It is disrupting current productive farmland, which should be a priority over power generation, whilst there is power available from existing large infrastructures.
Strongly Disagree	Site C will be incredibly expensive and very environmentally damaging. It can be argued that BC Hydro already has excess capacity.
Strongly Disagree	I disagree with building Site C now, because that will act to support the LNG industry which I strongly oppose.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	I strongly disagree with BC Hydro building Site C. This dam should not be built. Food security is more crucial than power and First Nations also oppose this project which will cost BC tax payers at least \$10 BILLION. Given BC Hydro's financial state, this project will bankrupt it and why should tax payers be subsidizing industry. BC also has an energy surplus and therefore does not need Site C.
Strongly Disagree	Site estimated cost of \$8 billion, meaning more like \$10 or 12 billion? Where would that money come from? Ratepayers? More debt? BC Hydro already hugely in debt. Interest rates may very well rise in the near future. BC Hydro's situation already disastrous: \$billions owed to IPPs, \$billions in deferral accounts, \$14 billion debt.     Why do you assume BC's economy and population will grow? Electricity use in BC has flat-lined in the past 10 years.     The power from Site C is NOT needed. The cost is way too high. Agricultural land would be flooded. An insane idea.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion

	<p>cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam  </p>
Strongly Disagree	<p>As a net exporter of power whose surplus is projected to last at least ten years, we simply don't need the Site C Dam. It's projected to cost \$7.9 billion before any cost overruns come into it, and it will flood some of the richest farmland in BC, as well as impact First Nations, wildlife and wetlands. Why would we spend such money knowing what the consequences will be when we don't even need the damned thing.      </p>
Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.</p>
Strongly Disagree	<p>Drowning Peace River farmland is a bad idea. The real purpose of this initiative is too subsidize dubious investments in LNG infrastructure and fracking not meeting needs of a growing population in BC. I support all the First Nations who are opposed to this project. It will be a big white elephant before it is completed</p>
Strongly Disagree	<p>Site C dam is completely UNNECESSARY, except for the LNG race to the bottom and a subsidy to it.   The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations,</p>

	<p>paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.  </p>
Strongly Disagree	<p>I am totally opposed to the Site C dam project. We do not need this extra power in British Columbia and it is not in the public interest. In fact, the project has been turned down twice by the BC Utilities Commission.</p>
Strongly Disagree	<p>The proposed Site C Dam is not needed. It is hugely expensive, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect Peace River Valley, BC must abandon plans to build the Site C Dam.</p>
Strongly Disagree	
Strongly Disagree	<p>It is a major waste of time, energy and money. Without even looking at the major environmental damage, the idea of investing this much into a project that is only to sell energy is completely ludicrous. Throwing in the environmental damage and we are into the asinine.</p>
Strongly Disagree	<p>This will be an expensive project and will flood valuable agriculture land that we will not be able to get back. Food production is vital to the province because of the effects of climate change on other agriculture areas.</p>
Strongly Disagree	<p>This dam is unnecessary. Look at the consequences of the mega-dams in China... The engineers and authorities are 'sorry' now, after displacing people and wrecking agricultural land.   The Site C dam will damage the Peace River basin: destroy farm land, wild lands and First Nations land.   We could get more electricity if needed via the COlumbia River Greaty.   It is my understanding that we are SELLING electricity now...   If electricity were treated as a government run utility... which it was in the past... and the government were honest and frugal, we would not need another dam at this time.   If you put in the site C dam, you will remove the largest piece of land ever removed from the ALR.   Though, sadly, I think you also want to get rid of the ALR. What a legacy to the next generations... destruction of agricultural land... and with a growing population too.</p>

**Integrated Resource Plan Appendix 7I**  
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Appendix D – Online Feedback Form Responses

Strongly Disagree	We don't need the energy if we are wise about how we use what we already have available to us.   Environmental impacts of Site C make the price too high: farmland and wildlife are critical to humanity's future and deserve protection.
Strongly Disagree	We have enough energy if we conserve and use wisely what's already available to us.   Damage to farmland and wildlife habitat far exceeds the energy benefits of Site C. In this day and age we need to value and protect irreplaceable natural places.
Strongly Disagree	Not needed if LNG plants are not built. Too much damage to environment. Conserve energy instead and use all the energy that hydro is capable of producing instead of spilling water over the dams.
Strongly Disagree	
Strongly Disagree	It would be foolhardy to flood valuable farmland. As California, which provides British Columbia with much of our food supply, experiences the effects of climate change, it will reduce the amount of produce sent to British Columbia. The farmlands of the Peace River Valley could mitigate some of the loss of California produce.     It's a given that the estimated \$8 billion to build the Site C dam will rise and BC's debt will balloon.
Strongly Disagree	I am not convinced that our legitimate future energy needs (subtracting requirements for unconscionable fossil fuel energy developments) cannot be met by DSM and other sustainable energy initiatives including larger-scale wind and tidal power projects. The price tag is too high, and we have already lost too much of the precious Peace River Valley.
Strongly Disagree	We should not rape the pristine without conscience. Respect first nations rights to disallow destruction and desecration of the land. B.C. has enough energy already.
Strongly Disagree	It's much more important to work on development of sustainable energy sources.
Strongly Disagree	
Strongly Disagree	This damn would destroy an environmental area unique to the world and would have a massive impact on the areas around it. It is inconceivable to think that with what we now know about how sensitive and important these types of areas are, that this plan is still being considered. BC has plenty of electricity, what we need to do is better use what we already have.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose

	territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam
Strongly Disagree	Our level of support entirely depends on the level of integral and meaningful accommodation, compensation and participation of BC First Nations...Site C is an example of poor process and procedures when considering the legal entitlements and right of First Nations.
Strongly Disagree	
Strongly Disagree	NO absolutely NO
Strongly Disagree	This is a huge waste of money. It will be way over budget as these projects always are, and will result in all British Columbians paying taxes and or fees to provide cheap power to the fossil fuel industry which is killing our planet, poisoning our water, and condemning our grandchildren to a perilous future. And will likely fail when the big quakes come.
Strongly Disagree	If LNG were dropped, and other low carbon options were pursued more vigorously, Site C would not be needed. Site C would be a source of low carbon energy, but it would come at the high price of flooding rare and high value valley bottom land.
Strongly Disagree	Flooding ag
Strongly Disagree	
Strongly Disagree	First and foremost, we must respect our First Nations partners who oppose the dam. Furthermore, the proposed Site C Dam is not needed, is excessively expensive (BC is already in the red), and would be unconscionably destructive to the "bread basket of the North". We need to protect the Peace River Valley, BC needs to abandon plans to build the Site C Dam.     The majority of citizens I have discussed the proposed Site C Dam with believe the push for this unnecessary project by your political masters is solely to provide subsidized power for the industrialization of the north. "Cheap" for industry, not for British Columbians.     We can and must do better than the proposed Site C Dam.
Strongly Disagree	NO BC Hydro should NOT continue to advance Site C Dam. Neither the "need for" nor the "alternatives to" Site C Dam have been adequately studied or proven in the IRP. The Site C Dam Project has not completed the Environmental Review Process. The IRP appears to assume the independent outcome of this process will favour the project and or that government will proceed regardless of the outcome. Without this information it is imprudent for the IRP to put so much emphasis on this project as a means of meeting Hydro's capacity obligations.     To ensure proper consideration in the public interest the Site C project must be overseen and studied by BCUC. From an economic point of view the "cost effectiveness" case for Site C Dam has not been made. Indeed energy conservation resources are estimated to cost around \$40 to \$50/MWh, compared to supply-side resources costing \$60/MWh and up (Site C's Unit Energy Cost is estimated to be \$88/MWh). Section 6.4 of the IRP does not represent an adequate analysis of cost comparisons. The "Generation Blocks" (page 6-32) used as comparators "predominately consist of wind resources to provide energy". This is not a thorough or reliable comparison. Thermal energy potential is significantly undervalued and the analysis fails to recognize the significant costs of biodiversity losses or other economic impacts of building Site C Dam. Again, BCUC should be conducting a thorough investigation into the need for and alternatives to Site C and a full economic analysis of the costs and benefits of this recommendation.     I want BC Hydro to remain intact as a Crown Corporation to serve the public good. In my view Site C could

	<p>jeopardize Hydro’s stability by incurring the additional \$7.9 Billion debt. This huge debt burden would very likely cause political pressure for privatization by putting upward pressure on rates. Indeed if rates were allowed to reflect the cost of Site C they would effectively need to be doubled. It is imprudent for the IRP not to adequately anticipate and assess the downward impact of rates pressure on future demand. IRP projections should be reassessed to include this factor. Additionally the cost of borrowing for such a debt could jeopardize BC’s AAA credit rate and result in an increased cost of borrowing for BC Hydro.     Ratepayers should not have to subsidize large industrial users through the development of new power generation capacity. Even though the IRP indicates that power from Site C Dam will not be used directly for LNG facilities it does anticipate “incremental capacity needs for LNG loads”. It is unacceptable that the predominant demands for power in the North East are industrial in nature and that this anticipated demand provides the “need for” Site C Dam.     The IRP fails to recognize or account for the value of the intact Peace River and the Peace River Valley ecosystems in the flood zone. For example the IRP does not adequately value the valley’s potential for solar energy, (for example solar energy stored in the form of food and feed), nor the value of the carbon sequestration provided by the boreal forest. Indeed biodiversity services and functions are not accounted for in the IRP at all.     The IRP does not give the geothermal potential of the Peace River Valley adequate weighting and consideration as an alternative to Site C Dam. Geothermal energy meets the requirements of “firm” and “dependable” energy supply and costs about the same to produce per megawatt hour as big Hydro with most of the costs up front. The advantage of Geothermal turbine production is that it is available, clean, green, firm and diversified. It is not subject to climate change droughts or massive flooding events. The IRP should include high-potential regions where geothermal energy could be developed. For example areas with significant EGS potential exist in northeastern British Columbia related to high heat flow and thermal blanketing of thick sedimentary cover.     Another legitimate, alternative capacity option virtually ignored by the IRP is the Columbia River Treaty which could and should be used for BC’s benefit rather than building Site C Dam.     The \$7.9 Billion cost of Site C Dam should be used to realize the energy capacity available from alternative options. An increased investment in DSM, and other clean and sustainable alternative energy production (whether IPP or crown corporation) should be given a much higher value than the IRP currently contemplates.  </p>
Strongly Disagree	environment, first nations rights to life
Strongly Disagree	<p>The proposed Site C Dam is not needed, very expensive to build, opposed by the region’s First Nations and would do too much damage to the farmlands and wildlands of the Peace River Valley. BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that in as recent as a couple of years ago BC Hydro had to spill water over some of it’s dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more additional electricity. If BC did need more electricity, the province can access more hydro electricity through the Columbia River Treaty. The Site C Dam would be very expensive to build - currently estimated at \$8 billion. This cost is likely to go up as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow it’s debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt. The damage from the Site C Dam would be very high. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in it’s history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. For these reasons and</p>



	<p>others, the Site C Dam is opposed by many British Columbians, including many who live and make their living in and around the Peace River Valley. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam. Please abandon plans to build the Site C Dam.</p>
Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.</p>
Strongly Disagree	<p>Site C is not needed. Please protect this river.</p>
Strongly Disagree	<p>We should NOT be building Site C!!!!!! We don't need it! It is not a sustainable project!</p>
Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.</p>

Strongly Disagree	The electricity produced by this dam is not necessary. In addition, the environmental effects of the dam are to large to let this proceed. It will have an effect on Alberta farmlands as well. This dam should absolutely NOT be built.
Strongly Disagree	I lived in mica creek during the building of that dam. I have never forgotten the absolute wanton destruction of wildlife, timber, ecosystems.....there has always been lip service to the environment but unfortunately, these are rarely enforced or followed.
Strongly Disagree	Agricultural land and the farmers that produce food on it are far far more valuable to our province than another damn dam! Free energy is possible, see Michael Tellingner and Adam's calendar!
Strongly Disagree	The site C dam is not needed. We have enough electricity, if used wisely, to last well into the future. The site C dam would flood thousands of acres of farmlands and wild lands and is opposed by First Nations people living there. As well, it would be exorbitantly expensive to build. And, again, the electricity produced would be used to subsidize the mining industry in the north, not worth adding to BC's debt for.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	NO WAY! NO Site C dam! It is not needed, is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.   BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.

	<p>In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.</p>
<p>Strongly Disagree</p>	<p>THERE MUST BE AN AUTHENTIC ENVIRONMENTAL ASSESSMENT   PROCESS AND IF THERE WERE ONE, UNDOUBTEDLY SITE C WOULD NOT BE ALLOWED TO PROCEED.       APPLICATION OF THE INTERNATIONAL INTERPRETATION OF THE   PRECAUTIONARY PRINCIPLE     An important principle that was agreed to at the UN Conference on the   Environment and Development was the Precautionary principle. The   precautionary principle appears in the following documents;     In the Rio Declaration all member states of the United Nations adopted;   this principle which reads;     Where there are threats of serious or irreversible damage, lack of full   scientific certainty should not be used as a reason for postponing   cost-effective measures to prevent environmental degradation." (Rio   Declaration, UNCED1992).       In the Convention on Biological Biodiversity, the adherence to the   precautionary principle is a legal obligation of most of the members of the   United Nation reads     Where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat       and in the UN Framework Convention on climate change there was the   obligation     to take precautionary measures to anticipate, prevent or minimize the   causes of climate change and mitigate its adverse effects. Where   there are threats of serious or irreversible damage, lack of full     Under article 6 are obligations for implementing precautionary   measures     6 3(d) develop data collection and research programmes to assess   the impact of fishing on non-target and associated or dependent   species and their environment, and adopt plans which are necessary   to ensure the conservation of such species and to protect habitats of   special concern.     To apply preventive and precautionary approaches in project   planning and implementation, including prior assessment and   systematic observation of the impacts of major projects;   (Chapter17 protection of the oceans,17.5. d)       There is sufficient evidence that there could be serious irreversible   damage, loss of significant biological diversity harm to marine life to justify   invoking the precautionary principle and prohibit the SITE C       THE HARPER GOVERNMENT HAS MISCONSTRUED THE   PRECAUTIONARY PRINCIPLE       In 2012 I filed a petition, about Canada's failure to implement the   precautionary principle, with the Commissioner on the Environment. This   petition received responses from the Department of National Resources,       The precautionary principle recognizes that the absence of full   scientific certainty shall not be used as a reason for postponing   decisions where there is a risk of serious irreversible harm       i.e. you do not have to wait until there is scientific certainty [that there will   be no harm] in order to decide to proceed.       Rather than the international interpretation; Where there is a threat of   irreversible harm, loss of biodiversity/ climate change, the lack of scientific   certainty- the threat will occur -, should not be used as a reason to prevent   the threat.     THREATS EVIDENT IN SITE C     In examining the threats inherent in the Site C,the   environmental Assessment must abide by international law       1.There will be threats that would contravene the Convention on Migratory   Species     2There will be threats that would contravene Article 2 of the UN Framework   Convention on Climate Change if there will be a transport of fossil fuel   products     3 There will be threats that would contravene the Convention on Biological   Diversity in sensitive areas on land, coast and sea     4.There will be threats related to depriving a people of its sustenance. Art   2 of the International Covenant on Civil and Political Rights       5 There will be threats that will undermine the Declaration on the Rights of   Indigenous Peoples especially Art. 19   " The assurance of free and   informed consent [ unfortunately the Harper Government has indicated that     consent does not necessarily mean consent       6There will be threats that would contravene the requirement to conserve   fish habitat under the law of the Sea [The Harper government has gutted   article 35 of the Fisheries Act in violation of these international obligations.  </p>

Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.</p>
Strongly Disagree	<p>Is it cheaper to provide 450,000 homes with solar panel systems that would generate enough power for their homes than building the Site C dam. If the average cost of the panel systems was \$ 15,000 then the end cost would be \$ 6,75 B for 450,000 homes compared to the 8 B projected by hydro for the dam. There would be no flooding or negative environmental effects of the solar panels compared to the flooding of hundreds of kilometers of a fertile valley.   Rumours suggest there's a seam of coal running somewhere under the potential site. As with the transmission line where the original estimate was .5B and costs now are estimated to exceed the estimate by at least 50%, the site C dam's final bill will likely far exceed the original 8B estimate. It doesn't make financial sense when there are other cleaner sources of power (besides IPPs).</p>
Strongly Disagree	<p>The Site C dam proposal has been turned down before - probably for the same reasons as now. The land is more valuable as farmland - the best class 1 agricultural land in BC. Food security is even more important than power.   To destroy farmland in order to help and industry which is short lived, capable of polluting vast amounts of clean water, and certainly not green (meaning it does not regenerate itself), when BC Hydro is in the business of conserving (we are told) our natural resources, does not make sense. BC Hydro has been making alternate energy in smaller, localized regions and should not revert to the mega projects when the economic viability of those to make a profit without being subsidized is simply not proven.  </p>
Strongly Disagree	
Strongly Disagree	<p>See previous comments. Farmland is more precious in the long run than LNG or the power needs of the lower half of B.C..  </p>
Strongly Disagree	
Strongly Disagree	<p>Hydroelectric dams are old technology, and in their own way are just as destructive as oil and coal fired plants. True renewable energy has a low impact on the environment, and that certainly isn't the case with this expensive and destructive project. This dam will cost billions and will forever destroy important river bottom and farmlands. BC Hydro hasn't noticed</p>

	perhaps, but global warming is here, and with it we can expect to see more weather irregularities that will affect food production world-wide. We need MORE arable land for food production, not less. This is just one of the more than financial costs associated with this ill-conceived project.     This was a great idea in the 1960s. It is not a great idea in today's world.     The money BC Hydro wants to spend on this dam should be spent on alternate energy projects, including wind and solar. Other countries around the world are investing in these technologies instead of coal, nuclear, or hydro. BC Hydro should get with the times and invest in low-impact renewable energy, not a project that is going to forever destroy part of this beautiful province.
Strongly Disagree	I am completely against the proposed site c dam. I feel it's a waste of taxpayer money, it floods agricultural land and destroys natural habitat.
Strongly Disagree	A) We don't really need all that power. It is for industries that are destructive and extreme energy users. Let them figure out how to use less. It's their job to do that; not ours to do it for them.   B) We need to rethink how we are behaving in regards to destroying areas of the province that are pristine and crucial to our ecosystem. Good farmland, water, places for other flora and fauna to live are all much more important considerations than filling the bottomless pockets of a few shareholders.
Strongly Disagree	
Strongly Disagree	Site C dam is big business and the heavy construction lobby walking over all of our rights to protect our valuable agricultural lands, heritage lands, and pristine environments. The government is spending, without permission, our tax money to manufacture consent for one of the most irresponsible projects I can imagine. I am challenging high schools and engineering students across the country, to calculate the carbon footprint of the construction of site C - right down to the loss of carbon converting growth that is lost for the excavation of gravel. Details! is what carbon footprint calculation is about.
Strongly Disagree	It is not really clear to me that the site C dam really is cost-effective. It will take a long time to build and may not be cost-effective compared to new technology such as molten salt thorium reactors. Better to enhance the present hydro facilities.
Strongly Disagree	Flooding valuable agricultural land should never be an option!
Strongly Disagree	Site C will destroy Northern farmland. This is unacceptable. The \$8B cost, to taxpayers, when heavy industry will be the beneficiary of the power, is unacceptable. Site C's power will go mostly toward developing the gas supply for LNG that will be exported. Flooding the Peace to develop a natural gas supply for export is unacceptable. British Columbians will be stuck with the bills, the pollution from fracking, the displaced farmers and they will receive NO BENEFIT. The benefits will accrue to US shareholders in the big oil companies.
Strongly Disagree	The dam is strongly opposed by the First Nations whose land the dam would occupy, and the dam would be immensely damaging to the local landscape, ecosystems and wildlife, and farmland. In fact, the land destroyed by the proposed dam would be the single largest loss of land from the Agricultural Land Reserve in the entirety of the Reserve's existence. Furthermore, it is an immensely expensive project that will run over budget, and the proposed location is in an area known to be prone to large landslides. Furthermore, the dam is not actually necessary to provide provincial electricity needs.
Strongly Disagree	This EXTREMELY expensive dam is not necessary for BC. We don't need this power, and we don't need a short term LNG boom that will pollute our water and air. Scientists, ecologists, and the First Nations are wise to oppose this proposal. It's much better to grow food on beautiful ALR land than to flood it.

Strongly Disagree	<p>The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.  </p>
Strongly Disagree	<p>Destruction of land, loss of farm land, respecting aboriginal lands. Each alone would be sufficient reason not to proceed, collectively, the answer is clear.</p>
Strongly Disagree	<p>Site C is opposed by Treaty 8 First Nations whose territory would be impacted by the dam. Site C will destroy lower elevation wildlife habitat and result in the loss of 6,000 Hectares of farm land, the largest loss in the history of the provinces' Agricultural Land Reserve.     B.C. already produces enough electricity for its needs and a few years ago had more electricity than it could use or sell. If the province needs more electricity it could access it through the Columbia River Treaty.     The dam and reservoir would be located on unstable ground prone to landslides. As a result, the projected \$8 billion cost of Site C will likely be much higher. More debt and financial obligations taken on by B.C. Hydro and the provincial government will be passed onto Hydro customers through higher rates. B.C. must drop all plans to build the Site C Dam once and for all.  </p>
Strongly Disagree	
Strongly Disagree	<p>We do not need the Site C dam. Even if we did, we would have to carefully weigh its impact and decide (as BC citizens) whether such a project is worth the ecological and agricultural devastation. It will mean the loss of 6,000 hectares of arable land when we are finally waking up to the fact that we need all the agricultural land we have left. It will also mean the flooding or precious habitat for multiple species. Further, it will mean that precious cultural traces of First Nations people will be underwater. Have we learned nothing from the Columbia Basin story? This is not a decision that should be left in the hands of BC Hydro, BC Hydro has never put the interests and needs of the citizens and other inhabitants of this province first and before profits.</p>
Strongly Disagree	<p>Site C is a waste, a boondoggle. It is not needed. It will flood land that is valuable agricultural and wild land, the kind of land we are running out of elsewhere in the province, the country and the world. BC has enough electricity - water is dumped over dams now because there is too much power. BC will not grow that big and power needs to be more localized, not more centralized. Communities could do so much with solar, local wind etc if these technologies were subsidized to the extent that gas, oil and old style hydro are. Even local hydro would be more efficient and prevent wide spread power outages. This kind of mega-project will prove to</p>



	be outmoded and cost way more than estimated - they always do!
Strongly Disagree	Strongly, strongly disagree. How could you even consider this project with the huge amount of environmental damage and destruction it would bring to a beautiful and important farming region!! This is a bad idea on every level...expensive to build, unnecessary, destructive and with tremendous public and First Nations opposition! Don't do it!!
Strongly Disagree	This is someone's backyard. If the people of this area don't want we should not build it. That is called democracy. Pushing anyone out of their home is not something we should be doing anymore in our society. We should be looking at harmless, green way to get energy and stop wasting our time trying to destroy eco systems. Why can't we be innovative as a country, a leader, like Germany in alternative ways of harnessing energy? Don't build this dam.
Strongly Disagree	
Strongly Disagree	see previous comment. Site C is an environmental nightmare.
Strongly Disagree	
Strongly Disagree	The proposed Site C Dam is definitely not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	conserve Peace River area
Strongly Disagree	preserve Peace River area
Strongly Disagree	I cannot understand why building a dam at Site C would be considered at this time. Destroying habitat, agricultural land ----- already there are too many rivers and watersheds that have been altered beyond repair.

Strongly Disagree	No to the Site C . We do not need the power. There is a reason that this project has been put on hold for the past 25 years. It is time to mothball is completely
Strongly Disagree	Site C has been rejected 2X before due to environmental and economic reasons - the same issues present themselves today and even more so. The Peace Region needs nearby farmland to feed its residents. Flooding this high-quality farmland is a crime. It will be lost forever. Loss of farmland to support the fossil fuel industry is going backwards.
Strongly Disagree	
Strongly Disagree	Comments: The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.   BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.   The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.   The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.   In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	The Site C Dam is not needed. BC produces more than enough energy for our electricity needs. The construction of the dam also opposes the region's First Nations. Also, building the site would cause much harm to the wild lands of the Peace River Valley. Building the dam would also put the province into even more debt. The estimated cost for the Site C Dam is 8 billion dollars, but the price could dramatically increase if there are unforeseen problems, as the area is prone to landslides. In order to protect this beautiful land, BC needs to stop Site C Dam from being built.
Strongly Disagree	FAR TOO COSTLY--fiscally, environmentally, socially! Get going on SUSTAINABLE energy sources, and leave our few remaining rivers ALONE!
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley

	bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	I think we need to preserve our agricultural land and better manage the hydro electricity we generate presently.
Strongly Disagree	Site C floods far too much important farmland. First Nations concerns with this site must be addressed.
Strongly Disagree	
Strongly Disagree	We don't need it. We don't want it. We must look in a new direction. We must do no harm. We must respect the earth. We must remove the dollar signs from our eyes when it leads to destruction of the environment. Time is running out to change our ideas. The e-economy does not superceed supporting the planet, its water, earth and air.
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	
Strongly Disagree	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area

	<p>prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.</p>
Strongly Disagree	<p>Building site C is an insane idea. Conservation first and we don't need it.</p>
Strongly Disagree	<p>Site C is not needed at present. If and when there is demonstrated need, the project could be reconsidered, provided all consequences to residents of BC are taken into account.</p>
Strongly Disagree	<p>With the dams currently not in operation, it would be best to revisit and reopen these dams as power sources, more dam building is not necessary, a waste and mis-management of your/our money, look at what is currently here....the vast destruction this would do to the natural surroundings is irreversible and extensive, there are other options, options that create more jobs even, and they should be explored.</p>
Strongly Disagree	<p>The Site C dam is far too costly and in the wrong place in my view. Farmland is a priceless resource, and we are already losing too much of it to urban and suburban development in other places. In fact I believe that the loss of this land, were Site C to be foisted on us, would be the greatest loss to the ALR since it was brought into existence -- a terrible blot on the record of any government or government agency that insists on it. Nor am I convinced that we need this power. If the equivalent investment were made in the most up to date forms of "green energy" such as solar, wind and thermal power -- instead of Site C -- I suspect we could be a world leader and create many green jobs along the way.</p>
Strongly Disagree	<p>We need to conserve and not build more huge dams or smaller private ondependent power projects for power we dont really need...We need to max out the power we get from the exsiting systems and conserve...through theses ateps we should be able to meet our energy needa for many years to come..or look at wind and solar and perhaps tidal energy...t</p>
Strongly Disagree	<p>Is it possible to increase capacity at Bennett and Peace Canyon? We should be looking at getting the absolute maximum out of all our existing facilities before we look to construct new ones.</p>
Strongly Disagree	<p>Invest in BC technology renewable energy supply!</p>
Strongly Disagree	<p>â€ Wind Goal: Wind energy is materially under-represented in the BC Hydro current and proposed supply mix. The Government should encourage BC Hydro to take a portfolio approach to generation and, as has been done by most energy and power jurisdictions around North America and around the world (including regions similarly rich with hydro resources as BC, such as Quebec, Washington and Oregon) by setting a minimum target for wind energy. The IRP should be revised to include a goal that would see 17% of BC Hydroâ€™s total demand for electricity satisfied by wind energy by 2025, consistent with the Canadian Wind Energy Associationâ€™s vision for BC.   â€ Risk: Privately-developed large-scale wind projects can be tailored to meet energy demand over time as they can be brought on-line incrementally, and do not have the same capital cost, construction and timing risks of large publicly-funded capital projects such as BC Hydroâ€™s Site C dam. Construction of the Site C dam is being</p>

	<p>proposed during the same period that will see numerous other mega projects (e.g. LNG plants, pipelines, Oil Sands projects) being developed. BC Hydro will be competing for people, equipment, material and supply chains. The risk of capital cost and timing overruns is significant for the Site C dam and that risk is not adequately reflected in the IRP and BC Hydro’s support for the Site C dam.   <b>Portfolio Value</b> – Diverse Location and Technology Advancements: Ratepayers benefit from decreased costs and reduced risks where BC Hydro maintains a diverse portfolio of generation and transmission assets, which vary in technology and by geographic location. Large-scale wind energy can provide lower predictable rates to customers in the long-term compared to other alternatives available to BC Hydro. Ratepayers will be the beneficiaries of the significant technology advancements and increased efficiencies (taller towers and longer blades) that have been realized by the wind industry during the past several decades. The cost of wind energy continues to fall and is winning an increasingly larger market share in jurisdictions where it is allowed to compete with other technologies on an equal footing. The IRP should recognize clean and competitively priced wind energy in the supply mix that British Columbia proposes to rely on for “Powering Tomorrow”.   <b>Equal Consideration for All Options:</b> BC Hydro should expand its scope beyond the Site C dam and natural gas-fired power when planning for the needs of tomorrow’s British Columbia. Power generated from clean and competitive wind energy can match that generated by the Site C dam on price and value (reduced GHG emissions, job creation, system efficiencies, and First Nations participation) without the associated risks (capital cost, construction and timing). Given the history of past success for public-private partnerships in the Province, British Columbia should test BC Hydro’s assumptions on the Site C dam by opening a competitive and transparent process for alternative supply options.   <b>Optimizing Existing Transmission System:</b> Developing large-scale wind energy close to load will delay and minimize the need for capital expenditures on new transmission. The IRP does not fully recognize the potential for optimizing the BC Hydro transmission system by analyzing the role that wind energy can play in ratepayers realizing the full benefits from their existing transmission system.   <b>Market-Based Solutions:</b> When analyzing the possibility of increased electrification (including the electrification of oil and natural gas exploration, production, transportation and supply), the IRP should consider wind energy and should provide options for market-based, third-party sales within the Province. BC Hydro should be directed to actively facilitate market-based, creative solutions instead of focusing on Site C as the only viable option.  </p>
Strongly Disagree	<p>The ecological cost to Site C does not outweigh the benefit. The dam would destroy some of the best agricultural land in northern BC. It will also destroy Indigenous hunting, fishing, and trapping grounds, as well as an important migration corridor chain.   Please pursue wind farms instead.</p>
Strongly Disagree	<p>Site C is destructive of land needed by the animals and people who live there. We need to stop destroying our land base.</p>
Strongly Disagree	<p><b>WIND GOAL:</b> Wind energy is materially under-represented in the BC Hydro current and proposed supply mix. The Government should encourage BC Hydro to take a portfolio approach to generation and, as has been done by most energy and power jurisdictions around North America and around the world (including regions similarly rich with hydro resources as BC, such as Quebec, Washington and Oregon) by setting a minimum target for wind energy. The IRP should be revised to include a goal that would see 17% of BC Hydro’s total demand for electricity satisfied by wind energy by 2025, consistent with the Canadian Wind Energy Association’s vision for BC.   <b>RISK:</b> Privately-developed large-scale wind projects can be tailored to meet energy demand over time as they can be brought on-line incrementally, and do not have the same capital cost, construction and timing risks of large publicly-funded capital projects such as BC Hydro’s Site C dam. Construction of the Site C dam is being proposed during the same period that will see numerous other mega projects (e.g. LNG plants,</p>

	<p>pipelines, Oil Sands projects) being developed. BC Hydro will be competing for people, equipment, material and supply chains. The risk of capital cost and timing overruns is significant for the Site C dam and that risk is not adequately reflected in the IRP and BC Hydro’s support for the Site C dam.     PORTFOLIO VALUE (DIVERSE LOCATION AND TECHNOLOGY ADVANCEMENTS): Ratepayers benefit from decreased costs and reduced risks where BC Hydro maintains a diverse portfolio of generation and transmission assets, which vary in technology and by geographic location. Large-scale wind energy can provide lower predictable rates to customers in the long-term compared to other alternatives available to BC Hydro. Ratepayers will be the beneficiaries of the significant technology advancements and increased efficiencies (taller towers and longer blades) that have been realized by the wind industry during the past several decades. The cost of wind energy continues to fall and is winning an increasingly larger market share in jurisdictions where it is allowed to compete with other technologies on an equal footing. The IRP should recognize clean and competitively priced wind energy in the supply mix that British Columbia proposes to rely on for “Powering Tomorrow”.     EQUAL CONSIDERATION FOR ALL OPTIONS: BC Hydro should expand its scope beyond the Site C dam and natural gas-fired power when planning for the needs of tomorrow’s British Columbia. Power generated from clean and competitive wind energy can match that generated by the Site C dam on price and value (reduced GHG emissions, job creation, system efficiencies, and First Nations participation) without the associated risks (capital cost, construction and timing). Given the history of past success for public-private partnerships in the Province, British Columbia should test BC Hydro’s assumptions on the Site C dam by opening a competitive and transparent process for alternative supply options.     OPTIMIZING EXISTING TRANSMISSION SYSTEM: Developing large-scale wind energy close to load will delay and minimize the need for capital expenditures on new transmission. The IRP does not fully recognize the potential for optimizing the BC Hydro transmission system by analyzing the role that wind energy can play in ratepayers realizing the full benefits from their existing transmission system.     MARKET-BASED SOLUTIONS: When analyzing the possibility of increased electrification (including the electrification of oil and natural gas exploration, production, transportation and supply), the IRP should consider wind energy and should provide options for market-based, third-party sales within the Province. BC Hydro should be directed to actively facilitate market-based, creative solutions instead of focusing on Site C as the only viable option.  </p>
Strongly Disagree	<p>Is there a transparent way of testing BC Hydro’s assumptions on the Site C dam? By having an open, competitive process, ratepayers could see how the Site C dam, natural gas-fired generation and clean competitive renewable energy, including wind energy, compete head-to-head on price, value and risk. Ratepayers can realize value from price certainty, optimization of the BC Hydro system, diversification of benefits of LNG and resource development to other parts of the Province, and alignment with Government policy on emissions, jobs and First Nations benefits. Ratepayers will also benefit from lower risks related to capital cost uncertainty, availability of construction resources and timing delays.</p>
Strongly Disagree	<p>The rivers need to allow to run free and salmon need to be able to return to their home waters unencumbered. The Stave Lake is dead, with little or no wildlife along its shores. Flooding the river and removing the salmon killed it. We can spend hours on the lake and only see a single crow or osprey.</p>
Strongly Disagree	<p>NO absolutely I do not support the flooding of some of this provinces best ALR. This energy from Site C dam is not required - except for LNG - and I do not support LNG. I think BC can do better - much better than pinning all its hopes on one very destructive and dirty type of energy.     We need food, clean water and solar power NOT LNG and more rivers dammed.</p>
Strongly Disagree	<p>It is difficult to know if this project is a good one, and my concerns are with the people and communities which would be disrupted by this project. I strongly feel that alternative energy sources need to be used as much as possible, particularly solar and wind.</p>



Strongly Disagree	Site C Dam is a terrible idea - look at the environmental damage this dam will do. And the \$\$\$ it will cost taxpayers. a big NO to Site C.
Strongly Disagree	
Strongly Disagree	environment...Yukon water concerns...First Nations...Federal Courts   years in delay, would come on-line years after the initial surge of LNG requirements - by then the requirement would be more for water retention than power generation   ultimate result will be a smaller less costly dam built for fresh water retention and firming local wind power built to support natural gas extraction (both the water and the power)   in years ahead we will be able export all our green wind power c/w dammed hydro firming - to both the US and Alberta as they shut down coal generation   win win BC
Strongly Disagree	Site C is neither cost effective nor affordable. A public utility BCH cannot keep exploiting the agriculture land and forests of the north to generate power for the coastal part of the province. Should additional generation be needed it should be developed near the load, reducing risks of transmission outages and line losses while dramatically reducing the footprint and ecological impacts throughout areas of th province where the load is not required. Site C itself is unacceptable simply because the loss of high capability agriculture land is not in any long term benefit to the province. Additionally BCH financial position makes undertaking a cost up front huge new generation facility a non starter. Incremental generation of smaller less debt intensive options, including generation on the Duncan Dam makes much more sense.
Strongly Disagree	I believe other values and concerns are going to come to the forefront of this discussion. We need to learn from past errors and correct the ones that are occurring right now. It is not a pretty story. Is this general enough.
Strongly Disagree	This will flood thousands of acres of good farmland, as well the huge weight of water in this area can and has been known to cause earth quakes etc.
Strongly Disagree	Providing power to compress LNG and ship it to the Orient is not now a legitimate "need" to further desecrate the Peace River
Strongly Disagree	No to Site C. If BC Hydro sees power from Site C as being cost effective then they have not taken into account the true costs of building the dam and flooding the valley. There is no justification that can be made for flooding such a large area. Whether it's farmland, forest, or open field, it's a part of the environment that supports humans and wildlife. We in the West Kootenay Region know the lingering negative effects of dams and flooding.
Strongly Disagree	Site C Dam is not neededâ€¦. It is opposed by the region's First Nations. It would take rich fertile farm land out of the ALR and flood vital wildlife habitat and land that is sacred to First Nations and historically significant to all Canadians. Unfortunately it is only needed to provide power to industries that contribute hugely to climate change. We should be investing in clean energy.
Strongly Disagree	In order to motivate serious power saving, do not overload the market.   The farmland that is proposed to be flooded is they best BC has, and therefore has a much higher value in the lifestyle, health, safety of all BC and Canadian citizens.   Power is a commodity and there are many cleaner, more local ways of producing enough for the citizens to live in BC. for example, using hydro power production, your very own small run of the river projects   To paraphrase the cornfield movie - build it and they will use!
Strongly Disagree	Site C would destroy farmland at a time when we have an expanding population but our agricultural land base is quite limited in BC. This is a really shameful idea.

Strongly Disagree	Again, Site C does not make sense. Let's invest in energy infrastructure today that pays attention to not contributing to climate change, that provides more jobs, and that does not rely or or is linked to fossil fuels of any kind, including LNG.
Strongly Disagree	I believe that in the future, it will be more important to preserve farm land to feed ourselves, than to have electricity from clean hydro sources like this. I believe your conservation efforts will be more successful than you do. I believe that peak loads will be less than you predict. I don't think any lng demand will materialize.   I don't mind marginal increases in the price of power to encourage saving. but what really burns me up is knowing that you sell power to private industrial users for cheap. I think this amounts to diverting public resources to private use. I don't know how this ever came to be. I know they say jobs jobs jobs, but a subsidized job is not a real job. you guys need to behave more like public servants, and put public interests first.
Strongly Disagree	There will be devastating impact on the Peace region if this SiteC Dam goes ahead: ecologically, agriculturally and culturally. It's astounding to think that this would mean flooding thousands of hectares of arable land when most of us believe we should be preserving all the farm land we have left in the province. Does BC Hydro EVER listen to the citizens of BC?
Strongly Disagree	We have been here before and now for a third time the answer is still no we do not need Site C. The cost alone of constructing this project is a huge Hydro cannot afford to do this project especially if it is considering providing discounted rates to the LNG and mining industry. This in my view is unacceptable and will only lead to more increases in rates we as public pay for our hydro.   I am totally opposed to seeing nearly 16,000 acres of top quality farmland flooded and permanently lost for food production.   I am concerned that there has been no independent economic analysis done of the costs and benefits of building this dam.   I am concerned that the BC Utilities Commission has been taken out of commission to have a review of this project, especially as they turned down this .project twice in the past.   First Nations also need to be consulted in a more meaningful way.   Look you guys we cannot afford to behave like we have in the past and think that we can impact this land in such a dramatic way and not pay a heavy consequence socially and environmentally. Please don't proceed with this project.!!!
Strongly Disagree	Do not destroy the Peace River.
Strongly Disagree	Do not destroy the Peace River -- keep it natural and wild.
Strongly Disagree	Site C in our opinion is a really bad idea. The site has been passed up several times in history for good reasons. If the cost estimate today is at best a Grade 30 estimate (+/-30%) the actual cost of Site C will be more in the \$10-12 billion range by the time it is constructed. Transmission reinforcement to the Lower Mainland will likely cost an additional \$3 billion. The landed cost of electricity according to our financial models will come out well in excess of \$100/MWh, far more expensive than other clean energy options such as wind and ROR hydro. Building Site C will place all of Hydro's eggs in one basket; a poor water year on the Peace will be compounded by low generation numbers from GMS and Peace Canyon as well.     A better idea would be a deployment of gas-fired and wind energy resources. For \$1.2 billion, a state-of-the-art 800 MW Frame 7F7 gas-fired facility could be built in the Peace, close to the shale gas fields in BC. The facility would produce energy in the \$65/MWh range, with carbon tax included. Enmax has shown from its Shepherd installation that large-scale CCGT facilities actually enable wind and hydro resources by providing real time load following and balancing services.     An additional 300-400 MW of wind resources could be built out across BC in 100-200 MW increments. Vancouver Island, the North Coast and Peace Country have all proven that they have viable resources, that can be brought in at under \$90/MWh over a 20-year

**Integrated Resource Plan Appendix 7I**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

	amortization period.     Once again, there is no silver bullet, Site C is a poor choice for trying to provide that for new load in the province.
Strongly Disagree	This will be the biggest mistake BC will ever make. Please conserve our land, our water and our Canadian Heritage. Our children deserve for us to leave this area intact. Please, in all that is sacred, do not go ahead with this proposal!
Strongly Disagree	- Site C will exceed the \$7.9 billion cost estimate announced in 2010, before detailed engineering, the environmental assessment and negotiations with affected First Nations were completed.   - Construction of Site C will not be completed for over a dec
Strongly Disagree	Why do you think the load will increase.....any SOLID PLAN?
Strongly Disagree	Stay out of our natural waterways, it is killing the natural energies of this planet and creating global warming where dams are created, similar to causing blockages in the human body leading to heart attacks. You know this, you should know better
Strongly Disagree	It seems to me that there is no one in Victoria that gives a RFA as to how to be responsible ..they take money from B.C. hydro for use in shoring up their creative accounting dept ,while letting the Californians beat the crud out of us that again is going to be passed on to the people.,while b.c. hydro takes large bonuses for what ?
Strongly Disagree	BC Hydro's analysis of power generation is missing some important metrics. Site C will be responsible for destroying 16,000 acres of farmland and 17,000 acres of forest. This would be a loss to the commons. Society will need the farmland for food production.     Dr.Vernon Ruskin lead planner of BC's legacy dams has some environmentally friendly options for society to consider as reported in the following article: <a href="http://www.theglobeandmail.com/news/british-columbia/expanded-water-treaty-bcs-only-hope-says-former-planner/article14718414/">http://www.theglobeandmail.com/news/british-columbia/expanded-water-treaty-bcs-only-hope-says-former-planner/article14718414/</a>     I think we have a duty to future generations to do a full analysis of the advice of the engineers of past generations before undertaking Site C.
Strongly Disagree	Dam Dam Dam
Strongly Disagree	Water shortages South of the border require us to reserve agriculturally viable land.
Strongly Disagree	I don't want British Columbians to have to pay at least 8 billion dollars for a dam that will destroy much-needed farmland, low-altitude wildlife habitat and is opposed by the First Nations who will be affected by the dam. It has been said that this dam is 'needed' to provide power to the LNG and pipeline industries. These industries should not be developed because we should be focusing on truly green energy, not green-washed energy.   IF BC needs more energy, Hydro should obtain it from the Columbia River Treaty.
Strongly Disagree	Rubbish. Site C is going to be a subsidy to Albertan and B.C. oil and gas interests. It has nothing to do with B.C. domestic electricity needs. Your estimates of growth of demand have been consistently wrong, probably designed by those interested in building more dams come hell or high water.
Strongly Disagree	BC Hydro cannot be trusted to be honest in any of its dealings.
Strongly Disagree	more destruction for little or no benefit to consumers

Strongly Disagree	Negatively impact local inhabitants in area. Much better to construct wind farm and/or solar display to   generate electricity with minimal impact on local inhabitants.
Strongly Disagree	Another message from then LIARS!!!   This is not progress, this is social suicide!   When are the imbeciles in politics going to get the CORRECT message?????   End Environmental DESTRUCTION NOW!~!~!~!~!~!~!
Strongly Disagree	Again, the impact on this water way will be irreversible.
Strongly Disagree	This dam would flood 1000s of acres of class A farmland and valuable wetlands. I couldn't disagree more strongly!!!!
Strongly Disagree	USE THIS MONEY TO BUILD TRANSIT IT IN THE LOWER MAINLAND!     The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for our needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.
Strongly Disagree	Again, when do we considering environmental concerns - when there is nothing left to consider?
Strongly Disagree	not needed and will be very costly. Flood farms etc.
Strongly Disagree	Instead of using old technology which destroys the environment, why not develop new technology - particularly space-based solar, which is unlimited, inexhaustible, clean, and affordable?
Strongly Disagree	We SHOULD be actively conserving power (I had to answer the last question the way I did because of the inclusion of Site C in it!) not figuring out ways of making ever-increasing amounts of electricity, which we in BC will be on the hook to pay for if it is not sold at sufficient prices to pay for the infrastructure. I think we are assuming demand will increase whereas technologies now exist to decrease our dependence on electricity produced a long way away. We should be concentrating on making solar and wind-power and tidal electricity right where it's needed.
Strongly Disagree	You are going to mess up the environment for future generations!

Strongly Disagree	
Strongly Disagree	
Strongly Disagree	Wind and solar options should be used. Check out Germany's environmentally friendly power.
Strongly Disagree	A true 'Integrated Resource Plan' would realize the lose of over 100 km of low elevation river valley in the north is not justified by the single wish to produce electricity. This river valley is not replaceable, but there are other ways to produce the power.
Strongly Disagree	
Strongly Disagree	Totally unnecessary. NO to cite C dam. NO!
Strongly Disagree	
Strongly Disagree	Already have surplus , costly electricity from IPP. SITE C DAM NOT NECESSARY!!!!
Strongly Disagree	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
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No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	Site C is unnecessary if we conserved, and it represents a huge public subsidy to the LNG industry..
No level of agreement selected	If the LNG industry is to move forward in BC. they must be responsible for providing their own renewable electricity. We do not need site C, instead the resources should be put to use supporting small scale, diffuse, renewable energy generation and radical energy efficiency upgrades. Besides, BC cannot afford to lose any more valuable agricultural land and the level of devastation caused by a large scale hydro project of this kind can no longer be justified, with our current state of scientific knowledge.
No level of agreement selected	Again, I strongly oppose the Site C dam project. A wind power operation is a much better and more cost effective plan.
No level of agreement selected	As a net exporter of power whose surplus is projected to last at least ten years, we simply don't need the Site C Dam. It's projected to cost \$7.9 billion before any cost overruns come into it, and it would flood some of the richest farmland in BC, as well as impact First Nations, wildlife and wetlands. Why would we even consider building this dam when we know what the consequences would be and when we don't even need it?
No level of agreement selected	The proposed Site C Dam is not needed. It is very expensive to build, is opposed by the region's First Nations and would do too much damage to the unique farmlands and wild lands of the Peace River Valley.     BC produces more than enough electricity for needs. In fact, BC produces so much electricity that as recently as a couple of years ago, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. If BC did need more electricity, the province could access more hydroelectricity through the Columbia River Treaty.     The estimated \$8 billion cost of Site C is likely to go up, as the proposed dam and reservoir areas are located in an area prone to large landslides. As BC continues to grow its debt and other financial obligations, paying for the Site C Dam could put the province in a position where a higher interest rate would be required to service this growing debt.     The environmental damage from the Site C Dam would be very severe. The dam would flood over 100 kilometres of river-side valley bottom lands, including over 6,000 hectares of farmland. This would be the single largest loss from the Agricultural Land Reserve in its history. The flooded lands would include vital lower-elevation wildlife habitats. Drowned underwater would be historical and sacred sites, as this part of the valley has been home to people for many thousands of years and was a key travel route for the fur trade starting in the 1790s. The Treaty 8 group of First Nations, whose territory includes the region that would be impacted by the Site C Dam, oppose the dam.     In order to protect the beautiful Peace River Valley, BC needs to abandon plans to build the Site C Dam.

**MANAGING RESOURCES**

*Participants were asked to provide their level of support BC for BC Hydro’s recommended action: to ‘manage resources’ by managing the costs associated with BC Hydro’s current energy portfolio of EPAs and selecting the most-cost effective plan to meet customers’ needs within the context of the Clean Energy Act. In the background it was explained that IPPs currently supply about 20 per cent of BC Hydro customers’ electricity requirements. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on managing resources.*

<b>Response</b>	<b>Frequency</b>
<b>Strongly Agree</b>	51
<b>Somewhat Agree</b>	48
<b>Neither Agree or Disagree</b>	43
<b>Somewhat Disagree</b>	40
<b>Strongly Disagree</b>	201
<b>Total</b>	383

**Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on conserving first.**

Strongly Agree	Having multiple sources of power just makes sense and encouraging growth should be also looked at.
Strongly Agree	Cost effective in any organization is a good thing.
Strongly Agree	We can not price our electricity at a level where industry and business either leave or they do not want to come to B.C.
Strongly Agree	You are on the right track.
Strongly Agree	
Strongly Agree	Like weeding a garden after a political policy change.
Strongly Agree	
Strongly Agree	BC Hydro should get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). These are just a bad deal, with BC Hydro forced to overpay for low-value electricity that it must them sell at a loss. The plethora of projects are fragmenting critical wildlife habitat and negatively impacting fish populations.

Strongly Agree	i still say lets do it! clean energy, is all i agree with.
Strongly Agree	BC Hydro should continue to acquire clean energy from IPP's, to the extent that it is cheaper than the long run marginal cost of building new generation supplies.
Strongly Agree	I have felt from the beginning that the governments wholehearted embracing of these projects was terribly wrong. Proceeding ONLY with any that are economically viable should be encouraged
Strongly Agree	If what you are saying is don't agree to an IPP agreement unless the gates of hell are about to open then I am in agreement
Strongly Agree	Paying higher rates for IPP is suicide.
Strongly Agree	Affordability is paramount for now and future
Strongly Agree	This model of buying retail from IPP's with no market to resell will bankrupt Hydro... or is this your plan!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Strongly Agree	Keep costs low for consumers and fixed income people. Electricity bills increase an average of 7.5 percent per year every year for the past decade. The increase is higher rates along with various fees that affect the consumer by 7.5% per year. I know because I have all the bills and have tried hard to keep consumption down. The bills still keep rising. This will become a political issue, I guarantee it.
Strongly Agree	The world will continue to change. We should always support innovation and the private sector does this better than the public sector. These clean sources of energy are a start.
Strongly Agree	Managing Resources   A mixture of hydro, solar photovoltaic, wind, geothermal, tidal, biomass, biogas, can be extremely reliable and scalable source of energy for almost all human activity.     If we dedicated just the same amount of land in BC to photovoltaic generation, as we already have committed to mining activity, we would be well on our way to displacing fossil energy with carbon-free power.     Some jurisdictions will have to rely on gas-fired thermal generation to circumvent the intermittency of renewables. That is not the case in British Columbia, where we have hydro-on-demand to top up power generation as needed.     We don't need pumped hydro in BC; we can use our reservoirs to supply back-up power at times when the sun is down and the wind is calm. However it is important to develop and maintain reserve capacity. This does not necessarily require new dams. Lakes on the coast and on Vancouver island can supply power by lake-to-tidewater generating stations that could easily be developed The Campbell River system and Comox Lake are two obvious examples, of many.     Let's recognize that heritage power generating stations ignore their full potential for generating hydroelectricity. The Puntledge River system for example uses only 2/3 of the elevation drop to sea level, and wastes much water because the dynamic capacity of Comox Lake is badly managed.     The current energy strategy of demand management has overlooked our huge capacity for supply management. We could attract a huge amount of business (such as global datacenters, which are major employers and users of electricity) to BC by offering a fixed rate for our domestic electricity, regardless of time of use.     Why doesn't BC Hydro see its role less as a producer of electrical energy and more as a banker of electrical energy? That's where its assets and potential rest.     The proposals in the IRP to increase peak capacity at the Mica Dam and Gordon Shrum power station are laudable, obvious, and

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	should proceed as expeditiously as possible.
Strongly Agree	
Strongly Agree	My strong agreement is predicated on your statement meaning immediate cancellation of pending IPP "run of river" contracts. I would like to also add that BC Hydro needs to stop referring to these as "run of river". It is misleading the public. These projects drain high alpine lakes in order to augment flows at times of the year payments from BC Hydro are at a premium. These projects decimate our wilderness areas with a patchwork of interconnecting transmission lines, all the while seriously impacting the natural flow regime of our rivers. These projects would not be economically viable if it were not for subsidizing costs by way of high rates for both industrial and residential consumers. Keep control of our resources in public hands. Remove profitability for out of province companies from the equation.
Strongly Agree	
Strongly Agree	Screw the IPPs! What a giant waste of money!
Strongly Agree	
Strongly Agree	
Strongly Agree	lets add wind, geothermal, solar and tidal power sources to b.c. it will make us more competitive and will set an example for other provinces in b.c!
Strongly Agree	I am not sure BC Hydro should use any IPP electricity. I think costs should closely monitored.
Strongly Agree	
Strongly Agree	IPPs have been an expensive, non-firm energy resource especially when compared to heritage resources. And at the end of the EPA there is no legacy asset or contingent obligation of serve, as the IPP is free to sell their output to buyers outside of BC.     When an EPA is up for renewal, the cost of firming/shaping the energy supplied should be shifted to the IPP, rather than being borne by BCH ratepayers.
Strongly Agree	Strongly agree. Additionally, future procurement should be on the bases of social license and those who have completed some form of environmental assessment - either diligence, studies, complete EA, etc.     First Nations and the EAO should have a part to play in the selection of these projects. This will help ensure projects can be delivered on time reducing attrition for BC Hydro ratepayers.
Strongly Agree	EPA's that can provide cheap, clean and renewable energy are way to go.

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Strongly Agree	Low cost energy should always be considered by hydro. New IPP procurement should focus on cost, social license and First Nation approval.     First Nations and EAO should play a key role in future procurement.
Strongly Agree	
Strongly Agree	The IPP gold rush has to end. We will never maintain rates appropriate to an energy rich province if held high priced contracts with power producers that receive a premium for compromising wild rivers.
Strongly Agree	
Strongly Agree	
Strongly Agree	
Strongly Agree	Clean energy infrastructure within the province must be strongly encouraged. However, many of the IPP contracts require the purchase of very expensive power when that power is available from existing Hydro dams at significantly lower cost. These contracts should be re-examined/re-negotiated for utility and excessive profits by some IPPs. New IPPs should not be entered into unless and until new demand materializes.
Strongly Agree	
Strongly Agree	
Strongly Agree	Is this a joke? Of course you should be managing for cost effective clean projects, but the tremendous future debt us users have been forced to incur by all of the long term contracts signed for IPP's doesn't do much for BC Hydro's credibility in this area. You signed long term contracts for power way above what is reasonable. I know of producers who don't even use the power they generate because it is cheaper to buy it from BC Hydro while selling their power to Hydro at the inflated rates.
Strongly Agree	get the IPP mess under control please
Strongly Agree	IPPs have been an environmental and economic disaster--any mitigation possible is to be encouraged
Strongly Agree	This will offset the need for new energy sources.
Strongly Agree	
Strongly Agree	Cost effectiveness along with environmental damage should be key concerns of BC Hydro. We should not be buying power at rates and then selling it for less.

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Strongly Agree	I agree with using IPP's that are cost effective, and not environmentally objectionable.   I would like to see more and larger wind farms, to complement BC's hydro power. We have hardly started on these.
Strongly Agree	It's very important to reduce as much as possible the number of IPPs, to reduce harm to the rivers and their fisheries.
Strongly Agree	Our level of support entirely depends on the level of integral and meaningful accommodation, compensation and participation of BC First Nations...however, present BC Hydro approaches do exactly the opposite, and in fact cuts to programs and resources undermine the very principles of FN engagement promised under the Clean Energy Act.
Strongly Agree	We currently are signing energy agreements for run of river contracts that are way too expensive for way too long and the taxpayers of BC are subsidizing these projects for the selling out and environmental damages done for these companies that are here for one reason only...mega dollars at the expense of the taxpayers of BC..Stop this gravey train now.
Strongly Agree	Invest in BC technology renewable energy supply!
Strongly Agree	Now you're making sense. Don't solve energy problems with old technology which destroys the environment and will eventually leave the world far less habitable in order to achieve short-term gain.
Somewhat Agree	resources are important
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	BC Hydro needs to manage the cost effectiveness of its EPAs but not at the expense of not pursuing viable option to diversify our clean energy options.
Somewhat Agree	Electricity is BC's cheapest source of energy at the moment. If it has to be raised in order to produce clean energy, then so be it. Economics should definitely drive many decisions but it should not be the sole driver on deciding what our energy source will be and the potential impacts of it.
Somewhat Agree	The Clean Energy Act must be read with an open mind by persons of integrity and honour men and women that put cost-effective measures above simple human rights must not be tolerated.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	The pros of smaller scale, renewable energy supplies is appealing, particularly if the projects are supplying targeted areas and reducing transmission and infrastructure costs. I have some concern if BC Hydro becomes required to purchase power at prices it has little



	control over.
Somewhat Agree	
Somewhat Agree	The question is a little confusing. I will simply say this: I personally support clean energy. If asked to pay a little bit extra on my power bill, so that we can fund clean energy technology, I would be willing to do this.
Somewhat Agree	My limited understanding is that BCH's agreements will pay higher prices for IPP power than it will receive. I strongly believe that every legal means to get out of these foolish contracts should be essayed.
Somewhat Agree	In BC Hydro jargon, "clean" energy apparently means natural gas. I agree with supporting IPP contracts at fair market rates ONLY IF NON-RENEWABLES are NOT included. Natural gas is not "clean" in terms of carbon dioxide.
Somewhat Agree	
Somewhat Agree	It is important to pursue other clean energy alternatives and to do so in the most cost effective manner. However, we must be cognizant of the cumulative environmental impacts of developing these resources.
Somewhat Agree	This whole run-of-the-river IPP project development has been a poorly veiled disaster for BC Hydro, and therefore i think the idea of "managing the costs" of the current portfolio makes a lot of sense. But if it also means fouling up more rivers to obtain power at times that we don't need it at costs we can't afford (as has been credibly illustrated by many journalists reviewing the IPP contracts), then i would be skeptical.
Somewhat Agree	Make energy for Canada & our needs. I don't believe in using our resources to sell to the States.
Somewhat Agree	I support adding the energy available through Independent Power Production, provided it is clean, new technology. Yes, we need to keep costs down.
Somewhat Agree	BC Hydro should look very closely at the run of the river projects and should consider developing through our public utility which would be much cheaper than handing them out to private enterprise. BC Hydro could look at one or two large projects and leave the rest of our rivers intact. The problem with the run of the river projects is the high cost of purchasing power from the private developers and the environmental damage that is being caused. One has to look at the whole river system as an ecosystem and developing part of the river system affects the whole ecosystem. Also there have been numerous reports of fish being stranded and dying because of not sufficient flow in the areas of the river where the fish have been harmed. Also most environmental standards do not apply to IPP's under 50 mw.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	It's not clear what exact actions are planned. Some of the run-of-river EPAs are at hugely inflated long term prices, representing a massive give-away of public wealth to private business.. BC hydro needs to re-negotiate those contracts to buy power at closer to market value, recognizing that green power should bring a reasonable market premium

	price.
Somewhat Agree	
Somewhat Agree	IPP projects such as wind, solar, tidal and biomass should be prioritized.
Somewhat Agree	Costs should not be our number one concern, since we have very reasonably priced electricity in BC.
Somewhat Agree	IPPs are not environmentally benign and there appears to be some stinky politics given the cozy relationships with Enron who were part of the scam that has cost BC Hydro millions of dollars. We need to think outside the box and be more creative: Why can't we solar power our roof tops as RRSPs? Why isn't BC Hydro investigating wind power generation in reservoir basins where wind has increased dramatically because of clearing the valleys and filling them with smooth expanses of water that produce fetches many kilometres length. Why aren't vertical turbines being installed as part of bridge infrastructure?
Somewhat Agree	the general wording of this strategy sounds reasonable, though sometimes the devil is in the details.
Somewhat Agree	BC Hydro needs to engage BC communities on how they want to control and develop their energy needs. We do not want more IPPs corporations taking control of BC community energy. We need community involvement all over BC and BC Hydro needs to ensure this happens.   Corporate owned and operated power is not community based economic development.   We need clean, green community owned and operated energy.
Somewhat Agree	The full spectrum of costs, environmental, social, and construction, must be considered when calculating the cost of production and transmission.
Somewhat Agree	There is a balance between cost-effective and clean/renewable/environmentally friendly. If you support energy like geothermal power, it's initial costs will decrease, and it will become cost-effective.   Also, I've heard BC Hydro is paying more than it charges to residents for some IPP projects. Pricing schemes for businesses and industry are very complex, which make me suspicious, but I don't think you should be paying more than you are getting for proven technology projects like run-of-river IPP's.
Somewhat Agree	The current government has locked BC Hydro into irresponsible long term contracts with IPP's (run-of river) and this is very unfortunate. BC Hydro should do what it can to renegotiate or cancel these grossly unfair agreements. With that being said, it is imperative that we support environmentally responsible and sustainable renewable energy generation, to meet any new demand, that is not offset by conservation, such as an expanding fleet of electric vehicles.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	BC Hydro should select the best IPP proposals based on a triple bottom line approach, not just \$ cost-effectiveness. In particular, cumulative impact assessments should be required.   Moreover, the BCUC's key role in assessing whether projects are needed and in the public interest should be reinstated.

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Somewhat Agree	Taking a look at the Clean Energy Act, it appears that it was written by the IPP industry, since it has so many benefits to IPPs, at BC Hydro's expense.   I would recommend scrapping the CE Act.   Recent reports have shown how IPPs produce power not needed by BC Hydro. For example, run of river projects produce much power in the spring when reservoirs are full.   BC Hydro owes \$55 billion for power from IPPs, for power apparently it does not need.   That is \$55 billion that BC Hydro will not be spending to maintain and upgrade its own system.   Other reports have shown how run of river IPPs are negatively impacting fish habitat in BC creeks and rivers. This is to sell expensive, un-needed power to BC Hydro.   Why is policy affecting BC Hydro apparently being made by the IPP industry?
Somewhat Agree	I find this question confusing. But I believe many of the EPAs BC Hydro was forced to sign are unfair, committing us to higher than market prices for IPP electricity. By all means prune out the bad agreements if you can.
Somewhat Agree	Change feed in tariff to inspire micro-producers to sign on for net metering. This has immense potential to produce reliable power, and eliminate the need for Site C. As well as create thousands of jobs in the green energy sector with design, manufacture and installation of solar and wind systems accross the province. This is where the subsidies and government support should be going. Check out what they are accomplishing in Germany.
Somewhat Agree	Low carbon, relatively low environmental impact projects should be strongly encouraged. However, in a rapidly changing world, there is high risk involved in guaranteeing IPP's long term fixed rates. BC Hydro should be free to pursue independently produced power when it makes sense, but it should also be tree to pursue low carbon energy projects on it's own.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	Ideally this would have been a sound practice, but with the gutting of the Environmental protection Act and the refocusing of the Environmental Protection Scientists away from "on the ground" oversight of energy projects, there is no one left to maintain environmentally sensitive oversight of Hydro's energy portfolio. Should Hydro be able to prove ongoing protection of the environment surrounding their projects portfolio - an additional cost to Hydro itself - to the Environmental Protection Panel, then perhaps the choice of a "cost-effective" plan could be done. However, it appears that Hydro has chosen large and unweildy projects - Site C dam and LNG - and tried to simplify them with very simplified "cost effectiveness" - .   LNG is neither clean nor renewable. Site C dam is also neither clean nor renewable if the water that would produce the power is taken for fracking. The lean and renewable use for that valley that is also cost effective and "highest possible use" is agriculture.   BC will manage for power if what is produced is not sold at below production prices and Conservation is given all the attention it deserves, I think.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	You should be growing this even more. At whatever cost.
Somewhat Agree	On the whole, I totally agree with small energy producers.   My loss of confidence in this approach is that of the legislation and the ability of our governments to ensure that the private providers are not creating more damage with the natural habitats where they

	reside.   Perhaps BC Hydro could liase with the 2 levels of government to provide oversight of the new production sites. Since the Environmental Laws have been gutted by the Federal Parliament, there are very few environmental officers "on the ground" to ensure destructive practices are caught and rectified. Would BC Hydro take that over using the old Environmental protection guidelines?
Somewhat Agree	Projects that have not made major milestones in their development should be decontracted, we all understand how high the attrition rate is for IPP's despite steps taken to reduce that factor.     As for resources near the end of their initial contract, Hydro should make every effort to recontract those resources on commercially accetpable terms with the present operators.
Somewhat Agree	BC Hydro should look at ways of selecting for the best IPP's, but not just with cost effectiveness in mind. Social values are inherent in energy development and climate action should be considered as part of each project. For cost effectiveness Hydro needs to revisit conservation goals as a way to reduce electricity prices.
Neither Agree or Disagree	Probably don't know what you are talking about. Purchas of overnight power from Alberta coal fired plants at a low rate is excellent, because it takes a couple of days to shut down a power plant. Peak generation from upgraded gas plants is good if they are not part of the base load. The Williston Dam generators were not being used in the summer, in spite of the U.S. air conditioner demand, and the dam was more or less full. The reason quoted was 'Well it might not rain this winter'. I think you are stuck with most of the existing IPP agreements.
Neither Agree or Disagree	While I recognize the value of economies of scale, I do not trust monopolies or "big boys' clubs." As long as the net effect on electricity costs is minimal, I favor allowing as many independent power producers as possible to enter the field. Maintain a low regulatory threshold.
Neither Agree or Disagree	
Neither Agree or Disagree	BC Hydro and the BC government make one skeptical when the management of costs is portrayed as to " - to meet customers' needs - ".   The customer is the BC resident, the BC community and the BC business. The customer is not the IPPs and their EPAs.
Neither Agree or Disagree	Of course we all want cheap electricity but I don't really know what this means. It's too vague. We want the cheapest power source with INTERNALIZING all the costs.
Neither Agree or Disagree	BC Hydro had paid way too much out to IPPs. Totally unnecessary expenses, when there wasn't even any demand for the power.
Neither Agree or Disagree	Need to call,write,email Matsqui First Nation to conduct a meaningful consultation meeting
Neither Agree or Disagree	I do agree that Clean Energy is crucial and extremely benefical. In my estimation, if being "cost-effective" means that one has to compromise clean energy by "managing resources" in a not-so-clean way, then there is a problem. What might be a 'savings' at first, could turn out to be very expensive in the long-run.
Neither Agree or Disagree	I think that BC Hydro has to be staight up with people in that any power coming from new generation will be much more expensive that produced with the heritage assets that were built, for the most part, 50 years ago. That holds true for Site C, the John Hart refit, wind, solar or run of river. 'New' power will cost the consumer more than 'old' power.
Neither Agree or Disagree	"managing" is ambiguous.

Neither Agree or Disagree	
Neither Agree or Disagree	fiinding this section ambiguous-please clarify
Neither Agree or Disagree	A clearer and long-term definition of "cost-effective" is needed to appropriately answer this question.
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	I think BC Hydro is still working from an old paradigm and needs to start thinking about the environment -- the Earth -- as more than a collection of "natural resources"
Neither Agree or Disagree	This question is not put very clearly. For the most part, the IPPs have not been necessary and are not nearly as "green" as they are touted to be. Keeping costs down is important, but projects such as "run of river" that generate energy when it is not needed and at great expense to the environment in terms of fish habitat and massive environmental damage through building infrastructure such as roads into areas in order to access the project are NOT GREEN AT ALL - they are a fraud in this respect.
Neither Agree or Disagree	IPPs are not benign, some have significant environmental impacts. And just how cozy is the relationship with Enron who apparently helped BC Hydro get in trouble down south? And why did Anderson accounting spinoff get the privatized part (so far) of BC Hydro? BC Hydro's record at "managing resources" is costing us captive market users plenty already - why should we believe what is being said here?
Neither Agree or Disagree	What was stated was very ambivalent and full of loopholes.     What I understand is that B.C. Hydro is pro-LNG, despite the IPCC 2013 report and the overwhelming scientific proof that humans must cease the extraction and use of fossil fuels. It is hard to believe that B.C. Hydro professionals, as intelligent as they are, are denying their direct involvement in catastrophic climate change. Money is so seductive, even to the point of common sense being abandoned.     Why Site-C Dam construction was chosen to go ahead, when years before we, the public, chose not to build it.   Now B.C. Hydro, against many of the publics' demands for sustainable renewable energy decides not to expand our renewable energy options.What a huge mistake. Planning and infrastructure takes a long time to prepare, and we humans don't have much time to alter the course of the carbon build-up. B.C. Hydro should be a leader in sustainable renewable energy, so that North American residents are stabilized in energy systems, instead condemning the world and our localities to more climate devastation.   The Columbia River Treaty will have plenty of power to sell, if we don't have slides that block the reservoirs and back up the water, to burst the dams. The slide on the Slocan River, a tributary of the Kootenay and Columbia Rivers, was blocked by a relatively small slide causing the riverbed to go go dry before the backed-up water burst through. What if there were two or 3 slide events, like the Boswell Face blocking the Kootenay Lake?   The entirety of the Columbia Basin is slide-prone.The lake- bottom of Kootenay lake is level with slide sediment! If one travels by boat, looking at the sides of mountains, one quickly realizes just how many prehistoric slides have taken place, plus the

	<p>common occurrence of significant slides that scraped debris down to bedrock every past year recently. There are many locations ripe for sliding. This scenario is a real danger!!!!     Nowhere have I read B.C. Hydros' intentions to buy back excess household solar energy, which is one of the reasons why we bought into the Smart Meter program   All energy intentions have switched to large project dams instead, ignoring geo-thermal power, wind, solar, and kinetic.     The term "cost-effective" is ambiguous. Do you mean short-term "cost effective" that leads to over-whelming environmental devastation that causes people to lose their livelihoods, homes and then find that their Insurance won't pay for the damages incurred by fossil-fuel climate consequences, and the Canadian government still hasn't paid the bail-out emergency money, as is the circumstance from the Rocky Mountain slides and the ensuing High River flooding, but makes a short-term profit for some?   Or "cost-effective" that takes into account the whole picture of shifting weather patterns, sliding mountains, flooding communities and crop-land, droughts and fire, and makes the healthiest and most stable long-term choice for the good of a stable economy?     I include a quote from the latest study. I ask you to consider the consequences of energizing LNG and the tar sands, in face of the scientific evidence and knowing that there are responsible sustainable options for energy that will enhance the planet -not destroy it. This is B.C. Hydros legacy.   Are you money-hungry fools, or responsible world-citizens? Your choice, your legacy. Your gift to your grandchildren     . "Starting in about a decade, Kingston, Jamaica, will probably be off-the-charts hot â€” permanently. Other places will soon follow. Singapore in 2028. Mexico City in 2031. Cairo in 2036. Phoenix and Honolulu in 2043.   And eventually the whole world in 2047.     A new study on global warming pinpoints the probable dates for when cities and ecosystems around the world will regularly experience hotter environments the likes of which they have never seen before.   And for dozens of cities, mostly in the tropics, those dates are a generation or less away.     "This paper is both innovative and sobering," , former head of the National Oceanic and Atmospheric Administration, who was not involved in the study.     To arrive at their projections, the researchers used weather observations, computer models and other data to calculate the point at which every year from then on will be warmer than the hottest year ever recorded over the last 150 years.     'A kind of threshold into a hot new world from which one never goes back'- Climate scientist     For example, the world as a whole had its hottest year on record in 2005. The new study, published Wednesday in the journal Nature, says that by the year 2047, every year that follows will probably be hotter than that record-setting scorcher.     Eventually, the coldest year in a particular city or region will be hotter than the hottest year in its past."     It is time to have a sober consideration of reality, away from all the hysteria and irrationality of the profit to be made.   My grandchildren are worth choosing a responsible way of generating electricity.</p>
Neither Agree or Disagree	Depends how it's done.
Neither Agree or Disagree	I am unfamiliar with the circumstances or the discussion around IPPs in BC, however, I do believe that the time of a few big power production facilities (such as dams and nuclear) providing energy for many consumers may be over and a more progressive approach may be to consider the concept of multiple smaller facilities providing energy for many users. This may involve wind, solar, tidal (an under-explored mode of production), or run of the river, and it is important that BC is open to considering all of these options where appropriate.
Neither Agree or Disagree	i would rather pay more for the electricity i use than go to LNG   I am also willing to invest in solar energy system for myself as well as downsize my needs if that is what it takes to conserve energy and avoid/curtail your expansion plans



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Neither Agree or Disagree	I think that contracting IPPs for run-of -river projects was a huge mistake which will cost customers dearly in higher rates, let alone the environmental damage caused by them - the 'clean energy' mantra here is clearly PR bs. Get rid of all contracts that don't need to be honored, and cut our losses.
Neither Agree or Disagree	Managing costs is not a huge issue for me: if I had a renewable energy source to tap into, it could free me from fossil fuel dependency. This would be worth much more to me than any escalation of my monthly hydro bill, because I would no longer be gassing up my car but rather relying on a hybrid or electric vehicle. The cost is not the issue: it must be a priority to maintain and expand EPA development when projects are small scale, renewable and in the interest of future generations.
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	Cost management is not the issue. Promote conservation, build solar, wind and geothermal for future power generation. The only real cost are the toll on human, animal and environmental health as a result of the stresses of that mega projects put on the earth.
Neither Agree or Disagree	I do not have sufficient information to take a position on this issue. However, I question how a PPP or a third party, for-profit supplier could possibly be more cost effective or more responsible to the public than BC Hydro.
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	The horse has left the barn.   Hydro dumped 5000 Megawthrs of power for 3 or 4 cents per kilowatt hour while purchasing IPP power from 7 - 12 cents per kilowatt hour. Consumers pay for the difference through their hydro rates. Being forced to buy power when it's not needed by BC Hydro defies common sense. BC Hydro has no ability to really manage resources by managing the costs as your sentence states. When hydro can produce cheap power, it must purchase from IPPs and spill any spring water excess.   The only positive government response was to close down some of the potential IPPs coming on board to produce energy. At a clean energy conference I attended, I was informed those projects were coal burning projects and likely won't have been approved.
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	

Neither Agree or Disagree	We are unable to evaluate BCH "management" of IPP's due to non disclosure of costs.
Neither Agree or Disagree	I don't believe we should be using these run of the river generators as they produce power when we have more than we need. This is the spring freshet. Also the province is having, I believe to pay for the power lines to them. IPP are good but not this type ie: run of the river.
Neither Agree or Disagree	
Neither Agree or Disagree	BC needs more small hydro and wind. That is something that BC Hydro is unable to do at a low cost. BC Hydro must have private producers bid competitively for its contracts. Only the private sector can do it efficiently.
Neither Agree or Disagree	
Neither Agree or Disagree	Please eliminate dam building and concentrate on wind farms and solar areas to generate electricity. Then you can pay the inhabitants a wearily or monthly fee for use of their land. This would create your electric needs and help the local people too.
Somewhat Disagree	IPPs are burdening my children and grandchildren and those kind of contracts should never again be let. Run of river is, to my mind, the worst. The environmental damage done to the rivers, the fish and other animals, and all the flora and fauna that depends on the riparian area is given no serious consideration by the EAO or the developers. The rune of river industry doesn't co-exist with forestry but instead dominates all other forest activities, causing increased logging costs, alienation of valuable timber, destruction of the viewscapes which forestry works so hard to protect and devaluation of tourist values.
Somewhat Disagree	If necessary some ' time of day ' rates should go up to encourage conservation.
Somewhat Disagree	There has to be a much greater to eliminate existing run-of-the-river diversion projects. Virtually all of them should be cancelled or otherwise phased out due to the effects on the environment and the unsustainable pricing. In the future, any possible run-of-the-river projects should be selected by a scientific panel as to the location that will create the least impact and damage and be developed with public funds and public control.
Somewhat Disagree	I don't require the cheapest energy, I request that BC Hydro manage for the cleanest energy in all environmental respects.
Somewhat Disagree	Affordable energy is important, but we need real solutions to dangerous climate change NOW. That means investing in clean energy and those costs may be higher than less green forms. We need to make the hard decisions now to protect the future and set ourselves up for success, not failure. How do we still keep energy affordable and support the cleanest energy (rather than the more cost effective)? Maybe BC Hydro should consider charging a higher rate if energy consumption exceeds a certain daily or monthly cap. That would encourage conservation and generate needed funds while still keeping basic household energy rates competitive.
Somewhat Disagree	This is a hot one. What do you consider "clean energy ?" Huge areas of good land flooded so we have power to cool Natural gas ( which isn't so natural nor clean [ fracking ] to be sent overseas.
Somewhat Disagree	

Somewhat Disagree	Many if not most of the EPAs were approved without clearly-delineated justifications of public value. About the only "value" they provide to BC is helping to increase the rates BC residents and businesses pay for power, and thus incentivizing conservation. However, this is hardly the most efficient means of reducing demand, and such a policy also grossly distorts the social equity of our entire economic system. In fact, BCHydro must work hard to cancel any or all of these EPAs, or at least review them for ecological damage--such as to fish stocks in the affected rivers--and true public value.
Somewhat Disagree	In future. EPA's should never be awarded to power developers who have not achieved required permitting and social licence for their projects. This means at a minimum obtaining BC Environmental Assessment Certificates and completing First Nations Consultation and accommodations. This required development work must be done before developers are allowed to bid "lowest cost power" into a power call. Current IPPs who have been awarded EPA's - but who have not achieved this permitting - should have their EPA's cancelled. Future power calls should only be open to permitted projects with social licence. Bidders among this group permitted projects should then be considered, and lowest cost projects selected.
Somewhat Disagree	Are you trying to get support for increasing demand for future large energy customer's demands and not for existing customers?
Somewhat Disagree	I disagree because planning an energy portfolio is not finding the cheapest solution today but the most efficient in the long-term. Traditional energy planning focuses on finding the least cost generating alternative, although in today's dynamic environment it is probably impossible correctly to identify the 30-year "least cost" option. Least cost procedures are roughly analogous to trying to identify yesterday's single best performing stock and investing in it exclusively for the next 30 years [Awerbuch 2000a]. Clearly, modern finance theory offers better tools. Modern finance theory would counsel us to evaluate the relative cost of conventional and renewable energy sources not on the basis of their stand-alone cost, but on the basis of their portfolio cost "i.e. their cost contribution relative to their risk contribution to a portfolio of generating resources. As everyone that has a RSP knows, port-folio diversification is the best way to improve return, while minimizing risks. The same should be done with the IRP. It is a method used by many other utilities and government agencies around the world.   You may google the work of Shimon Awerbuch to find out more about it.
Somewhat Disagree	Pulling-back from renewables and IPPs sends a very negative message to developers wanting to invest in BC. The consequence could be a huge step backwards in the quest to achieve climate targets in BC and ultimately may result in developers leaving and being hesitant to return. The public demands tangible actions to gain social license for the industrial development proposed in BC. Renewables provides this.
Somewhat Disagree	I don't see it as a priority to have the lowest energy costs in North America. This method of cost accounting is not taking into consideration the "total" cost.   I think the Run-of- River projects are very suspect. Solar, wind, and biomass let's hear more about these alternatives.
Somewhat Disagree	The run of the river projects produce very little power when river levels are low. The environmental impact in terms of river habitat for fish and wild life are not met in my opinion.   Wind farms sound fine on paper but the low frequency high amplitude effects on man are not well understood. In addition they ruin the look of the landscape. The monstrosity on Grouse Mountain is a small example, worse is the scenery of western England or the Baltic Sea Windfarms of Denmark. What price progress??
Somewhat Disagree	

Somewhat Disagree	This is a crafty question, I agree that the procurement needs to be competitive and managed, however I also think it needs to be expanded to add another 20% of clean generation. Another option should be a program for contractors to deliver commercial and industrial energy conservation that makes reduction more profitable than creating new energy.
Somewhat Disagree	I strongly disagree with developing the rivers that I have seen been proposed for run-of-river projects (i.e. Beaver River, Glacier Howser, Pitt Meadows, Bute Inlet, etc). They have been in less than ideal locations, some in pristine locations. Developing wind projects in areas that have already seen significant development (i.e. an old industrial site) could be an option that I would support.
Somewhat Disagree	Awkwardly stated action. I have looked at many of the IPP proposals and find them any thing but clean and renewable. They are also incredibly costly. Tear up the IPP contracts before it's too late!
Somewhat Disagree	The bottom line should not be cost effectiveness, it should be a combination of values that include protection of Wilderness and wildlife values, environmental and social sustainability and cost.
Somewhat Disagree	IPP needs a strong second look. Maybe we could look at the high cost of salaries at Hydro first.
Somewhat Disagree	
Somewhat Disagree	We are currently paying for failed IPPs that are locked-in. A more efficient approach would be to introduce an aggressive feed-in tariff to create a level playing field for non-hydro renewables . Focussing on smaller projects with lower footprints and encouraging the consumer to motivate installation of power sources to homes/buildings commercial businesses to supply power back to the grid in order to offset their costs beyond conservation, Investments in V2G (vehicle-to-grid_ and EV battery storage technologies would also drive and encourage a shift that is less reliant on "managing resources" and provide a commitment to allow BCers to provide their own power back to the collective grid and potentially supply more power for export to other jurisdictions with excess power.
Somewhat Disagree	Wind power and geothermal needs to be studied and implemented, not burning garbage, which turns non-hazardous waste into hazardous waste .   Wind and tidal and geothermal and solar are the key to the future. Run -of-river are often destroying watersheds and fish such as the slides that occurred in the Toba River Valley.
Somewhat Disagree	IPPs aren't clean energy, many have environmentally destructive consequences. What about the relationship between BC Hydro and Enron that cost us millions - why isn't Enron compensating us instead of making a profit on IPPs?
Somewhat Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.

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Appendix D – Online Feedback Form Responses

Somewhat Disagree	My only disagreement with this plan is our local experience with run of the river projects which are operating far from view and apparently with little oversight. What we learn is from truck operators for logging companies or adventurous back country fisherman who have observed mismanagement, destruction of fish habitat, and recently, major shutdowns due to large landslides. As predicted by many opponents of these projects they are also out of power just when it would be most useful.   I believe that we need to untangle ourselves from contracts that are not delivering what was expected in order to be able to invest in projects that will.
Somewhat Disagree	I strongly support the development of clean energy alternatives. However, the record of IPPs to date has not always been good. We should not have our pristine waterways taken over by private power producers.
Somewhat Disagree	
Somewhat Disagree	Considering the expertise and resources of BC Hydro it is hard to see how using these EPAs can be cost effective. (Why pay someone else to provide something you can already produce). So EPAs should only be used where they are truly cost effective and meet all the environmental and employer standards required.
Somewhat Disagree	I wonder whether the EPAs are cost effective and whether they have caused problems for fish in the rivers that have them.
Somewhat Disagree	Confusing question....manage costs of course! But your question ignores the tremendous costs that the BC Liberal government has forced on Hydro by requiring them to buy power from IPP's at costs way above what Hydro can produce power itself. IPP's produce most of their useful power during high water periods and this is the same time Hydro can produce low cost power but are forced to spill water from the dams and buy expensive power on contract with IPP's.   Then there is the environmental damage on the rivers by the IPP's. Hundreds of environmental infractions that are ignored. Low water conditions for fish etc.   Badly written question.....purposely done to get the answer you want I wonder?
Somewhat Disagree	
Somewhat Disagree	confusing question, Clean Energy is more important than cheap energy
Somewhat Disagree	This is a worthy goal however it is not adequately explored or planned for in the IRP.   To be a cost effective planning tool the IRP should recognize and integrate the potential for technological innovation which will become increasingly viable both economically and practically. Such technologies include for example: solar photovoltaics (PV), geothermal energy systems, wind, micro turbines, and electric vehicle (EV) enhanced storage.   "Managing resources" must include investment in new, "green" technologies with low environmental impacts to meet future demand. Further, EPA's and IPP's should not remain predominantly hydro electric power. The IRP should focus on enabling and encouraging the development and use of alternative energy sources that are carbon neutral for example wind, thermal, and solar power.   One entirely feasible option that should receive much greater emphasis and value in the IRP is geothermal power. The advantages of Geothermal turbine production is that it is available, clean, green, firm and diversified. It is not subject to climate change droughts or massive flooding events. The technology for tapping geothermal energy exists now. The IRP Map in Appendix 3A-10 identified potential geothermal sites but the IRP does not include a realistic assessment of this potential. Geothermal energy is firm and reliable and costs about the same to produce per megawatt hour as new hydroelectric generation. It has been estimated that tapping

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	into the geothermal values of the northeast could be done easily, and relatively cheaply, to the point it would offset the need to build Site C at all.
Somewhat Disagree	you are destroying the environment and our water.
Somewhat Disagree	Show me a list of your executive salaries. THATS how you keep costs down.
Somewhat Disagree	I would ask BC Hydro to research/investigate geothermal power and presently favour wind power to augment it's resources rather than consider run-of-the-river contracts.
Somewhat Disagree	I do not believe cost effectiveness is the primary concern. Cost effectiveness needs to be balanced with environmental concerns and the most sustainable options need to be strongly considered.
Somewhat Disagree	I thought the run of river was promising, but have changed my mind upon implementation. I think we are saddled with paying high long term rates for power partly because your predictions were wrong, and partly because you signed bad contracts. you failed to protect the long term interests of the public. the power is not as clean as promised, because of inadequate environmental protection and over sight. another example of public resources being turned into private profit. I think hydro should declare bankruptcy, and renegotiate these contracts. all hydro contracts and expense needs to be reviewed by independent auditor general in future.
Somewhat Disagree	Let's not look at more EPA's - but at more public, self-sustaining ways of producing power.
Strongly Disagree	The elimination of ALL IPP's now and in the furture are a must!
Strongly Disagree	IPPs were badly thought out and executed; prices for IPP power away too high. Many rivers needlessly despoiled for overpriced power. Fish values ignored. Kokish and Upper Lillooet in particular should never have been allowed - shocking.
Strongly Disagree	Run of river is not clean power. The impact on the streams and forest resources is huge. The carbon footprint in construction and loss of forest is very high.
Strongly Disagree	Ipp's are the most costly and overated sources of power in BC, Shame on the Liberals and Campbell for allowing it. Despoiling our rivers and Salmon stream so big business can make a fortune at our environmental expense. For shame on you.
Strongly Disagree	We need IPP's. They can react much faster than BCHydro with changing market conditions. They can be build close to where the power is needed
Strongly Disagree	
Strongly Disagree	Cost-effectiveness is not a long-term solution. Investing in clean, renewable power generation at a slightly higher cost now while making sure that existing infrastructure is being maintained is more important than short-term cost-saving measures. Let's have a long-term approach on this. Our generation will already have some apologizing to do to our next generation, why continue along that track. Get your head out of your asses, people. The only legacy we leave behind is our descendants. Let's think of them with what we do.



Strongly Disagree	
Strongly Disagree	The IPP have "donated" tens of millions in campaign funds to the ruling BC Liberal party. They expect even more paybacks than they've already received. Enough is enough.
Strongly Disagree	IPPs should be avoided at all costs in order to save our wild rivers.
Strongly Disagree	Huh? This recommendation is so vague that both those for or against IPPs should accept this. What is missing is a statement that provides readers with an idea of the outcomes. When it comes to managing resources, BCH should acquire beneficial projects on a cost effective basis. The difficulty which has hampered BCH for the past dozen years is the interference of special interest groups. who appear to have the ear of the government Why else would BCH have calls for power and then take more than they intended? Such a practice makes it difficult to send messages to IPPs that they need to sharpen their pencils when making submitting bids.     BCH must come up with an improved vision of how they will manage the acquisition of resources.
Strongly Disagree	IPPs are not in the public's best interest - BCUC stated this clearly. Cancel all contracts, in particular the Upper Lillooet River diversion project. Also, this question is very poorly worded: of course I want to 'manage the costs' yet I have to click on 'strongly disagree' to attempt to voice my opinion.
Strongly Disagree	BC has made commitments to new independent power producers under the SOP program. Considerable investment has been made by the private sector towards bringing micro hydroelectric projects through the required provincial permitting process and as such BC Hydro should honour the SOP connection process.
Strongly Disagree	I strongly disagree that the cheapest energy projects are selected. Fossil fuel projects don't account for the cost of environmental damages whilst being heavily subsidized. Better cost accounting for green energy projects which includes the environmental cost/benefits should be factored in.
Strongly Disagree	IPP is a complete and disgraceful boondogel from the word go. Simply put, a gift to Liberal friends from G. Campbell. Too many things wrong to fully explain. A complete halt to IPP is needed.
Strongly Disagree	
Strongly Disagree	We pay too much for the power created by the IPP's. In some areas there are to many of them being built.
Strongly Disagree	I have to disagree with the practice of IPP projects, specifically the run-of-the-river projects. As they have shown to most often be detrimental to actual operating costs of BC Hydro and are in now way worth the negative effects they have had on the waterways they are built on.
Strongly Disagree	I disagree because the current energy portfolio includes run-of-river projects which will be an economic disaster for BC Hydro. These projects force BC hydro to pay for power when they don't need it and at prices that do not cover the costs of getting it to the end user. And many of these projects are in ecological vulnerable areas which are being destroyed by the process of putting in the systems required.     CONSERVATION CONSERVATION CONSERVATION
Strongly Disagree	This statement means B.C. Hydro wants to divest itself of 3rd party operations, in favour of continuing 20th century mega projects like Site C. IPPs allow Hydro to outsource risk to the private sector, increase the proportion of renewable energy in our portfolio, partner

	<p>meaningfully with First Nations, and distribute the jobs created by Hydro across the province, all while encouraging innovation and development in our province's business sector. Mega projects like Site C do not have these benefits. B.C. Hydro needs to become better at managing its relationships with IPPs. For example, when I lived in Ontario, the government there created a whole new employment sector out of green jobs by buying power from 3rd parties at a long term rate above the cost of non renewables. This encouraged investment, innovation, and job creation. It was paired with the introduction of load-demand pricing for consumers, so we paid more at peak times. This made us more conscious of our use, decreasing peak load, and provided increased revenue for renewable energy. I would prefer that kind of Power Management.</p>
Strongly Disagree	<p>This question is poorly worded. I think private power companies cost's should be managed by BC Hydro. But in such a way that we are not paying far more for electricity than we can buy it for on the spot market, or for what we can produce it for ourselves with our own publicly owned dams. They essentially are a way of privatizing our public water. Over 50 billion dollars in contracts that are already signed should be rescinded due to their excessive costs to BC taxpayers, the fact they mainly produce power when we most do not need it, and the harm they cause to the environment...fish and wildlife in particular. Private power is bad for British Columbians. Hydro should be in the hands of the public, not corporations.</p>
Strongly Disagree	<p>Living in Powell River we know how bad private dams are for everyone except those who own them! Get out of all your private EPA contracts which are destroying the rivers AND costing taxpayers huge amounts of money over the next 30 or 40 years of inflated prices. At least cancel all contracts for IPPs that are not yet built and for IPPs that are not in compliance with their permits and contracts.</p>
Strongly Disagree	<p>Yes, of course BC Hydro should manage its portfolio for the most cost-effective plan. And that means canceling or otherwise getting out of all IPP contracts. The IPPs never made much economic sense. The extra power generated by the existing and projected IPPs comes at the time of year--the spring runoff--when we already have abundant hydro power--more than we can use--and it slacks off to insignificance in the fall and winter when we need it more. Furthermore, most IPPs are located in valuable fish habitat. Why must we decimate fish populations so that private companies can make money off power BC Hydro is forced to buy at inflated prices and doesn't need?   I've heard the argument that IPPs replace high-carbon-emitting power sources like coal. That would only be true if BC was shutting down its coal industry. It would only be true if a coal plant went offline forever when an IPP came on line. But when we're being asked to support the LNG industry, any arguments about how we're saving the planet through IPPs just ring hollow.</p>
Strongly Disagree	<p>This would be defensible IF the real priority was more than making a bunch of pirates rich. The criminal actions by the provincial government prohibiting BC Hydro from initiating any new generating capacity at the same time as they are giving away the public assets to so called run-of-river IPPs is madness and because the contracts are drawn so greatly in favour of the private producers, we, the citizens of BC will not only have our hydro rates continually rise, the province loses what was a great contributor to the general revenues of the province. Crooks!</p>
Strongly Disagree	<p>Just what is meant by " 'manage resources' by managing the costs associated with BC Hydro's current energy portfolio of EPAs and selecting the most cost-effective plan to meet customers' needs within the context of the Clean Energy Act"?     That BC Hydro intends to "Optimize existing portfolio of IPP resources" only leaves me scratching my head. and feeling less than trusting. IPP's were ill conceived, unfairly evaluated and a terrible deal for Hydro and the people of BC.</p>
Strongly Disagree	<p>This question is somewhat confusing. I interpret that BC Hydro plans to continue the current contracts but cancel any not already in operation??? In any case I am definitely against all of the IPP contracts signed for Run of River power production. These projects</p>

	while touted to be small and not harmful to the river systems or the fish within them, many of them are anything but that. Many of these projects have resulted in significant fish kill and serious damage to the river beds. This power was contracted under the Gordon Campbell government's Clean Energy Act, at exorbitant rates. Taxpayers should not be forced to continue to fund these contracts which only benefit the producers.
Strongly Disagree	BC Hydro rates are among the lowest in North America. These low rates encourage wastage. It would be better to charge a much higher rate and provide universal dividends to all BC residents from the profits.
Strongly Disagree	If run-of-river IPPs were benign and barely noticeable I would be in favour of them. But, they are not. They are dams, roads, and transmission lines invading our wilderness, often the nicest places.   As far as I understand it, these produce power that is not needed, at the wrong time of year, and exported at a loss. Sound like a disaster.   Again as I understand it the existing ones are not properly regulated. Stiff fines should be issued when license conditions are violated. My understanding is that this is not happening and the companies are allowed to do much what they want despite license conditions.
Strongly Disagree	If run-of-river IPPs were benign and barely noticeable I would be in favour of them. But, they are not. There are dams, roads, and transmission lines invading our wilderness, often the nicest places.   As far as I understand it, these produce power that is not needed, at the wrong time of year, and exported at a loss. Sound like a disaster.   Again as I understand it the existing ones are not properly regulated. Stiff fines should be issued when license conditions are violated. My understanding is that this is not happening and the companies are allowed to do much what they want despite license conditions.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
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	<p>use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.    </p>
Strongly Disagree	<p>EPAs with IPPs should not be a part of BC Hydro's resource management plan.   a) The Campbell decision to let these contracts was premised on unrealistic requirements for unrealistic, worst-case requirements for power independence, which in any case are not met by IPPs, because   b) Run-of-the-river IPPs produce most power during spring runoff, when demand is low, and very little during (summer and winter) times of high demand. Since BC Hydro has little use for their power at those times, the only option is either to sell it at a great loss, or forgo delivery to the grid and yet pay for the power anyway ("take or pay" contracts.   c) Contracted prices are absurdly high - out of proportion to current energy pricing.   d) It has been demonstrated that, due to poorly controlled ramping, careless streambed maintenance and other causes, a number of run-of-the-river IPPs have caused significant fish mortality.   e) The construction and service roads, powerline rights of way, intake weirs and powerhouses of IPPs have caused significant damage to many of BC's wild and scenic rivers, and even major creeks.   For all these reasons, BC Hydro should rid itself of every IPP contract it is able, and certainly not enter into any new ones!</p>
Strongly Disagree	
Strongly Disagree	<p>We can already see that existing IPP agreements have not worked out well for the people of BC as we are now forced to pay inflated prices for the electricity generated. Run of the river projects have impacted fish habitat. This potential energy source needs to be discarded and replaced by one that is proven to be environmental sustainable. We have plenty of examples world wide to learn from.</p>
Strongly Disagree	<p>A very confusing question. BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC</p>
Strongly Disagree	<p>I am opposed to the EPAs, and to run of river projects in general. They have not functioned as promised, particularly in regard to fish and wildlife habitat, but also in regard to the power they produce.</p>
Strongly Disagree	<p>IPPs are possibly the worst idea that Hydro and the government have ever had. The price that Hydro has agreed to pay for the power is many times the going rate. The IPPs have destroyed many lovely river systems! Hydro should cancel all proposed IPPs and pull the licences of every IPP that is found in breach of their agreement- and there is a lot of them that are!!!</p>

Strongly Disagree	All of the Electricity Purchase Agreements with Independent Power producers should be reviewed for both "value for money"and for environmental impact. In spite of promises to the contrary, there is evidence that many of these projects are affecting fish habitat. Those that are not or can not be managed to protect fish habitat should be shut down. The cost of this power is also a concern and it is mainly available at times when there is plentiful supply and lower prices from other sources.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.     This is a confusingly worded question. While I agree with BC Hydro managing its costs and reviewing IPP contracts, I think they must go much further to protect our wild rivers and our wallets by cancelling all contracts for IPPs that are not yet built and for IPPs that are not in compliance with their permits and contracts.
Strongly Disagree	There are way too many of these run of the river projects. Just keep really helpful ones that don't hurt the salmon runs.
Strongly Disagree	The effect of IPPs on salmon producing streams is overwhelmingly negative. BC Hydro should work to protect fish habitat in the province. We should shut down these IPPs and find more effective ways of producing power.
Strongly Disagree	The question here is very misleading. IPPs have not provided cost effective power. Clean!!! Well, if you consider the environmental damage to the rivers they are using no, not clean. Cheap .absolutely not. It has proven the most expensive, given the deals that were given the companies building and operating them .   Of course we want the cheapest power we can get, and we had that before we ditched BC Hydro's ability to buy cheap power at non peak times - Power from Alberta and the US at night. So it wasn't 'green' it was there and it was cheap. We could sell to them at peak consumption times at a way higher price than we bought it at night!!!! How did we give up such a deal. Who benefitted? Not the tax payer that is for sure.
Strongly Disagree	While BC residents will support BC Hydro managing costs, it is unlikely that BC Hydro can "manage resources" adequately to do that. So far, BC Hydro is NOT managing its costs and is deeply in debt, and the EPA's are the reason.   BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.

Strongly Disagree	<p>There is no way that private industry can provide a service at a lower cost into the future as a government body because a profit must be made. So instead of any profit going back into the system, it goes into the bank accounts of those who would benefit from an IPP.     IPPs are an atrocity, from conception to completion. They are all wrong in every way.     Riparian areas, creeks, rivers, these are our lifeblood. As a biologist, I survey birds along waterways. That is where they reside. It is a crime to dig up and change and channel these resources. It is a crime to change the fisheries laws in order to let them proceed. Forestry has learned the hard way to stay away from riparian areas and now somehow it is all of a sudden ok to put in an IPP into these areas that have been off limits to forestry for decades? It is madness. Some part of each and every person involved must at some level cringe when they think about the native species of fish, mammals, reptiles, amphibians and birds who use these very important areas. Migratory birds are on the decline. This might not mean anything to you, however, if you were able to see it, you would see that this is a sign that the worlds' ecosystems are on the decline. This should be a huge red flag to anyone who sees it and yet we appear to be so far removed from reality that most people think they can live on a planet without taking care of it. The world's ecosystems are why we can live on this planet. Without them, we will also die. The birds and animals are on the decline because they are directly dependent on healthy ecosystems. We live with a small buffer, in that we can get our food from far away right now. However, as the climate warms and our food sources become much more volatile, we too will be affected just as the birds and animals are.     IPPs should be stopped. Private power is not a way to keep costs down. IPPs are environmentally devastating, despite their small scale. Again, we do not need to expand power, we must find another way to live on our tiny blue planet.</p>
Strongly Disagree	<p>Why would BC Hydro want to continue to support IPP's when the rates promised to these companies will bankrupt the company and escalate costs to customers. salmon streams are damaged and beautiful wild places are destroyed because of road and power line building. Who was minding the store   when the EPA's were signed. This is in fact not clean power.</p>
Strongly Disagree	
Strongly Disagree	<p>This recommendation is quite unclear, but I read it to be another push for using IPP generation to support LNG development.</p>
Strongly Disagree	
Strongly Disagree	<p>We are killing off our own resource that defines us who we are! Fish! There are lots of Fishes located downstream from run-of-river power plants which has suffered impacts from "ramping" â€” the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish.     This will kill off other wildlife that depends on these fishes such as the bears which is also a symbolic creature of Canada. We are running out of food as it is due to increase in overall world population. Hence it is time to think about other methods to provide energy to households and businesses without damaging other irreplaceable resources.</p>
Strongly Disagree	
Strongly Disagree	



Strongly Disagree	BC Hydro and our Government need to repudiate these injurious Ruin of the River contracts. The energy the IPP's produce is at the wrong time of the year and can not be sold for the contracted price which is a subsidy of profit-making private industry and DOES NOT benefit BC Hydro domestic rate payers at all.
Strongly Disagree	It is probably true that SOME IPPs were a good idea. What was not, is the fact that these contracts were a give away of the commons again for the benefit of the few. To say that these are CLEAN energy producer is to CLEANWASH these projects. A lot of forests had to be destroyed to tie them to the grid,   most of these projects diverted water from existing rivers to such a degree as to have literally killed off all the fish and endangered the wildlife who preyed on these. The impact of these IPPs is not minimal has you would have the masses believe.
Strongly Disagree	What does this mean? I live near a grandfathered IPP on a coastal river which used to have runs of all 5 species of salmon and even steelhead. The successive owners of the dam upstream own all the water in the watershed. All of it goes to their power house on the shore. They've managed to kill most of the fish in the river & divert the entire flow for electricity which they sell to whoever will pay the most. IPPs will have control of our water and we will have to pay whatever they want to charge. Get rid of them.
Strongly Disagree	Gordon Campbell saddled us with IPP's and we should get out of these contracts as soon as we can. The cost and from these Power producers is staggering and they only make power when all off BC Hydro's Dam's are at their fullest.   The environmental damage from most of these IPP's is in most cases is not even reviewed because there has to a certain size that determines a review.
Strongly Disagree	Comments: BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" â€” the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
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Strongly Disagree	The so called 'run of river' IPPs should dropped at the earliest opportunity as most have proved destructive to fish habitat and are an expensive alternative that is waste since the power is expensive and is available at the wrong time of the year.

Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	I don't know how BC Hydro can cancel these burdening EPA's with IPP, but the Clean Energy Act is a self-interest proposition drafted in the Campbell era. And makes little sense regarding environmental science or clean energy. It leans more in the direction of fishery destruction. If climate change keeps on occurring, BC Hydro will need to worry about winter melt feeding run-of-the-river projects. Even now, low river depths have changed where fish can reach their spawning habitat. So, the idea of diverting or impeding natural water flow resources away from these highways of life seems a little counter productive. The Clean Energy Act is much like the Americans claiming to be burning "Clean Coal".
Strongly Disagree	You can't lump together wind and run of river schemes. Wind I support. Run of river projects are an ecological disaster (exactly the opposite of what you say).   There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs.
Strongly Disagree	The language of this question is mis leading - of course managing resources in a fiscally responsible manner would be desired, HOWEVER, BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	Please manage costs by cancelling the run-of-river agreements, they do too much damage and cost too much, and provide power at times that it isn't needed.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located

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Strongly Disagree	This ill-fated attempt by the Liberal govt to supposedly address 'clean energy' issues has resulted in a gold rush on our streams and rivers and has put BC Hydro in an untenable position by tying us to overinflated electrical contracts that will adversely affect our electrical bills for years to come. Not to mention the serious environmental impacts of many of these IPPs. BC Hydro needs to extricate itself from these "agreements" and should be working as hard as it can to achieve this end.
Strongly Disagree	it's time to pull the plug on private power in BC. BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's fish habitat also suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs.
Strongly Disagree	IPP run of river projects are anything but "clean" electricity, as many of the locations are in fish habitat and have had severe impacts on fish populations. The EPAs are not cost-effective and BC Hydro should be actively cancelling as many as possible. No more of them should be signed as they are an extremely bad deal for the people of BC in that the rates paid are far too high and the IPP proponents have essentially free access to the water resource. Only the IPP proponents get any benefit from these deals.
Strongly Disagree	
Strongly Disagree	Get rid of ALL the private power producers, with the exception of net metering for residences and commercial properties as well as community solar installations. The current system of IPPs is too expensive, a rip-off, and only becoming more so over time. It was a mistake, admit it, and move on.
Strongly Disagree	It's time to pull the plug on private power in BC, it kills to much.
Strongly Disagree	Cost efficiency ought to be a lower priority than clean energy and environmental protection. Environmental protection, and decreasing demand, should be where BC Hydro's focus is in the coming years.

Strongly Disagree	I totally disagree with the Run-of-River projects!!!!
Strongly Disagree	All existing contracts with IPPs that have not been built should be cancelled immediately. They are destroy rivers and they are overpriced.
Strongly Disagree	Comments: BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	these projects were not well thought out, don't provide cheap power and should be cancelled as soon as possible. I always felt this was an example of croniism at it's worst. Reward friends and supporters at the expense of the fish stocks and environment. BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	Independent power projects should never have been introduced. They have hamstrung B.C. Hydro and the public has been the losers with hydro rates going up to support such projects. The supply has been over-priced and been available when it is not needed because there is already so much power available in the spring when the bulk of this power is generated. Fish have been adversely affected by these projects- 70 per cent of the projects are located in known or probable fish habitat.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which

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Strongly Disagree	Pull the plug on it. It's not controlled enough and you are loosing money.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	This whole system of run of river projects is completely beyond comprehension. Again, what is the reason for destroying fish habitat, food for wildlife, birds and humans??
Strongly Disagree	All IPP that are not substantially built need to be cancelled. This is again BC Hydro customers subsidizing the private IPP companies. There is not one IPP that would exist if they had to sell their power on the open market.
Strongly Disagree	The wording of this question is confusing!     BC Hydro should be working as hard as possible to cancel ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for way over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by the IPPs. The people of BC were told that the river diversions would not affect fish habitat, but in many cases this is proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish.     It's time to pull the plug on private power in BC.

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Strongly Disagree	EPAs are a complete waste of money, feeding cash into the pockets of stock market operators. BC Hydro should work hard to reduce consumption and rely on existing supply only.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	It's common knowledge by now that IPPs are not cost effective to the general public, therefore we need to find better solutions. The generation of Clean Energy should not pollute our water, air and soil at any time. If it means more expensive energy in the future so be it. Future generations will need clean water & breathable air more than \$\$\$...
Strongly Disagree	BC Hydro should get out of all Energy Purchase Agreements and stop supporting private power producers. They are bankrupting BC Hydro. BC Hydro is forced to buy IPP intermittent and expensive power and sell it at a lower rate on the market. IPPs are also



	damaging to the environment, especially to fish, as most are installed in fish habitat. Ramping causes fish to be stranded and killed.
Strongly Disagree	We should not be subsidizing "customers' needs" with privately owned power projects. If people need electricity, those needs should be met through conservation and truly renewable energy, as sustainably generated as possible.   These IPPs are producing expensive, intermittent electricity of low value at rates subsidized by BC Hydro customers. There is environmental damage associated with these projects, including damage to fish habitat. And BC has effectively sold off rights of access to wilderness areas and to energy to private companies, some of which are subsidiaries of huge multinationals. This is ethically wrong and financially foolhardy.
Strongly Disagree	EPAs should not be developed - it is an invitation to a patchwork mutilation of our rivers and and has impacts on salmon resources .
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	Firstly there is an unknown impact of these projects on wildlife habitat. There has been a gold rush mentality in many regions of the province, where many main drainages are now slated to be altered for the sake of IPP. There ultimately needs to be a balance here. As a rate payer, the fiscal impact does not add up, BC hydro has contracted to the IPP at 12.5 cents/Kwh, base rates are less than half of this, yet private citizens who choose to put power back into the grid are paid less than 10 cents/KWH. This priority is out of order, an clearly subsidizing these producers while impact the communities in a negative way for those who live close by.   Please slow it down and plan for the longterm.
Strongly Disagree	IPP's have turned out to be anything but cost-effective with BChydro paying inflated rates for electricity they produce and certainly are not environmentally friendly. IPP's have not followed environmental rules for their operation and development, damaging many fish bearing streams in the process.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.

Strongly Disagree	I strongly disagree with BC Hydro relying on EPAs with IPPs. The latter, especially river diversion projects, are not clean or green energy given the environmental destruction they cause in fish bearing streams or creeks as well as their location in areas where there are species at risk and threatened grizzly bear populations. Thanks to the EPAs, BC Hydro is forced to pay 3-4 times the market rate for power BC does not need. BC Hydro should cancel all EPAs, including the ones linked to Innergex/Creek Power Inc.'s Upper Lillooet River Hydro project, which should never have proceeded given the threatened grizzly bear populations as recommended by government biologists. The river diversion projects produce grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. The Clean Energy Act needs to be amended to reflect truly clean and green energy in particular solar panels for households and wind power.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC
Strongly Disagree	These contracts with IPPs force us to buy millions of dollars of independent power at above-market rates for the next 30 or 40 years, feeding into BC Hydro's deferral (deferred debt) accounts. We lost more than \$300,000 on these contracts in 2012, and we're on track to lose an additional \$1 billion across the next 4 years. The fact that the \$676 million paid to IPPs in 2012 is projected to grow to \$40 billion in multi-decade contracts is breathtaking in scope, and should fill us with fear.     What we need to do is cancel all current contracts marred by non-performance issues, and we need to try to get out of the 47 projects that are under construction or are seeking permits after having received purchase contracts. When were these IPPs contracted, anyway? Who contracted them? While signing such contracts in 2007 might be excusable due to the stronger economy of those days and an arguable possibility of increased demand around the corner, that's far from the case today.     BTW, we should also put the BC Utilities Commission back to work on overseeing all BC Hydro matters. They might have stopped at least some of these contracts from being signed if only the government hadn't stripped that public watchdog of almost all oversight.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.

Strongly Disagree	The 128 Electricity Purchase Agreements (EPAs) forced by the BC government to sign with independent power producers (IPPs) are a monumental error.. There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. Fish habitat, in many cases, has been destroyed by those projects and more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC. A shameful scheme it has been, hopefully left to the past..
Strongly Disagree	BC Hydro must cancel all 128 Electricity Purchase Agreements (EPAs) with independent power producers (IPPs). These \$50 billion worth of long-term EPAs are for over-priced and unnecessary electricity. The so-called run-of-river hydropower facilities are destroying our priceless wild rivers for nothing by private profit for hydro we do not need. These destructive facilities are also destroying our precious wild fish. Get rid of them and end the terrible sell off of our wild rivers that is Campbell's legacy. .
Strongly Disagree	
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	Please exit all EPS's. They are already creating overpriced electricity.   One more private out-sourcing ... when our taxes are no longer used by the government to monitor the long term environmental effects.   I have lived mostly as a n adult in small rural parts of BC... heard the Forestry people talk about how there is no staff left to monitor things like fish habitat, bear habitat etc. NO one to safeguard lands in parks and 'protected areas'.     We have already seen the corruption and overspending as the ferries were privatized and make to resemble 'airports' with inflated prices. ..   And the conflicts arising from the public-private partnerships; e.g. things like human health [e.g. junk food in schools], habitat [you cna't keep fish alive if you have mining effluent]... and so forth...     Once the government makes these promises to private companies... who will probably largely be non-British Columbians, even non-Canadians... how will you monitor even the most basic environmental or social legislation. If we look at the last decade, we can see where more and more companies sue the government for not allowing them to make the profits they expect to make, based on promises.made by the government.   And who pays for those lawsuits, which the government loses. We do, via taxes... No benefit... just ideological 'free enterprise' smokescreen.   Instead of paying taxes to suppor government institutions [crown corporations], our taxes pay for lawyers and researchers and misleading 'public hearings'... and then to pay off the corporations who feel betrayed... I cannot believe this is happening to my beautiful province, where I have lived for over 60 years...

**Integrated Resource Plan Appendix 71**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Strongly Disagree	I am strongly against Independent Power Producers. Privatization should never have occurred. How can you possibly provide adequate over site to 81 IPPs? Fish habitat was not to have been affected by these IPPs, but in many cases it has. BC Hydro's mandate is to look after the interests of British Columbia. IPP's primary interest is profit.
Strongly Disagree	I.P.P.s are an immoral use of natural waterways, dominating and massively disturbing the forest systems. They cheat with low megawatt claims that bypass environmental review, ....shame.
Strongly Disagree	please see our comments to point 1 - supporting LNG
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	
Strongly Disagree	
Strongly Disagree	We appreciate your concern for costs and rates, but they are not the #1 priority. The natural environment, particularly fish habitat, are far more important for our collective long-term health and sustainability. BC Hydro should be working diligently to get out of all 128 Electricity Purchase Agreements it has been forced by the BC government to sign with independent power producers. British Columbians are already bearing the costs of the "deal with the devil" with over \$50 billion of long-term EPAs for grossly over-priced, intermittent, low-value electricity often sold at a loss. In good locations for run-of-river plants, of which there are many, the projects should be planned, constructed, operated and supervised by British Columbians for British Columbians.     We can and must do better at preserving our natural heritage.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with Independent power producers (IPPs). There are currently over \$50 billion dollars worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. This is a financial scandal of the highest order. How the province got in this mess, and who profited by it is worthy of a full inquiry. BC's environment suffers from the proliferation of so-called run of river hydro power facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat - but in many cases this has proven to be not true. Research suggests that 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run of river power plants have in some cases shown to have been impacted by "ramping" - the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and

	more it's time to pull the plug on private power in BC.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	There are too many and we will end up selling at a loss.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	This sounds like a statement that will allow you to discard renewable energy providers that, until this point, cannot deliver energy at market rates. BC Hydro should be in the forefront of helping to develop all viable forms of renewable energy instead of just those who are, at this moment, able to compete in the market place.
Strongly Disagree	BC Hydro needs to cancel their 128 EPA's. Our rivers are not for sale! Water is far more valuable in its natural state (unmolested by industry) than we are currently aware.
Strongly Disagree	BC Hydro should get out of ALL contracts with IPPs for low quality, over-priced, intermittent electricity. It was forced into these contracts by the BC government in an ideologically motivated plan to privatize power production in this province. The IPPs built river diversion, not run-of-river, projects which have resulted in serious damage to fish habitat and supply power when it is least needed. Time to pull the plug on private power.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located

	<p>in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.</p>
<p>Strongly Disagree</p>	<p>Get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs).   BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish.</p>
<p>Strongly Disagree</p>	<p>THERE MUST BE AN AUTHENTIC ENVIRONMENTAL ASSESSMENT   PROCESS AND IF THERE IS ONE, UNDOUBTEDLY THE RUN OF THE RIVERS WILL NO LONGER BE CONCEIVED AS SUSTAINABLE       APPLICATION OF THE INTERNATIONAL INTERPRETATION OF THE   PRECAUTIONARY PRINCIPLE     An important principle that was agreed to at the UN Conference on the   Environment and Development was the Precautionary principle. The   precautionary principle appears in the following documents;     In the Rio Declaration all member states of the United Nations adopted;   this principle which reads;     Where there are threats of serious or irreversible damage, lack of full   scientific certainty should not be used as a reason for postponing   cost-effective measures to prevent environmental degradation." (Rio   Declaration, UNCED1992).       In the Convention on Biological Biodiversity, the adherence to the   precautionary principle is a legal obligation of most of the members of the   United Nation reads     Where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat       and in the UN Framework Convention on climate change there was the   obligation     to take precautionary measures to anticipate, prevent or minimize the   causes of climate change and mitigate its adverse effects. Where   there are threats of serious or irreversible damage, lack of full     Under article 6 are obligations for implementing precautionary   measures     6 3(d) develop data collection and research programmes to assess   the impact of fishing on non-target and associated or dependent   species and their environment, and adopt plans which are necessary   to ensure the conservation of such species and to protect habitats of   special concern.     To apply preventive and precautionary approaches in project   planning and implementation, including prior assessment and   systematic observation of the impacts of major projects;   (Chapter17 protection of the oceans,17.5. d)       There is sufficient evidence that there could be serious irreversible   damage, loss of significant biological diversity harm to marine life to justify   invoking the precautionary principle and prohibit the SITE C       THE HARPER GOVERNMENT HAS MISCONSTRUED THE   PRECAUTIONARY PRINCIPLE       the precautionary principle, IS MISCONSTRUED in documents from Federal government departments.      The precautionary principle recognizes that the absence of full   scientific certainty shall not be used as a reason for postponing   decisions where there is a risk of serious irreversible harm       I.e. you do not have to wait until there is scientific certainty [that there will   be no harm] in order to decide to proceed.       Rather than the international interpretation; Where there is a threat of   irreversible harm, loss of biodiversity/ climate change, the lack of scientific   certainty- the threat will occur -, should not be used as a reason to prevent   the threat.     If there is an authentic environmental and social assessment of the   run of the rivers, there will be sufficient scientific evidence about the threats , to   justify discontinuing the Projects.  </p>



Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	IPPs take energy production out of the hands of the people of BC (where it belongs) and places it in the hands of foreign interests.   Also, the deals made are bad for BC Hydro and its costumers
Strongly Disagree	What does that sentence mean? Almost anything, or nothing. I think the B.C. Liberal Government sold us out when they forced Hydro to buy from IPPs, and I do not believe that these EPAs provide clean power when they screw up fish-bearing rivers and streams.
Strongly Disagree	Some of these questions are truly shocking to me. Why is this one even up for discussion? It is generally agreed that BC Hydro is locked into some bad deals with these IRPs, and needs to get out of them. These are deals that are costing all of us a lot of money, as many of them are inefficient and are resulting in energy that BC Hydro has to sell at a loss. Again, BC Hydro needs to get with the times.
Strongly Disagree	I am totally against IPPs. They often destroy fish habitat.
Strongly Disagree	There has been much media coverage on the situation with IPPs that are filling their own coffers with little regard for the environment. They are not a viable solution to hydro's "troubles" or to keeping our rates low.
Strongly Disagree	I presume you are referring to the "run of the River" power projects. These were a huge mistake, economically and environmentally. B.C. Hydro should cut our losses and get out of all these.
Strongly Disagree	Run of river projects have proven to be destructive of the environment.
Strongly Disagree	I have no idea what the above statement is trying to express. So far, the IPP program is a bust. Numbers from the NEB show conclusively that there is a vast summer oversupply accruing from the ROR IPPs. BC is dumping the power on the US market for \$0.0233/hw-hr while the marginal cost is about 12 cents. This was the most bone-headed plan imaginable...and, you're asking for some "level of support". Get real. The only support you'll get is from bone-headed dummies who don't know what's really going on. This program is a colossal waste of rivers and money. GET REAL>
Strongly Disagree	The Wilderness committee says it best I fully endorse the opinion stated here: that "BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located

	<p>in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC."   Further, I fully agree that BC Hydro should remain in government control rather than be privatized, or partially privatized with public-private partnerships and their iterations. The interests of a private company lie in making the most profit possible, not in improving environmental practices, finding the most cost efficient for consumers as well as producers options, or maintaining highest standards. While sellin off aspects of energy production makes BC Hydro look in a better situation financially on paper, it does not actually improve the situation overall and in fact makes it worse. It is a tactic that I do not support and am not impressed by.</p>
Strongly Disagree	<p>BC Hydro needs to stay BC Hydro. The rivers of BC are not for sale.</p>
Strongly Disagree	<p>BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.</p>
Strongly Disagree	
Strongly Disagree	<p>B.C. Hydro should work to get out of all of its Electricity Purchase Agreements (EPAs) that it was forced to sign with independent power producers by the provincial government. EPAs require B.C. Hydro to purchase over priced, intermittent electricity which it cannot use and must sell at a loss. So called run of river power facilities have had negative impacts on fish habitats and the process of rapidly changing of water flows have resulted in stranding of fish downstream. We need to put an end to private power in B.C.</p>
Strongly Disagree	
Strongly Disagree	<p>BC Hydro can't be trusted to effectively manage resources; look at its track record for disaster in this province. Why should we trust BC Hydro now when its past practices and policies have been so damaging to BC?</p>
Strongly Disagree	<p>BC Hydro should be getting out of the IPP contracts they have. They are buying electricity at inflated rates and selling it at a loss. This was a gift to many companies who have taken full advantage of the wide open opportunity to rip off the citizens of BC. There are currently over \$50 billion worth of contracts that will raise rates for the average consumer or the electricity has to be sold at less than purchase price. The run of river projects were supposed to be small and not affect fish habitat, but that is not what is happening. Many have large impacts on the land, have ruined wild rivers and seriously affect fish habitat. There were and are almost no controls on the companies.</p>

**Integrated Resource Plan Appendix 7I**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Strongly Disagree	Another bad idea.This is a poorly developed and poorly regulated concept with tremendous damage to fish habitat from everything I've read from different sources. Get out of these agreements.
Strongly Disagree	
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	too rich for partners, not enough for BC citizens
Strongly Disagree	too rich for partners, bad deal for BC citizens
Strongly Disagree	
Strongly Disagree	THE IPPS are not green! They have proved to be crippling BC Hydro financially. And we as residents are going to be paying through the nose in the next few years because of the situation caused by whoever decided BC needed this power. How much does BC Hydro owe for these projects? Incredible. And everywhere the local residents are fighting back . To save their rivers from development. Shame on you. Whoever came up with this idea should have lost their job! Drop the IPPs.
Strongly Disagree	
Strongly Disagree	
Strongly Disagree	Comments: BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on

	private power in BC.
Strongly Disagree	BC Hydro should be working on removing itself from ALL of the 128 Electricity Purchase Agreements (EPAs) that they have been forced by the BC government to sign independent power producers (IPPs). The construction of the Site C Dam could also devastate the fish population in the area.
Strongly Disagree	The IPPs that are operational seem to be having a VERY tough time complying with the regulations they helped to draft, and we don't NEED all that extra power, and won't ---IF we start to use RENEWABLE, SUSTAINABLE energy sources!
Strongly Disagree	The Electricity Purchase Agreements are a disaster for the environment, recreationists and consumers of electricity alike. BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	IPP's are a waste of tax payer money, and provide little return for investment. The full impact on fish habitat is also not clear with these endeavours.
Strongly Disagree	
Strongly Disagree	Ipp's have been totally misrepresented. They are terribly polluting, create logging along the streams, emptying lakes, and include huge power sourcing and damaging. They are not little non-polluting, clean and green solutions.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-

	<p>term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.</p>
Strongly Disagree	<p>Select the most environmentally responsible plan not the most "cost effective". Environmental costs are pushed aside when private power companies want to make a buck.</p>
Strongly Disagree	<p>IPP projects for the most part are not in the best interests of BC residents. So-called Run of River projects produce power when there is little demand, yet this power must be purchased by BC Hydro at premium prices. BC Hydro should cancel EPAs not yet in production, unless there are clear economic and supply benefits.</p>
Strongly Disagree	<p>There are current epa's that have undercut the costs of electricity, revisit these agreements and tada, you will find a large surplus of funds.....management of funds is the key....</p>
Strongly Disagree	<p>While I agree with the general idea of "managing resources by managing costs," by lumping all these different kinds of energy production alternatives together, you seem to be blurring the distinctions among them and ducking the real problem. The run of the river power projects have been a disaster and an embarrassment. Building them has been destructive to the environment, and they produce most of their power when BC doesn't need it. Contracts seem to have given all the advantages, and a great deal of public money, to the buyers with few if any significant benefits to BC. I think all of these contracts should be reviewed with the goal of getting out of them as soon as possible -- at the very least, cancelling those that have not been built yet and those that are not following environmental guidelines. I know less about biomass and wind projects but what I would support is a careful review of the opportunities they represent as part of a transition plan away from reliance on hydrocarbons.</p>
Strongly Disagree	<p>– Price, Value and Risk: When determining how best to manage resources, BC Hydro's IRP should consider and distinguish value, price and risk. Decisions made solely on price ignore the other benefits (reduced GHG emissions, job creation, system efficiencies, and First Nations participation) and the reduced risks (capital cost, construction and timing) that can be realized from inclusion of clean and competitive wind energy in the future supply mix for British Columbia.   – Message to Those Wanting to Invest in British Columbia: Pulling back from renewables, and cancellation and delay of PPAs send a very negative message to renewable energy companies wanting to invest in British Columbia. Investment decision and development cycles required for wind energy typically have lead-times in the two to five year range, which when combined with the multi-year BC Hydro IRP cycle, represents nearly a decade before any new wind resources would have a chance in the province. Without a change to the IRP to encourage wind power, risk is high that investment will leave the province, migrating to other jurisdictions that provide greater development certainty.   – Contract Award Process: In order to avoid future issues where developers do not fulfill their contract obligations, BC Hydro should review its contract award process to strengthen criteria for screening projects and developers to verify experience, financial strength, and likelihood of success.  </p>
Strongly Disagree	<p>PRICE, VALUE AND RISK: When determining how best to manage resources, BC Hydro's IRP should consider and distinguish value, price and risk. Decisions made solely on price ignore the other benefits (reduced GHG emissions, job creation, system efficiencies, and</p>

	<p>First Nations participation) and the reduced risks (capital cost, construction and timing) that can be realized from inclusion of clean and competitive wind energy in the future supply mix for British Columbia.     MESSAGE TO THOSE WANTING TO INVEST IN BRITISH COLUMBIA: Pulling back from renewables, and cancellation and delay of PPAs send a very negative message to renewable energy companies wanting to invest in British Columbia. Investment decision and development cycles required for wind energy typically have lead-times in the two to five year range, which when combined with the multi-year BC Hydro IRP cycle, represents nearly a decade before any new wind resources would have a chance in the province. Without a change to the IRP to encourage wind power, risk is high that investment will leave the province, migrating to other jurisdictions that provide greater development certainty.     CONTRACT AWARD PROCESS: In order to avoid future issues where developers do not fulfill their contract obligations, BC Hydro should review its contract award process to strengthen criteria for screening projects and developers to verify experience, financial strength, and likelihood of success.  </p>
Strongly Disagree	<p>Pulling-back from renewables and IPPs sends a very negative message to developers wanting to invest in BC. The consequence could be a huge step backwards in the quest to achieve climate targets in BC and ultimately may result in developers leaving and being hesitant to return. The public demands tangible actions to gain social license for the industrial development proposed in BC. Renewables provide this.</p>
Strongly Disagree	<p>NO the IPP's and EPA's have been a huge mistake. I do not support private energy on any level. The power that BC Hydro produces should be solely PUBLIC. The benefits and profits of power production belong to the people of BC NOT private interests. Cancel the EPA's, forget about the seriously flawed BC Energy Plan and get back to PUBLIC POWER and a strong, PUBLIC utility with reasonable rates and good jobs!!!</p>
Strongly Disagree	<p>I guess that most of B.C.Taxpayers know that those run of the river undertakings were a disaster. Were we supposedly producing clean energy to sell to California? No to this idea.</p>
Strongly Disagree	
Strongly Disagree	<p>I believe serious errors have been made that put the interests of the private sector in the driver's seat so to speak and the the road ahead will not provide a smooth ride or arrive at the destination with the many passengers happy or well on the present route. The wealthy and powerful private sector has the ability to over ride the concerns of the general population and to displace them virtually in terms of having a voice.</p>
Strongly Disagree	<p>Why, amongst your clean energy options have you neglected solar energy. How much water do we heat with non renewable resources, while sunlight is wasted. Aping solar collectors to our many roof tops could dramatically reduce load requirements.</p>
Strongly Disagree	<p>There is very little trust in BC Hydro developing green power generation because that label has been applied to so many destructive IPP proposals. The whole IPP program has been a disaster. The original idea of clean, green, run-of-the-river power production was perverted into the IPP models which blessed large diversions of water through long penstocks (and even from one creek or river into another!). The result of the IPP program was a greedy bid by many companies for higher than market rates; and common sense and environmental concerns were easily dismissed with visions of all the power that would be produced. Now that watersheds have been damaged, and environments have been dispoiled, BC Hydro realised that most of the IPP power would be produced at freshet when the old dams were over-flowing and producing lots of power already. The IPPs were part of a very bad program, once again the public trust has been damaged along with BC Hydro's image, and the environment will continue to struggle to recover from the IPPs that were built.</p>



Strongly Disagree	There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. Presently in BC IPPs are affecting fish habitat and killing fish.
Strongly Disagree	Most IPPs are providing power when there is a good supply of water. As they are now they are more a cost that a benefit. They receive a ridiculous amount of British Columbians' money for something that I do not agree is needed. Furthermore, many of the IPP sites interfere with fish and other forms of plant and animal life that depend on our streams, particularly at low elevations.
Strongly Disagree	I don't trust BC Hydro to change its normal course of operations which is to ride roughshod over the wishes and needs of BC citizens and ignore the damaging effects of its policies and practices on the environment as well as the health and well-being of future generations. We should all be suspicious of this recommended action since BC Hydro has never demonstrated a commitment to cost-effectiveness or good management. BC Hydro is not even transparent about its plans. All comments by survey respondents should be made public as is common practice in federal surveys. At least we will know what our fellow citizens think about their so-called public utility.
Strongly Disagree	I am totally opposed to IPP run of river projects, and believe we need a moratorium. We currently have over \$50 Billion worth of long term EPA's for grossly over priced intermittent low value electrucity that BC cannot use and must sell at a loss. This kind of information has been frequently reported on in our papers. We are also hearing that many of these projects are located in fish habitat and have a record of not living up to and following their environmental protection regulations. This should not be considered clean energy because of the significant environmental impacts that result from their industry.
Strongly Disagree	IPPs supply cheap power because they pay huge benefits to government unlike BC Hydro. BC Hydro should stop generating expensive power with little benefit to government.
Strongly Disagree	Electricity rates need to go up significantly if BC Hydro is to meet its goal to reduce consumption to 7800GWh by 2021. Spending money on education through Power Smart is much less effective than forcing efficiency through rate increases.   Further, development of low-impact renewables is needed to meet the Premiers' stated goal of the "cleanest LNG development in the world." This can be done much more quickly and with little risk to the public, through a higher kWh rate that would allow IPP projects to be profitable enough.
Strongly Disagree	
Strongly Disagree	you are not managing energy resources effectively...in the long term the cost to your corporation and the people you are swindling is much higher than ever and will only increase as destabilizing energies continue to build on this planet due to the constant barrage and destruction by your mismanagement
Strongly Disagree	Well I guess the future will show that ,this is a master plan to alow the future of B.C Hyddro to become U.S. Hydro as the excuses will flow that we cannot keep paying for all the blunders all the while ruining the enviroment as they allow run of the river and other screwups to surge ahead .
Strongly Disagree	Oh yeah a 26% increase.
Strongly Disagree	I don't want cheap energy! I want the most sustainable! I want the Peace River Valley! BC hydro used to be world class. get us back on the map. 2013 is a time for change. We have all read the 5th IPCC assessment.

Strongly Disagree	The IPPs were a terrible idea from the beginning. Hydro has contracted to buy their high-priced power and then has to sell it at a loss. What kind of business sense is that???   Run-of-river power producers are endangering or killing fish in their rivers.   GET RID OF IPPs!
Strongly Disagree	Independent power producers have been screwing over the taxpayer. B.C. Hydro buys its run of river power at precisely the season it doesn't need it, at a guaranteed price far higher that it can possibly sell the same power for. In consequence, you now release water from dams without generating power because there is no demand for peak spring production. I cannot believe that you keep printing these lies.
Strongly Disagree	Clearly BC Hydro has only its own financial interests in mind & does not serve the public in any way.
Strongly Disagree	current management unable to do anything that will benefit consumers and the environment
Strongly Disagree	Politicians, and BC Hydro have never "Managed" resources!!   They merely rape the land at the expense of the future.   These psychopaths do not believe in the future, it's all about what these thieves can steal now!
Strongly Disagree	It is absurd to stand on the merits of the "Clean Energy Act" when in fact this is a smoke screen for 'being right'.
Strongly Disagree	All IPPs should be reviewed as they are definitely not green or clean. They are not firm energy as many provide no power in winter when most needed. They entail miles of power lines, roads, dams, dewatered rivers and creeks, major ecological damage, etc. The "Clean energy act" was misguided to begin with and needs complete scrutiny by the BC Utilities commission.
Strongly Disagree	BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers (IPPs). There are currently over \$50 billion worth of long-term EPAs for grossly over-priced, intermittent, low-value electricity that BC Hydro cannot use and must sell at a loss. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.
Strongly Disagree	Cancel all contracts for IPPs that are not yet built and for built IPPs cancel all not in compliance with their permits and contracts. Currently over 50 billions worth of long term EPA for overpriced low value electricity that B.C. Hydro cannot use and must sell at a loss
Strongly Disagree	We cannot continue to damage the rivers and fish of this province. We cannot continue to produce power willy-nilly to fuel industry in the US or wherever. We have to think green and act green if we are going to have a sustainable economy in the long term.
Strongly Disagree	The monetary cost is not the issue. The environmental cost is the issue.
Strongly Disagree	

**Integrated Resource Plan Appendix 7I**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Strongly Disagree	
Strongly Disagree	Considering the 28% increase proposed and the corrupt charges to keep ones old meter, BC Hydro is no longer believable in the diatribe of "keeping costs low" You are hugely in debt to majorly bad decisions.
Strongly Disagree	- BC does not benefit from expensive IPP electricity, but the Independent Power Producers sure seem to be doing fine, and are paying off their projects in short time periods. Meanwhile, BC Hydro goes further in debt and puts many projects on deferral acc
Strongly Disagree	Run-of-river projects are not cost effective.
Strongly Disagree	Why are we paying the IPP double the going rate for their electricity production????YOU are forcing BCHYDRO into bankruptcy , and forcing us ,the electricity consuming public, in bailing out our PUBLIC power producer with your ever increasing electricity rates!!!!
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	I would like to see BC Hydro at least experiment with a few communities providing their own resources. I don't know how the data translates to our communities but the idea of each home and building having solar panels (at least partially funded), providing adequate resources for that buildings' use (particularly feasible with families and quite possibly apartment and condominium buildings). I understand that in some communities this has allowed buildings to produce more than their own need so the extra is sold back to the main grid (BC Hydro), meaning each family also has some income from this, while the provinces overall energy needs may be better met (again, whether this only supports each community rather than the entirety of the provinces needs I would like to see this seriously looked at and be able to review the impact on provision of energy needs to industry (biggest users of resources). I have a hard time supporting the spending of my tax and hydro dollars on supporting every growing industry without significant expectations being placed in industry to figure out (with collaboration from whatever is needed) how to maximize their self sustainability. I realize this last point may surpass hydro's responsibility and ability to impact, but government can impact this with expectation for self sustainability. I don't know why we keep investing in businesses that are not self sustaining or sustainable within current resources. As communities and people, we don't NEED most of what these industries produce, per se, but we do need businesses to grow our economy. Let's focus on supporting business that meets actual needs and can operate sustainably. For example, we don't all need to own cars but our economy needs the automotive industry. Automotive can be replace by another industry, that is also able to convince us we need their product but that can be a product that is sustainable right now or supports sustainability of other business somehow.
No level of agreement selected	
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No level of agreement selected	
No level of agreement selected	
No level of agreement selected	We should not have independent power producers in B.C. Full stop.
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No level of agreement selected	You're not communicating clearly here. What exactly is intended?     Some of the run-of-river EPAs represent a huge boondoggle, paying inflated costs to private businesses for power that is not firm and year round.   I support re-negotiating run-of-river EPAs to bring the outrageously high prices more in line with market energy prices, while recognizing that if it truly is "green" (no impacts on fish for example) then hydro-electric should get a reasonable premium above the general market price of energy.
No level of agreement selected	The current government has locked BC Hydro into irresponsible long term contracts with IPP's (run-of river) and this is very unfortunate. BC Hydro should do what it can to renegotiate or cancel these grossly unfair agreements. With that being said, it is imperative that we support environmentally responsible and sustainable renewable energy generation, to meet any new demand, that is not offset by conservation, such as an expanding fleet of electric vehicles.
No level of agreement selected	Again, I am strongly opposed to the Site C dam project, for all of the aforementioned reasons. A wind power project is a much more cost effective and environmentally safe means of energy generation.
No level of agreement selected	Those IPP contracts force us to buy millions of dollars of independent power at above-market rates for the next 30 or 40 years, feeding into BC Hydro's deferral (deferred debt) accounts. In 2012 we lost more than \$300,000 on such contracts, and we're on track to lose another \$1 billion across the next 4 years. By the way, the \$676 million paid to IPPs in 2012 for power is projected to grow to \$40 billion in multi-decade contracts. It's breathtaking in scope, and should fill us with fear.     We should immediately cancel the approximately 20 IPP contracts that are currently marred by non-performance issues, and we should try to get out of the other 47 IPP contracts for projects that are currently under construction or soon to commence construction. It may be forgivable that some IPP contracts were signed as early as 2007, when the economy was stronger and it could



	<p>conceivably have been argued that a demand for energy was right around the corner. But there's no reason for us to pursue the same course today.     We should also reinvest the BC Utilities Commission with oversight of BC Hydro matters. If the government hadn't stripped that public watchdog of almost all oversight, the Commission might have stopped at least some of these insane contracts from being signed.  </p>
No level of agreement selected	<p>BC Hydro should be working as hard as possible to get out of ALL of the 128 Electricity Purchase Agreements (EPAs) it has been forced by the BC government to sign with independent power producers. BC's environment suffers from the proliferation of so-called run-of-river hydropower facilities constructed by these IPPs. The people of the province were told that the river diversions would not affect fish habitat, but in many cases this has proven to be not true. Research suggests that more than 70% of these facilities are located in known or suspected fish habitat. Fish located downstream from run-of-river power plants have in some cases been shown to have suffered impacts from "ramping" – the practice of rapidly changing the flow of the water moving through the power facility, which can strand and kill fish. For these reasons and more, it's time to pull the plug on private power in BC.</p>

**PLANNING FOR THE UNEXPECTED**

*Participants were asked to provide their level of support for BC Hydro’s contingency plans that: continue to advance capacity resource options, including advancing the Revelstoke Generating Station Unit 6 Resource Smart Project; the GM Shrum Station Resource Smart project; and working with industry to explore natural gas supply options. Participants were asked to indicate the reasons for their level of agreement and/or provide additional comments on the complete set of recommended actions on planning for the unexpected.*

<b>Response</b>	<b>Frequency</b>
<b>Strongly Agree</b>	33
<b>Somewhat Agree</b>	69
<b>Neither Agree or Disagree</b>	43
<b>Somewhat Disagree</b>	109
<b>Strongly Disagree</b>	115
<b>Total</b>	<b>369</b>

**Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on conserving first.**

Strongly Agree	100% agree that BC Hydro should keep ALL options open as power requirements may change significantly and quickly in the future...
Strongly Agree	By improving what we already have is a natural progression and good management
Strongly Agree	Again this is wise use of dollars considering the huge investment that already exists at Revelstoke.
Strongly Agree	These are the obvious areas, but don't forget new and innovative opportunities, such as Wave Energy!!!
Strongly Agree	
Strongly Agree	
Strongly Agree	
Strongly Agree	It only makes sense to have backup plans. Whether this one has any merit requires more information.
Strongly Agree	

Strongly Agree	
Strongly Agree	Forget the natural gas supply options. The natural gas should be piped to Alberta and the US to supply gas-fired generation in place of coal-fired generation.     Planning for the Unexpected (Contingency Plans)   The world of energy is in for some dramatic changes, which will alter the global economy; the IRP barely acknowledges their impact. It must become a more forward-looking plan.     The rapid development of wind and solar in the USA means that BC has a huge opportunity to act as electrical energy banker. We have the "batteries" to power the continent!     Climate change undeniably will cause periods of increased flood and drought. We need to expand our capacity for hydro flow management, or suffer increasing waste of the potential energy resource. Exposure to extreme flooding is another avoidable consequence of extreme precipitation events.     The Powerex export lawsuit should have told us that a unit of electrical power on continental markets can be worth 100 times more at some times than others. Why are we not seizing this opportunity unique to use our well-watered, mountainous province to generate electricity at the times when it's most valuable?     Germany, which is at least two decades ahead of us in development of sustainable power, can get up to 60% of its electricity from sun and wind on a good day. This is causing huge challenges in a relatively flat country, with limited hydro reserves. BC can avoid this problem by planning ahead. We need to maximize our reserve capacity at every opportunity.     In this regard, some of the legally barred options (IRP page 3-82 and following) which don't enlarge our carbon footprint should be reopened for public discussion.
Strongly Agree	In addition, keep Burrard Thermal on-line and invest in improved burn technology. Everyone of us likes the idea of a back-up generator in the event the power goes out. BC Hydro can control generation much closer by doing this rather than expending an immense amount of effort to allow for ramping up and down of IPP "drain the lake" power at times of the year we do not need it. Use the money you are paying them to improve your systems, BC Hydro already has qualified workers that are more than able to maintain status as a world leader of power generation.
Strongly Agree	
Strongly Agree	
Strongly Agree	
Strongly Agree	
Strongly Agree	this should happen instead of site c
Strongly Agree	
Strongly Agree	Appears to be a strategy that increases efficiency of existing infrastructure and lessened impact on undisturbed land

Strongly Agree	
Strongly Agree	
Strongly Agree	Maximize the production of inexpensive electricity -- and that means maximizing efficiency. These seem like reasonable measures to achieve that goal.
Strongly Agree	Improving the functioning of existing power generation is a good option.
Strongly Agree	Build on and improve those existing infrastructures.   Not sure what the author means by "exploring natural gas options".
Strongly Agree	
Strongly Agree	we do not need to burn more fossil fuels to pollute our atmosphere. Is there not enough warming already?.
Strongly Agree	
Strongly Agree	No need to comment as these are good options
Strongly Agree	
Strongly Agree	Although it's OK to ensure existing power plants can keep running, the contingency plan should be to have all existing residences and commercial buildings produce their own geothermal or solar power. This will greatly reduce the need for power, as well as increase the resilience of communities in case of a disaster. The whole idea of using a fossil fuel, natural gas, as a contingency plan is so outdated. Are you guys not reading #IPCC reports? I have no confidence, based on what I read here, that BC Hydro is operating in full knowledge of the global climate situation. why not be a leader instead of a dinosaur?
Strongly Agree	Upgrading existing BC hydro facilities is a good idea.
Strongly Agree	
Strongly Agree	BC Hydro should be upgraded and given support to increase capacity at its existing stations.
Somewhat Agree	Sounds reasonable.
Somewhat Agree	Prepare for worst case scenarios

Somewhat Agree	cost effective... new tech. will increase capacity without further environmental damage.
Somewhat Agree	
Somewhat Agree	'Rev' it up
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	Strongly agree with capacity additions& enhancements to existing hydro generation assets, such as Revelstoke Unit 6 and GM Shrum.     However I strongly disagree with "working with industry" to explore natural gas supply options, as any form of natural gas generation or co-generation will increase GHG emissions.
Somewhat Agree	The need for energy sources to be clean cannot be over-emphasized.
Somewhat Agree	The Revelstoke Unit 6 will only be as successful as long as there's enough water in the system to support it. With fossil water melting quickly out of mountain glaciers and problematic correlation with potential power supply and demand, the cost may not be worth the expenditure Rates will continue to rise with the resultant decrease in revenues, increased construction costs, upkeep and costs associated with heritage infrastructure maintenance. The natural gas component of this contingency plan is all that I somewhat agree with.
Somewhat Agree	
Somewhat Agree	The business case for this work needs to be reworked excluding the need to support new LNG / energy intensive mining
Somewhat Agree	Planning for contingencies is just good sense. However, the question contains some questionable implications:   . that LNG projects or mines have a presumptive right to power, regardless of downstream economic or environmental problems   . that truly needed increased power supplies will come from 'a procurement process'--does this mean that supply will necessarily come from IPPs?
Somewhat Agree	Advancing plans for existing dams is a good use of resources. The dams are already there so we should use them to the best of their ability.
Somewhat Agree	
Somewhat Agree	

Somewhat Agree	I am not that keen on expanded natural gas supply
Somewhat Agree	BC Hydro needs to look at options to reduce Vancouver Island's dependency on power from the mainland by exploring other clean energy options such as the recently announced Timberwest/T'souke nation partnership on wind power.
Somewhat Agree	It's always important to look towards the future. However, I don't agree with looking into future natural gas developments. BC has plenty of opportunity up North for developing renewable energy such as wind and hydro. There are also possibilities in geothermal and solar in the lower mainland.
Somewhat Agree	expand exploring options to solar etc
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	Do all you can with the hydro resources we have, but natural gas is the way of the past.
Somewhat Agree	I agree in principle, but strongly believe the overarching principles must be leading us to BC-developed alternative and renewable energy as part of the strategy for BC Hydro, and not simply a revisiting of the existing old tech infrastructure.
Somewhat Agree	
Somewhat Agree	Isn't geothermal power a capacity resource?
Somewhat Agree	We must make a priority of maintaining existing non-fossil fuel based generation infrastructure and expanding its capacity where necessary and feasible.
Somewhat Agree	
Somewhat Agree	I fully support BC Hydro in making necessary expenditures to maintain and possibly upgrade its own system.   BC Hydro, as a publicly-owned power utility is a tremendous benefit to residents and businesses in BC.   In the future I expect society to eventually move away from using fossil fuels - this makes BC Hydro, with its clean, renewable power, even more important.   Do not explore natural gas options, other than the existing Burrard Thermal plant.
Somewhat Agree	Maintenance of our existing hydro capacity seems wise. But I think we should avoid all fossil fuel developments, including natural gas, for the reasons I gave in the first question.
Somewhat Agree	Revelstoke 6 and GMS projects should be advanced well ahead of any Site C development.     Any gas-fired resource of significance in the province will take 12 months to design, engineer and permit, and a further 24 months to construct to COD, at the earliest. Hydro



	should be planning on at least a 48 month window to bring on new CCGT and SCGT resources. We are seeing examples where LNG proponents are planning their own electrical supply and infrastructure outside of BC Hydro, both in the gas fields of BC and at proposed LNG sites, because their own development cycle is shorter than that proposed by BC Hydro.     Lastly, the Province needs to re-examine the possibilities for Carbon Capture and Storage in the upstream field areas as well as on the BC North Coast. LNG and CCS balance each other out on carbon emissions quite effectively.
Somewhat Agree	YES to renewable / hydro. NO to natural gas for reasons already stated.
Somewhat Agree	
Somewhat Agree	Working with existing facilities is a solid way to start. Natural gas supply could be a good option, but with careful consideration and caveats.
Somewhat Agree	The power grid and transmission lines must be continually upgraded in order that BC maintains a grid that can handle the challenges of reducing wasted energy, improving transmission, opening up access to otherwise isolated users and accommodating new, smaller generation facilities (eg IPPs) as they come on line. Natural gas should be explored within reason and with good regulatory oversight that maintains an eye towards overall sustainability in the design, management, and individual and cumulative impacts of the industry.
Somewhat Agree	I agree with advancing capacity at the Revelstoke and GM Shrum stations, but have concerns about natural gas supply options ie. impacting wildlands for exploration and acquisition.
Somewhat Agree	We live in an increasingly unpredictable world and this trend will only get worse. Flexibility and resiliency will be needed so contingency plans make sense.
Somewhat Agree	I do believe BC hydro needs to be a proactive utility by ensuring they have measures in place to meet sudden needs. Companies that need to expand operations need the energy resources in place to do so.
Somewhat Agree	BCHydro needs to get to work on generation projects from existing dams like Duncan, Keenlyside as well. Natural Gas generation, especially at Burrard should be part of the mix, for cost effectiveness.
Somewhat Agree	Growth growth growth is whats doing us in ,in the not too distant future . That is Growth on all levels , including population growth . Lets reign in that continual Expansion SLOW it down , even reverse it . We have gone too far already ! That is what we have to plan for . We are at or beyond the carrying capacity on all fronts NOW .
Somewhat Agree	Contingency plans must also include acquiring clean renewable power, ie. private power calls. Many years of work and private sector investment are required to develop world class renewable wind and run of river hydro projects so they can be ready when needed.
Somewhat Agree	I agree with advancing all of the heritage dams to their full capacity potential. I DO NOT agree with working with industry to explore natural gas options that will lead to further climate change. I also strongly disagree with using natural gas at all due to the environmentally harmful extraction methods that are currently being used. Fracking is contaminating our precious freshwater resources, to what degree I do not know. I do not think that anyone knows, which is a real problem of its own.
Somewhat Agree	This is a bit of a mixed bag. I tried to check strongly agree and strongly disagree since we are talking apples and oranges here. I am fully in support of the Revelstoke and Shrum projects. Natural gas on the other hand is non-renewable and not the direction we need to go.

Somewhat Agree	While it is extremely important to focus on resiliency, all fossil fuels are finite resources that further exacerbates the global climate crisis while discounting the acceleration of glacial melt and inconsistent incidences of flooding and draught. In order to create more stability and reliance for our energy needs, BC Hydro should move forward with strong conservation incentives, installation of non-hydro reliant capacity, greater emphasis of battery storage (as it ties into transportation) and have time-of-use pricing mechanisms in place to discourage wasteful energy use during peak periods.
Somewhat Agree	Upgrading or replacing existing generating stations is vital. Again, we should be cautious about natural gas (notice I did not say ignore it) in a world where it is being developed everywhere rapidly.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	I question the cost benefits of natural gas plants.
Somewhat Agree	
Somewhat Agree	I agree with the upgrades, but stay away from Natural Gas.
Somewhat Agree	
Somewhat Agree	
Somewhat Agree	This statement is really a two parter. The need to add capacity can be accepted and good planning requires that planned projects have some flexibility in place to address timing changes. However, the question of how the capacity additions will be met needs greater exploration. Meeting capacity needs is a function of ensuring there is a balance of supply and demand. What is missing in the above is any consideration of options which temporarily reduce demand during periods of constraint.
Somewhat Agree	Making existing faciilities more efficient is a good idea.
Somewhat Agree	I do agree that we should be upgrading existing infrastructure as opposed to building new, or using natural gas for supply options. As we work towards being a highly efficient and clean energy producing Province, it seems absurd that our clean energy go towards supporting dirty industries, like mines and specifically coal as well as Natural gas production.
Somewhat Agree	BC Hydro must concentrate on conservation efforts that will ultimately reduce our energy needs. This plan buys into the mantra of growth, growth, and continued growth. Well the planet cannot sustain this continued growth and we may actually be heading to an energy descent phase of our history.   Let's be ready when the economy collapse and we don't need all the power we are generating.
Somewhat Agree	I agree with upgrading existing facilities where necessary and possible w/o further degradation of the environment or wildlife habitat. I don't agree with BC Hydro committing to support LNG or coal mining industries.

Somewhat Agree	Obviously I don't support LNG-burning generation, but upgrading of existing hydro generation makes sense.
Somewhat Agree	Agree strongly in the retrofit and upgrade options but am not supportive of the natural gas option. We dont need to be moving toward non-renewable natural gas supply options as a contingency plan for power generation.
Somewhat Agree	Do retrofit as needed, for Revelstoke and GM Shrum.   Encourage less use of energy by all users.   Do not give corporations a free ride.   They claim they bring 'jobs' and 'taxes' to BC... via their resource industries.   Then we have to pay taxes to give them 'cheap' water, to clean up their abandoned contamination, and to pay their lawsuit damages... Shame on the government for this.
Somewhat Agree	I support the improvement of current hydro installations in various ways that are economically and environmentally reasonable. There is always a down side which may be acceptable for B.C. uses but not export.
Somewhat Agree	
Somewhat Agree	No to LNG! BC has to do better. You look at the rest of Canada and they are way ahead of what we are accomplishing power wise. Bc Hydro is dragging its feet in the actual green technologies. Sure you need to upgrade the existing Generating systems. BUT No to the Natural gas industry. No to poisoning water and shame on you for going down that road!
Somewhat Agree	Expanding existing facilities make more sense than building new ones. BC Hydro must look at wind and wave turbines as part of its energy options.
Somewhat Agree	I agree with upgrading existing plants, not exploring "natural gas supply options.
Somewhat Agree	there are numerous options for enhancing output from the Columbia Basin without the environmental calamity of Site C
Somewhat Agree	Develop further our current dam potential should the need arise. We are totally opposed to the development of the SITE C DAM and the potential loss of top quality PEACE RIVER prime agricultural land!!!! Also we oppose our water being contaminated by the use of fracking to extract gas.Our clean,pure NORTHERN WATERS will be in greater demand by the people of theWORLDi in the immediate future!!!!
Neither Agree or Disagree	
Neither Agree or Disagree	diversifying our renewable energy systems is the path forward, one only needs to look around the world to see that this is already unfolding. we don't want to lag behind in this wonderful human/earth transformation!
Neither Agree or Disagree	
Neither Agree or Disagree	
Neither Agree or Disagree	Reading what is provided does not make clear what is involved in "advancing" the Revelstoke G. P. or the GM Shrum station. There is not enough information on the weight of environmental effects of these if there are any.

**Integrated Resource Plan Appendix 71**  
**Integrated Resource Plan**

Appendix D – Online Feedback Form Responses

Neither Agree or Disagree	I think it is better to explore these options rather than run of river options which are sell offs of public rivers and streams
Neither Agree or Disagree	Invest in BC technology renewable energy supply!
Neither Agree or Disagree	Contingency plans are important. Lets do what we can to keep the hydro-electric dams in working order. Lets do what is needed to prevent accidents at dams and power plants, and respond accordingly in the event that they should happen. I am in different toward LNG plants. If they must be built, then lets at least have a contingency plan in place, but hopefully expansion in this area is kept to a minimum.
Neither Agree or Disagree	
Neither Agree or Disagree	This seems to be more subterfuge - the appetite for LNG, like that of gasoline, will likely grow if there's the possibility of energy to drive it, the earth and its lifeforms be damned. I would only agree to expanding capacity if it was for clearly intelligent and environmentally responsible reasons, not to further the capitalist growth ponzi scheme. Industry and especially urban society needs to curb its appetites hugely first - do they really need all those lights - what are they afraid of? Research has shown that crime and light pollution do not correlate, and you can't tell me that all those buildings that are being heated and where the lights are on all night have a bunch of night owl employees. No, it's because the energy is available and this is a culture of waste and conspicuous consumption. Deal with that first, ramp down the waste, then look to increasing capacity.
Neither Agree or Disagree	This was a poorly worded question to be answered by the available choices. I strongly disagree with exploring "high GHG" natural gas supply options, but strongly agree with advancing low carbon projects such as Revelstoke and Shrum.
Neither Agree or Disagree	
Neither Agree or Disagree	We used to have consumer interruptable power supplies, but you never used it. We used to have emergency power agreements with the pulp mills, but to my knowledge you never used it. You tried to build a Duke Point poer plant, for exporting power to the U.S. How do we tell the difference?
Neither Agree or Disagree	Enhancing what we already have in the way of existing generation is great but suggesting that gas is the save all for the future is faulty logic. We have fantastic 'clean' options to gas. We also enjoy some of the largest 'batteries' in the form of fresh water reservoirs possible to work with and firm power from 'clean and green' renewables in this province.
Neither Agree or Disagree	I agree with upgrading current dam facilities but I think natural gas should be developed at a rate that sustains Canadian demand not export demand.
Neither Agree or Disagree	
Neither Agree or Disagree	See my previous comment
Neither Agree or Disagree	I am not knowledgeable enough to comment on this question.

Neither Agree or Disagree	There needs to be far more effort directed at curbing urban energy appetites rather than just flopping over and pursuing more traditional generation capacity, especially when our rates are just going to go up and up anyway due to poor management. Given the apparent doublespeak regarding where the Site C power is to go, this seems to be more deception given that if allowed to and not reined in, LNG will expand to use up all of the available energy and us suckers (aka BC residents) will once again be made to foot the bill while BC Hydro toady execs assist the fat cats to rake the profits into their pockets. BC Hydro belongs to BC residents and taxpayers and should be providing us service, not being made to be a surrogate private entity that enriches those who already have enough. We want intelligent energy management, not blind subservience to an outmoded suicidal growth model.
Neither Agree or Disagree	While some of these strategies may be necessary, green possibilities are not listed. Why not?
Neither Agree or Disagree	I am not well enough informed about the source of energy for those facilities. I am concerned about LNG for reasons stated previously.
Neither Agree or Disagree	Previously I commented that BC Hydro forecasting is excessive except for industrial demand. If the forecast is excessive, then the timing for doing these projects is ill timed and early. If the energy is required for Industrial ventures and pipelines, shouldn't they be paying for the infrastructure. It doesn't appear that these projects are necessary for domestic residential demand or regular commercial demand.     If you further believe that increasing the world's GHGs wil increase ocean water levels, then your support for LNG companies and the natural gas supply of electricity is a vote of approval to increase the level of our oceans to the detriment of all large cities situated near an ocean.   It's time for a change in visualizing how all of us should be producing energy.
Neither Agree or Disagree	
Neither Agree or Disagree	Seriously, BC Hydro where is your total commitment to the environment. I do not see any MAJOR, forward thinking alternatives to the traditional forms of power generation. Truthfully, do you not have a conscience for the future generations of our young people...?   Really... does your moto not have any meaning ...   " BC Hydro For Generations " ?
Neither Agree or Disagree	I don't know enough about this issue to provide input.
Neither Agree or Disagree	
Neither Agree or Disagree	Adding to design capacity of existing facilities, such as Revelstoke, is a reasonable and responsible decision. Doing so to support or subsidize the extraction and burning of non-renewables, such as natural gas, does more harm than good and is not in the public interest.
Neither Agree or Disagree	sure ... why not?
Neither Agree or Disagree	How about a contingency plan for too much supply? I say up the rates.
Neither Agree or Disagree	

Neither Agree or Disagree	I would need more information on this
Neither Agree or Disagree	Greater effort must be expended to curb our society's appetites - we are too wasteful beyond the power smart suite of actions. Why is there so much waste in urban areas such as buildings lit and heated all night long with nary a soul in them? BC Hydro must think further outside the box - we need to solar power our rooftops as RRSPs. BC Hydro needs to install wind generation on reservoirs where the increased fetch and wind velocity should be fed into the transmission lines associated with the dams. Why aren't vertical hydro turbines being installed on bridges?
Neither Agree or Disagree	
Neither Agree or Disagree	I have read that some generating stations were originally built to be able to produce more power and could be adapted to do so and protect fish runs at the same time. That makes sense to me.
Neither Agree or Disagree	
Neither Agree or Disagree	I agree that maximum use should be made us of existing dams. In fact it seems very wasteful to have a dam and not use it for power generation.   I agree that having the existing Burrard thermal plant as a backup is a good idea. I do not agree with lots more of them; perhaps one in the north would be worthwhile.   The whole argument presented above is flawed. You completely avoid the topic of price. What you need to do is raise the price if demand is about to exceed supply. (Actually sometimes you can import power instead and the decision to import or raise the price will depend on prices).
Neither Agree or Disagree	I agree that maximum use should be made us of existing dams. In fact it seems very wasteful to have a dam and not use it for power generation.   I agree that having the existing Burrard thermal plant as a backup is a good idea. I do not agree with lots more of them; perhaps one in the north would be worthwhile.   The whole argument presented above is flawed. You completely avoid the topic of price. What you need to do is raise the price if demand is about to exceed supply. (Actually sometimes you can import power instead and the decision to import or raise the price will depend on the prices).
Neither Agree or Disagree	Upgrades to the Revelstoke and GM Shrum generating stations are good ideas. However, development of gas generation plants to support LNG or coal mining is not a forward-thinking strategy. This will not help BC meet its emission reduction targets.
Neither Agree or Disagree	I am not able to give an informed opinion. I can say that I agree that long term planning is essential. With my limited knowledge, I can agree with the upgrading of the Revelstoke and GM Shrum Generating Stations. However, I am against increasing electricity supply to accommodate industries that contribute to climate change - i.e., coal mines, LNG.
Neither Agree or Disagree	Again, if BC Hydro wants to be a player in the new age of energy, they need to now start to support and integrate existing ancient technology that can harness more "power" than any province or country will ever use.
Neither Agree or Disagree	Those upgrades make more sense than the IPP program because some of the energy, at least, will be available to supply the winter peak. The dams are in place so it makes sense to expand the peak power capacity, if needed.   Forget the natural gas part of the plan. We are into a circular kind of plan here; expand capacity to enable more natural gas production then "work with industry", presumably to buy back our own natural gar, enabled by the hydro subsidies. This is pretty stupid and the reason for it is basically to maintain an interrupted electricity supply to the industrial base load, right ? Nonsense. If industry can't cut it (mines for example) without public subsidies then they can't cut it. Period. BCers should not enable and subsidize the exploitation of marginal resources through cut-rate electricity.

Neither Agree or Disagree	I am not knowledgeable about these projects. I would ask ...how do the people who will be directly affected feel about this, do they have all the information they need and should have to understand the implications of these projects, not just in terms of the present, but in terms of the future. How is the environment impacted and who is liable, who will suffer the most when there are negative impacts. Will people feel like citizens with a voice or like tenants in their own homes.
Neither Agree or Disagree	This sounds reasonable. The generating capacity upgrade at Brilliant Dam, installation of generating equipment at Keenleyside Dam, and the Waneta Dam generating upgrade are all very good projects. The future upgrades in this proposal seem good as well. However, past BC Hydro actions have damaged trust. Keeping the Site C dam proposal on the books all these years makes no sense whatsoever. The proposal should have been shelved when it was defeated in the 1970s. With today's higher concern for the environment, wildlife welfare, and disappearing farmland, BC Hydro should cancel the Site C plan once and for all.
Somewhat Disagree	While I am fully in favour of advancing capacity resource options from existing hydroelectric facilities such as Revelstoke and GM Shrum, I believe that natural gas supply options should only be considered in areas where it is unfeasible to extend the transmission system (i.e. Fort Nelson). Transmission upgrades or clean supply options should be considered for the North Coast, with natural gas being only a capacity option (i.e. peaking powerplant).
Somewhat Disagree	Natural gas in a high earthquake-risk area, or to earthquake high-risk areas is unsafe, unwise and potentially disastrous.
Somewhat Disagree	
Somewhat Disagree	Agree with upgrading existing facilities, but no expansion of natural gas, also a greenhouse gas emitter of scale.
Somewhat Disagree	Our level of support entirely depends on the level of integral and meaningful accommodation, compensation and participation of BC First Nations...and precludes any power generation options on Vancouver Island (like the T'Souke FN and Timberwest proposed wind farms...which would be cleaner and more robust sources of energy to meet BC's power needs).
Somewhat Disagree	I disagree with the LNG side of that plan for the reasons previously written.
Somewhat Disagree	Hmm, I don't see a single word specific to climate change impacts here. Specifically the need to plan for shifts in hydroelectric capacity as summers get drier, and winters get wetter. That is the only "future uncertainty" that you really need to focus on, and by now there's almost no uncertainty left about the impacts. If I was you, I'd be hawking more hydro-storage facilities so that we can collect and store more water for when it isn't available. Despite the ecological impacts associated with such projects, I think that is one area where you could use the science to advance your development ideas, and re-assure a lot of us that we are getting prepared for the inevitable.     Thus I have ticked "somewhat disagree". I do NOT think the utility should be concerned with providing "instant" resources, especially to LNG and mining interests, or any other fossil-fuel project. Resource-smart projects sound ok, but if half the money that was spent on run-of-river and LNG-oriented development went towards conservation and/or integrating user renewable energy efforts (solar, wind, etc), then there would not be as much "uncertainty" about future demands exceeding expectations.
Somewhat Disagree	We must be careful wrt the fracking for natural gas. We must find and use renewable sources of energy without destroying the environment.



Somewhat Disagree	Advancing Revelstoke - yes.   Natural Gas - no
Somewhat Disagree	Make conservation work and this wont be a problem.
Somewhat Disagree	
Somewhat Disagree	Planning for the unexpected is, of course, good business. It may be that I and many other people are wrong, but because of the controversy surrounding LNG, I would be very hesitant to risk too much investment in this project. Any large project requires approval. And just because the government is behind it doesn't automatically mean that it will be so.
Somewhat Disagree	Natural gas as energy supply....climate change means we should transition to low and zero carbon energy sources.not natural gas.
Somewhat Disagree	LNG should be seeking private business partners for power and not relying on government
Somewhat Disagree	
Somewhat Disagree	
Somewhat Disagree	
Somewhat Disagree	
Somewhat Disagree	As I commented previously, please do not subsidise the LNG industry. Make them pay for BC Hydro services.
Somewhat Disagree	Yes, upgrade the Revelstoke dam: it's existing infrastructure running anyways, so maximizing it's potential makes sense. Advancing the GM Shrum Generating Station also makes sense in the same vein of reasoning.     However, having industry further explore natural gas supply options in northeastern BC should not be done: The First Nations are already overwhelmed by the pace of development, and again, we should not be putting energy into developing fuel sources that will worsen and contribute to climate change. How about investing in wind energy instead??
Somewhat Disagree	Wind farms or solar areas for electric production would benefit both you   and the local inhabitants for you would get electricity and they would get   paid for use of their land.
Somewhat Disagree	BC Hydro should consider the shorter lead-time and lower risk for clean competitive energy, including wind energy projects, when planning for contingency electricity supplies. What risks will ratepayers face if BC Hydro remains narrowly focused on the construction of the Site C dam?   I believe advancing existing generating station is a better plan than building a new facility.
Somewhat Disagree	Revelstoke generating station upgrade is a good idea but not LNG development. Remember a little thing called climate change.

Somewhat Disagree	
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	While some upgrading is a good idea, I believe that, rather than relying on these unsustainable power sources, BC Hydro should be encouraging customers to buy power at off-peak hours through variable pricing.
Somewhat Disagree	It makes sense to invest in existing sites to make sure we maximise the benefit without the need to build new facilities. Other clean energy sources should be considered (e.g. many tidal, solar & wind opportunities) before resorting to natural gas.
Somewhat Disagree	Upgrades are a good idea, but exploring natural gas supplies is not a good idea as natural gas is not renewable. We should be looking at more conservation instead.
Somewhat Disagree	Yes...upgrade Revelstoke and GM Shrum but much caution in working with industry in developing natural gas supplies especially if going forward with LNG plants for export. Also much concern over environmental damage by fracking in producing natural gas.
Somewhat Disagree	i want to see clean energy. maintenance work on the existing plants is fine, but no more builds for dams. more solar
Somewhat Disagree	The IRP should focus more of its planning and projections on the serious likelihood of climate change driven events becoming more extreme and disruptive (even to a predominantly hydroelectric system). Upgrades to and enhancements of existing facilities makes good sense providing the environmental impacts assessments are done with diligence. However, to be genuinely effective and prudent the IRP’s contingency planning must include greater attention to climate change impacts.   I strongly disagree with “working with industry to explore natural gas supply options”. The climate change and environmental impacts of natural gas make it an undesirable means of managing future demand than developing new and emerging alternative energy sources such as the above mentioned geothermal energy generation.
Somewhat Disagree	Generating upgrades are an excellent idea, but natural gas is not clean and should be avoided
Somewhat Disagree	using NG to generate power should not be not be lumped into the same category as hydro electric.
Somewhat Disagree	
Somewhat Disagree	Proper upgrading of existing infrastructure is always needed.   I urge BC Hydro to beome involved with power production from truly renewable sources.   Our precious sun is our greatest asset. Let's use it intelligently.
Somewhat Disagree	These measures seem predicated on huge future demands for hydro, which would not be necessary were it not for energizing private coal fired plants and delivering their power on public transmission lines, and without fracking. Please stick to energy conservation strategies and say no to dirty power.

Somewhat Disagree	There are 2 parts to this question and they shouldn't be grouped together so:   1. Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea, I Agree with this   However,   2. BC should NOT in any way be moving towards non-renewable fossil fuel natural gas supply options as a contingency plan for power generation. As i said before, that is so' Yesterday', it's dinosaur age thinking, time to get with the Future...   BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is ridiculous that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Yes to upgrading Revelstoke and Shrum. BUT instead of looking to natural gas for contingency plans, we should focus more on conservation. I foresee us getting locked into more natural gas exploitation. Are going to take climate change seriously or not?
Somewhat Disagree	I "somewhat disagree" in that I agree with the advancing plans for Revelstoke and Shrum generators. I disagree with BC Hydro considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. BC should ban additional coal mines from opening and put the brakes on plans to develop LNG (exporting energy), to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	While improving the output from existing power sources is a wise plan, looking to natural gas as an alterative is not. Natural gas is being promoted as green energy which is not true. The exploration, drilling, production of conventional natural gas is on its own damaging to the environment but gas produced through the fracking process is seriously damaging to all aspects of the environment. It would be much wiser to be investing in energy production through alternative systems that are not going to contribute to further carbon emissions in our atmosphere Further, BC Hydro should place even stronger emphasis on conservaton.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	While understandable from the viewpoint of a provincial Crown corporation answerable to the government of the day, however wrongheaded, it would be a mistake to plan future capacity based on providing power to ill-advised ventures such as LNG terminals; the demand these terminals would impose is far too high and the probability that a significant number will be built far too low to make this a reasonable approach. Certainly, upgrades to existing hydro facilities such as Revelstoke and GM Shrum are desirable, but contemplating new carbon fuel-powered generation, including natural gas, is not acceptable.
Somewhat Disagree	Advancing Revelsoke and Shrum is fine. However any planning for the future must take Global Warming into account. More coal mines are a terrible thought, and, as I said previously, LNG is basically a pipe dream.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet

	our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Go ahead and upgrade existing hydro facilities, but please do not continue to explore natural gas supply options. Natural gas exploration and production is detrimental to the environment and should not be encouraged.
Somewhat Disagree	Certainly upgrade our Generating Stations, BUT....we users can do much more to prepare for contingencies than can BC Hydro. We just need better incentives, and with these, can do much more to make it unnecessary for BC Hydro to move to non renewable resources for power generation.   Leave natural gas out of the generation picture.
Somewhat Disagree	Increasing capacity through the upgrading of current infrastructure is in the public interest. Support natural gas or other fossil fuel options is not. BC Hydro and the Province should be more heavily investing in green and renewable energy, especially other than hydroelectricity to meet demand for energy and to create new, long term, job opportunities.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea.     Should ban additional coal mines from opening to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.

Somewhat Disagree	I agree with getting with fully utilizing Revelstoke and Shrum stations. I disagree with new natural gas powered stations, it is not a clean energy source.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening and put the brakes on plans to develop LNG to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC Hydro should focus on solar power programs that provide an incentive to homeowners and business to install solar panels that would help power their homes/businesses and then feed any excess power back into the grid.
Somewhat Disagree	I agree that the existing Generation Stations should be upgraded to improve efficiencies, and effectiveness for power generation, worker safety and environmental health.     I DISAGREE that any 'exploration of natural gas options' should occur. DISAGREE.
Somewhat Disagree	I disagree with the idea of using natural gas to generate electricity.
Somewhat Disagree	Mining and LNG should not be determining our power priorities. As mentioned earlier, LNG should not be a priority at all due to its waste of water and polluting effects.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening and put the brakes on plans to develop LNG to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening and put the brakes on plans to develop LNG to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	I agree in maintaining the current infrastructure but not in exploring natural gas supply options. Also instead of increase peak capacity, make sure we use energy during low peak instead!!!!
Somewhat Disagree	Upgrading existing hydro power generators is a good idea but not adding or expanding NG powered plants.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a great idea. However, the province should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak

	hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG.
Somewhat Disagree	The retrofitting of existing dams is a good idea, but burning more natural gas to generate electricity is harmful in releasing more carbon into the atmosphere.
Somewhat Disagree	Upgrades to the GM Shrum and Revelstoke generating stations probably make sense but investing in increased capacity for unsustainable industries such as mines and fracking is wrong-headed.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Please upgrade existing facilities, gain more efficiency from them.   However, LNG and coal are not renewable, and should not be part of the energy plan.   Encourage consumer consumption that is based on time of day by changing rates. The smart meter investment has been made, paid for by users, now lets work together to realize the benefits for all of this investment.
Somewhat Disagree	I agree that existing BC hydro facilities like Revelstoke and GM Shrum should be upgraded. BC should not turn to non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
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Somewhat Disagree	
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users



	that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening and put the brakes on plans to develop LNG to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening and put the brakes on plans to develop LNG to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	
Somewhat Disagree	Upgrading existing BC Hydro facilities like Revelstoke and GM Shrum is a good idea. However, moving BC towards non-renewable natural gas supply options as a contingency plan for power generation is not.     We are troubled that BC Hydro is considering contingency plans based primarily on increased supply to industries such as mining and LNG.     In order to help us meet our climate change commitments and reduce our need for more electrical energy, the BC government should ban new coal mines and stop the irresponsible plans to develop LNG.     We can and must do better for future generations.
Somewhat Disagree	Upgrading BC Hydro facilities like Revelstoke and GM Shrum are good ideas. BC should not be moving to increase Natural Gas electrical generation. Instead BC Hydro should offer rates to all customers that encourage less use during peak hours and more use of electricity during non-peak hours. The BC government should ban any additional coal mines from opening to help meet our climate change commitments and to lessen the electrical load requirements.
Somewhat Disagree	Up grading is a good idea... but using nonrenewable natural gas is not. We have climate change commitments that need to be looked at from all angles.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening and put the brakes on plans to develop LNG to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	I agree with upgrading BC Hydro facilities like Revelstoke and GM Shrum, but am against moving toward non-renewable generation of power using natural gas. These contingency plans are not for supplying clean power to households and existing industry, but mines and power-hungry LNG projects. The government should ban new coal mine development, the biggest source of GHG on the planet, and put the brakes on its plans for LNG production.
Somewhat Disagree	BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening and put the brakes on plans to develop LNG to help meet our climate change commitments and to lessen our need for more electrical energy.



Somewhat Disagree	I think it would be better to focus on local energy production (household, community, regional) this will reduce the need for such projects in the first place and no place or need for dependence on foreign companies like GE
Somewhat Disagree	I have no idea what this statement means in practice.
Somewhat Disagree	Advancing existing BC hydro facilities like Revelstoke and GM Shrum works but BC shouldn't move towards non-renewable natural gas supply options as a contingency plan for power generation. BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening " and put the brakes on plans to develop LNG " to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Industry should be working to lower their energy usage, not requiring us to build and augment existing energy producing facilities for their benefits.
Somewhat Disagree	I fully support improvements to Revelstoke, Unit 6, etc but I do not in any way support the use and expansion of the natural gas or other non-renewable, dirty resources as contingency options or options at all. BC Hydro should not expand the non-renewable energy sectors, should not open new mines or support new natural gas production, including fracking and the pipeline, and should be actively working to move away from the use of non-renewable resources at all.
Somewhat Disagree	It's not in our long term interest to exploit natural gas in BC.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening " and put the brakes on plans to develop LNG " to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	It's a good idea to upgrade facilities like Revelstoke and GM Shrum. It is an extremely bad idea to use non-renewable fossil fuels like natural gas. B.C. Hydro should offer rates to all users to encourage a shift in consumption during peak load times to off peak load times. B.C. Hydro is planning for more electricity demand from increased mining and LNG. The government of British Columbia should ban additional coal mines from opening and halt all plans for developing LNG. We need focus on meeting our climate change (Global Warming) commitments and to reduce our need for more electrical energy. We are in the midst of a climate emergency and we need to act accordingly.
Somewhat Disagree	
Somewhat Disagree	Upgrading current facilities and equipment should be a given and of course it's a good idea. What is not a good idea is exploring natural gas as an option when it is extracted by fracking and using almost as much energy to extract as is produced. Much of the electric infrastructure being built is used to support mining projects, including coal mines which makes a mockery of BC's carbon reduction programs. Sending coal off to other countries to burn increases global warming whether it's on our books or not. Regular consumers are being asked to subsidize big mining - that's not right. Make coal, copper and gold mining pay

	the full costs and then cover their carbon emissions as well.
Somewhat Disagree	
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Comments: Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
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Somewhat Disagree	

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Somewhat Disagree	Upgrading is good, stop looking at the natural gas - to help meet our climate change commitments and to lessen our need for more electrical energy - stick to what you already have, another management of funds....sounds like a good bookkeeper may be in need??
Somewhat Disagree	Again, this question lumps incompatible things into one strategy. I agree that modernizing old generating stations is a good idea, but I am not in agreement about any strategy to increase natural gas supplies. We must prioritize alternative energy over continued use let alone new development of hydrocarbon-based power sources.
Somewhat Disagree	It is difficult to analyze what these projects mean but as mentioned before I do not support LNG at all, nor private power. I do not have enough information, with what you supply here with your links to answer this question in an informed way.     Another trick question - no thanks
Somewhat Disagree	It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	What we need are systems and projects that do not cause further harm to our threatened earth. We need to develop green jobs, reduce the amount of energy we use, and think about the 7th generation after us. This is not being done by the current government, nor BC Hydro as its servant.
Somewhat Disagree	Upgrading existing facilities is a good idea only AFTER wise use of power is common practice (ie encouraging use at low-use times). Upgrading existing facilities should NOT be done to facilitate the promotion of dirty energy, coal and environmentally dangerous energy, LNG.
Somewhat Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Somewhat Disagree	Upgrading facilities like Revelstoke generating station and GM Shrum generating station makes some sense but B.C. Hydro should not be moving towards non renewable natural gas
Somewhat Disagree	let's explore how to make clean capacity resources more readily available on a moment's notice. Rather than continuing to build new, more or more harmful resources to access for peak load periods.
Strongly Disagree	
Strongly Disagree	I don't like all the huge expenditures for mining or LNG facilities

Strongly Disagree	We really need to get away from fossil fuels, including natural gas, or from hydroelectric plants that destroy vast environmental regions - it's just no longer a workable solution.
Strongly Disagree	get out of natural gas
Strongly Disagree	Natural gas? No chance. Why does this question bundle some common-sense renewable options with the carbon-rich natural gas "option"? This is willfully poor survey design.
Strongly Disagree	This question is unfair. It's like asking do you like Nelson Mandela, your new-born baby and Adolf Hitler? Yes or no? Please separate the questions! I might favour increasing hydro electric capacity in certain areas, while being adamantly opposed to exploring "natural gas options". This question is a serious flaw in the survey. I hope that this flaw is mentioned sufficiently many times by participants so that BC Hydro cannot use the results to justify a policy it may already wish to pursue.
Strongly Disagree	BC Hydro, please invest in renewable energy and invest in community power!     We do not need more of the same kind of expensive, privately owned energy investment - we need a progressive plan for the future of BC power needs which protects the health and integrity of the environment and the people.
Strongly Disagree	
Strongly Disagree	Gas-fired generation should be phased out, based on its carbon intensity.
Strongly Disagree	Why would you tie a question about enhancing existing hydro-electric generating facilities with developing Natural gas facilities. This is a red herring. Natural gas is a dead end!. It is non renewable, and is likely to be gone in 20 years if LNG export goes ahead. Fossil fuel extraction and burning is roasting our planet, and we need to be part of the solution not a bigger part of the problem. (Like the tar sands). We, or more appropriately our grandchildren do not have time for this self destructive trend to continue.
Strongly Disagree	
Strongly Disagree	You don't acknowledge the risks and effects of fracking, nor the degree to which fracking operations will constitute the primary sources of natural gas. Fracking is to NG what tar sands are to oil. Neither are environmentally sustainable. That's a scientific reality, not rhetoric.
Strongly Disagree	Stay away from LNG. We need to protect our land, our water, and our air. 100% green tech should be your goal if you care about your childrens future.
Strongly Disagree	To be planning and working with industry to supply natural gas is to develop a destructive resource that needs to be left in the ground. This approach would make the difficult job of sequestering carbon unnecessary as it would be already occurring naturally and at a fantastic price.
Strongly Disagree	I don't agree that natural gas electrical generation should be considered. Government has acknowledged the GHG emissions have to be managed down. What we now need is some leadership to actually make the tough choices.
Strongly Disagree	Will any of this be sold to outside BC?   Need to call,write,email Matsqui First Nation to conduct a meaningful consultation meeting

Strongly Disagree	I don't agree that natural gas electrical generation should be considered. Government has acknowledged the GHG emissions have to be managed down. What we now need is some leadership to actually make the tough choices.     The need for additional capacity can be reduced by bringing in time of day metering - this would be in the best interest of rate payers.
Strongly Disagree	
Strongly Disagree	<p>I agree strongly with "Advancing the Revelstoke Generating Station Unit 6 Resource Smart project", and "Advancing G.M.Shrum Generating Station Resource Smart project"   I strongly disagree with "working with industry to explore natural gas supply options to reduce their in-service lead time and to develop an understanding of where and how to site such resources, should they be needed."     B.C. Hydro should be divesting its' involvement in fossil fuels altogether.   B.C. Hydro should be investing in planetary-responsible sustainable energy systems such as wind turbine power in the dam reservoirs. This would work very well in the Kinbasket and Mica Dam reservoirs.     Please read this article. By the way, supporting evidence and negating because of a 3rd party mentioned is a cheap shot.   "October 17, 2013     Over the next twenty years, BC Hydro has forecast that our energy needs will increase by about 40% as a consequence of both population and economic growth. To meet this growing electricity demand, BC Hydro has proposed to build the Site C dam on the Peace River near Fort St. John (see Figures 1&amp;#34;3). Here I explore whether or not there are better ways from an economic, social and environmental perspective to meet our future power needs.     The Site C dam     Upon completion, this dam would produce 1,100 MW (megawatts, i.e. millions of Watts) of power capacity and up to 5,100 GWh (gigawatt hours, i.e. billions of watt hours) of electricity each year. According to BC Hydro, this is enough electricity to power about 450,000 homes.     The price tag for the construction of the Site C dam was estimated in 2011 to be 7.9 billion dollars. Assuming a real discount rate (accounting for inflation) of between 5.5% and 6%, BC Hydro estimates that Site C would produce electricity for a cost of between 8.7&amp;#34; and 9.5&amp;#34; per kWh (kilowatt hour). At present, BC Hydro residential customers are charged 6.9&amp;#34; per kWh for their first 1,350 KWh of electricity usage over a two-month billing period and 10.34&amp;#34; per kWh after that.       The Potential for Wind Power     Currently only about 1.5% of BC&amp;#34;s electricity production is supplied by wind energy (see Table 1). With British Columbia&amp;#34;s mountainous terrain and coastal boundary, the potential for both onshore and offshore wind power production is enormous. The Canadian Wind Energy Association and the BC Hydro Integrated Resource Plan 2013 indicate that 5,100 GWh of wind generated electricity could be produced in British Columbia for about the same price as the electricity to be produced by the Site C dam. And this despite the fact that all costs (including land acquisition costs) incurred to date by BC Hydro with respect to the Site C project are not counted in their estimate for future construction costs. The potential scalability of Site C is minimal; the potential scalability of wind energy is very large.     The minimal production of wind power in British Columbia compared to other jurisdictions (Table 1) is particularly surprising in light of the fact that BC is the home of a number of existing large-scale hydro projects. These include, but are not limited to, the W.A.C. Bennett and Peace Canyon dams already on the Peace River and the Mica, Duncan, Keenleyside, Revelstoke and Seven Mile dams on the Columbia River system. Hydro reservoirs are ideally suited for coupling with wind power generation to stabilize base-load supply. That is, when the wind is not blowing, hydro is used; when the wind is blowing, the reservoirs refill and hydropower is not used. In fact, hydro dams act just like rechargeable batteries with wind providing the renewable recharge to the battery system. And British Columbia is one of the few places in the world that can take advantage of such reservoirs as wind power is introduced into the grid.     Given that wind power can easily be introduced into British Columbia at the same, or even lower, price than equivalent power</p>

	<p>from the Site C dam, we should ask if there are any other reasons that would favour Site C over wind for the production of power to meet BC energy needs. I can think of none. In fact, I can think of a number of reasons why wind power should be considered over Site C to produce the equivalent 5,100 GWh per year of electrical power:     The construction of the Site C dam will flood 6,427 acres of Class 1 &amp; 2 agricultural land (a total of 15,985 acres of Class 1-7 agricultural land). Wind power sites would not affect agricultural land. In fact, the Peace River valley contains the only Class 1 agricultural land north of Quesnel.   Key regions in the archive of British Columbia history will be flooded. The Peace River has been designated as a BC Heritage River. It was, in fact, traversed by the explorers Alexander MacKenzie, John Finlay, Simon Fraser, John Stuart, A.R. MacLeod and David Thompson (and others) in their early ventures during the 17th and 18th century. Rocky Mountain Fort, thought to be the first trading post established in British Columbia (by John Finlay in 1794) as well as Rocky Mountain Portage House (across the river from Hudson Hope and established by John Finlay and Simon Fraser in 1805) are both located in the valley.   Job creation associated with wind power is province-wide. Job creation associated with the Site C dam is constrained to one region.   The risk of any cost overruns associated with the construction of the Site C dam is borne by the taxpayer. The risk of any cost overruns associated with the construction wind farms is borne by industry. This is important as it limits any risk to the taxpayer.   The installation of wind farms can be done in partnership with First Nations who would benefit from both local jobs as well as revenue from the installed facilities. In contrast, the affected Treaty &amp; Tribal Association has already expressed a number of serious concerns regarding the Site C dam proposal.   It would take much longer to complete the Site C dam project than it would to install wind farms. In addition, wind power is scalable where as the Site C dam is not.   Wind farms are distributed and so can be located close to where the energy is needed thereby reducing energy loss during transmission.     To summarize, it is clear to me that the development of the Site C project makes little sense. For the same, or even lower cost, we could develop a similar capacity for wind-power in British Columbia. And the co-benefits of choosing wind power over the Site C project are profound.     Wind power instead of the Site C dam both makes sense and cents.    </p>
Strongly Disagree	i will not support the LNG industry and i would prefer you to hold off until solar wind and other technologies are investigated
Strongly Disagree	First, huge energy-guzzling industries should perhaps be questioned rather than readily supplied. Second, throughout this survey I see little or nothing about green energy options. If you develop these listed projects further, you lose the money, time and impetus to develop those routes. Third, natural gas is not a green option!
Strongly Disagree	Use alternative energy sources, solar and wind.
Strongly Disagree	New energies will supply all future needs. Big Industry needs to get involved with the new energies. See Journal of Petroleum Technology, July 2012. The editorial mentions cold fusion [LENR] and its likelihood of destroying the oil industry.
Strongly Disagree	No natural gas for BC please. Climate change is upon us and I don't want to be responsible for that. BC Hydro has no business trying to burn fossil fuels.
Strongly Disagree	
Strongly Disagree	It doesn't make financial or environmental sense to build power infrastructure for LNG.



Strongly Disagree	
Strongly Disagree	We do not want Natural Gas fired power. Much better would be diversification with Wind, Solar, Biomass, and other renewables, that are cost competitive, especially when full lifecycle evaluation includes environmental factors.
Strongly Disagree	Why not try wind, wave, etc. power alternatives?
Strongly Disagree	I don't want to put any Hydro resources toward supporting LNG production. Let's get on with other forms of development.
Strongly Disagree	as indicated previously, I do not support public underwriting of private ventures. the lng guys can finance their own power projects. it does not need to be underwritten by pensioners and widows. upgrading and preserving existing infrastructure....yep...good idea....money well spent....
Strongly Disagree	No LNG!
Strongly Disagree	
Strongly Disagree	This is such self-serving rubbish. This may be justifiable except that the benefits will go to the privatized profiteers with we, the citizens of BC as the fail-safe.
Strongly Disagree	Natural gas should be left in the ground to reduce the use of fossil fuels. Climate change (and ocean acidification) is the biggest threat to humans civilization, human existence, and the natural world in 63 million years.
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	
Strongly Disagree	Improving our current facilities is always a good idea, but I don't believe that any more hydro should be generated, or any new dams built, to support LNG.



Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG ” to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	To quote the Western Canada Wilderness Committee: "Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation."
Strongly Disagree	Upgrading of existing hydroelectric facilities is a good idea, but developing contingencies that are based on use of natural gas in order to support further development of natural gas and coal mining is doubly harmful. We need to develop strategies aimed at conserving energy and reducing greenhouse ga emissions.
Strongly Disagree	If you were truly planning for future uncertainties, you would be guarding against climate change. This would mean not supporting LNG or Oil. This would mean retraction rather than expansion. This would mean changing our culture of energy consumption, both in the household and in industry to create a truly sustainable future.
Strongly Disagree	I disagree with the plan to explore natural gas supply options. Fracking which is the current method of natural gas extraction is significantly damaging and uses huge amounts of clean water, a resource which should not be squandered. This says nothing about climate change. See my answer to your first question.
Strongly Disagree	
Strongly Disagree	
Strongly Disagree	I am not against upgrading existing facilities such as Revelstoke and others. But we have to stop subsidizing LNG and industrial production for export and private profit at the expense of domestic rates and use.   We need to decrease fossil fuel extraction not encourage the industrialization of farmland and habitat for bio-diversity.   Where does LNG come from? and what is its true cost in terms of fresh water and climate change.   BC Hydro's projections for demand have always been over-stated -- we need smarter use not increased use.
Strongly Disagree	Strongly disagree with "working with industry to explore natural gas..." Haven't you heard of Global Warming?   Why plan to encourage extracting gas which requires an enormous amount of energy (translation produces an enormous mount of CO2 & methane+++ )   then plan on burning this gas. Isn't that like cutting your wrist and then transfusing some of the blood back into your other wrist?   Is BC Hydro in the Gas industry now? Why spend the money of BC Hydro subscribers to help the Gas companies. Let them do their own homework and present their requirements to BC Hydro.
Strongly Disagree	Power facilities are like extra lanes on highways. If you build them they attract more traffic. Why isn't BC Hydro supporting communities to develop smaller site specific renewable energy strategies that can be run locally with help from Hydro?
Strongly Disagree	I agree with upgrading the Revelstoke Dam but I disagree using natural gas to make power We should be using less carbon producing fuels not more, the same for coal.
Strongly Disagree	Comments: Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all

	users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	Planning to use natural gas to generate power should not be considered given that the BC government will not even allow the Burrard Thermal Plant to operate during even peak periods. This proposal certainly is not in step with the Clean Energy Act provisions given the polluting nature of fracking for natural gas. The plan to consider upgrading the Columbia Dams would be a better option but the cost may outweigh the gain.
Strongly Disagree	If the contingency plan is to explore natural gas options, some one isn't reading the UN reports on global warming and causes. Even, biofuel from algae should be seen as an alternate energy contingency plan, along with a number of more recent scientific developments. BC Hydro might engage Universities (in and out of Country) for the newest advances and adopt a few, as a progressive contingency plan.
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	
Strongly Disagree	It's better to upgrade existing facilities like the Revelstoke hydro.
Strongly Disagree	I believe we can and will be able to easily meet demand.
Strongly Disagree	Comments: Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.

Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	LNG is unlikely to be needed by the rest of the world. Why are we not putting our thoughts and \$ into developing sustainable sources of energy?? Pursuing goals of greed will only bring about the breakdown of the economy. Maybe that's not such a bad thing. However, it would serve us better to preserve our natural resources for our children and grandchildren. Hopefully they will be smarter about preserving the planet.
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	Burning natural gas contributes to climate change and should never be proposed by a generator that uses hydro-electric power only.
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	See previous comments!
Strongly Disagree	Disagree with Hydro working toward large scale mining or LNG projects.   Agree with upgrades to Shrum and Revelstoke dams.
Strongly Disagree	I agree with upgrading present hydro facilities but not with going to natural gas plants. What's next, coal fired plants?
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users

	that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	Upgrading existing BC hydro facilities may be a good idea but BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. A much better idea is to encourage less use. BC Hydro must stop the increased use of electricity by industries such as mining or LNG. Coal mines must be banned from opening, LNG developments must be reined in and instead focus on getting BC to make changes to diminish the world wide problem of climate change.
Strongly Disagree	No L.N.G. for reasons given in question #1
Strongly Disagree	see our comments re point 1
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	I disagree. Your contingency plan should be exploring ways of STORING electricity. Look at what Europe is doing. Look at the advances in terms of storing electricity as methane gas. Your contingency plan is regressive. Where are the bright progressive thinkers that can form a true plan for the future?
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	The contingency plans must take into consideration the rights of future generations. The future is socially equitable and environmentally sound renewable energy Canada must no longer to be the recipient of the Fossil fuel Award at international COP conferences. At RIO+20 the Harper government always deleted references in the documents related to the precautionary principle and to the need to remove subsidies to fossil fuel companies.

Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening and put the brakes on plans to develop LNG to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	I'm tired of BC Hydro touting policy that is clearly in support of what the BC Liberals want to do, instead of doing what is sensible and correct. Natural gas as a renewable energy option? Really??? Who else is doing that? Only utilities that have a direct financial interest in LNG, or are run by a government that does. Again, another bad idea. This is not renewable energy, and is not a good contingency plan in a world that is rapidly warming because of burning fossil fuels. Wind and solar are the ONLY acceptable alternatives, and are being used everywhere else in the world with great success except here in North America where the Big Oil and Gas lobbies are running the show. Apparently they have some influence in the BC Hydro meeting rooms as well.
Strongly Disagree	No natural gas option, for reasons mentioned above.
Strongly Disagree	These projects are not designed around renewable energy. It is a short-term fix at best.
Strongly Disagree	Exploring natural gas supply options is a euphemistic phrase for fracking, a practice that cannot be condoned. Should we repair existing dams? Certainly. But we should not support any plan that includes the expansion of dams or the exploration of natural resources when it involves processes such as fracking.
Strongly Disagree	A contingency plan shouldn't include the use of fossil fuels. And BC Hydro should not be supporting fossil fuel type industries. At the very least - for now - carbon producing industries should be paying much, much more. And programs to encourage energy efficiency overall must become more and more widespread and unavoidable.
Strongly Disagree	Upgrading existing facilities is fine. Doing anything to "explore natural gas supply options" is increasingly unwise. It seems that most countries already have access to natural gas.
Strongly Disagree	
Strongly Disagree	How about "work with industry to explore CLEAN, renewable energy sources such as wind, wave, solar or geothermal" ??
Strongly Disagree	
Strongly Disagree	definitely not working with industry to explore anything to do with natural gas.
Strongly Disagree	Existing hydro facilities should be upgraded but natural gas options should not be explored because of their greenhouse gas emissions. If additional capacity is needed in the future, BC Hydro is well-positioned to expand renewable energy supply from wind and distributed solar, using the legacy dams as storage.

Strongly Disagree	<p>â€œ Short Lead Time for Wind Generation: In BC Hydroâ€™s contingency planning, clean and competitive wind energy should be considered as an opportunity to bring on large-scale supply quickly and more rapidly than other options outlined in the IRP.   â€œ Uncertainty - Wind is Part of the Solution: Despite the significant uncertainty in British Columbiaâ€™s future supply/demand mix (risks with upstream and downstream LNG growth, efficacy of conservation and the cost and timing of the Site C dam), clean and competitive wind energy should be included in the IRP as an option for "Planning for the Unexpected". Wind energy should be considered in British Columbiaâ€™s supply mix, as a competitive, non-GHG emitting resource that can be brought to market relatively quickly to fill unexpected supply gaps.   â€œ Procurement Process: The competitive procurement process for acquiring power for the unexpected should be expanded to include clean and competitive wind energy and should be broadened to consider a range of criteria, including price, value (reduced GHG emissions, job creation, system efficiencies, and First Nations participation) and risk (capital cost, construction and timing).  </p>
Strongly Disagree	<p>SHORT LEAD-TIME FOR WIND GENERATION: In BC Hydroâ€™s contingency planning, clean and competitive wind energy should be considered as an opportunity to bring on large-scale supply quickly and more rapidly than other options outlined in the IRP.     UNCERTAINTY (WIND IS PART OF THE SOLUTION): Despite the significant uncertainty in British Columbiaâ€™s future supply/demand mix (risks with upstream and downstream LNG growth, efficacy of conservation and the cost and timing of the Site C dam), clean and competitive wind energy should be included in the IRP as an option for "Planning for the Unexpected". Wind energy should be considered in British Columbiaâ€™s supply mix, as a competitive, non-GHG emitting resource that can be brought to market relatively quickly to fill unexpected supply gaps.     PROCUREMENT PROCESS: The competitive procurement process for acquiring power for the unexpected should be expanded to include clean and competitive wind energy and should be broadened to consider a range of criteria, including price, value (reduced GHG emissions, job creation, system efficiencies, and First Nations participation) and risk (capital cost, construction and timing).  </p>
Strongly Disagree	<p>BC Hydro should consider the shorter lead-time and lower risk for clean competitive energy, including wind energy projects, when planning for contingency electricity supplies. What risks will ratepayers face if BC Hydro remains narrowly focused on the construction of the Site C dam?</p>
Strongly Disagree	<p>The only part of this I can agree with is upgrading the Revelstoke and \GM Shrum Generating Stations.</p>
Strongly Disagree	
Strongly Disagree	<p>"Contingency plans" that involve fracking, constructing or expanding new dams, or increasing private power sources should be last resorts if resorts at all.</p>
Strongly Disagree	<p>We need to be exploring more opportunities to develop renewable energy and alternate energy sources. We should be leaders in these green technologies which also represents the largest economic opportunities of our day and what a win win as we are actually taking steps to reduce our GHG and carbon dependent industries and beginning to adress the increasing concerns related to climate change.</p>
Strongly Disagree	<p>Buy cheap IPP power instead.</p>
Strongly Disagree	<p>Exploring gas fired generation options because of their potential to reduce in-service lead time is inconsistent with the governments' stated goal under the GHG Reduction Targets Act.     More importantly, development of low-impact renewables should be considered well</p>



	before gas fired generation, having a short commissioning period, and being the choice of First Nations over and above all other options.
Strongly Disagree	NEED PROOF OF ADDED LOAD!!
Strongly Disagree	please please focus on natural alternative positive futures. All these pathetic options are only putting everything back further. Einstein and Tesla were at the cutting edge of discoveries years ago, we are at another new edge now, even more advanced because so much more is available in alternative research already being put into place. Time to scrap these old and ancient technologies for some real non-destructive productivity.
Strongly Disagree	Why are the natural sites where water n wind powered opportunities are abundant at a minimal impact not being built ,by B.C Hydro,for Canadians rather than the present projects that can be sold to the private sector or Governments of another country.
Strongly Disagree	What are the alternatives
Strongly Disagree	Energy use is on the decline for individual users in BC. proactively establish solar, tidal, and geothermal capabilities. this is where the money will be. The carbon bubble is about to burst!
Strongly Disagree	Stop subsidizing these large projects like mines and LNG: if they aren't economically viable without the subsidy they don't have to happen. I certainly don't get a subsidy for a business which would otherwise fail.
Strongly Disagree	BC Hydro is a destructive, deceitful organization that needs to be shut down & its "leaders" put in prison!
Strongly Disagree	lots of administrative and bureaucratic lingo meaning nothing except higher rates and environmental destruction
Strongly Disagree	You are not planning for the future, you are killing the future for all generations to come.   We don't need MORE ENERGY, we need LESS!!!!!!!!!!!!!!
Strongly Disagree	The exploration of Natural Gas product, when using fracking which is ethically wrong when you know the damage done to the land and water will be permanent.
Strongly Disagree	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening “ and put the brakes on plans to develop LNG “ to help meet our climate change commitments and to lessen our need for more electrical energy.
Strongly Disagree	If you know there are going to be uncertainties, that should tell you not to do this.
Strongly Disagree	
Strongly Disagree	B



Strongly Disagree	Natural gas is gained by fracking which is hugely destructive to the environment and destroys drinking water, not to mention in earthquake prone BC pipelines carrying natural gas are a disaster just waiting to happen.
Strongly Disagree	The restrictions that the Clean Energy Act place on BC Hydro are painfully obvious here. We need BC Hydro to do more than simply generate power from dams. While the above suggestions likely are sound, they should not be the only options available to BC Hydro. There is no good reason BC Hydro should be prevented from developing wind, geothermal, solar etc. themselves.
Strongly Disagree	If BC Hydro cannot supply the power to LNG or mining project then they must not be approved.
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	I support adding Revelstoke 6 and,for contingencies adding to GM Shrum     I do not support in any way items 16 and 17, which serve to advance the LNG industry
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	
No level of agreement selected	Don 't know about this.
No level of agreement selected	
No level of agreement selected	Yes to Revelstoke,strongly agree   Yes to GM Shrum - strongly agree   No to working with Industry to explore natural supply gas options stronly disagree







No level of agreement selected	I do not agree with the practice of fracking for gas. It has a detrimental effect upon the environment, wildlife, and people in these areas. There are two different methods for fracking, one that takes longer but uses depth to extract the gas, and one that is much more violent and disturbing to the land and systems around the area, which disturbs land horizontally as well. What is often chosen is the more violent and disruptive means. If it were to be done in the gentler, less impactful, longer term fashion, then I might support it. However I doubt that this is what you have in mind with these plans, so I'm against it.
No level of agreement selected	Planning for unseen contingencies is important, so it would be a good idea to upgrading existing BC hydro facilities like Revelstoke and GM Shrum.     As for planning around industry expansion, if those industries include LNG or other fossil fuels, there could not be a worse idea in the world. The BC government should back out of the LNG business and ban additional coal mines from opening so we might protect the public purse, keep the need for new power generation low, and meet our climate change commitments.
No level of agreement selected	Upgrading existing BC hydro facilities like Revelstoke and GM Shrum is a good idea. However, BC should not be moving towards non-renewable natural gas supply options as a contingency plan for power generation. Instead BC hydro should be offering rates to all users that encourage less use during peak hours and more use during off-peak hours. It is troubling that BC Hydro is considering contingency plans based primarily on the increased use of electricity by industries such as mining or LNG. The BC government should ban additional coal mines from opening and put the brakes on plans to develop LNG to help meet our climate change commitments and to lessen our need for more electrical energy.

**GENERAL COMMENTS**

**Please provide any additional comments you have on the IRP and the set of recommended actions.**

<p>Great survey. Simple to fill out and the process of filling it out is excellent... I would like to encourage the adoption of LED replacement bulbs for consumers. The faster this can be don't the more power we will have to use for economic development with projects like LNG... As one of the first people to re-lamp their entire home I know first hand how much power can be saved by switching over to LED bulbs and doing a full home power audit... My power bill used to be around \$120 to \$130 per month and it's now typically \$40 -\$50 per month which is a significant savings in power and cost... The bonus is I won't be changing light bulbs for another 20+ years...</p>
<p>Serious consideration must be advanced with nuclear power in view of the high cost of solar power and the decimation of bird populations and noise produced by wind farms. The tsunami disaster at the Fukushima power plant in Japan did not result in any catastrophic nuclear disaster and with modern technology we can safely produce power by way of nuclear energy safely and efficiently.</p>
<p>Considering the geography of B.C. that much of the province is not earthquake prone and we have lots of area that is not subject to flooding or Tsunamis and considering the very low level of problem created by the earthquake in Japan we ought to consider nuclear power sources of future energy.</p>
<p>Keep up the good work...</p>
<p>Politicians should stay out of running an electrical business.   The two best electrical systems in North America were the Tennessee Valley Authority and Ontario Hydro. Ontario Hydro has been ruined by government dictating how the business should be run, resulting in higher rates.</p>
<p>We need sustainable and affordable electricity. Keep affordable in the forefront of planning. Keep fixed income and seniors in mind or subsidize them somehow. The poor incomes afforded by the Federal Government for Canada Pension and Old Age Pension do not begin to cover the cost of living in BC.....     BC means 'Bring Cash'</p>
<p>General IRP Comments     Overall the Integrated Resource Plan looks like a report written by the natural gas industry, for the natural gas industry.     We need to return BC Hydro to its proper mandate of serving the needs and opportunities for all British Columbians. A more open review and debate of all the opportunities and risks is called for.</p>
<p>The very first action absolutely must be immediate cancellation of pending IPP projects that have been on the books for a number of years, yet still have not reached the construction stage. These are fraught with problems and do not have the support of the general public. BC Hydro's image is tarnished by way of association. Any costs associated with rescinding EPA's already issued will not be met with dis-approval. In many cases the EPA's were issued based on erroneous information (or complete lack of information) supplied by proponents. Many projects bear little resemblance to what the EPA was based on. Many things have been learned in the last few</p>

years about how "ungreen" these can be.....even if one only looks at the devastating effect of ramping of water levels.     What could possibly be easier for BC Hydro to do and what could possibly generate (no pun intended) more public support? No more hydro IPP's. Do it now.
Consider a more realistic DSM target.     Focus on low cost energy with social license and environmental clearance when selecting future IPP power projects.
Do not support LNG, Do not build Site C. This is harmful to the future generations of our province. You are irresponsible if you do otherwise.
Thank you for the opportunity to provide input. One last comment in support of Conservation First - yes please!
I am replying on behalf of the Campbell River Environmental Council. We have written an extensive letter to the minister with respect to independent power projects. We would like to send you a copy of this letter and would appreciate it if you could email us at the above email address and we will forward it to you.
1. I am utterly opposed to the ubiquitous practice of "leveraging" -- including using standards and codes to achieve conservation goals. This is undemocratic and disproportionately detrimental to the interests of lower income groups.     2. Change the law to encourage the production of electricity by more technologically advanced methods, including nuclear power generation.     3. We can earn money by exporting electricity. Let's do it -- and export the environmentalists with the electricity.     4. Instead of demanding annual contributions from BC Hydro and other crown corporations, the BC government ought to tax them like private corporations and drop any other contribution. Allow crown corporations an increased ability to accumulate capital for economic development.
BC Hydro must change the order of its value proposition statement. Conserve First, Manage current resources, plan for the unexpected and then support LNG. The health of the province of my birth is not in the wealth generation of BC Hydro it is found in the people and environment which must be placed above resource development and low cost power generation. There is no ROI at site C.
Please see previous comments.
IPPs need to be examined on a much broader basis. Will they provide power in peak demand periods such as summer and winter peaks. Probably not.



<p>All legal options should be explored to insure that IPPs are more cost effective (including abrogation when possible), and no more contracts with IPPs should be signed without full scrutiny the BC Utilities Commission and the implementation of an effective planning and approval process that is separated from government interference. Instead of pursuing site C and other costly developments, serious consideration should be given to acquiring BC's entitlement from the Columbia River Treaty and that should be the focus when it is renegotiated. Off course, more efforts toward conservation are desirable.</p>
<p>Hydro has been at the mercy of the Liberal bureaucrats for years. It's time to stop robbing the public's piggy bank and start really trying to enhance our salmon and environment, Save our water, it's priceless and should never be wasted on " fracking " Also, allow First Nations to restore the Nechaco River and others in the Skeena system Thank you for your consideration.</p>
<p>The greenhouse sector is very much interested in cogeneration. All the heat is used in the greenhouse, exhaust gasses ( CO2) is used in the greenhouse and electricity is transported into the grid. In Europe, this is standard practice and highly appreciated. At this time, it is the most efficient and environmental friendly solution. BC Hydro should approve the applications. The public would strongly support this new form of energy production. Why is Europe light years ahead in energy efficiency compared with N-America?????</p>
<p>LNG is a fossil fuel. It should be left in the ground. show the residents of BC how to power their homes and offices with Solar and geothermal - that's 21st century leadership.</p>
<p>Comments made by the public should be made available for the public</p>
<p>BC Hydro MUST cut their own costs before any expansion, their costs are out of line as former employees have stated to me many times.</p>
<p>No to Independant power projects and yes to BC Hydro and looking after the existing dams and conserving power, as they do in European countries. Candians are the biggest wasters of electricity in the world!</p>
<p>LNG. Everyones got it already. Time to move on and focus on Hydroelectric generation for consumers not corporations.</p>
<p>Different options for powering for tomorrow</p>
<p>Get smart... this is the only Planet we have!!!! Let's not remove "Beautiful" from British Columbia...</p>
<p>Tell the government to shove it and stop using Hydro as their golden goose. Hydro should be able to reinvest any surpluses into their system which would reduce pressure to increase rates. Why is the government allowed to take so much money out of bc hydro's coffers? It's absolutely ridiculous! And while you're at it, tell the government to lower their water rental rates to something more in-line with other jurisdictions (they are charged half the water rental fees as we are!)</p>
<p>Wish there were questions with respect to the meters. Feels very undemocratic that we do not have a fair voice without being "charged" if we didn't feel comfortable having them.</p>
<p></p>



I really appreciate the opportunity to comment. Thank you. I hope to work for BC Hydro one day to help build a more sustainable and robust energy system in this province.
BC Hydro is a key part of British Columbia's success, both in terms of providing reliable power to its citizens at a relatively affordable rate, and in terms of assisting with our resource economic development. BC Hydro can choose to be part of the innovation strategy for our province, and be a world leader in renewables.
Thank you for providing this opportunity to give input.
I believe BC Hydro should focus on maintaining and upgrading its own existing system. With conservation, BC can easily live within the current output of BC Hydro.   LNG export from BC is extremely unwise. Markets are uncertain, and the water and power demands of LNG plants are huge - it makes no sense.   IPPs are selling un-needed power to BC Hydro which will cost \$billions in future contracts. This is an absolute travesty.   Site C will only drive BC Hydro deeper into crippling debt. The power is not needed.
We are in a tough spot with energy - demand growth is inevitable as long as our population is growing. But we can curtail is through DSM, and steer our future energy development in more sustainable directions. While big hydro, such as Site C, has its pros and cons, and we certainly benefit from existing capacity. But, although is may be more sustainable than fossil fuel based projects (including the latest fad of LNG) , it comes with high local environmental costs. I think we need to maximize DSM, and push hard for advancement in the wind and tidal sectors.
Any solution for increased electricity demand in the province needs to be well-rounded and geographically diverse so as to limit single-point contingency risk of relying on any clean renewable resource that is intermittent. Wind is becoming a very competitive resource but can only be counted on for an hour from now, not much more. ROR hydro is also a cost effective tool in the overall mix but it too has limitations, approximately 4 days of reliable generation if it is running at the present time. The problem with clean renewables, with the exception of biomass power, is that it doesn't keep the lights on.     Our solution for new generation has to be one that is spread across large hydro, wind, ROR hydro, biomass and gas-fired generation. New combined-cycle generation technology ramps at 100 MW per minute (2-on-1 Frame 7F installations, for example) and is ideal for backstopping intermittent resources. CCGT keeps the lights on, and can be regarded as a transitional fuel for the next 20-30 years.     There is no silver bullet when addressing the issue of increased load in the province. We must have a diverse solution.
It is imperative that we do not fall into dependency on fossil fuel to the extent that we make decisions to boost renewable power just to power unethical and costly (in the long run) LNG.
IPPs were totally unnecessary projects! They have been a huge expect to the consumers of this province and now we are ALL paying for the mistake!

The IRP is faulted as it is modest on conservation and as it includes the large Site C project. Site C does not make sense because, its cost is too high, the in service date is not flexible enough, BCH debt structure cannot afford it, we cannot keep eliminating the highest quality land in the province and because it is a large new supply that comes on in a single pulse, we need to supply any new needs with small increments brought on with short lead times.
I DO NOT SUPPORT SITE C or developing LNG in the province of British Columbia. I support energy conservation and also preserving our environment for future generations. In order to have an economy, we need healthy functioning ecosystems.
Is it true that public comments will not be published online? I would like an open and transparent process where all views can be shared.
Emphasis of conservation must be backed by incentives for consumers. We have a clean grid that can be made even cleaner and more resilient with greater adoption of wind (including offshore), tidal, biomass, wave and PV solar. Much of these can be purchased and installed by commercial and residential customers wanting to offset their energy use. Grid-tied use of battery storage alongside non-hydro renewables will also fulfill the need to provide consistent power with current existing large hydro storage facilities. Investing in V2G technology would encourage greater adoption of EVs and provide an alternative energy storage source.
I appreciate being able to participate in this process and look forward to continuing to follow BC Hydro's efforts to provide the people of the province with affordable, relatively clean and abundant energy.
If you support LNG, you will bring a war which will make Claoquot sound look like child's play.

<p>I am to a point now I can hardly afford hydro anymore . You must reduce amount pay by home owners and raise commercial rates . Stop abusing BC Families . Because of bad management and Governmental interference you have run a muck . Your killing my Family and abusing your power .</p>
<p>Make all the comments received public.</p>
<p>The recent article in the paper about your people and their wages is a slap in the face. If you get more taxpayers money will you give yourselves another raise? You shouldn't be such a greedy bunch if you want public support.</p>
<p>I have to thank you for giving British Columbia's a voice in these issues. As your motto states 'For Generations', I think it is quite important that we really take a good look at what our options are when comes to power generation and resource management in BC. What we choose today will echo in generations to come. I do not want my grandchildren and their children to be stripped of everything this province has to give us.   It would be nice to see what other British Columbia's say on in this survey as well, so we can see where we all stand on these issues.</p>
<p>Despite the best intentions of BC Hydro management and staff the continued political interference of the current government will keep BC in the energy backwater for at least the next 20 years.   It is a shame because with our abundance of natural resources we could be the conserving, renewable, sustainable energy capital of Canada.</p>
<p>I want BC hydro to serve the needs of the people, not the fossil industries.</p>
<p>Keep all communication transparent.   I feel lied to regularly.   I am also concerned about this recent set of hardly announced 'public hearings' to 'consider' getting rid of the Agricultural Land Reserve.   What are you offering as a future to the next generation? Agricultural lands given over to urban and industrial uses, loss of marsh lands, contamination of fish habitat, contaminated lands due to fracking, increased debt as the taxpayers have to pay off corporations who didn't get the profits they wanted, violation of treaties with First Nations, no significant planning to get people to USE LESS energy, no government leadership on HONESTLY sustainable energy development, less governmental monitoring of habitat security, bloated salaries for the replacements for simple Crown Corporations... None of this makes sense to me... I am over 60 and have lived in BC all my life.</p>
<p>BC Hydro has to do better and actually do something that is good for the environment. For a corporation that has been in business as long as you have. I am sad and worry for the future for our children.</p>

<p>BC has lots of Hydro power manage it in the PUBLIC INTEREST. Private profits from IPPs and LNG development are not worth cooking the planet and causing global climate catastrophe.</p>
<p>I am appalled at the habitat destruction and disruption of Rights of way, transmission lines, roads, railways, pipelines etc. Some overall planning to create multifunctionality and reduce habitat destruction is called for. The complete neglect of solar power options completely undermines your attempts to create   public support for your aims and objectives, which is quite clearly maximum profits using the public's tax dollar wherever you can to reduce costs</p>
<p>I think conservation and energy efficiency measures should be pursued first. Even if we have new power sources, but if there are no changes in the consumer's habits (both commercial and residential), we will still be pressed to meet the capacity. As to the additional power, I hope BC Hydro stays true to the clean energy vision.</p>
<p>are we really afraid of building a better planet? renewables are the best answer we have right now, a diversified renewable energy market is what most b.c.'s want!  </p>
<p>Building site C would be a step in the wrong direction. We should be focusing on more modern forms of electricity such as wind, geothermal, solar etc.</p>
<p>It is generally agreed that upgrading BC Hydro's aging infrastructure should be of principal importance for the future of power delivery. I am disappointed that the IRP does not seem to address this.</p>
<p>Please make full use of what we have already and conservation to provide the energy that we need for the foreseeable future..</p>
<p>Invest in BC technology renewable energy supply!</p>
<p>I am participating in this survey to encourage BC Hydro to invest in wind, solar, the fuel cell, or anything else it deems to be a clean, green energy source (LNG DOES NOT COUNT!!!!). As a crown corporation that provides energy for Canadian citizens, BC Hydro has a responsibility to protect the land in which it operates, and this includes environmental considerations. We can't remove ourselves from fossil fuels overnight, but lets continue to be a leader in the push toward a green tomorrow. LNG development will nullify our province's impressive commitment to reducing greenhouse gas emissions. British Columbia has done very well in this commitment so far, but as a country Canada is failing miserably. We must continue to be a positive leader for our fellow provinces and territories. One day fossil fuels will no longer be the preferred choice. ONLY the leaders in the new energy technologies will see economic growth and prosperity. My vision for the future is one in which other nations of the world seek Canada's services in providing green energy, with BC Hydro being a key player in this movement.</p>
<p>LNG is another non-renewable resource. Investment in this option does not take us any closer to reducing our dependence on non-renewable resources. The main strategic thrust should be converting to renewable energy resources: wind, sun, tide.</p>
<p>BC Hydro has been used by government as an instrument of colonial oppression - eg by building Arrow Dam,. WAC Bennet destroyed one of the best fruit growing areas in order to give his buddies in the Okanagan a break from competition. Where did that get us forty years hence? Orchardists in the Okanagan can't make a living and Arrow Reservoir is a dust bowl with minimal ecological productivity and few other values other than the electricity now being generated. That should be a lesson to us to take a longer term view than what this dog and pony show is laying out. Why is the incredible and criminal wastage of water by toxic fracking not being factored in? What about climate change driven by our current land and resource use practices? We need true leadership,</p>

<p>not a bunch of knee jerk puppets controlled by banksters in turn pulling BC Hydro's strings. There is more at stake here than the appetites of the war and baby boomer generations - if BC Hydro is really "for generations", then you'd better start REALISTICALLY looking at your grandchildren's future quality of life.</p>
<p>I would be very encouraged to see b.c. hydro invest some of its vast resources into 'alternative' power sources..solar, wind..available, cheap and environmentally sound.</p>
<p>Political demands from Victoria have led BC Hydro astray over and over. Are we still using pelton wheels? Are our turbines still based on the original Russian designs for Egypt? Can we improve? Less gloss and more reality would greatly improve your public acceptance, and perhaps drive the politicians into a corner.</p>
<p>BC Hydro has done a poor job of selling the public on the real costs associated with new generation. Falling back to gas fired options is really a giant step backwards. We have incredible clean resources available to supply future power needs in BC. We have the ability to supply the rest of the world with LNG that, by comparison, will be the cleanest in the world if we take advantage of what we have. Please do not squander this opportunity.     Thanks</p>
<p>I think it is foolish to pollute groundwater for the sake of natural gas exports</p>
<p>See previous comments re: old paradigm</p>
<p>The concept behind BC Hydro as being energy supply owned by the users and residents is admirable but the success of this agency at living up to its potential is poor indeed. Instead, it is an agency of colonial exploitation, beginning with WAC Bennet's destruction of the outstanding fruit industry of the Arrow Lakes so that his cronies in the Okanagan could benefit from destruction of their competitors. Fast forward forty years and orchardists in the Okanagan can hardly make it while Arrow is a dust bowl with minimal ecological or recreation resources and only recently even generating electricity. It would be nice if a true long term vision could replace the disgraceful political manipulation of the public good that BC Hydro has potential to be. We need to move to a sustainable future; not have this agency continue to be used as a pawn in short-sighted political and economic ponzi schemes where the capitalists line their pockets at our expense. If BC Hydro is really "for generations", it had better smarten up, not support the devastation of water by natural gas fracking and instead truly think about future generations, the quality of future life of your grandchildren.</p>
<p>Burning natural gas to produce electricity is not clean energy even though the premier has declared it to be "clean". We impose environmental measures on working people producing 2.5 tonnes of GHGs per person and create full carbon tax exemptions for companies producing tens of megatonnes of GHGs for profit. This defies protecting the environment for our children.   The IRP has been predicated on estimating an increasing demand that just isn't there from domestic residential or commercial customer. The only demand is coming from large GHG producing companies.   Does it make environmental sense for me to drive to Toronto to buy my groceries where I could save 5% on \$ 200 grocery bill. The Toronto grocery trip is similar to what compressing natural gas</p>



<p>to supply China when China has an ample supply. Asia needs to develop their reserves themselves if they require gas from an environmental standpoint.</p>
<p>No IPP contracts, anytime money is the driving force behind the action everything else is secondary.</p>
<p>BC Hydro ... You are on the wrong track ! Burning natural gas is NOT a clean source energy. For many many years I have touted the fact that BC Hydro is one of the cleanest producers of electricity with over 90% of its capacity coming from near carbon-free sources. Sadly, This will no longer be true and we are ALL going to pay the price for your lack of vision.</p>
<p>The plan needs to (1) include more aggressive reduction of the current portfolio of IPP resources to manage both short-term and long-term costs and (2) increase research, development and implementation of lower ghg energy sources than LNG.</p>
<p>I strongly support publishing ALL public and private comments within this policy consultation, so that all have knowledge of the ideas and arguments given by all stakeholders. Anything less is a sham process and will be viewed as such. All EAs in Canada and in most OECD countries follow this policy of transparency. As well, the comments should also be tagged with the category of respondent, such as BC resident status, business, industry-association, etc. Again, any less disclosure will be seen as the mark of a sham process and will unleash decades of backlash against BCHydro against EVERY project it seeks to promote, no matter how simple or obviously beneficial.</p>
<p>Long-term statistical risk analysis and energy portfolio optimization tools should be used to determine the best solutions for the future It could include Big or small hydro, wind, solar, conservation, etc,... This approach has been used by many agencies including the international energy agency (IEA) as well as he renewable energy industry. It would be useful if BC Hydro could take a look at that approach.</p>
<p>Conserving first is a great goal. LNG is not proven yet to be a viable alternative, the other stuff is just doing the job of managing the company.   I get the sense that BC Hydro is out of control.</p>
<p>We need electricity for BC residents, not to sell off to other markets for profit. We cannot damage our wild rivers in our efforts to increase our electricity capabilities. Wild Rivers are very important for the overall health of us, future generations and wildlife. We are losing it faster than ever and it is very dangerous to "control" nature without knowing the future ramifications. I agree we need power but we need to be PowerSmart, which I fully support. Industry also needs to pay their fair share - it is a cost of doing business. Wild Rivers are the veins of our water system and are absolutely necessary to support our species.</p>
<p>Thank you for committing to this consultation process!</p>

<p>CLIMATE CHANGE:   I do not recall seeing any mention of climate change in your statements. This is alarming. This is the most important issue and should be guiding our choices. We should be transitioning away from coal, oil and gas. We can do it. Germany, Spain and other countries are doing it.     FIRST NATIONS:   There is no mention of First Nations. They own the land by virtue of occupying it before Europeans came here. The Royal Proclamation of 1763 stated the same thing. The 250th anniversary of this proclamation occurred on October 7th. Where was a commemoration of this historic event? As far as I know there was none. This is disgraceful. If First Nations peoples do not want Site C, pipelines, mines etc on their lands we should not build them.     OTHER:   A new mine or other industrial faciities pays about 4 c/kwh whereas BC Hydro now pays about 10 c/kwh for new electrical power. This is ludicrous and brings government into disrepute. I am told by a former BCUC chairman that new industrial faciities have to be charged the same rate as existing ones. This needs to be sorted out.   Residential rates are 6.9 c/kwh for step 1 and 10.34 c/kwh for step 2. I would like to see:   - the industrial rate of ~4 c/kwh raised to match the step 1 residential rate or vice versa.   - the usage at which the step 1/step 2 boundary occurs should be reduced; this is because my use is at about 25-30 % of this step boundary. I am not poor and I use all the electricity I want to. The boundary is too high.   If electricity is generated using natural gas then there should be a carbon tax and it should only appear on the bills for the high consumers.     All submissions should be made public. Transparency is essential for good government. If you want an example look at the Local Government Elections Task Force submissions. These are on the web and very useful. (I am not sure all of them are there).  </p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>If BC Hydro wants to retain the support of, and integrate the opinions of, the people, then they must acknowledge the work Tesla did and existing ancient technology using Earth's Ley lines and megalithic structures. The people know about this energy reservoir and we will not stand by as our water and farming land is further ruined in the name of corporate profit, under the guise of providing MORE power for the province. We need to power DOWN, not UP.</p>
<p>I've said enough. You know damn well what I've been saying.</p>
<p>I am hoping I have done this correctly and at least partially understood it. I reserve the right ,of course, to make other comments and express my opinions more openly outside the confines of this form.</p>
<p>Instead of resurrecting old mega-projects like Site C a greater focus should be on expanding Power Smart to look at why so much power is used in this province. In the residential sector many people probably already know they waste power when heating their homes but they can not take advantage of the few upgrade incentives that are available because they can not afford to pay for the initial work that has to be done in order to get the rebates.     In other jurisdictions power use assessments plus heating, hot water, and insulation upgrades can be done with a loan from the power company with repayment done via monthly power bills which use the difference between the previous average bill and the reduced bill due to upgrades, to pay back the loan. Money spent on a program such as this in BC would save people money, reduce greenhouse gases, and reduce the load on BC Hydro's generating infrastructure. A similar program could be brought in for the industrial sector.  </p>
<p>BC Hydro should investigate development any remaining affordable, clean, firm hydroelectric generation options to support future economic growth (e.g. resource extraction and hydrocarbon export). Natural gas generation should be avoided, except for capacity purposes and in areas where it is unfeasible to extend the existing</p>

transmission system.
What I think would help hugely is if B.C. Hydro could help fund the creation of a relatively inexpensive wind turbine for home use. Anyone with a bit of land could have one in their back yard, then, to help lower their home's reliance on the grid. We sure would ... and we only have 1.39 acres.
Site C and LNG are serious errors, the former flooding prime agricultural land and displacing people with a long history in the region and the latter, binding us to fossil fuels for a long time. This is no way to prosperity, selling out the generations to follow for short term prosperity.
Our level of support entirely depends on the level of integral and meaningful accommodation, compensation and participation of BC First Nations.
Conservation and clean renewables are the only solution to what was so aptly called this "long emergency" we all face. To be abundantly clear, I refer here to climate change and our consumer lifestyle, they are thoroughly tied together and may well lead to an unimaginably broad and deep crash.
This province already has sufficient sunlight and wind, not to mention tidal power, to account for a significant portion of our power needs. Drier (read: solar) summers, and wetter (read: hydropower), stormier (read: wind power) winters as is predicted for this province will ensure investments in a variety of renewable energy sources will pay off in the long term, without adding significantly to the GHG emissions problem. Why aren't we leading the world in renewable energy innovation?
Again, more focus on sustainable renewables such as wind, solar, and tidal is needed.     Site C should NOT be built.     Conservation efforts should be stepped up. Prices should be raised to give consumers a real incentive to conserve. Right now, electricity is too cheap for consumers to care about conservation.     Thanks for the opportunity to provide feedback!
I know that many people are very skeptical about the LNG project for one reason or another. Environmental issues (like the fracking process) are very troublesome. The economical factors are questionable because the Big Plan is not for Canadian use of Natural Gas but to export this product overseas; I understand that natural gas is a relatively easy substance to attain world-wide and that, unlike oil, it is not a precious resource. So how much guarantee do we really have that this will be a profitable venture, especially when it is fraught with controversy already? The global concern of the use of fossil-fuel energy is tantamount. I think it is unfortunate that our BC Hydro is supporting LNG.
BC Hydro should not be picking winner or losers in the private sector and that is what it is doing when it considers working with one industry to meet their needs.     Ideally 100% of all new power generation should be coming from the private sector. LNG developers should be working with private power producers to bring their needed power online

Do NOT build the Site C Dam.
Please invest extra resources and finances into sustainable industries: wind, run-of-river, tidal, etc.
I DO NOT support LNG infrastructure development, or natural gas development. I DO support wind and other renewable energy sources, as shown by evidence-based research.
It is time to consider the local inhabitants of the area you want to impact with dams.   Please instead only build wind farms and solar areas to generate electricity. This will   create the electricity you need and help the locals with payment for the use of their land.
Do not support any Hydraulic Fracturing.
All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.
Generally, I believe that BC Hydro should move toward sustainable forms of energy, and put a much stronger emphasis on conservation -- making more efficient use of the energy resources we have -- especially through pricing policies -- and should avoid building another Site-C dam.
I am very concerned over the expectation of a booming LNG industry and the associated increase in natural gas power generation to support it. This is just adding multiple sources of climate change both locally and globally.   B.C. and BC Hydro are in an excellent position to lead the world on clean power generation and a whole industry can be developed to support our economy if we were less focused on short term dirty industry such as LNG.
Clean energy first last and all ways

<p>The IRP process should use the opportunity to do something profoundly positive for our future, the opportunity to turn cynicism into hope. Sadly, the IRP as a whole represents a failure of vision. While its intention is to focus on the future it fails to consider innovation and the paramount need to be able to adapt to an increasingly unpredictable future. It relies on old technological approaches rather than showing the way to a better energy future. We need to put BC on the stage as a global leader in alternative energy technologies and develop the jobs for British Columbians that a green economy would create.     There are significant problems with the IRP’s public consultation process. For a document as large, dense and technical as the IRP to be genuinely studied, understood and commented upon by the public requires a much more inclusive process. Specifically: the public has not been made sufficiently aware of the consultation process, its time frame nor its importance; the IRP doesn’t clearly identify assumptions behind its recommendations; the timeframe for the consultation period is too short and does not allow sufficient time for people to digest and comment on the information in the IRP; the small print caveat in the consultation form that disallows self or third party identification is inadequately explained and could invalidate comments without notification to the commentor: and finally this process fails to allow the public to see, in a timely manner, the comments that others have made. The IRP’s public consultation process is not enough to test the IRP as thoroughly as is needed. To have credibility as a reliable planning document the IRP must be referred to the Public Utilities Commission for thorough review and effective public consultation.     The IRP should include development and implementation of alternative, “green” sustainable technologies and energy supply rather than mainly focussing on hydroelectric power production. Even though hydroelectric power is seen as a relatively low GHG producer, large dams do produce significant GHGs in the form of methane. The risks to the environment from building new hydroelectric facilities such as Site C Dam are unacceptable.</p>
<p>Conservation trumps increasing supply. Charge for power at peak rates and usage will fall.</p>
<p>Our existing hydro resources are ample or close to it. Use smartly. Explore alternate energy sources. Conserve. Forget IPP.   Stay away from fracking for gas. Work well for the taxpayers of BC. Remember your children and grandchildren.</p>
<p>Where do we look at what others are saying</p>
<p>If humans are to have any future in the Web of Life of this planet then we have to move swiftly away from fossil fuels and climate destroying dams/reservoirs, use LESS energy and find truly clean green ways to capture what we need. Unfortunately the direction the federal and provincial gov’ts, and BC Hydro is heading is powering us into extinction. Time for radical change, NOW.     All comments should be viewable by the public, let the discussion roll.....</p>
<p>Can comments by the public be made available to the rest of the public? I'm concerned that we'll never be allowed to see the comments and will be forced to take the provincial government's word for what the public actually said.</p>
<p>Where is the link to comments by others filling out this form? There should be a page where comments are available to view by the public.</p>
<p>BC Hydro must do what it can to nullify all the IPP contracts in order to reduce its financial obligations to these private power companies. With the massive debt accumulated through this highly questionable obligation, a once profitable corporation is now in serious financial difficulty and the taxpayers of BC are the ones now burdened with the costs of supporting these unreasonable contracts. It is highly unfair to see our hydro rates being increased to pay for the Liberal governments desires to support private corporations. Further expansion of</p>

<p>energy production based on a very questionable LNG industry is most unwise.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>It would be useful if submissions through this web form would be published for public information, as soon after the input period closes (today, 18 October 2013) as practical.</p>
<p>Planning for anticipated high growth in such things as coal mines and LNG was, many years ago, a smart way to operate a business like BC Hydro. However we face a new reality today. A reality that is quite terrifying for future generations, We must start changing the ways we do business in order to prevent our climate from becoming hostile to civilization as we know it.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.    </p>
<p>I am a citizen of British Columbia who greatly values the diverse, beautiful, life-giving wilderness and natural environment of this province. Please do not destroy it by continuing to explore natural gas options. We need to find another way to provide power to British Columbians and encourage conservation and reduction of consumption. Please do not construct the Site C Dam. Doing so would destroy a large chunk of BC's natural heritage and arable farmland. Instead, continue to upgrade existing hydro plants and let's get out of this natural gas business. Please be compassionate stewards of the land. You have the power to do it!</p>
<p>Please make all comments from the public available online as soon as possible. Thank you for providing me with this opportunity to comment, but I have always supported conservation as the cheapest way to "generate" power. Please help put the resources to conserve energy in the hands of your ratepayers.</p>
<p>Please take care of the environment for future generations. Mother Nature is already angry making the world imbalanced due to global warming. We cannot afford anymore decline of nature's life that would cause the world's operant to crumble down such as the decline of bumblebees.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
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<p>We should also consider buying electricity from outside of BC as needed to avoid over building infrastructure.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>BC Hydro ought to be taking a long-term view of its work and role in our society.     Cost effectiveness is a low priority. Irresponsible consumer demand needs to be changed and improved for the better. Usage needs to go down. Investment ought to be made in upgrading and improving current infrastructure, rather than expansion.     COMMUNICATIONS ought to be improved as well. I learned of this incredibly important survey from a third party. BC Hydro ought to make more effort to actually get the voice of their users when making decisions.</p>
<p>It is important to plan ahead but if we are not looking at the effects of what has already occurred- for example the bad decision to introduce IPPs and if we are not looking at the need to be more responsible environmentally such as the deleterious effects that LNG brings with its use, then we are going to pay dearly for it.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
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<p>Comments should be made public. Also I saw nothing on new energy options... are you guys concerned in meeting our climate change commitments???</p>
<p>I am glad BC Hydro is asking the public these questions. All comments should be made public. The public should not be asked to pay more for power because of n increase in demand by industry. Industry should be fully paying for any new power that they need.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner.     Oh, and it's a bit too late now, but how about NOT</p>



<p>having wireless smart meters... they have racked up quite a large bill for BC Hydro.     For those of us that don't want a new smart meter: A great idea I saw somewhere online is "self-reporting" where customers go out and read their meter once per reporting period and report it online with their BC Hydro account. It could be verified once per year by a BC Hydro staff member for customers with a history of consistent usage. For new customers, or out-of-the-ordinary cases, additional verifications could be made.     Please seriously consider the above idea, as it is ridiculous to charge customers who don't want a new meter a monthly fee for someone to come read their meter.     Thank you for providing this survey.</p>
<p>We should be focusing efforts to develop new no- hydro power sources an power sources which will not impact any fisheries.   Site C is founded on 1950's mentality and false logic - can it. The cost of the flooded land far exceeds the future benefit of the power.   Why did BC Hydro abandon Geothermal development? Answer because it is BC HYDRO - a corporate oligopoly focused on Hydro. The same type of answer as to why the electric car was abandoned by GM.</p>
<p>It would be good if the public is able to see comments online, as is best practice for public consultations.</p>
<p>Best practices for public consultations enable citizens to see what fellow British Columbians have said. Why are we not being given this opportunity?     BC, Canada and ultimately all jurisdictions should adopt an approach of making decisions based on overall well-being, not on maximizing economic growth. There is lots of useful work that has been done to show us how to shift our economy towards a steady-state economy, based on measuring and fostering well-being. I recommend reading work by Herman Daly and Mike Nickerson for starters.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>Thank you for the opportunity to comment.   Please revisit consumer generation vs IPP rates. Work with the provincial govt with tax incentives for private generation such as solar.   Conservation and smaller generation such as private are two untapped sources of power that would be best priority to keep our province beautiful to visit and progressive in thought.   Get consumers thinking about time of day use and give them the opportunity with competitive rates for net metering, this will change behaviour and reduce the need for these massive infrastructures.</p>
<p>Comments by the public input should be made publically available in a timely matter so that British Columbians can see what we think and will enable us to see whether our input is considered. BC Hydro and the BC Liberals should listen to what the public has to say and reflect what we say in the final plan. The IRP should also have been debated in the legislature, which was prorogued BC-style. Very importantly, the BCUC should also review the IRP, including public input.</p>
<p>No fracking.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.  </p>
<p>Thank you for inviting comments - I will reiterate that no dams are needed, are necessary and all plans should be shelved indefinitely.</p>

<p>This is terribly important. Please, no Site C Dam.</p>
<p>We are a bit confused that BC Hydro is asking for public comment, but the comments are not public. Perhaps it's new to BC Hydro, but meaningful and effective public consultation involves collaboration and the sharing of thoughts and ideas in hopes of reaching the best outcome.     Please consider improving energy security through decentralizing future electricity production. All buildings "on the grid" can be a source of green energy.</p>
<p>All comments registered in this process should be made available for the public to see on-line, soon after they have been sent in. That is what happens during provincial and federal environmental review processes and that is what should happen with this process. There is no excuse for not letting the public see on-line in a timely manner what their fellow British Columbians have written. I am very concerned that we are not being given this basic right, which is a hall-mark of best practices in public consultation.</p>
<p>We would like to see what our fellow citizens are saying about this soon.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>I hope that BC Hydro will make the comments made by my fellow citizens available online, so we can all see the opinions expressed with regard to the actions laid out in this resource plan.</p>
<p>Residents of B.C., and B.C. Hydro have been ill-served by the B.C. Liberal Government.</p>
<p>It is a shame that public comments on this survey are not in fact being made public, the norm in federal and provincial environmental reviews and the open and democratic way to run the proceedings, especially as all comments are anonymous and so pose no risks to any privacy concerns. I can only assume that BC Hydro wishes to conceal from the public, the extent of the public's lack of support for BC Hydro's proposed policies, especially the expansion of the natural gas industry, because there is no other reason to alter previous policy and keep things private. Regardless, this is not democratic, and certainly does not foster open and frank discussion on the issues, and this is a shame.  </p>
<p>All the results and comments of this survey should be posted on the BC Hydro website. If this format is our opportunity to plan our future, it should be more open. It's unfortunate how uneducated how most British Columbians are. Instead of supporting fracking, I support respect for nature, and innovation for clean technologies. It would be nice to have someone making decisions from a more long term, spiritual perspective. Thank you</p>

<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>All comments made by the public in this consultation process should be made available on line for the public to see. Federal and provincial environmental review processes allow for this and I see no reason why the public should be denied access to this information. Thank you for your interest in our opinions.</p>
<p>Everyone should be able to see all the comments being submitted online, in as timely a manner as can be done. And who made the comments as well.   BC Hydro should belong to the citizens of BC, not the corporate interests.</p>
<p>Dear BC Hydro: All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.     Sincerely,   Michael Krisinger, PhD   UBC Department of Biochemistry</p>
<p>Comments: All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>Please stop the Site C Dam from being built!</p>
<p>Again terminate as many IPP's as possible and for sure leave the Peace River free.. Get more power via the Columbia River Treaty when needed and continue with incentives for all three user groups to conserve.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
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<p>While it is great you are conducting this survey, it does effect and concern us all, therefore it would be good to see the results of these surveys online....thanks! Also, it would say alot for the company to see a company take a stand, set an initiative and follow-thru on their promises to ensure a healthy sustainable development....looking forward to continuing to do business with you!</p>
<p>If you believe our children and grandchildren have the right to a climate -- and a world -- that is as much like our own largely benign one as is still possible, we must refocus on replacing GHG-producing sources of energy with clean energy immediately, without any delay. Hard though I find it to believe that human beings can be this destructive, dirty, carbon-based energy is going to be produced elsewhere, to the great detriment of future generations, for years. Let BC become one of the leaders in the exciting and necessary transition to the safe energy systems of the future.</p>
<p>Keep our power PUBLIC, No LNG we can and need to do better - a FULLY public BC Hydro can come up with more progressive ideas than what you have presented here. Restore BC Hydro to the fully public utility it used to be and come up with some good ideas that won't destroy our future by contributing to climate change.</p>
<p>Why are we not investing in new clean, green alternative energy? We are in the midst of climate change and must reduce green house gas emissions.</p>
<p>This plan is based on a number of assumptions that cannot be supported. We can learn to live within "our energy means". We must leave a province behind us which will be good for many generations, that will not increase global warming, that will protect species, needed agricultural land, and that puts life ahead of profit. Most of what we hear about these days can be summed up in the word 'greed'.</p>
<p>ALL comments made by anyone in this process should be made available for everyone to see online after they have been submitted - and before any decisions are made by BC Hydro or the government. We should be able to see what other British Columbians (and non-British Colubians?) are saying so that we may judge the wisdom of final decisions.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>All comments made by the public in this process should be made available on line for everybody to see.</p>
<p>I think my opinion was expressed in the previous questions</p>
<p>I have been tremendously disappointed in BC Hydro for all the huge future debt that you have incurred for me. The transmission lines for mining, and the IPP golden contracts. I realized all this was driven by the Liberal govt. but still it is us rate payers whose Hydro bills jump up every year that have to pay through the nose. I used to be proud of BC Hydro which generated reasonably costing power to the province. Now I feel it has been totally prostituted.</p>
<p>Stop trying to implement old technology "solutions" which wantonly destroy the environment. We are not the only species on this planet, and if we don't want to become the only species on this planet left alive, we must protect the environment, not use it up more. As mentioned previously, develop space-based solar as the ultimate clean, renewable, unlimited power source. It's within our grasp, if only the entrenched "powers that be" could be convinced to release their death grip on damaging power infrastructures.</p>
<p>Want to see BC move towards clean energy and away from fossil fuels</p>

Natural gas is a solution to nothing. Clean energy does not include natural gas. Renewables is the future.
I strongly encourage BC Hydro to adopt policies that advance BC towards sustainability. BC Hydro can display greater leadership by cautioning society and the BC Government that the current societal / economic model of infinite growth eventually leads to the collapse of civilizations. It always has and it always will on a planet with finite resources. I know BC Hydro would prefer to believe such actions are beyond its scope. However, if we simply defer to the leadership of politicians, life for the inhabitants of this planet in the not so distant future will become increasingly challenging to put it mildly.
BC needs to be free of fracking and non renewable, toxic energy plans!
CLIMATE CHANGE IS COMING LIKE A RUN AWAY TRAIN. WE NEED TO STOP THIS MADNESS. LNG EXPORT, AND MORE MEGA-HYDRO WILL GUARANTEE WE REACH THE TIPPING POINT OF CLIMATE CHANGE CATASTROPHE. PLEASE LEARN THE SCIENCE, DO THE MATH, AND ACT WITH THE BEST INTEREST OF YOUR GREAT GRANDCHILDREN AT HEART. WE DO NOT HAVE ANOTHER PLANET TO OFFER THEM AFTER WE WRECK THIS ONE.
Other sources of energy, to compliment the existing infrastructure, need to be explored and included in this survey. They include solar, wind, tidal and geothermal.
I am alarmed at Hydro's lack of discussion/admission of the environmental unsustainability of the proposed Natural gas procurement method ie fracking.   I am waiting, as are others, for a comprehensive (zero whitewashing) carbon footprint assessment of the procurement and shipment of all materials to the site c dam, loss of green due to cement elements being stripped, loss of green due to flooding, and due to hydro shipment grids, electricity and gas used to power construction, building of residences to support workers, travel of workers to the site and away for leaves.....and more! No one I know believes that the electricity that would be achieved is for us citizens. I believe steadfastly that site C will cause more damage that it can ever compensate for.If I wanted to live in China, I'd move there.
BC does not want LNG. The fact that you are even asking about it shows that you think LNG will happen in our province. The people don't want it, our government is acting on their own interests and if you listen to them, that also means you aren't listening to the people. Who do you really care about? Your own income? Or your family or kids future? There is no future if there is anymore LNG in BC.
There are many problems with the IRP as we move into an energy future that has tough limits to the amount of fossil fuels we can consume. By working with the LNG in a capacity that will increase both the production and consumption of fossil fuels, BC Hydro's IRP will unfairly burden society with a higher carbon footprint, and the associated costs of climate disruption on industry, infrastructure, and society at large.     The IRP report is also flawed in its basic forecasting. Referring to page 68 of BC Hydro's 2013 Annual Report "Domestic revenues comprise sales to customers within the province of British Columbia and sales of firm energy outside the province under long-term contracts that are reflected in the Company's domestic load requirements", there is a perception that the BC local demand forecast has been padded with out of province sales. By misrepresenting BC's current domestic power requirements, future demands are significantly overstated, even with the widespread adoption of Electric Vehicles which is thought to be less than 4% of overall demand. Demand has actually stagnated for many years, which is not what the IRP is communicating. Poor demand forecasting in past has led BC Hydro to a recommend action #5 of the IRP: Investigate incentive-based pricing mechanisms over the short term that could encourage potential new customers and existing industrial and commercial customers looking to establish new operations or expand existing operations in BC Hydro's service area. This action is say's "please help us use our surplus, we'll cut you a good deal to help us balance our poor financials".     To my mind,

<p>BC's electrical infrastructure should apply itself without delay to assisting society to transition from fossil fuels to renewable energy. The first strategy should be to pursue aggressive conservation targets. This will save society lots of money while stimulating a green economy in conservation work. Local demand should be resourced with renewable energy in the emerging micro-grid model for carbon free energy and grid security in uncertain and disruptive climate conditions. This should be done in partnership with communities as BC Hydro helps empower local economies and local energy stewardship.     Our great heritage assets should be used to firm the renewable supply, and surplus from conservation and local renewables should be used in a coordinated strategy to help take coal and natural gas fired power plants off line throughout the North American electrical grid.     Many industry watchers are saying that the traditional utility model is out of date, similar to way telecommunications infrastructure was transformed by technology. BC Hydro's IRP plans try to repeat the past successes of our heritage infrastructure at the same time that the traditional business model is being found to be broken. Trying to grow our way out of BC Hydro's financial woes is a very near-sited approach to responsible utility practice: good utility practice of the 20th century is unlikely to hold up in the 21st Century.  </p>
<p>I don't want to see the LNG industry powered by burning natural gas when we have more than enough hydroelectric and wind power.     I don't agree that natural gas electrical generation should be considered. Government has acknowledged the GHG emissions have to be managed down. What we now need is some leadership to actually make the tough choices.</p>
<p>Although Matsqui has answered neutral - don't disagree or agree - it will be a matter of meeting with Matsqui to be determined either way.     Need to call,write,email Matsqui First Nation to conduct a meaningful consultation meeting</p>
<p>I want to see the LNG industry powered by the plentiful hydroelectric and wind resources we have here in BC.     I don't agree that natural gas electrical generation should be considered. Government has acknowledged the GHG emissions have to be managed down. What we now need is some leadership to actually make the tough choices to reduce GHG emissions.</p>
<p></p>
<p>Divest of energizing fossil fuel projects.   Invest in planetary-responsible renewable energy projects.</p>
<p>at this time the only aspect of your presentation that i can truly support is Conservation.   You have not included enough other data to convince me that you know enough about our future as a population to trust your judgements and recommendations   There is no accompanying sociological studies as well as scientific reports from climatologists and many other fields of research   I keep abreast of trends through many sources and see a different future than what has been portrayed here.</p>
<p>Very disappointed in how little you have in the plan for green energy initiatives. Also, you should be publishing the comments and results of this survey. Finally, you should have let every British Columbian know about this survey! Given your lack of publicity, your respondents will be extremely limited and therefore your results should be suspect.</p>
<p>The main comment I have is that humans as the stewards of this planet, our home, need to think differently, beyond the money, to how to put in place the already existing technologies of solar and wind power, and stop ruining our waterways with dams, and stop fracking as well.   Thank you.</p>
<p>One might look into new energy sites like Peswiki or similar ones to find out how they will change the future. Hydro and Gas and Oil should be looking more into investing in these new energies so as not to harm our economy and have a gradual change to them so that no one is economically hurt.</p>
<p>BC Hydro should never burn natural gas as that creates pollution and carbon emissions. Only renewable should be considered.</p>
<p>Please do not sell out the heritage of our children and grandchildren. This will not benefit BC nor the economy in the long run. It is a bandaid approach and I have faith that our politicians are smarter than that. This is short term gain for long term pain. Re-think this issue. You represent the people so please do not sell us out!   T</p>

<p>Again, BC Hydro's plans to support the energy needs of the LNG industry is the WRONG direction. BC Hydro should not support LNG in any way. The majority of British Columbians are against it and it is damaging to our climate, water and health. Please strengthen the aspects of your plans that support sustainable energy generation and use and abandon short-sighted, harmful solutions like propping up fracking. Sound Science, responsible policy, and public support is NOT on the side of LNG development and BC Hydro needs to plan accordingly. Be a leader in green energy and find equitable ways to make it affordable. The time is now.</p>
<p>The context of solving future power demands to satisfy LNG is seriously flawed. The shale gas should be left in the ground, it is worse than coal for total CO2e emissions. BC needs to do a U-turn on this issue of resource extraction and exploiting our environment for the profit of a few foreign Corporations.   The brighter future is clean renewable energy generated on site, not large Central distribution models from last century. BC Hydro should raise rates, provide large incentives to conserve, and stop subsidizing the fiasco of LNG. BC will learn to conserve when the policy shifts to 20-cents/kwh with large incentives. LNG is a dead Industry walking, it has contenders with Wind, Biomass, and Solar now which continue to be more affordable. The cost of Solar has come down over 99% in 35 years, from \$77/w in 1977 to just 0.58/watt in 2013. Solar will reach parity before LNG plants are completed or can begin to ship. BC Hydro needs to stop listening to LNG promoters stuck in 19th Century resource extraction models, and look at the economics of a New Green Economy for this 21st Century.</p>
<p>Think of the environment you are destroying and what our children with inherit as the world warms, acid seas rise, they have no drinking water, etc.</p>
<p>I did not favour the privatization of BC Hydro. I do not approve of the cost for management of this poorly-managed enterprise. I do not think that future generations are on the radar of this company in terms of clean air and water...the basics of a future generation's needs.</p>
<p>no more flooding of fertile valley agricultural land. build small affordable dams. plan for dam failures. site c was risky years ago, and probably still is.   have you included the prospect of increased rainfall in your projections. we experience more rainfall it seems year after year, and you need to think of ways to capture more of this. how about roof top reservoirs that will provide trickle down baseline power for essential power. tide power. compost power. waste heat recycling power. as you can guess. I want you to be greener.. much greener. I want you to stop subsidizing industry. I want you to stop buying any dirty power from outside sources to meet peak demand. just raise the price at peak times. but not without letting me know when peak times are. I will take a nap then. and most important of all.....I want to know what other British Columbians are saying.....I think there are a lot of smart and learned people out there who have made comments that I would like to read. I am not sure, but I suspect that there has been mismanagement at hydro, and I don't like paying the piper going forward. I want more oversight. you should never have settled with California. I would rather have the liability on the books, and the money in my pocket. dam the banks. don't dam the rivers. plan for successful conservation efforts going forward.</p>
<p>Regional Energy Planning is needed - the gold rush for IPP development has gone on long enough. Every significant flow in the Lillooet River watershed is under application for an IPP, and there are no comprehensive cumulative effects studies. The IRP must identify regional energy planning as a priority and put a moratorium on IPP development.</p>
<p>The plan is to make you lot rich while we lot pay for it. Very clever and despicable.</p>
<p>BC Hydro should either itself develop, or financially encourage 3rd party IPP development of geothermal resources, the most environmentally benign potential for additional electrical generation.   BC Hydro should provide a feed- in- tariff program for small scale solar PV electrical generation to encourage a distributed energy generation system, such as occurs in Ontario.   Wind farms should be further encouraged, with strong</p>



environmental safeguards and sensitivity to local concerns.
All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.
All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.
We need to be getting into the 'green' technologies in BC in a much bigger way. It seems we've missed the boat on being a world leader and developing them, so why not look at other countries and see what they've done. Both China and Germany, as well as many other countries are using much more sustainable power than Canada is. Solar energy and wind power is widely available. Properly siting sustainable energy sources and facilitating connection to the existing grid could provide clean, renewable energy without destroying the environment. We need to change our view from the quick fix of petroleum based energy to sustainable, clean energy that supports our hydro power rather than depleting and negating it.
All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.
BC Hydro's mandate should not include supporting an LNG industry that is environmentally harmful and has a questionable economic future. It is ironic that "Supporting LNG" comes before "Conserving First" in the tag lines above. It appears to reveal a truth about what really comes first in this plan.
Although electricity is useful, we have become irresponsible addicts and this does not bode well for a bright future. An entirely different paradigm is needed in order to survive the next 100 years. Lets start now.
All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.
BC has already had cost effective hydro generation in place without LNG and small river projects given away to foreign corporations. Stay away from site C as it will cause environmental devastation. The same goes for LNG/fracking. Small river projects are also ecology destroyers. All was well 10 years ago.
1) Encourage conservation, time-of-day pricing, charge industry more to force them to conserve too.   2) Stop use of herbicides such as Roundup, Garlon, Vantage, 2,4-D and others on transmission line routes.   3) DO NOT build a new dam at Site C on the Peace River--it would irrevocably destroy habitat and farmland and have injurious downstream effects   4) Rescind and revoke IPP contracts that compel BC Hydro to buy power at

<p>inflated rates from Ruin of River projects.   If BC Hydro needs to do something, it encourage the decrease of energy use. There is no excuse to build more generating capacity when we use more energy per household and per capita than any other country in the world:   <a href="http://shrinkthatfootprint.com/wp-content/uploads/2013/02/household1.gif">http://shrinkthatfootprint.com/wp-content/uploads/2013/02/household1.gif</a></p>
<p>I have not heard a single mention of subsidizing ordinary citizens with the installation of Solar or to investigate wind power or tidal power.   You are still asleep at the switch and are preparing to enslave us and future generations (should we be so lucky as to live this long), only to support the greed of the fossil fuel industries.   At the rate at which BC Hydro/Christie's government /Harper are hell bent on destroying every life support that we have   none of us may have long to live. My recommendations: WAKE UP! WAKE UP!</p>
<p>Since this a rare moment to be able to comment on future projects and actions I would like to have the public view the comments and decisions after this is completed.</p>
<p>Thank you for this oppportunity to fill this out.</p>
<p>Generally this IRP is out of step with conservation and GHG targets except the part of the plan to continue Power Smart initiatives and price power based on time of use. The development of power infrastructure to support non existing LNG facilities and to provide cheap power to polluting mines, especially coal.mines is not the the path to a sustainable future. These plans are more of the same old story that needs to be superceded by a steady state economy.</p>
<p>I suggest that the results of this survey be placed in the public domain, for people to see across the Country or in other Countries.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation</p>
<p>It would be good to see what other people write, it should be an open public consultation. That's honest.</p>
<p>Comments: All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.  </p>
<p>I appreciate the opportunity to comment and make my beliefs known. All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>

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<p>Please do not go ahead with this Site C damn project. It is so short sighted as to be unbelievable.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>BC Hydro management is on entirely the wrong course and should switch most of its resources to conserving energy and restricting development to areas within easy reach of existing power supply.</p>
<p>I view BCHydro's planning as an oxymoron. It implies that we are too power hungry and yet wants to fill demands and increase supply at any cost. The billions spent on line extensions and dam construction (supporting big industry and planning for the 'unexpected') could be used much better in developing true clean energy sources - now &amp; in the future. This seems to be the consensus with most people I know, but I am afraid these voices don't reach top level management or government.</p>
<p>Open process for environmental reviews and public and first nations input . Our future existence will depend on clean water and foods from our lands, rivers and oceans - we need to have food and water security policies not just a mad rush for megaprojects .</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation</p>
<p>BC Hydro, the gem of the BC Crown is a gutted image of what it was and should be. I strongly feel that the public utility should not subsidize fossil fuel industries like coal mines, LNG plants, pipelines (gas and Bitumen). The NW Transmission line is a profound disaster and another flagrant subsidy to the mining industry. And I am not even mentioning the Powerex scandal and the uncovering of the outrageous number of BC Hydro employees pocketing more than \$100,000/yr. The utility o longer serves the public and has lost the public trust. This has to change.   Further, I would like comments received for this consultation process be available on-line.</p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>Make comments public.</p>

| Comments to IRP 2013-10-14 | As part of our mandate, we invest in renewable energy projects. One such investment is in a wind project located on the coast of northwest British Columbia. We have been developing this project for a number of years with our partner and the local First Nation and have invested several million dollars to date. | We provide the following comments concerning the Integrated Resource Plan (â€œIRPâ€): | First, we recognize that BC Hydro must balance competing interests when developing the IRP, including providing affordable pricing to end-users versus reducing greenhouse gas (â€œGHGâ€) emissions and other environmental impacts caused by power generation. | Furthermore, we understand the Provinceâ€™s desire to encourage economic development, including development of liquefied natural gas (â€œLNGâ€) facilities. | One such competing interest is the LNG developersâ€™ desire to obtain the lowest cost for their electricity consumption in order to remain competitive on world LNG markets, balanced against the need for them to pay for additional infrastructure (both generation and transmission) required to service the additional load which they bring to the grid. | However, the LNG developers have been able to obtain some very significant concessions, including the ability to generate some, if not all, of their electricity requirements by burning their own natural gas (both compression load to cool the natural gas into liquid form and non-compression load). In particular, we note the following: | 1. Section 8.3.2.2 of the IRP states that, with regards to supply of electricity to LNG facilities: | â€œFuture LNG supply, as per the British Columbiaâ€™s Energy Objectives Regulation and to ensure supplies will continue to make LNG proponents cost-effective, can be a mix of clean or renewable and natural gas fired generationâ€ | 2. Chapter 7, Table 7-2 at Page 7-61 of the IRP states: | â€œAny use of natural gas-fired generation will be planned in such a way to achieve the 93% clean electricity objective for customer demand outside that designed to serve the LNG industry on the North Coast. In July 2012, the British Columbiaâ€™s Energy Objective Regulation was deposited, which modifies the CEA Chapter 2(c) objective by providing that electricity to serve LNG demand is not included in the 93% clean or renewable target. Refer to Chapter 1.2.4 in Chapter 1. This enables BC Hydro to ensure the LNG industry is competitive with other self-supplying LNG plants, while allowing for the use of cost-effective clean or renewable resourcesâ€. | 3. In other places in the IRP it is stated that natural gas fired generation is to be preferred because it is lower cost and can be brought on line more quickly than clean or renewable generation. | 4. As identified in the IRP, in 2012 the Provinceâ€™s Energy Objectives Regulation modified the energy objective in section 2(d) of the B.C. Clean Energy Act, (â€œCEAâ€) by providing that electricity generated to serve LNG demand is not included in the 93% clean or renewable target. | 5. The LNG Strategy states that: â€œTo offset the increased expense of operating new LNG facilities in the Province, Government will ensure that LNG developers contribute capital for infrastructure development and to the electricity supply required to serve each operation.â€ | We refer to the recently issued Tides Canada report which says that current plans by the LNG industry would emit three times more carbon into the atmosphere than other world-leading LNG operations. We urge the Province to stick to its pledge to build the cleanest LNG industry in the world. | This is an opportune time to require a mix of natural gas fired generation, together with clean and renewable generation, to service this load. It is not apparent that there is any real balancing being taken into account, but only a focus on price to the exclusion of increased GHG emissions and other environmental considerations. | BC Hydro has the ability to influence this process when entering into electricity supply agreements with LNG proponents. (See IRP Section 8.3.1.1 lines 14 to 17.) | There is also an opportunity to further the energy objective set out in Section 2(1) of the CEA to foster the development of First Nations and rural communities through the use and development of clean or renewable resources. BC Hydro notes that it has been engaged in consultation with First Nations since the spring of 2012 in the area regarding the potential supply of electricity to LNG proponents. We encourage BC Hydro to continue down this path as it may lead to reduced GHG emissions and also result in First Nation support for the Provinceâ€™s LNG initiative. | We support Recommended Action 11 in Section 8.3.2 of the IRP that BC Hydro explores clean or renewable supply options, in particular in the North Coast region, if LNG demand exceeds available resources. | |

All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.

<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>THIS IS A UNIQUE TIME FOR BC \Hydro to take a comprehensive look at existing projects, such as Run of the rivers, and at proposed projects LNG and Site C dams and apply the international interpretation of the precautionary principle. If this were done, the Run of the rivers would be discontinued, and the LNG and Site C would not proceed; Instead BC Hydro should look to the future which is socially equitable and environmentally sound renewable energy and conservation and no longer displace funds on false solutions.     THERE MUST BE AN AUTHENTIC ENVIRONMENTAL ASSESSMENT OF ALL PRESENT AND FUTURE PROJECTS   PROCESS AND IF THERE IS ONE, UNDOUBTEDLY RUN OF THE RIVERS WOULD BE DISCONTINUED,  AND LNG AND SITE C WOULD NOT PROCEED.       APPLICATION OF THE INTERNATIONAL INTERPRETATION OF THE   PRECAUTIONARY PRINCIPLE     An important principle that was agreed to at the UN Conference on the   Environment and Development was the Precautionary principle. The   precautionary principle appears in the following documents;     In the Rio Declaration all member states of the United Nations adopted;   this principle which reads;     Where there are threats of serious or irreversible damage, lack of full   scientific certainty should not be used as a reason for postponing   cost-effective measures to prevent environmental degradation." (Rio   Declaration, UNCED1992).       In the Convention on Biological Biodiversity, the adherence to the   precautionary principle is a legal obligation of most of the members of the   United Nation reads     Where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat       and in the UN Framework Convention on climate change there was the   obligation     to take precautionary measures to anticipate, prevent or minimize the   causes of climate change and mitigate its adverse effects. Where   there are threats of serious or irreversible damage, lack of full     Under article 6 are obligations for implementing precautionary   measures     6 3(d) develop data collection and research programmes to assess   the impact of fishing on non-target and associated or dependent   species and their environment, and adopt plans which are necessary   to ensure the conservation of such species and to protect habitats of   special concern.     To apply preventive and precautionary approaches in project   planning and implementation, including prior assessment and   systematic observation of the impacts of major projects;   (Chapter17 protection of the oceans,17.5. d)       There is sufficient evidence that there could be serious irreversible   damage, loss of significant biological diversity harm to marine life to justify   invoking the precautionary principle and prohibit the SITE C       THE HARPER GOVERNMENT HAS MISCONSTRUED THE   PRECAUTIONARY PRINCIPLE       The Federal Departments have serious misconstrued the precautionary principle and Canada is out of sync with the international interpretation of the principle     "œ The precautionary principle recognizes that the absence of full   scientific certainty shall not be used as a reason for postponing   decisions where there is a risk of serious irreversible harm       I.e. you do not have to wait until there is scientific certainty [that there will   be no harm] in order to decide to proceed.       Rather than the international interpretation; Where there is a threat of   irreversible harm, loss of biodiversity/ climate change, the lack of scientific   certainty- the threat will occur -, should not be used as a reason to prevent   the threat.  </p>
<p>All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.</p>
<p>Based on what I've seen in these questions, this plan needs a LOT of work in order to come into line with the current times and the future that awaits all of us here on the planet. Global warming and environmental destruction are running roughshod, and BC Hydro's plans as outlined here do nothing to address or mitigate these issues. They will only exacerbate them while leaving us no more secure than we are now.     This plan</p>

reads like it was written in the 1960s. It is the 21st century, and the planet is in trouble. Time to wake up BC Hydro!
All responses to this survey should be made publicly available and soon. BC citizens deserve and need to know what their fellow citizens think about their public utility: BC Hydro and its "recommended actions." Without question, BC Hydro should be protecting the interests of the public as well as thinking broadly about wildlife habitats, agricultural lands and sustainability. BC Hydro should also be doing its best to preserve our most precious natural resource in BC- our water. Instead, we can look at a track record of BC Hydro decisions, policies and practices that is truly shameful, based on profit rather than people. These so-called recommended actions appear to be looking backward, not forward to a clean, sustainable and healthy future for generations to come.
All this feedback should be available online for the public to read asap. It would be interesting and educational.
BC hydro - did not listen to us when we wanted to keep our old meters. It said it would and didn't. We need a new outlook. Not more of the same and not more radiation. There are many ways of creating power that are not being recognized. We do not want major wind farms. Large is a problem. Huge is a huge problem. There are creative solutions. Big is not better. We do not want to support the Prime Minister's short sighted shilling for gas and oil and exporting the raw materials for nuclear power. What has Canada become? Not the place I feel proud of. We have so much and so little integrity. We can do better than this.
LNG should not be supported by BC Hydro. LNG projects, if they proceed at all, should do so entirely at their own cost. They should generate their own electricity and pay carbon tax on all emissions, including fugitive emissions.
Where:   • The recommended actions in the IRP, by significantly reducing the role that wind energy can play in the future supply mix, do not reflect the importance of meeting the targets set by the Province for GHG emissions, and • the government's stated objectives to create the environmentally cleanest LNG that has ever been produced anywhere on the globe; and   • World class, large-scale wind projects can compete with other future supply options (including Site C) on price, value and risk,   the IRP should be amended to include competitively priced wind energy as an option for supplying future demand. The IRP should make wind energy an integral part of British Columbia's future supply portfolio by setting a goal of 17% of BC Hydro's total demand for electricity to be provided by clean and competitive wind energy by 2025. BC Hydro should be instructed to evaluate options considering price, value and risk to the Province, ratepayers and taxpayers. Value and reduced risk from world-class, large-scale wind energy projects originates from:   • Non-GHG competitive generation with price certainty;   • Opportunities for First Nations participation;   • Jobs, and investment;   • Broad distribution and sharing of benefits from resource development across BC;   •



<p>Experienced partners with the financial strength to assure project success;   â€œ Utilizing existing infrastructure and capturing system efficiencies;   â€œ Delaying the need for public expenditures on new transmission infrastructure; and   â€œ Diversifying technology risk and geography concentration within BC Hydroâ€™s portfolio.  </p>
<p>Changes to the IRP are necessary to preserve options for the development of clean competitive renewable energy on Vancouver Island.</p>
<p>I was horrified to hear the Minister being interviewed on CBC the other day. That leaked memo which led the Minister to deny that there was ever any serious discussion to raise Hydro fees to that incredible level 26% influenced my answers today. B.C.Hydro should not be a cash cow helping the Liberals to meet their budget objectives. It would be under these circumstances a tax on the public.</p>
<p>The public deserves and needs to know what BC Hydro is doing and planning and to have a genuine voice in decision-making. The public also deserves and needs to see the responses to this survey. Many BC residents believe that BC Hydro has never acted in their best interests or in the interests of future generations in this province. Nor has BC Hydro shown due consideration for preservation of the environment or protection of water itself-the most precious of our natural resources. We do need the SiteC dam, for example, and yet it will probably be forced down our throats, resulting in the loss of precious arable land, the destruction of habitat for multiple species and the disappearance of historical artifacts- all for the sake of profits.</p>
<p>Lets really make a concerted effort in conservation before we consider environmentally destructive and prohibitively costly projects such as Site C.   I am totally opposed to puitting all our eggs in the LNG basket especially before we have done the required environmental studies and have the blessing of First Nation. We are living in an age when we know better ....we need to move away from our dependency on fossil fuels. The recent report of the IPCC lays out these concerns very clearly and we need to begin making these changes now. I believe our present policy on LNG is irresponsible and uninformed and needs much more public debate and consultation.   I am urging you please do not go ahead with Site C!     respectfully,   Mike Gildersleeve</p>
<p>No expensive Site C dam. Buy cheap IPP power.</p>
<p>I had added statements . Any possible hope of comments back to verify your statements, claims or plans on why we need to expand now, our production of more power/hydro in the very near future and a verifiable why??</p>
<p>There is only one way for you to be economically and benefically productive and that is to focus on non-destructive, alternative technologies. Get some of the already practicing energy minds who are putting out energy efficient and alternative vehicles, products and powering up corporations together and get into the 21st century of benefits for all, not just the few. No more fish, birds, people, wildlife or air and water need to be destroyed in your processes.</p>
<p>I would recomend installing Smart People in BC rather that smart meters ,It seems to me that B.C Hydro need a complete overhaul as is getting clearer by the day ,that we're running down the slope loaded with explosives and no one has checked the brakes</p>
<p>Get real and look at alternative and greener ways to provide your services.</p>



<p>Please consider the vast technology that would allow Canada to be a real leader in sustainability. THINK Norway, Germany, think about our beautiful country. I would pay a significantly more for something better.</p>
<p>Unfortunately, our right wing politicians are a bunch of Quislings, and they - and you - have sold us out. As the then Lord Protector of the British Commonwealth, Sir Oliver Cromwell said, in the year of our Lord 1657 "Gentlemen! I beseech thee! On the bowels of Christ! Consider the possibility that you may be WRONG!"   I trust that this will not be considered "identifying third parties".</p>
<p>LNG means fracking, which means chemical pollution and radiation pollution, destruction of sites chosen, Hydro is completely mismanaged only care about enriching themselves with bonuses and stock in companies they do business with the whole lot should be fired and replaced with people who believe in public utilities</p>
<p>I have NO faith what-so-ever in ANY governments to do the "right thing"!!!   These people are bribed!   These people think it's OK to lie directly to the citizens of this nation!   END BUSINESS!!!!   Business is a lie!   Business is taught by the universities to rape and destroy the earth, our entire ideology MUST CHANGE!!   Voting changes NOTHING!!!   Voting merely keeps the liars, thieves, and cheaters in power!   If you vote you are an idiot, with no vision for the future!!!   End this tyranny!  </p>
<p>When you go to sleep tonight take a good long look at your children or your siblings children or your best friends children and remember the legacy you are leaving for them!</p>
<p>The presentation of this in its present mega form is very complex, and it should be taken apart and considered item by item instead of lumping completely dis-similar items together. Also, it needs to be simplified so that the general public can comment on it intelligently. Its hard to believe that with the latest reports on global warming/change, there is so much emphasis on more power creation and so little on conservation and clean and efficient creation and use of power. And so little talk about the cleanest and least invasive ways of producing power.</p>
<p>No more Dams! Do you people ever learn? Apparently not!</p>
<p>When moving here to BC was at first impressed by BC Hydro but years later am disgusted by the tyrannical high handedness of this corporation that cares nothing for the consumer other than to load bad management and bad decisions onto the consumer in constant rate increases. having lost a family member to a cancer suspected to stem from our ever increasing polluted environment we will not support anything that furthers its destruction.</p>
<p>- Once again, net metering is missing from this plan. While BC Hydro does allow net metering through their Interconnections department, it continues to be one of their best kept secrets, and most people are not aware that it is possible to do clean renew</p>
<p>I feel this survey I slanted towards BC Hydro. I object to the forced installation of Smart meters and the resulting cash grab by BC Hydro for those who don't knuckle under to their threats but that wasn't mentioned in the survey.</p>
<p></p>
<p></p>

| TO REPEAT, I DO NOT SUPPORT THE LNG INDUSTRY IN ANY WAY. | I DO SUPPORT USING GREEN POWER TO ADVANCE ALL OTHER POWER NEEDS.

I am sorry this comment form has only just come to my notice. How was it circulated? I haven't seen it until now. I wonder how many others missed it. | I am hugely worried that BC's natural resources are being given away to the .....bidder. I would like to say her to the present Governments friends. These resources were supposed to be her for us. The Government were charged with the care of the, "Crown Lands, the people's land. Not any more. I feel like the Province has a huge "For Sale " notice on it. Sell, sell, sell. What will be left. I live in a area of the sources of many rivers. They are all up for grabs it seems. We live there because we love the wilderness., the natural beauty, forests, animals, and eco systems. They are all under threat it seems, and I'm not sure who cares. It is definitely not the present Government, Bc Hydro has it;s arms tied, I used to believe in it, but not any more. It has been told what it can do and what it can't do, by a Government that doesn't care about anything except \$\$\$\$\$\$, particularly for their like-minded friends.







If BC Hydro wishes to appear future-focused, it may wish to give more serious thought and consideration to cleaner, greener means of generating energy in this province, such as via solar and wind power. Projects like the Site C dam show a callous disregard for the residents of the area that would be impacted, namely the First Nations people and wildlife, and for the environment and lands that would be destroyed. To go ahead with the project would be an abuse of the land and people in the interest of profit. It is time that this approach to power generation change.

All comments made by the public in this process should be made available for the public to see online, soon after they have been submitted. This is the norm during federal and provincial environmental review processes and therefore it should happen with this process. Participants should be able to see what their fellow British Columbians have written, online in a timely manner. It is regrettable that we are not being given this opportunity, as it is best practice in public consultation.

**INTEGRATED RESOURCE PLAN**  
**Meeting B.C.'s Future Electricity Needs**

**Public and Stakeholder Consultation Report**

*Appendix E – Other Written Responses*



## Email Comments BC Hydro Received During the IRP Written Comment Period – September 3 to October 18, 2013

**Grand Total: 308**

**BC Hydro received 270 duplicates of the following form letter:**

Dear BC Hydro Integrated Resource Planning Team,  
I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

**BC Hydro received 34 customized submissions of the above form letter:**

1. Dear BC Hydro Integrated Resource Planning Team,  
I am opposed to the plan to build the Site C dam in the Peace River valley. At a time when enlightened jurisdictions are removing dams why is BC Hydro trying to add one?  
Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78

First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species.

I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

2. Dear BC Hydro Integrated Resource Planning Team,

Like many British Columbians, I am opposed to the plan to build the Site C dam in the Peace River valley. I am sure many more would be opposed if these plans were made more public and transparent. Once again we are asked to sacrifice water, land, and environmental values to support the fossil fuel industry, which is unsustainable. Site C electricity is not needed for domestic consumption. Energy from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs; so much that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I STRONGLY urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

3. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley. This costly destructive and unnecessary project, which would have wide-ranging environmental and social impacts, will flood dozens of square kilometres and have negative downstream consequences. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

4. Dear BC Hydro Integrated Resource Planning Team,

I am strongly opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this

\$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

5. Dear BC Hydro Integrated Resource Planning Team,  
Why are you guys destroying the planet because of greed. There is enough electricity in our atmosphere to supply everyone and it's free. Get after it and stop this destruction. One day we will all be called to task for our greed and lack of ethics. You know this to be true.
  
6. Dear BC Hydro Integrated Resource Planning Team,  
I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.
  
7. Dear BC Hydro Integrated Resource Planning Team,  
I am totally opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill

water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy. This dam will cost us far more in the long run than will ever be recouped in the short term!

8. Dear BC Hydro Integrated Resource Planning Team,  
I oppose the proposal to build the Site C dam in the Peace River valley. At a time when food security issues are the norm for discussion, this mega project is a mega step in the WRONG direction. Site C electricity is NOT needed for domestic consumption. We now produce more than enough electricity for our needs. "Clean energy" from Site C will be used to power liquid natural gas production, an industry that BC citizens will be required to subsidize. My hydro rate will rise to pay for this costly, destructive and unnecessary project. As a citizen and taxpayer, I refuse to pay for this \$8 billion dinosaur to provide power to highly profitable multinational energy corporations. I feel sickened about environmental and social impacts for communities of the Peace River valley as a result of the project. Site C will flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. Site C will severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. Site C will destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project immediately and remove any future considerations for it from your Integrated Resource Strategy.
  
9. Dear BC Hydro Integrated Resource Planning Team,  
I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts

both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. Abandon the Site C dam project and remove it from your Integrated Resource Strategy.

10. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I am exceedingly agree that the Site C project team used our tax dollars to propagate lies and deceptions about the Site C project, rather than fairly educate BC taxpayers and citizens about the true reasons and impacts that this project will have on the environment, the people of this province, and the planet. I think that all of the people involved in hatching and disseminating this pack of lies should be jailed for treason against the people of this province. Where is justice and truth? I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

11. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize particularity when Site C was originally supposed to be for homes, not business. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations.

Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project(which would cause irremeable damage and many unknown, non-quantifiable consequences as well) and remove it from your Integrated Resource Strategy.

12. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy. Future investment in energy needs to be in solar, wind, and geothermal. These are money-making industries for BC and Canada. Thank you for having the courage to pursue these investments. And thanks for having compassion for your children's children...

13. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy

corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy. I've lived in BC all my life and know that Site C was twice refused for very sensible reasons. There are even more reasons now to reject this a third time.

14. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I strive daily to conserve my energy use because I care deeply about this planet and my province. If I can make daily sacrifices for the better of nature, then, I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

15. Dear BC Hydro Integrated Resource Planning Team,

This is a form letter. The last paragraph is my own. Please be aware that I have given my comments considerable thought. I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas exportation into a very uncertain market, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any



more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. It is important to realize that a minority judgement regarding any project being considered for building is not automatically the wrong judgement. There is so much about this project that needs to be brought to light, discussed openly and with thought for a sustainable future. The minority voices, those whose intent in the discussion is to protect our land, must not just be heard but given credence. In my view the conclusion can only be that this project is too costly, not just in terms of the building cost, but in terms of the extensive losses that will ensue in years to come. Losses that will affect the environment in its many aspects, our heritage, our food supply, and cause permanent damage to our communities in the north, (already under huge stress from resource extraction the profits from which do not accrue to regular British Columbians) Those of us who have worked for years to keep the valley intact do so on our own time without the resources that are available to BC Hydro. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy. The sooner this idea is put to rest the sooner the community of British Columbians can move to planning a sustainable energy future.

16. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. Alberta is building a natural gas electric plant for less than 2 billion dollars ( on what - 100 acres of land?)..Everyone immediately replies "greenhouse gas

emissions" - but what is completely overlooked is how much "anti-greenhouse gas value is being lost by flooding all of the extremely valuable agricultural producing land?" No one is even talking about what we lose when you flood so much land (including losing how many trees?) I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

17. Dear BC Hydro Integrated Resource Planning Team,

Sounds like a great plan, NOT! I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

18. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from

your Integrated Resource Strategy. I live in the Peace Region in Alberta and have experienced the effect of restricted water flow in the Peace River. Another dam will cause further impact to the environment and the farming downstream, all the way to the Arctic Ocean. This is not a responsible project on any front and may have devastating consequences.

19. Dear BC Hydro Integrated Resource Planning Team,

DON'T DO IT!! I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

20. Dear BC Hydro Integrated Resource Planning Team, I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon

the Site C dam project and remove it from your Integrated Resource Strategy. We can not eat power! Preserve the valley for FOOD!

21. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is NOT needed for domestic consumption. We know it is slated to power LNG and I am not willing to subsidize this industry. We are on to you: BC Hydro has an excess of electrical power and this expensive project will destroy important habitat and heritage sites. STOP! PLEASE abandon the Site C dam project and remove it from your Integrated Resource Strategy.

22. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

In addition to the reasons stated below, I think this 8 Billion would be better spent on a grant program which would allow home owners in BC to install GREEN energy systems on their houses, whether it be Wind, Solar or Thermal or a combination of all 3. The energy savings on residential usage would easily equal the output of Site C (or come damn close). In addition this outlay of 8 Billion dollars of taxpayer funds would go to stimulating BC businesses in the green energy fields rather than lining the pockets of the 1% through their global corporations which will take the bulk of the 8 Billion right out of the province and country. This focus on industrial style mega-projects is 19th century thinking that has been shown to be a colossal waste of money through cost overruns, fraud and outright theft. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

23. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

B.C. taxpayers will end up footing the bill for this \$8 billion megaproject. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have

wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

24. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power LNG, an industry that BC citizens should not be required to subsidize, and that should be passed over in favour of truly green energy sources. In addition, if required, more power could reportedly be generated from existing dams. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

25. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations for LNG production which itself causes serious environmental damage. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

26. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley.

Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In

fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. In addition, with the actual demand being located so far from the site of generation, I cannot believe that this would, in any way, be an efficient system. In any system, efficiency will be increased by generating electricity close to where it is used/needed, and there is an established approach when it comes to LNG - natural gas generation of the required electricity, and using natural gas itself to run the compressors. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

27. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley. Christy Clarke has said at least twice (newspaper and interviews) that this power will go to private companies selling LNG to Asia. Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

28. Dear BC Hydro Integrated Resource Planning Team,

I know nobody is reading this anyways, but know this. I am not a tree hugger. I eat beef and pork. I hunt and fish. I have no higher than a high school education. But at eighteen years old even I can see that the site C dam is an awful solution built on Cold War Era

technology. It is inefficient, expensive, and poorly designed. B.C hydro has been deceptive with both their data and their pitch of the damn since it was first announced. This is not democracy, this is not how society is supposed to function. A large chunk of taxpayer dollars come from northern B.C and I am one of many saying this is not how I want my tax money spent. The overall outcome, between this and poor wildlife management, is going to be eradication of Rocky Mountain elk and Mule Deer from the Peace River area. The moose will follow shortly after due to over hunting and predation. I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

29. I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. A chief concern of mine is that the dam would be located in an area of clay banks. The clay will build up and clog the dam in a relatively short time. Site C will have destroyed prime agriculture land and created unwarranted upset to the lives of those who actually live in the Peace country. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.
30. Dear BC Hydro Integrated Resource Planning Team,  
I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called “clean energy” from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and



unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy. As a person living on a farm, producing food for ourselves and others, I see the value of the prime farmland that Site C would destroy. It really is worth more than gold because of its potential. We need to think seriously about food production because so much land is being made unproductive.

31. Dear BC Hydro Integrated Resource Planning Team,

Please bring the BCUC back into the fold with regards to the proposed Site C dam project. A project of this magnitude needs the oversight and analysis that the BCUC can provide to ensure a fully transparent project proposal. There are too many factors: environmental, economic, and social to name but a few that all need addressing in a full public forum that is available to every British Columbian.

32. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption, but for industries. So long as we do not use marginal cost pricing to tailor demands to peaks, we will continue to seek excessive investments in capacity. We also need to get rid of current subsidised rates grandfathered to major industries. Over and above the fact that this project deserves no place in a sound economic energy policy, it also promises unnecessary environmental damage, loss of first nations cultural heritage, and reduction in high potential agricultural land, which will become more of an "economic" issue in the future.

33. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only

prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy. There is no logical argument FOR Site C. A review of ALL the facts easily demonstrates the costs far outweigh the benefits. So many other options are now available for producing energy. Look at the facts, think about the next generations, and the answer is easy. NO to Site C!

34. Dear BC Hydro Integrated Resource Planning Team,

I am opposed to the plan to build the Site C dam in the Peace River valley without a more transparent input and discussion option. Site C electricity is not needed for domestic consumption. The so-called "clean energy" from Site C would be used to power liquid natural gas, an industry that BC citizens should not be required to subsidize. B.C. produces more than enough electricity for our needs. In fact, B.C. produces so much electricity that as recently as last year, BC Hydro had to spill water over some of its dams, including the WAC Bennett Dam on the Peace River, because it could not use or sell any more electricity. B.C. taxpayers will end up footing the bill for this \$ 8 billion megaproject, providing power to highly profitable multinational energy corporations. Hydro rates would go up to help pay for this costly, destructive and unnecessary project, which would have wide-ranging environmental and social impacts both for the communities of the beautiful Peace River valley and for all British Columbians. Site C would flood more than 52 square kilometres of agricultural land, including the only prime farmland in northern B.C. The dam would severely impact First Nations, flooding 78 First Nations heritage sites, including burial grounds and places of cultural and spiritual significance. The proposed dam would also destroy critical habitat for at-risk species, significantly impacting wildlife connectivity and creating more potential for genetic isolation and the loss of species. I urge you to abandon the Site C dam project and remove it from your Integrated Resource Strategy.

**BC Hydro received 4 comments from residents:**

1. As BC Hydro is looking at a 20 year plan, I believe there should be more long term planning to phase in more solar, wind and green sources of energy. Germany has had a long term plan in the works for several years. "Germany has a goal of producing 35% of electricity from renewable sources by 2020 and 100% by 2050." Germany recently set a 23.9 GW worldsolar power generation record. That despite they don't have nearly as much sunshine as other countries. Ontario hydro as well has a long term plan which now allows consumers to sell back solar power they generate to the grid. Both Germany and Ontario has run into growing pains with the implimentation of their programs. But we learn from some of their mistakes, the benefits can be tremendous to future power generation. Solar is clean if it is done right. It is worth it to subsidize solar especially if the environment can be helped. Our climate is changing. Not having a plan somewhere in the next 20 years to move more to green energies, would be short-sighted. I believe we need to have a province wide goal on how to do that. In the short term of course natural gas and other sources of energy

generation are needed to get us through. But somewhere in BC's plan has to be a blueprint on how to get off of fossil fuels more and more and into green alternatives. The last several years has seen an explosion in the efficiencies of solar panels and generation. Storage is an issue but that will change. There will be a point in the next years where solar will be competitive and even cheaper than traditional sources. We need to plan for that and help the industry along. Perhaps Germany and Ontario went too far initially in the subsidies and taxes to move solar quickly. But it is undeniable that they have accelerated the clean growth of solar. They have become world leaders in solar and the world is learning from their experiences. China now is moving hugely in the implementation of solar after observing Germany.

2. I would like to see small tax incentives for the householder to get involved with solar. A larger amount that BC hydro pays to buy back individuals generation of solar power into the grid. It's a way for consumers to directly help themselves and the grid by providing power. Local generation of power can be much cheaper in the long run than building power lines and piping power from hundreds or thousands of miles away. We need a province-wide plan to slowly produce a larger and larger portion of our power through green technologies. A province wide plan instead of relying on smaller independent companies. In the short term a good solar plan will provide a small amount, but over the next 20 years it could provide massive results. Which is why I'm disappointed that really nothing substantial appears in BC Hydro's plan for renewables for the next 20 years. It's mainly about natural gas. Put it into the plan please. It can be done right if we learn from Germany and Ontarios mistakes. But they are producing results which are steps in the right direction which will help our energy needs, our environment, and our climate.
  
3. 1) LNG is a boondoggle. The energetics of it don't add up, and the world market is headed for record glut. Further, shipping LNG to Alberta's tarsands is sending gold to extract copper, at best. Shipping it to China is feeding a corrupt communist regime that's building empty cities while forcing the farmers displaced from that land into indentured labour - more like slave from the perspective of many of those on the losing end. We don't want to get involved in any of this. 2) Power Smart is exactly what's needed, but certainly not as presently delivered. BC Hydro needs to get the government on side re: making our Smart Meters truly smart by billing as they were meant to be used, not just a fancy upgraded meter that still has only two rates of billing not tied to time-of-day use. We know that Hydro's hands are fairly tied on this, but really, Clark and the Liberals need to show more hands-off respect for the Crown corporation and its decisions to run as efficiently and effectively as possible, which means eliminating waste in every part of its operation. This is what Smart Meters allow and must do. 3) Site C is primarily, and overwhelmingly, to support LNG production. It has very nothing to do with the power people throughout the province, particularly in the south, need to live and thrive into the future. Site C is part of the LNG boondoggle. Yes, it will provide a backup for the Bennett Dam, when it eventually fails (we know it has holes that require expensive shoring up), and it will take advantage of the head provided by the old dam, but it's old-think power production that will needlessly sacrifice a massively huge and important valley, for agricultural, wilderness, and cultural reasons. We can do better than this through green energy alternatives, which other countries are pioneering, saving us a lot of research and development costs. See last comments about conservation; Hydro needs to put even more effort into helping people get over their

energy-pig, wasteful electricity habits. 4) IPPs are another boondoggle. They were sold as clean ways, mostly through run-of-the-river projects, to bring power to communities. Turns out that they're massively disruptive of rivers, and especially destructive the road and transmission infrastructure beside the roads, ruining great swaths of wild communities to get the power to market. Further, the cost of power from these projects is ridiculous and so far out of line with other Hydro costs and services that they're a seriously failed experiment that must be curtailed and abandoned as quickly as possible. The costs of getting out from under this mistaken initiative are best paid, to keep from being robbed indefinitely by them. Please, no more IPPs. Hydro can do much better, as Hydro most certainly knows. 5)Why have you put these three things together? The first two make sense in terms of what you're asking, but slipping in natural gas development contingency power needs is spurious and disingenuous, based on the big 'if' of hugely expanding service to that industry in the first place. We don't need fracking and other forms of destructive, disruptive mining by Canada's cowboy standards that we get away with in other countries, to our shame, unless we can do it to a standard that Hydro can proudly serve. Hydro is being forcing into lapdog service to primitive, greedily resource extraction companies that have no loyalty to communities or the province, with the current government pushing Hydro hard to do as its bid. Hydro was made a Crown corporation to avoid, in large part, such political interference and to serve its shareholders and stakeholders in clean, progressive, honourable ways. Hydro can still do this, using the results of this survey. 6)Last Friday was the cut-off date, but given your poor circulation of this survey, perhaps you'll extend the deadline until at least today. Better yet, perhaps you'll extend it by another couple of weeks and redouble your efforts to get it circulating through social media and other means. Thank you for the opportunity to weigh in. This is vital stuff, and for all the ways that Hydro does great work and has the capacity to be a most enlightened electricity provider, great admiration and gratitude. Hydro is a major reason BC is one of the luckiest places on Earth, and we hope and trust that there's no further squandering of this through mega-devleopments for glutted, old-think industries, IPPs, and political interference. When you guys are good, you're the very best. Here's to your hard fight to keep BCH that way.and other means to make its case and hold to it.

4. Page 1: Strongly Disagree Reasons: The LNG firms are in the business of producing natural gas to supply their shareholders with monetary returns. The Government is not in that business. The LNG companies can pay for their won power lines, can buy our water (not freely haul it out of crown owned watercourses), and can pay full price for the electricity needed to run their enterprises. It is called the cost of doing business. For BCHydro to sell them power, at less than the rate that all BC users pay, and then ask BC users to pay extra to develop another dam and accoutremonts is reprehensible. Page 2: Somewhat agree Reasons: BCHydro has implemented good measures to bring the residential customers on side with conservation - smart meters and their readouts, paybacks on low electricity use furnaces, lights, insulation, etc. plus implementing stage 2 power use rates - higher than stage 1 rates. However, there has been no such measures for the industries using large amounts of power - in fact, there has been the opposite - lower and lower rates for the more power used by them. This is not encouraging conservation for such industries - LNG and mining being such prime industries. To build another dam - paid for by the citizens - and to encourage such rampant use is not energy saving. Page 3: Strongly Disagree Reasons: The Peace River valley and area is No. 1 agricultural land. The best in BC. Food security

is even more important than power. The highest and best use of the Peace River valley is food production. To destroy farmland in order to help an industry which is short-lived, capable of polluting vast amounts of clean water, and certainly not green (meaning it does not regenerate itself), when BCHydro is in the business of conserving (we are told) our natural resources, does not make sense. BCHydro has been making alternate energy in smaller, localized regions and should not revert to the mega projects when the economic viability of those projects (to make a profit without being subsidized) is simply not proven. Page 4: Somewhat agree Reasons: Cost effectiveness of EPAs is one good measure of energy production effectiveness. However, ensuring that the projects remain clean energy in practice should become a major goal of BCHydro. If any of these projects cause degradation of the local environment, that should be written into the "cost" of that energy. Before the Environmental Protection scientists roles were redefined, they did that assessment work for the province/country in an "on the ground" manner with power to command changes in practice if degradation was occurring. Now, it will become BCHydro's job to monitor and cost outdamaging practices in their EPA partners. That will be expensive. BCHydro has been seen to have chosen large and unwieldy projects - Site C dam and LNG - and tried to simplify them with very simplified "cost effectiveness". LNG is neither clean nor renewable. Site C dam is also neither clean nor renewable if the water that would produce the power is taken for fracking. The clean and renewable use for that valley that is also cost effective is agriculture. BC residents will manage for power if what is produced is not sold at below production prices and Conservation is given all the attention it deserves, I think. Page 5: Strongly Disagree Reasons: I agree that Revelstoke and Shrum could be upgraded as long as the water continues to be protected both in quantity and quality. I disagree that natural Gas from fracking is a prime resource. BC has many other renewable resources for power - as you have listed - wind, biomass, solar, tidal. Please look to those before settling on the politically expedient and resource wasting LNG. Thankyou for asking these questions and providing such a explanation document.

5. **Please provide your level of support for BC Hydro's recommended action: to 'support the LNG industry' by reinforcing an existing 500 kilovolt transmission line from Prince George to Terrace; working with industry to explore natural gas supply options on the north coast to enhance transmission reliability to help meet the expected load; and being prepared to acquire clean energy supply in the future if LNG needs exceed existing, contracted supply.** BC's precious hydro and wind electricity is a vital building block for a rapid transition to a post---carbon economy. Supporting LNG, which is a major greenhouse gas producing industry is not in the best interests of society. Planning for possible natural gas generation to enhance supply reliability leads to an increased BC Hydro's greenhouse gas emissions factor, and by proxy all BC Hydro customer's carbon footprint. Public sector organizations who have legal obligation for carbon neutrality would be unfairly burdened with rising carbon offset requirements and society as a whole would be further subsidizing carbon intensive industry. This approach to resource use is unacceptable and very dangerous for the climate. **Please provide your level of support for BC Hydro's recommended action: to support 'conserve first' by maintaining BC Hydro's demand-side management measures at the same level going forward as has been undertaken in recent years, and preparing to increase these measures as load increases. BC Hydro is relying on all three customer classes to undertake demand-side activities and meet our 7,800 gigawatt hour target in fiscal 2021.** Though I am a big supporter of Conservation I strongly disagree with the weak IRP

Conservation targets. The wording of this action, shows a weakening of BC Hydro's conservation mandate. Preparing to increase demand side management measure in the distant future rather than in the immediate future demonstrates a lack of will in the single biggest opportunity to meet society's energy needs cost effectively. **Please provide your level of support for BC Hydro's recommended action: to 'power tomorrow' by building Site C, a proposed third dam and generating station on the Peace River, which would provide cost-effective, reliable and renewable electricity for generations.** BC Hydro's analysis of power generation is missing some important metrics. Site C will be responsible for destroying 16,000 acres of farmland and 17,000 acres of forest. This would be a loss to the commons. Society will need the farmland for food production. Dr. Vernon Ruskin lead planner of BC's legacy dams has some environmentally friendly options for society to consider as reported in the following article: <http://www.theglobeandmail.com/news/british-columbia/expanded-water-treaty-bcs-only-hope-says-former-planner/article14718414/> I think we have a duty to future generations to do a full analysis of this advice before any further work on Site C. **Please provide your level of support for BC Hydro's recommended action: to 'manage resources' by managing the costs associated with BC Hydro's current energy portfolio of EPAs and selecting the most cost-effective plan to meet customers' needs within the context of the Clean Energy Act.** BC Hydro should look at ways of selecting for the best IPP's, but not just with cost effectiveness in mind. Social values are inherent in energy development and climate action should be considered as part of each project. For cost effectiveness Hydro needs to revisit conservation goals as a way to reduce electricity prices. **Please provide your level of support for BC Hydro's recommended contingency plans that: continue to advance capacity resource options, including advancing the Revelstoke Generating Station Unit 6 Resource Smart Project; the GM Shrum Generating Station Resource Smart project; and working with industry to explore natural gas supply options.** To be planning and working with industry to supply natural gas is to develop a destructive resource that needs to be left in the ground. This approach would make the difficult job of sequestering carbon unnecessary, as it would be already occurring naturally and at a fantastic price. **Please provide any additional comments you have on the IRP and the set of recommended actions.** There are many problems with the IRP as we move into an energy future that has tough limits to the amount of fossil fuels we can consume. By working with the LNG in a capacity that will increase both the production and consumption of fossil fuels, BC Hydro's IRP will unfairly burden society with a higher carbon footprint, and the associated costs of climate disruption on industry, infrastructure, and society at large. The IRP report is also flawed in it's basic forecasting. Referring to page 68 of BC Hydro's 2013 Annual Report "Domestic revenues comprise sales to customers within the province of British Columbia and sales of firm energy outside the province under long-term contracts that are reflected in the Company's domestic load requirements", there is a perception that the BC local demand forecast has been padded with out of province sales. By misrepresenting BC's current domestic power requirements, future demands are significantly overstated, even with the widespread adoption of Electric Vehicles which is thought to be less than 4% of overall demand. Demand has actually stagnated for many years, which is not what the IRP is

communicating. Poor demand forecasting in past has led BC Hydro to a recommend action #5 of the IRP: Investigate incentive---based pricing mechanisms over the short term that could encourage potential new customers and existing industrial and commercial customers looking to establish new operations or expand existing operations in BC Hydro's service area. This action is say's "please help us use our surplus, we'll cut you a good deal to help us balance our poor financials". To my mind, BC's electrical infrastructure should apply itself without delay to assisting society to transition from fossil fuels to renewable energy. The first strategy should be to pursue aggressive conservation targets. This will save society lots of money while stimulating a green economy in conservation work. Local demand should be resourced with renewable energy in the emerging micro---grid model for carbon free energy and grid security in uncertain and disruptive climate conditions. This should be done in partnership with communities as BC Hydro helps empower local economies and local energy stewardship. Our great heritage assets should be used to firm the renewable supply, and surplus from conservation and local renewables should be used in a coordinated strategy to help take coal and natural gas fired power plants off line throughout the North American electrical grid. Many industry watchers are saying that the traditional utility model is out of date, similar to way telecommunications infrastructure was transformed by technology. BC Hydro's IRP plans try to repeat the past successes of our heritage infrastructure at the same time that the traditional business model is being found to be broken. Trying to grow our way out of BC Hydro's financial woes is a very near---sited approach to responsible utility practice: good utility practice of the 20th century is unlikely to hold up in the 21st Century.





ASSOCIATION OF CONSULTING  
ENGINEERING COMPANIES  
BRITISH COLUMBIA

October 18, 2013

Integrated Resource Planning  
BC Hydro  
Via Email

Dear Sirs:

Re: Draft Letter on BC Hydro's Integrated Resource Plan

The Association of Consulting Engineering Companies British Columbia, (ACEC-BC) formerly known as the Consulting Engineers of BC (CEBC), is pleased to provide some input to BC Hydro's 20-year Integrated Resource Plan (IRP) as dated August 2013.

**Who are we?**

ACEC-BC is British Columbia's provincial association of engineering consulting firms. ACEC-BC represents 90 of BC's consulting engineering companies that provide engineering and other technology-based intellectual services to the public and private sectors.

ACEC-BC firms employ 9,000 people in British Columbia comprised of a workforce of engineers, geoscientists, technicians, technologists and other support staff. Nationally, over 100,000 Canadians owe their livelihood directly to the business of consulting engineering. The consulting engineering business contributes some \$2.9 billion in annual revenue to the BC economy, much of it earned from clients based outside of the Province of BC. These are revenues that would not find their way to the Province of BC if it were not for the excellent reputation of the BC consulting engineering industry.

**Comments on IRP**

One of our goals is to promote a sustainable consulting engineering industry for our members within the province, so as a result, we do take keen interest in major plans for future capital development such as that covered in the IRP. Therefore, with the help of some of our members, and in consultation with other BC industry groups, we have conducted a review of the IRP. Some brief comments follow:

- LNG Power Supply
  - While we recognize that the LNG industry in BC is still in its development stage, plans are quite advanced for many of the proposed 12 projects, as evidenced by the environmental assessment applications now in the public domain. However, we note that the IRP has taken a very conservative view on potential load requirements and only considers a small percentage of total potential load in the plan (3,000 GWh compared to some predicted 30-50,000 GWh or more per year); in essence, the IRP assumes the massive energy required for these plants will be supplied by gas-powered plants.

- We believe the IRP should consider the opportunity of the large electrical loads that the LNG plants have to BC Hydro and the province. The LNG electrical loads can be used to utilize the existing and new (excess seasonal) power that is produced by BC Hydro and the IPPs. There is an opportunity to better utilize BC renewable power producing assets while still providing a competitive cost of power to the LNG Plants.
  
- Site C
  - The Site C power project is being relied on in the IRP to make up the gap in domestic load over the next 10 years. This project provides a large supply of renewable energy with additional capacity and storage, and can also allow for more integration of new renewable energy resources into the system.
  - Site C is a very important facility to complete as it will provide on-demand power generation capacity. The construction and ultimate operation of Site C Generating Station is an important economic driver and legacy for our province for future generations.
  - We recognize that there are uncertainties in predicting all outcomes for load, and also we note the fact that this generating station will not even be in full service until 2023. Nonetheless, there are some significant residual risks in this strategy as extended delays in permitting could occur and ultimate project approval could occur, thereby resulting in additional costs, or in the worst case scenario, cancelling of the project altogether. The IRP excludes the development of other new projects that may be developed by BC Hydro or other power producers, which could help to mitigate these issues.
  - The implementation of both Site C and other renewable power projects provides opportunities for the province.
  
- Demand Side Management
  - BC Hydro has chosen to rely on Demand Side Management to save some 72% of domestic load growth. This places a huge reliance on these programs and at significant cost to BC Hydro, industry and ratepayers to implement these programs. It is important that these measures continue to be truly cost-effective, to maintain this program.

- Diversity of Energy Production
  - We believe it is in the best interest for the province and BC Hydro that there continues to be a Call for Power on a regular basis and a Standing Offer Program. In BC we have developed an IPP industry consisting of developers, First Nations, constructors, and consulting engineers to develop and build the renewable power sources. The industry requires that a level of projects proceed on a regular basis to maintain the knowledge and experience that has been gained. By not having the regular projects, lessons learned and capability will be lost which can result in higher price for projects and inability to execute them in a timely manner when needed.


### **Final Remarks**

Consulting engineering is at the centre of BC's Knowledge Economy. The Knowledge Economy is the source of high value employment, supporting a broad array of business spinoff. A healthy BC consulting engineering industry is critical to building this future economic foundation of British Columbia.

British Columbia's consulting engineering companies are well placed to play a key role in particular to support generation projects that will fill the net increase in load demand over the next 20 years, and beyond. While we have noted that there are some risks and uncertainties with the IRP, we believe there are opportunities to mitigate the risks; we remain committed as an industry to assisting BC Hydro and the BC government in meeting its goals for prudent energy supply and management, and economic growth and prosperity.

We appreciate the opportunity to provide our brief comments on the IRP. Please do not hesitate to contact the undersigned to discuss any of the above items or if you wish clarification.

Yours truly,



Keith Sashaw  
President & Chief Executive Officer  
Association of Consulting Engineering Companies of BC



AltaGas Ltd.  
2500, 1066 West Hastings Street main 604.623.4750  
Vancouver, BC V6E 3X2 fax 604.623.4751

October 18, 2013

Via e-mail: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

British Columbia Hydro and Power Authority  
18th Floor – 333 Dunsmuir Street  
Vancouver, BC

Dear Sir/Madam:

**Re: BC Hydro Draft 2013 Integrated Resource Plan**

AltaGas Ltd. is an energy infrastructure company which owns and operates natural gas processing plants, pipelines, utilities and power generation facilities throughout North America, including the Bear Mountain wind park, Forrest Kerr run-of-river hydroelectric Project and several other run-of-river hydroelectric projects located throughout British Columbia. Our total investment in BC's clean energy sector to date is in excess of \$1.2 billion. Our ability to develop, build and operate these clean power projects has been encouraged and sustained by the strong commitment that the BC Government and BC Hydro has made in the past to the development of a clean power market, by Independent Power Producers. This commitment will continue to provide significant long term social, economic and environmental benefits to the local communities and First Nations that we have partnered with.

However, we are concerned that the current recommendations and conclusions within the draft 2013 Integrated Resource Plan (IRP) do not reflect the potential realities of;

- the future supply and demand for power in BC,
- the lack of future for clean power development and
- the true impact of the DSM programs.

The IRPs recommendations may in fact lead to the demise of future clean power development opportunities within BC, which will result in a loss of that expertise and the corresponding benefits to the environment, rate payers, local communities and First Nations.

We recommend that BC Hydro commission an independent third party to review and recommend changes to the IRP in the following areas;

- the potential impact of the LNG industry,
- the proposed DSM program effectiveness,
- Site C cost implications and
- the long term price and supply/demand relationship of the BC power market within the North American market.

We suggest that the review should be conducted by an accredited analytical firm, with North American wide experience in the foregoing subject matter.

If you have any questions in regards to the foregoing comments, please call me at 604-623-4770 or Brock John at 604-623-4773.

Yours truly,

**AltaGas Ltd.**



Dan Woznow  
Divisional VP Asset Management

October 18<sup>th</sup>, 2013

Ms. Anne Wilson  
BC Hydro  
Stakeholder Engagement Advisor  
Energy Planning & Business Development  
10<sup>th</sup> floor - 333 Dunsmuir Street  
Vancouver, BC  
V6B 5R3

Dear Anne,

**Re: BC Advanced Conservation and Efficiency Association's Submission**

Please accept this letter and the attached document as the BC Advanced Conservation and Efficiency Association's submission in regards BC Hydro's Integrated Resource Plan, submitted to the Government in August 2013.

BCACE appreciates the opportunity to be able to participate in consultation in regards to the BC Hydro IRP.

BCACE would be pleased to have a continuing dialogue with both BC Hydro and the Government in regards to the IRP and our submissions.

Yours truly,

*Murray Bond*

*Len Horvath*

Murray Bond  
Executive Director

Len Horvath  
President & Chair of the Board of Directors

MB/amp  
Encl.

BRITISH COLUMBIA  
ADVANCE CONSERVATION & EFFICIENCY  
ASSOCIATION

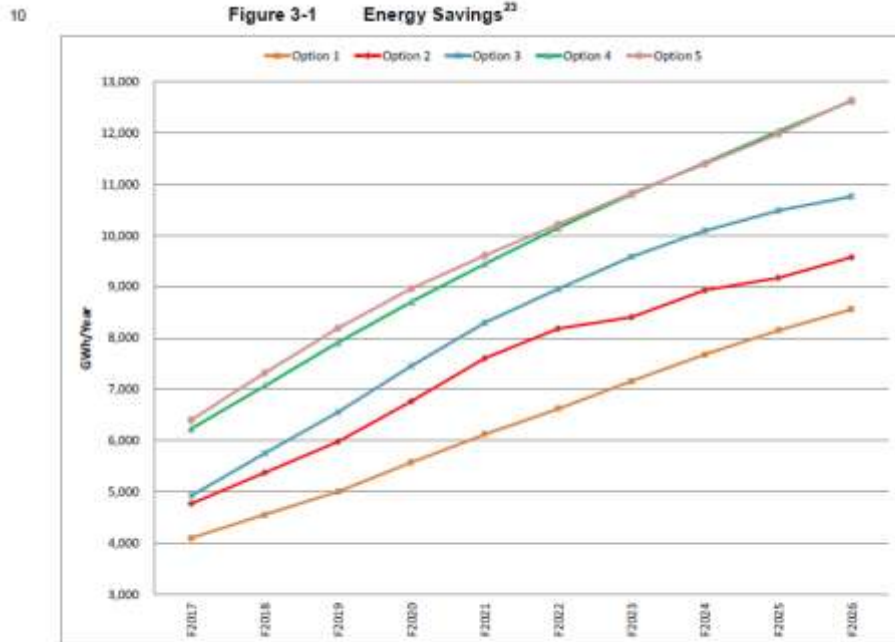
Comments on the BC Hydro Integrated Resource Plan

October 18<sup>th</sup>, 2013

*A Voice for the Conservation and Efficiency Industry in BC*  
720-1190 Melville Street, Vancouver, BC V6E 3W1  
Tel: 604-568-4906

# 1. Availability of More DSM than BC Hydro is Planning

When BC Hydro is planning for Demand Side Management energy savings it has analyzed 5 Options and then adjusted them to reduce the potential savings to account for BC Hydro’s perception of uncertainty with respect to the delivery of the DSM savings.



<sup>23</sup> The energy savings shown for Options 1 through 5 have been adjusted for uncertainty.

The result is an odd outcome, where the savings delivered by Option 4 and Option 5 are assumed to be the same. This in effect assumes that BC Hydro would undertake a strategy for 20 years and completely fail at delivering anything additional from the strategy for the entire 20 year period. This outcome is an artifact of a model for adjusting DSM plans that inherently makes no logical sense and therefore does not represent realistic planning.

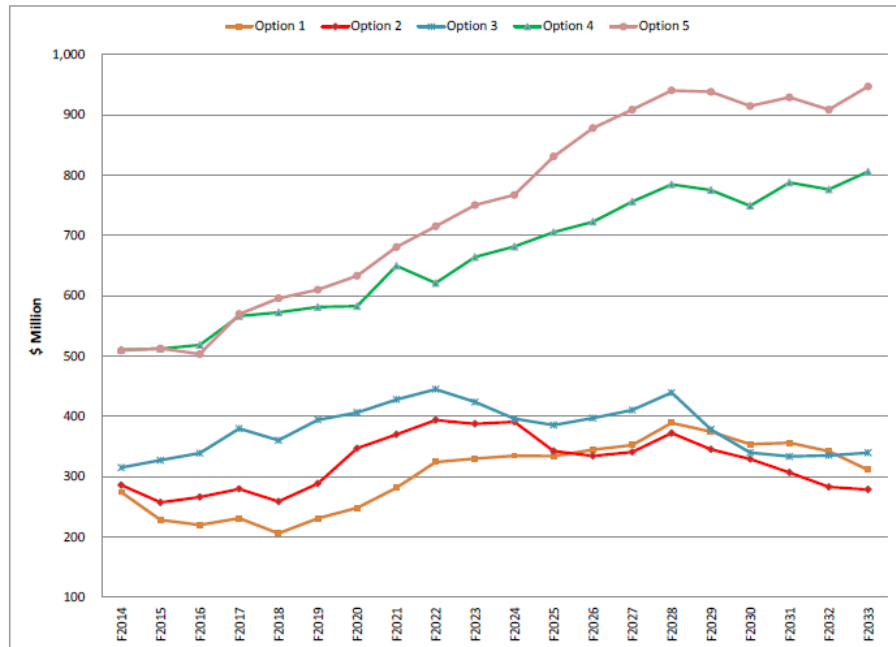
The total resource costs for delivering the DSM savings from Options 1 through 5 are included in the planning documents to match the energy savings. However, the costs for the options are not adjusted for uncertainty. Consequently the Options, particularly 4 and 5 are made to look more expensive than they would or should be because the savings are reduced by the uncertainty adjustment.



The nature of this situation is evident in that this would effectively mean that despite getting no savings BC Hydro would for 20 years continue to invest significant and growing quantities of resources in the DSM plans to achieve virtually nothing. An odd feature of the DSM planning is that the total costs between Option 2 and Option 3 after 2024 provide for a relatively small additional cost and the savings after 2022 increase by about 500 GWh/year by 2026. This implies very cost effective DSM savings and yet they are not being captured in the plan to defer the acquisition of new resources. Another odd feature of the DSM planning is the cost gap between Options 1, 2 & 3 and the Options 4 & 5. The later options are being planned with nearly double the costs or more than the other options but no options have costs in between these cost profiles. This odd outcome appears to be a setup of a Straw Option with parameters to make it fail. Logically there would be options in between the ones defined and there should be an expectation of a continuity of performance profiles.

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Figure 3-3 Total Resource Costs

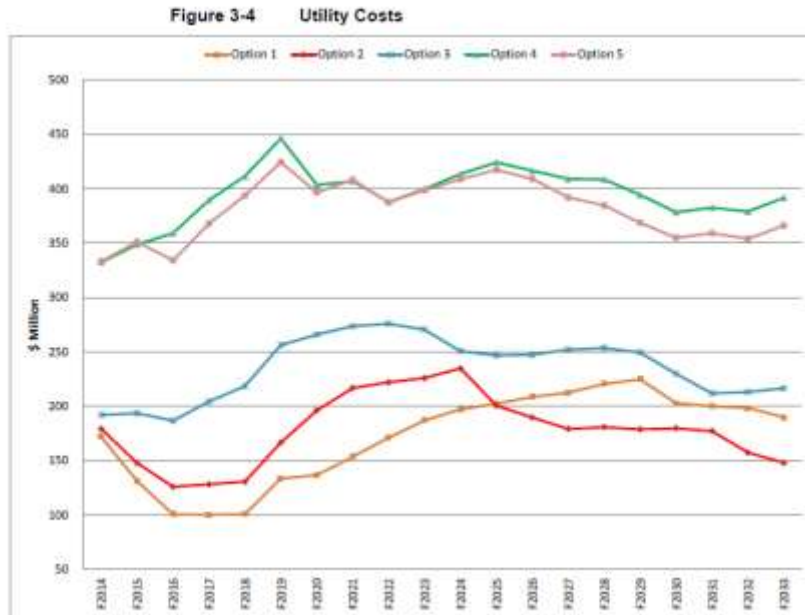


nothing. An odd feature of the DSM planning is that the total costs between Option 2 and Option 3 after 2024 provide for a relatively small additional cost and the savings after 2022 increase by about 500 GWh/year by 2026. This implies very cost effective DSM savings and yet they are not being captured in the plan to defer the acquisition of new resources. Another odd feature of the DSM planning is the cost gap between Options 1, 2 & 3 and the Options 4 & 5. The later options are being planned with nearly double the costs or more than the other options but no options have costs in between these cost profiles. This odd outcome appears to be a setup of a Straw Option with parameters to make it fail. Logically there would be options in between the ones defined and there should be an expectation of a continuity of performance profiles.

When it comes to defining what the utility would contribute as incentive costs, largely, the story continues to provide odd results. The information in the IRP provides a very significant cost attached to Option 3 for first 10 years 2014 to 2024. The savings for Option 3 are only marginally better than for Option 2 over the initial 8 years. However, the savings increase more substantially from 2022 to 2026 and the costs to deliver the increased savings are flat.

Interestingly the costs for Option 2 drop below the costs for delivering Option 1. It makes no sense to have a plan Option 1, which delivers less in savings than Option 2 but costs more than Option 2.

Clearly the DSM planning at BC Hydro for Option 2 has a significant problem in that continually expensive activity from 2022 to 2023 results in a marked drop off in savings, but the Option 3 plan for only slightly greater expenditures provides a much greater increase in savings.



Apart from the apparent logic gaps in the planning information it can be readily seen that the additional savings from Option 3 would be highly cost effective in the context of deferring the costs of acquisition of new resources. The fact that BC Hydro has previously recommended, in its initial IRP, that Option 3 be followed and that planning for the greater savings should be accelerated, simply underscores that the DSM plans at BC Hydro have unfortunately been diminished in this iteration.

In terms of the availability of additional cost-effective DSM the BC Hydro IRP is significantly challenged because it does not have an adequate understanding or forecast of technologies affecting energy supply and use. Unfortunately the BC Hydro DSM planning is rooted in the 2007 Conservation Potential Review, which was based largely on 2005 data and which itself had a limited look forward technology perspective but was mostly confined to existing commercial technology. This is not adequate for the IRP purposes where the resource planning decision are made early in the plan but impact an entire 20 year planning horizon with impacts. In addition the Conservation Potential Review is badly out of date and BCACE recommends that it be updated before

dismissing the availability of more optimal options, including DSM options, than are included in the BC Hydro IRP.

The BC Hydro planning models should be anticipating technological change over this timeframe particularly for DSM energy saving options and distributed energy supply technology. The DSM model should be dynamically anticipating these technology developments, if it is going to be a basis for providing sound recommendations to decision makers.

The BCACE view is that there is significantly more DSM available to defer the expenditures on acquisition of expensive new supply resources.

## 2. Certainty of Delivery of DSM Greater than BC Hydro Plans

BC Hydro DSM for last number of years has delivered significant savings (reports filed with BCUC), which show the following performance with respect to expenditures and savings achieved.

BC Hydro 5 year DSM Performance						
Fiscal Year	Expenditures \$000s			Savings GWh/year		
	Planned	Actual	% var	Planned	Actual	% var
2013	202817	150121	-26%	1129	931	-18%
2012	189477	175250	-8%	988	1123	+14%
2011	195650	134437	-31%	908	458	-50%
2010	161810	134792	-17%	969	769	-21%
2009	129830	107328	-17%	467	468	+0%
Totals	879584	701928	-20%	4461	3749	-16%

This tracking of BC Hydro’s actual delivery of DSM savings demonstrates that BC Hydro typically under delivers on its DSM plans by about 16% and that this is directly related to under spending on DSM by about 20%.

The total savings achieved by BC Hydro since 2008 have been 4459 GWh/year cumulative and have matched the planned savings for the period of 4439 GWh/year. Just to put this saving in perspective it can be compared to the Site C project which is designed to provide 5100 GWh/year at the plant. However, by the time this energy is delivered it will be reduced by electrical losses in the system to approximately 4700

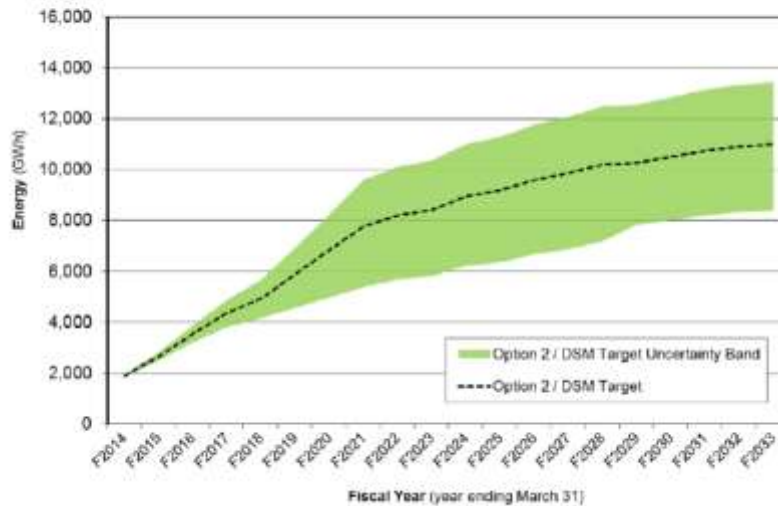
GWh/year of usable electricity at the customer site. So in 5 years BC Hydro’s DSM initiatives have saved almost the equivalent of a Site C for \$700 million invested.

**Historically BC Hydro DSM delivers savings reliably.**

The IRP does not recognize BC Hydro’s performance and capability but instead casts the DSM initiatives as uncertain with respect to their ability to deliver the required energy.

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**Figure 4-7 Range of Potential Energy Savings for DSM Option 2**



The range for uncertainty is shown as plus or minus approximately 25%. This again is not supported by the BC Hydro experience. BC Hydro has not over delivered DSM savings in the past for one very simple reason. Expenditures to achieve the savings are cut back whenever the cumulative savings are on target. Equally over 5 years BC Hydro has delivered DSM reliably on target and to the extent it may be delivered below target it is almost solely explained by a shortfall in expenditures or sometimes timing of particular activities between years. There is demonstrable evidence that this level of uncertainty is unsupported and unsupportable when the dynamic nature of the DSM process is taken into account. BC Hydro’s IRP does not do this and therefore results in a suboptimal plan.

The nature of the DSM initiatives is that underperforming measures can be replaced with new measures with better performance capability. Budgets can be shifted between sectors, end uses, and technologies over time to get an optimal result. The DSM initiatives benefit continuously from learning as they are implemented so the performance can continue to improve. There is an array of options to be examined and implemented to increase the results of DSM activity. This dynamic nature of the DSM

measures is not recognized in the BC Hydro IRP and instead the planning is reflected as static and uncertain with respect to performance.

To the extent that there is planning uncertainty with respect to DSM most of this can be removed with extensive preplanning and qualification of the market. The DSM initiatives required for the next several years can be scoped, scheduled, contracted and trial proven well ahead of the required point of delivery. In addition the preplanning can include the preparation for the DSM to be delivered and for contingency DSM to be accessed and delivered in the event other plans are not achieved. This contingency planning is one of the important bases for the reliability of the electrical supply and the IRP is full of contingency resource planning. The DSM planning can and should be so designed and developed. If it were planned in this way the full extent of the past reliable performance can be expected to be delivered with a high degree of certainty. Consequently the degree to which uncertainty exists will be increasingly small.

One of the more significant risks related to acquisition of new supply resources is to have them delivered when they are required so that BC Hydro does not have to carry the significant costs of oversupply and disposal of surplus energy into spot electricity markets at low prices. DSM is provided and delivered in such small incremental units that it can be planned to deliver sufficient energy to meet load growth as it develops.

The BCACE view is that with appropriate preplanning for DSM, contingency plans for DSM delivery and BC Hydro's and the conservation and efficiency industry's track record for performance in delivering DSM the IRP should be able to plan on DSM with reasonably high levels of certainty.

### 3. Cost-effectiveness of DSM is Better than Other Options

The cost effectiveness of BC Hydro's DSM initiatives is related to the degree to which conservation and efficiency can be delivered into the energy use markets at low cost in broad application throughout society achieving productivity gains versus simply supplying additional energy resources to meet customer demand. BC Hydro identifies its Long Run Marginal Cost of New Supply as \$135/MWh at Page 4-2 of the IRP but expects it to be reduced to between \$100 MWh and \$85\$/MWh at Page 8-50 of the IRP.

The BC Hydro DSM initiatives have been analyzed with respect to their average \$ cost per MWh to demonstrate their cost effectiveness. The TRC version refers to the total resource cost, which includes the funding BC Hydro contributes as well as the costs the customer incurs. The UC version refers specifically to the utility cost only, which is the component that gets into BC Hydro’s rates to its customers and represents largely the incentive funding provided to encourage the adoption of conservation and efficiency measures. For each of the DSM options BC Hydro has examined the average costs are as shown below.

5 **Table 3-5 TRC and UC for DSM Options 1 to 5**

Option	TRC (\$/MWh)	UC (\$/MWh)
1	32	18
2	32	18
3	35	22
4	47	30
5	49	29

6 Note: Includes transmission and distribution loss savings estimates.

The IRP properly provides this information but unfortunately does not carry out the planning in order to achieve the optimal contribution available from DSM.

The incremental cost effectiveness of the DSM plans is also provided in the IRP as shown below in the order of the program cost effectiveness. Only programs are shown because the other strategies are much more cost effective than programs.

1 **Table 8-7 DSM Programs TRC and Savings**

<i>DSM Programs (sorted by TRC net of capacity benefits)</i>	<i>TRC net of capacity benefits (\$/MWh)</i>	<i>Forecast Savings in F2021 (GWh/yr)</i>	<i>Cumulative Savings (GWh)</i>	<i>% of Total Cumulative Savings</i>
Behaviour	6	135	135	5%
Load Displacement - Industrial	27	432	567	20%
Refrigerator Buy-back	35	66	633	22%
Power Smart Partner - Transmission	36	1,021	1,653	58%
Load Displacement - Res	42	0	1,653	58%
Residential Rebate	45	53	1,706	60%
Power Smart Partner - Distribution	51	265	1,971	70%
Power Smart Partner - Com	54	450	2,421	85%
Product Incentive	55	173	2,594	92%
Lead by Example	76	28	2,622	93%
Renovation Rebate	77	56	2,678	94%
Load Displacement - Com	78	4	2,682	95%
New Construction	83	123	2,805	99%
Low Income	111	20	2,825	100%
New Home	113	8	2,834	100%

From this we can see that 99% of the DSM initiatives have a total resource cost less than the levelized cost of incremental new resources and considerably below BC Hydro’s long run marginal cost of new supply. Because these programs are important parts of the transformation of the markets which is continued with rate design initiatives and with government regulated codes and standards they are integral to the total process and are therefore considerably more cost effective incrementally than this isolated view demonstrates. Of course the utility cost is significantly less and the leveraged benefit to customers is highly cost-effective.

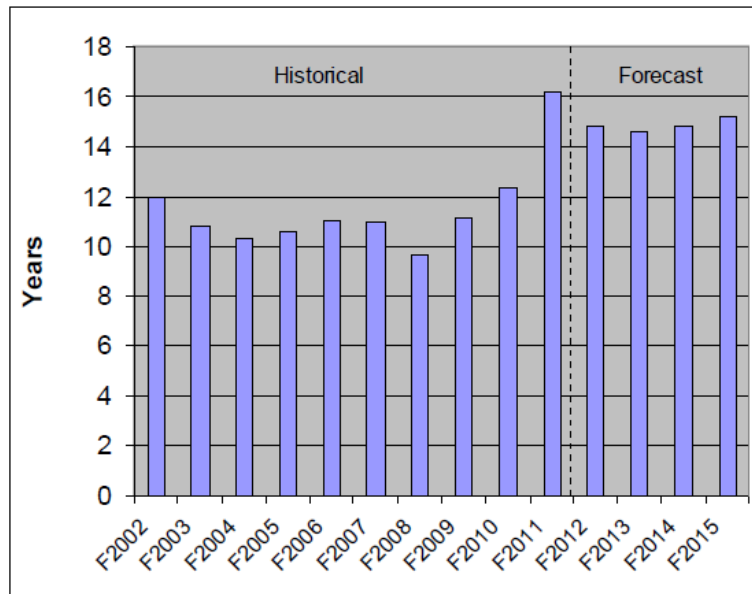
DSM planning continues to increase its cost effectiveness and ability to contribute to increased productivity in our society.

For instance BC Hydro has increased the persistence of its DSM lengthening the benefit period in which the savings are achieved.



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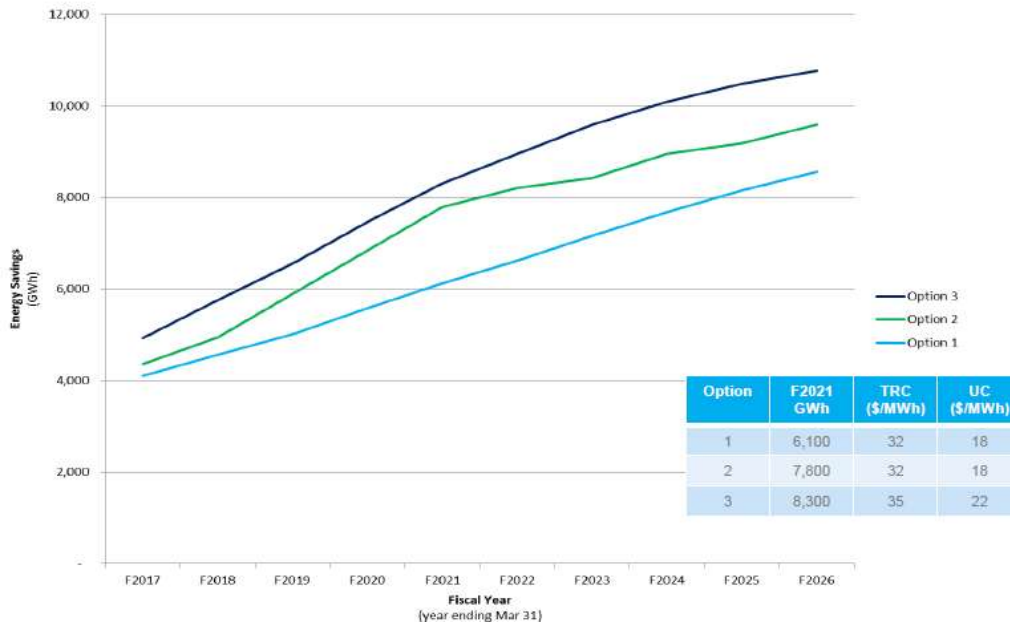
**Figure 1** Weighted Average Persistence of New Program Savings (Years)



This means that the pay off period for the DSM measures occurs over a longer period of time increasing from in the 10 year range to the 15 year range. This results in approximately a 50% improvement in cost effectiveness. To the extent BC Hydro focuses on long term benefits DSM gets more cost effective. The IRP planning does not anticipate increases in cost effectiveness but the record for DSM is full of improvements in cost effectiveness.

BC Hydro has been trimming its planned DSM expenditures significantly versus its previous plans and yet intends to ramp the DSM initiatives back up to meet the Option 2 levels by 2021. This is being done partially in response to the short term perception that while BC Hydro is in surplus it is less cost effective to deliver DSM because the additional savings must be sold into the electricity markets for low prices. The expenditure reduction is approximately \$330 million from 2015 to 2022, approaching about a 33% reduction.

## DSM OPTIONS 1-3: ENERGY SAVINGS



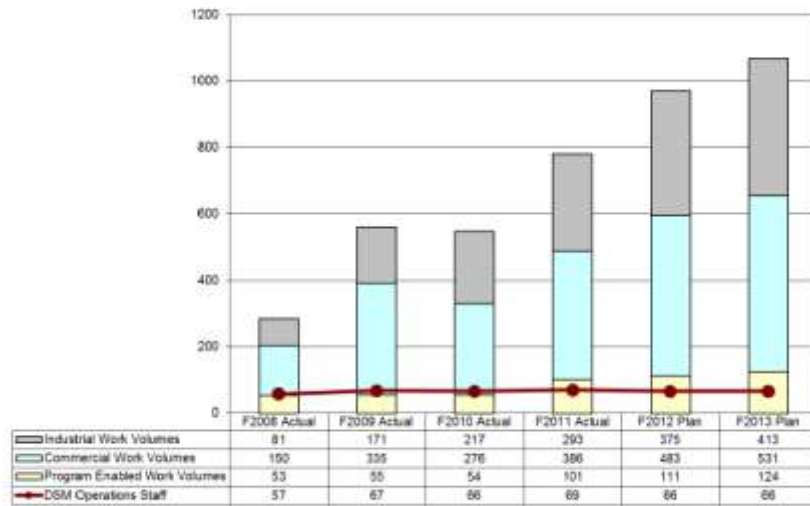
Ramping back up to the original Option 2 DSM level reflects yet another increase in the cost effectiveness of the DSM initiatives because the same levels will be achieved for lower expenditures. In some cases this has meant forgoing initiatives with shorter term savings potential, which expires during the period BC Hydro has surplus energy being sold at low prices. While the improvements to cost effectiveness make sense the fact that the savings in 2021 ramp up to a level that is just 500 GWh/year from transitioning to the Option 3 potential begs the question as to the cost effectiveness of transitioning over to Option 3 in 2021 and planning for a deferral of the acquisition of new supply. The added costs to achieve an additional 1000 GWh/year of savings by 2024 to 2026 and maintain this level are well within the range of being very cost effective.

The can be done with a high degree of reliability by bringing forward the relatively low level of expenditures required to plan and prepare to achieve the benefits of the deferral. BCACE recommends to BC Hydro and the government that the options for deferral of the timing for the next resource acquisition through adoption of more cost effective DSM be incorporated into the IRP.

It is important to note that as the base level of organization for DSM is relatively fixed when the DSM plans are for increased conservation and efficiency the productivity of the entire activity is leveraged for greater savings cost effectiveness.

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**Figure II-4-3 DSM Work Volumes and Operations Staff Levels**



3

The opportunities to continue to improve the cost-effectiveness of the DSM initiatives will continue to be high. One of the next most important options to consider will be to transform the DSM initiatives and processes into a more permanent market feature. This will have two distinct advantages. One will be to harness the efficiency of the entrepreneurial market place to deliver DSM even more efficiently against key pricing parameters with the ability to access greater payback periods. A second will be to access commercial institutional strengths to move conservation and efficiency from simply being partners with the utility, BC Hydro, toward being leaders in the implementation and delivery processes. This has the potential to reduce the utility costs and reduce the impacts on customer’s bills and rates.

BCACE recommends that the government and BC Hydro modify the IRP to incorporate planning for the transformation of the DSM initiatives further into the market and work with the industry to optimize the benefits for BC from such a transformation.

Unfortunately the IRP is deficient in not providing the benefit available from deferring the acquisition of new resources. The levelized cost of the next major incremental resources being acquired by BC Hydro is about \$85/MWh. However, this is not what the BC Hydro ratepayers will experience when these resources are acquired. The accounting cost of the next major incremental addition of resources at BC Hydro, which is what the BC Hydro customers will pay, is going to be closer to \$120/MWh. Most of the growth

forecast for use of the next major incremental addition of resource is industrial growth. To the extent the growth does not materialize BC Hydro would be in surplus again and likely selling the surplus energy in the electricity markets at \$25/MWh to \$40/MWh. Consequently, deferral of acquisition of new supply resources will likely be a very substantial benefit to BC.

BCACE recommends that BC Hydro and the government recognize in the IRP process the ability to achieve continuous improvement in the cost effectiveness of DSM and that capturing all the cost effective DSM could provide a substantial benefit to BC.

#### 4. DSM in Context of BC Hydro Surplus Power

DSM has the advantage of having an extremely cost effective transformation model. This gives rise to having tools that can deliver substantial DSM in the future with preparation and planning today. Tools such as codes and standards and market based transformation can ensure future DSM is delivered and opportunities are not lost.

Unfortunately with a power surplus the BC Hydro IRP reflects a considerable short term influence of spot electricity market prices and BC Hydro customer rate increase concerns. The IRP does recommend increased work now on codes and standards but does limit some opportunities to capture more cost-effective DSM. In addition working with municipalities and other key institutions like the Building Owners and Managers Association will provide significant long term benefits.

BC Hydro also has an ability to sell its surplus power generated by additional DSM in the electricity markets and offset the costs of achieving the DSM savings such that the net costs to BC Hydro ratepayers would be minimal or even represent a positive impact. The DSM programs are necessary precursors to the rates and the codes and standards portions of achieving long term DSM savings and as such it is necessary to view the cost benefit of sales in a surplus situation on a bundled basis.

BCACE commends the BC Hydro IRP for the emphasis on the codes and standards work and recommends that this be augmented with market transformation work and with work done with municipalities and other institutions to develop a firm capability to cost effectively deliver additional DSM for the long term.

## 5. Risk Management for IRP and DSM’s Role Most Flexible

IRP deals with risk in the plan by determining the potential uncertainty of load forecasts and delivery of resources. These are quantified and then alternative plans are drawn up to provide options for managing to provide a load resource balance in the event that one of these contingencies develops.

The contingency uncertainty expected from DSM is set at 500 GWh/year in 2017 and as large as 2600 GWh/year in 2033, provided at Page 8-65 of the IRP and shown below. All of the planning is done in terms of anticipating shortfalls.

1 **Table 8-12 Contingency Resource Plan Shortfall**  
2 **Risks**

Risk	Rationale	Capacity Reduction for CRP Purposes <sup>16,17</sup> (MW)		Energy Shortfall Risk (GWh/year)	
		F2017	F2033	F2017	F2033
General Load Forecast Uncertainty	Peak load and energy requirements can increase as a result of sustained growth and/or low temperatures at winter peak.	700	1,550	5,350	10,050
DSM Deliverability Uncertainty	The DSM target has a significant range of deliverability uncertainty where the variability is driven by implementation of codes and standards, customer response to programs and rates.	100	500	550	2,600
Total Reduction		800	2,050	5,900	12,650

There are two important aspects of this contingency planning to reflect on. First is that the contingency is defined solely in terms of shortfall of supply. This is interesting because BC Hydro has few problems with shortfall of supply but has and has had much greater problems with supply excess needing to be sold into the electricity markets at values below cost. It would be valuable for an IRP to focus more attention on the contingencies for supply excess. BC Hydro is in reactive mode now trying to manage a power supply excess. However, there are many things BC Hydro can do to prevent this risk and to mitigate it when it occurs. The Second significant issue is the excessively large uncertainty assigned to DSM. The dynamic nature of DSM and its responsiveness to initiatives to deliver additional DSM if properly managed can make the DSM a virtual certainty. The existence of jurisdictions around the world where DSM success and or energy usage minimization provide examples of substantially greater productivity give reason in BC to anticipate that the capability to deliver DSM exists. The delivery of DSM

is more appropriately a question of prudent management and provision of sufficient contingency planning and preplanning for success.

DSM can also play a significant role in managing contingencies rather than being a source of uncertainty. The IRP has an excellent example of this in terms of the planned additional Capacity DSM.

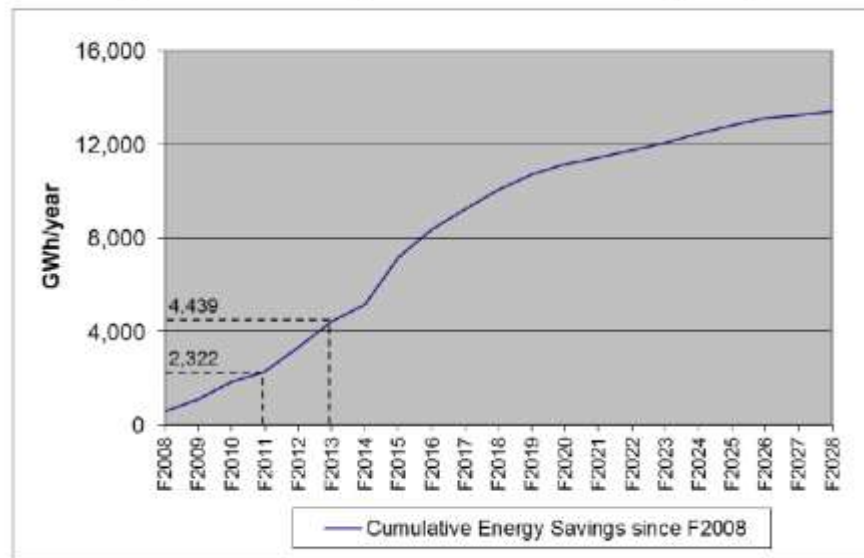
BCACE commends the IRP for the Capacity DSM initiatives and recommends that DSM uncertainty be reduced substantially with a transformation of the DSM planning process from such a static process to one which is much more dynamic in its assumptions. BCACE recommends that the contingency planning be turned much more significantly to managing surpluses and that DSM can in fact be a significant solution in the contingency planning.

## 6. DSM as a Resource Option vs Other BC Hydro Plan Options

DSM has been a very important resource for BC Hydro and is planned to be a very important resource in the future. The graphic below shows that DSM is being looked at to provide the equivalent of approximately 3 Site C projects over the planning period since 2008.

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Figure II-3-1 Updated DSM Plan Cumulative Energy Savings



The BC Hydro estimates of the contribution to the economy are that this effort will represent approximately 200,000 person years of employment over the planning period.

This work is spread across all communities in the Province and is diverse throughout the commercial sector economy.

The DSM plans have very significant economic benefits creating deeply embedded productivity in the economy. The benefit cost ratios for DSM are very significant and on average are

beneficial even for the non-participants. The case for increased DSM for the benefit of the economy is quite significant.

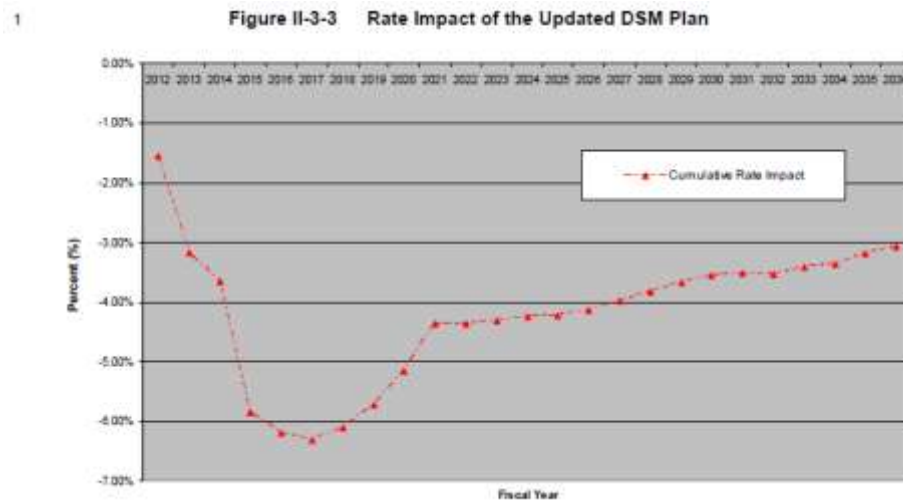
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**Table II-3-5 Benefit-Cost Ratios<sup>29</sup>**

	Utility Cost Test	TRC Test	Non-Participant Cost Test
Programs	3.8	2.8	1.1
Rate Structures	28.3	20.5	1.0
Codes and Standards	n/a	7.7	1.5
Programs and Rate Structures	5.7	4.7	1.2
All three DSM Tools	7.7	4.7	1.2

DSM plans are also major contributors to rate reductions and can be made more so with appropriate market transformations. The BC Hydro IRP with its reductions in the DSM being recommended

as compared to the last IRP presented to government, should have contained much more with respect to what DSM can and does to for the economy of BC



and for the businesses and citizens of BC. It can contribute to lower rates particularly with more transformation toward a market based approach.

The above material in this section has come from BC Hydro’s last revenue requirements filings and is indicative of the significant economic development value of DSM. The context for this information was a somewhat higher long run marginal cost than is contained in the latest BC Hydro IRP. However, BC Hydro’s IRP document does not update all of these analyzes.



BCACE recommends that the government and BC Hydro examine the potential for additional DSM to create additional economic benefits for BC Hydro's participating customers, as well as those not participating. BCACE appreciates the opportunity to comment on the BC Hydro IRP and would welcome an ongoing dialogue with government and or BC Hydro with regard to the role of DSM and what the conservation and efficiency industry in BC can do to add economic value to our Province and provide prosperity for future generation in BC.

September 25, 2013

**VIA E-MAIL:** [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

To: BC Hydro

From: Russ Black, MBA, P.Eng.  
Vice-President of Corporate Development, Belkorp Environmental Services Inc.  
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re: *IRP Consultation – stakeholder input*

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Below is our stakeholder input to BC Hydro's proposed Integrated Resource Plan.

Our comments are specific to section 3.4.1.3 *Biomass – Municipal Solid Waste*. We wish to point out that municipal solid waste (msw) is not biomass. While there may be components of msw that are biogenic, the bulk of thermal energy that could be produced from msw is derived from non-biogenic material.

The following provides background information on this as well as some specific information on the EU R1 formula for energy efficiency which is not transferable to BC as its derivation is specific to conditions in Europe and its equivalency factors are more politically versus scientifically based.

#### **Biomass**

The following link is from the European Parliament -- "A Resource Efficient Europe", *Environment, Public Health and Food Safety Committee* (May 24, 2012), P7\_TA(2012)0223, resolution 33 ([www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P7-TA-2012-0223&language=EN&ring=A7-2012-0161](http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P7-TA-2012-0223&language=EN&ring=A7-2012-0161)). It is their recent thinking surrounding the burning of the fraction of the MSW that can be recycled or composted.

This second link is to a recent report by the IPCC: [www.ipcc.ch/pdf/special-reports/srren/SRREN\\_Full\\_Report.pdf](http://www.ipcc.ch/pdf/special-reports/srren/SRREN_Full_Report.pdf). It is a *Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN)* that provides a comprehensive review concerning these sources and technologies, the relevant costs and benefits, and their potential role in a portfolio of mitigation options. Of particular note is their definition of renewable energy from biomass;

**Box SPM.1 | Renewable energy sources and technologies considered in this report.**  
**Bioenergy** can be produced from a variety of biomass feedstocks, including forest, agricultural and livestock residues; short-rotation forest plantations; energy crops; **the organic component of municipal solid waste**; and other organic waste streams.



The USEPA has also developed a methodology for allocating the MSW to biogenic and non-biogenic energy which indicates that 50% of MSW is non-biogenic as it is primarily fossil fuel derived.

As an example, the following table applies the USEPA methodology to Metro Vancouver's waste composition after 70% diversion. As shown, identifiable plastics comprise about 45% of the total 53% non-biogenic heating fraction. The split between biogenic and non-biogenic for mixed organics composites and household hygiene products is a conservative 50/50 assumption.

Waste Category	Moisture Content	Composition	Moisture Adjusted Composition	Heating Value (GJ/Dry t)	Net Heating Value (GJ/t)	Biogenic	Non-Biogenic
Metals	0%	3%	3%	0.7	0.02		
Glass	0%	2%	2%	0.2	0.00		
Inorganics & E-Waste	8%	11%	10%	1.8	0.18		0.18
Paper & Paperboard	24%	18%	14%	16.4	2.24	2.24	
Plastics	8%	18%	17%	34.9	5.78		5.78
Yard & Food	64%	24%	9%	14.7	1.27	1.27	
Wood	15%	11%	9%	17.1	1.60	1.60	
Mixed Organic Composites	12%	5%	4%	20.0	0.88	0.44	0.44
Household Hygiene	25%	8%	6%	15.1	<u>0.91</u>	<u>0.45</u>	<u>0.45</u>
Moisture			<u>26%</u>				
Sum		100%	100%		12.89	6.01	6.85
Split						47%	53%



**R1 Formula**

This is a political formula introduced to move incineration one step up in the waste management hierarchy from "waste disposal" (which it has always been) to "energy recovery". If a facility achieves 60% or 65% conversion efficiency (depending on its age), its place in the waste hierarchy becomes more favourable than when it is recognized as a disposal option. The problem is that "fudge factors" are required in order for facilities to achieve 60 - 65%; so it isn't an actual performance measure.

Energy recovery efficiency is calculated according to the following formula, also called the "R1 formula":

$$\text{Energy efficiency} = E_p - (E_f + E_i) / 0.97 * (E_w - E_f)$$

where  $E_p$  is the annual energy produced as heat or electricity. It is calculated with energy in the form of electricity ( $E_{el}$ ) being multiplied by 2.6 and heat produced for commercial use ( $E_{th}$ ) multiplied by 1.1 (GJ/year). In a formula format, this means:

$$E_p = 1.1 * E_{th} + 2.6 * E_{el}$$

These multipliers are called equivalency factors (aforementioned "fudge factors"). They are the reciprocal of the average electricity and heat production efficiencies in conventional coal power plants.

For electricity, authors of the R1 formula assume 100% of the MSW is biogenic and therefore deserves a full credit for off-setting coal which is the predominant source of electricity generation in Europe. Applying the formula to other regions where the predominant source of electricity generation isn't coal based is incorrect and misleading. Additionally, assuming burning a fossil based fuel (plastics) to off-set another fossil based fuel (coal) is categorically wrong.

For thermal processes, the same *biogenic versus non-biogenic* argument applies. More importantly, the predominant thermal fuel source must be assessed against an incineration scheme that can't be turned down and must run for 24/7, 365 days a year. Therefore the equivalency factor must be adjusted for actual heat sale.

Peer-reviewed academic studies that have critically looked at R1 formula based on the above suggest that actual efficiencies of current thermal facilities are significantly less than the proclaimed 60-65%.



**BELKORP**  
Environmental Services Inc.



October 18, 2013

BC Hydro  
Integrated Resource Plan stakeholder comments

Between the BC Greenhouse Growers' Association (BCGGA) and the United Flower Growers (UFG) we represent more than 160 greenhouse vegetable and flower growers, over 975 acres of production and we directly employ over 6,500 workers. We have a combined farm gate value of \$475 million. If you use a typical multiplier of 10 times for indirect employment and sales in restaurants, food processing, retail, suppliers of materials and services, etc. the numbers are very significant. BCGGA growers lead North America in the production of high quality tomatoes, peppers, cucumbers, lettuce and eggplant. The UFG operates the largest flower auction in North America with customers throughout Western Canada and the United States.

We have a number of members who are interested in putting in natural gas fired cogeneration under the Standing Offer Program (SOP). We have reviewed the Integrated Resource Plan (IRP) and are submitting this letter as our stakeholder comments to this plan. We understand that the IRP is guided by the Provincial Energy policy and that the IRP serves to inform BC Hydro in the process of meeting their customers' growing demand for electricity.

### **Background**

The use of High Efficiency Cogeneration by BC greenhouse growers has been investigated by the BCGGA since 2005, beginning with an internal feasibility study. In 2007 with the announcement of the BC Energy Plan we began working with the Ministry of Agriculture to create a Minister's Bylaw Standard to develop criterion where cogeneration would be a permitted use in the Agricultural Land Reserve (ALR) and to address local government's concerns to minimize the risk of cogeneration systems being installed for non-farm purposes. The draft Discussion paper was finalized in 2011 and after a consultative process was refined and adopted by the Minister as a Bylaw Standard in May of 2013. None of the affected Municipalities have adopted the Bylaw Standard to date.

The 2007 BC Energy Plan provided direction to BC Hydro to establish a program for small, clean, renewable or high efficiency electricity generation projects. The Standing Offer Program (SOP) was launched in 2008 and the Clean Energy Act of 2010 includes provisions for BC Hydro to maintain the SOP. The original SOP stated that high-efficiency cogeneration projects were eligible but it wasn't clear if natural gas fired cogeneration would be eligible. The Ministry of Energy and Mines worked with BC Hydro and in 2011 the SOP definition of high-efficiency cogeneration was clarified to include natural gas fired cogeneration as long as the overall efficiency rate (heat and electricity production) is in excess of 80%.

During the BC Utilities Commission (BCUC) section 45 regulatory filing in 2007 BC Hydro projected it would acquire between 90 GWh/year and 900 GWh/year in the first two years. By January 2011 BC

Hydro had 190 GWh/year under contract. In January 2011 BC Hydro issued a review of the Standing Offer Program and adjusted the prices in order to attract an estimated 1,000 GWh/year of projects over a 2 year period. The price was also set to allow SOP to continue as an open, flexible application program without the need to impose a cap or quota. In the 2011 review BC Hydro’s next complete review of the program was scheduled for the 2014-2015 period.

**SOP Activity to Date.**

The exhibit below indicates the projects that have been offered Electricity Purchase Contracts as of April 2013. It should be noted that in January, 2011, BC Hydro was expecting 1,000 GWh/yr over a 2 year period or 2,000 GWh of projects but as of April 2013, they have only offered contracts for 250 GWh.

<b>Projects Offered EPAs as of April 13, 2013</b>			
<b>Type of Project</b>	<b>Number of Projects</b>	<b>Published Capacity, MW</b>	<b>Estimated Annual Energy, GWh</b>
Hydro	8	49.3	197.2
Biomass/Biogas	2	6.6	52.8
Total Contracts as of April 2013			250.0

The exhibit below indicates the current applications that have been received as of April 2013.

<b>Current Applications as of April 13, 2013</b>			
<b>Type of Project</b>	<b>Number of Projects</b>	<b>Published Capacity, MW</b>	<b>Estimated Annual Energy, GWh</b>
Hydro	4	19.0	76.0
Biomass/Biogas	2	9.7	77.6
High Efficiency Cogen - Pulp/Sawmills	5	69.5	556
Total Current Applications as of April, 2013			709.6

The contracts that have been offered and the current applications amount to 960 GWh, which is less than 50% of what BC Hydro was expecting over a 2 year period.

**Probable Greenhouse Activity**

The exhibit below indicates the probable greenhouse cogeneration projects that could occur in 2014 and 2015, based on SOP guidelines on October 1, 2013.

<b>Probable Greenhouse Cogeneration Projects 2014 and 2015</b>		
<b>Number of Projects</b>	<b>Estimated Capacity, MW</b>	<b>Estimated Annual Energy, GWh</b>
8	50 - 70	400 - 560

If all of the projects that are offered contracts complete, and all of the current applications are actually implemented and the probable greenhouses occur, the total would be 1376 GWh, less than 70% of what BC Hydro was expecting over a 2 year period. Considering that SOP was designed to be an open

program with no caps and with no planned complete reviews until the 2014/2015 period, it would seem unreasonable to impose a cap on high efficiency cogeneration for greenhouses.

**Greenhouse Cogeneration Compared to Other High Efficiency Cogeneration**

It has been noted that the current high efficiency cogeneration applications are from large industrial customers who can reasonably be assumed will be selling the power from their projects to BC Hydro and will continue to purchase power from BC Hydro at a considerably lower rate. There may be a concern by BC Hydro that this is an unfavourable arbitrage situation with respect to other BC Hydro rate payers.

We suggest that one change to the program may be to only allow net metering where only net power from a SOP is sold to BC Hydro. This would avoid companies that are buying much less expensive power from making a premium on the power they sell. For most users, the prices we pay are quite close to the prices we are paid from the SOP.

**BC Hydro Integrated Resource Plan**

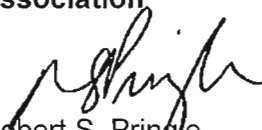
In March 2013 BC Hydro amended the rules of the SOP, one change being an extension of the Commercial Operation Date deferral from one year to two years. August 2013 BC Hydro submitted to the Minister of Energy an Integrated Resource Plan (IRP). In the IRP BC Hydro states "BC Hydro modified various SOP rules...these changes are expected to result in energy supply reductions ". "BC Hydro expects to achieve an energy supply reduction of contracted energy". "The IRP recommends reviewing IPP projects not yet in commercial operation and renewing cost-effective EPAs. Greenhouse natural gas fired cogeneration projects should play a more prominent role in the IRP as these projects will produce clean energy, replacing the need for the purchase of energy from Alberta and the United States. Greenhouse natural gas fired cogeneration projects would all be situated in the Lower Mainland, close to the end users. This continual moving of the goal posts makes business decisions very difficult.

The Standing Offer Program was designed to encourage projects such as ones being proposed by the greenhouse industry, with an indication that there would be no caps and the existing program would remain in place until at least 2014/2015. The greenhouse industry together with the Ministry of Agriculture and the Agriculture Land Commission has spent considerable resources, time and energy in the development of guidelines for the use of cogeneration in greenhouse facilities. A number of individual growers have also spent considerable effort in designing and preparing applications on that basis, it will be a setback to the greenhouse industry and its interests in B.C. if BC Hydro significantly changes the program.

The Province has indicated their support for cogeneration as a way to enhance the competitiveness of the BC greenhouse industry, an industry that requires this enhancement to sustain viability in the face of increasing low cost competition. We need certainty in this program in order to be able to plan any investments, obtain financing and to commit to contracts for equipment and new construction. It is projects like these that will help keep jobs in BC.

Yours truly;

**United Flower Growers Co-operative  
Association**

  
Robert S. Pringle  
Chief Executive Officer

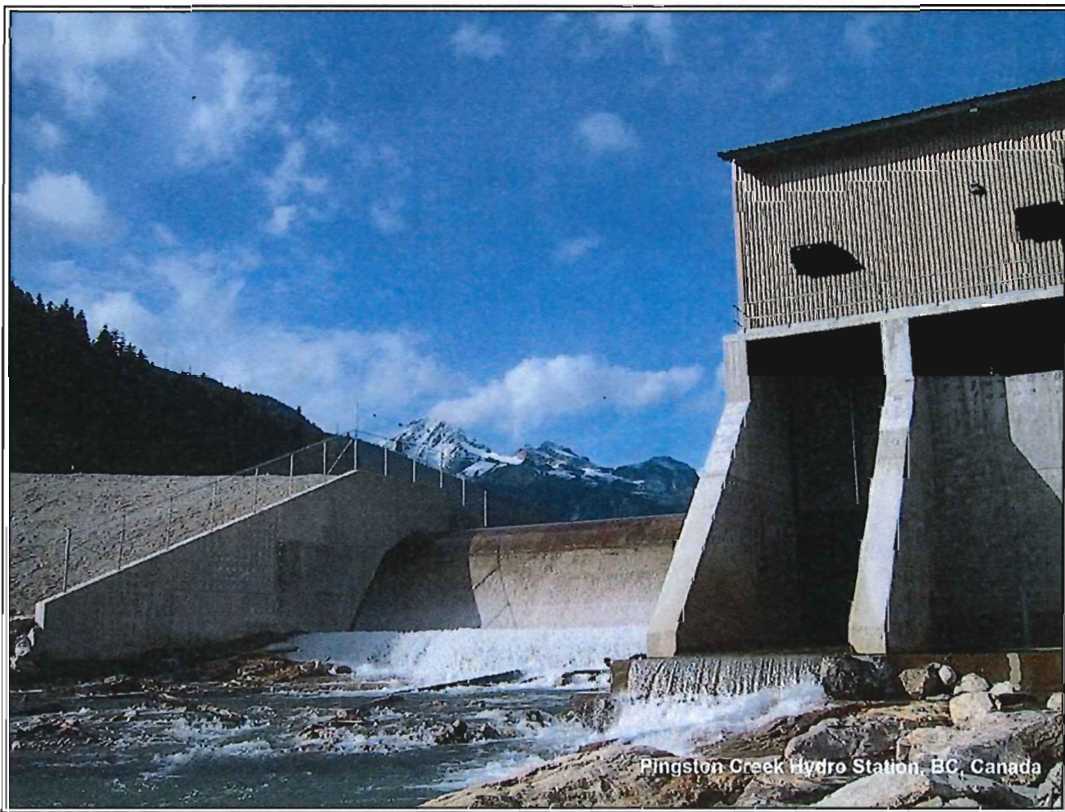
**BC Greenhouse Growers' Association**

  
Linda Delli Santi  
Executive Director



**Brookfield Renewable Energy Group**

**Comments on BC Hydro's August 2013 Draft Integrated Resource Plan**



October 18, 2013

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## 1 Summary and Conclusions

Brookfield Renewable Energy Group (Brookfield) is pleased to provide BC Hydro with comments on its draft Integrated Resource Plan dated August 2013.

Independent power producers (“IPPs”), such as Brookfield, supply almost one quarter of the electricity consumed in British Columbia. IPPs play an important role in British Columbia meeting the objectives of the *Clean Energy Act, 2010* by providing British Columbians with low cost, reliable, *made-in-BC* clean electricity. IPPs provide substantial benefits to the province including diversity of supply, First Nation participation, depth of experience, access to capital, innovation and risk transfer.

Brookfield suggests the Integrated Resource Plan would be a more robust plan, and one that could more readily adjust to inevitable uncertainties going forward, if BC Hydro planned to procure additional renewable generation capacity from IPPs in the short and medium term. IPP-based renewable generation has a track record of success in British Columbia, is more incremental in nature, and is able to come on-line more quickly. This allows for greater flexibility and resource diversity going forward, helping manage inherent uncertainties in large-scale hydro development and projections for electricity demand and DSM. It also allows for the benefits of generation development to be spread more widely across the province, in partnership with a diversity of communities and First Nations.

Brookfield therefore recommends BC Hydro adjust its draft Integrated Resource Plan to include short and medium term procurement and/or regular market sounding for renewable generation such as new wind, small hydro and solar projects from IPPs to complement BC Hydro’s three proposed large hydro projects. Such a plan would help ensure electricity self-sufficiency and encourage switching to achieve lower greenhouse gas emissions while providing better value for ratepayers. It would also allow for the meaningful economic participation of First Nations and a more equitable sharing of community benefits across British Columbia.

### About Brookfield Renewable Energy Partners

Brookfield Renewable Energy Partners (TSX: BEP.UN) operates one of the largest publicly-traded, pure-play renewable power platforms globally. Its portfolio is primarily hydroelectric and totals over 5,900 megawatts of installed capacity. Diversified across 70 river systems and 12 power markets in Canada, the United States and Brazil, the portfolio generates enough electricity from renewable resources to power three million homes on average each year. For more information, please visit [www.brookfieldrenewable.com](http://www.brookfieldrenewable.com)

Brookfield currently owns and operates five hydroelectric generation stations in British Columbia producing an average of 747 GWh of clean energy a year. Through its partnership, Kwagis Power, with the 'Namgis First Nation, Brookfield is currently constructing a new 45 MW run-of-river hydroelectric power project on the Kokish River on northeastern Vancouver Island. When completed, this c. \$200 million investment will provide enough clean energy for close to 13,000 homes in British Columbia.

Brookfield, through its affiliates, has a number of other investments in British Columbia including Western Forest Products Inc., an integrated Canadian forest products company and the largest coastal British Columbia woodland operator employing more than 2,000 people and selling products in over 25 countries worldwide. Brookfield also has significant real estate holdings in the province including the 853,000 sq. ft. Royal Centre in downtown Vancouver.

## **2 Context of the Plan**

As required by the *Clean Energy Act*, the *Integrated Resource Plan* ("IRP") is a description of what BC Hydro plans to do to achieve electricity self-sufficiency and to respond to the province's energy objectives as set out in the Act.

Many different paths lead to electricity self-sufficiency. In choosing between these paths, the interests of ratepayers should be paramount. These include affordable costs, reliability and diversity of supply, as well as mitigation of and protection from cost overruns and schedule delays. Moreover it is important to consider practical matters like risk transfer away from ratepayers wherever possible, and access to capital from diverse sources to better ensure long-term cost-effectiveness. In addition, job creation and regional economic development are inevitable and worthy objectives for a long-term plan for electricity. Considering the significant investments involved, British Columbia's citizens, communities, and First Nations should all benefit from this expenditure. Lastly, the plan should be robust: a plan that is capable of achieving the province's energy objectives independent of a wide and uncertain range of futures.

To achieve these objectives in the optimal way, British Columbia is fortunate in being home to a number of companies, including Brookfield, that are committed to deploying their technical and financial resources to develop reliable and affordable electricity supplies where sustainable programs exist. Enabling such investment as part of BC Hydro's larger integrated resource plan would serve to minimize development risk to British Columbians, diversify the province's supply sources, and spread economic development benefits more broadly across British Columbia's communities. A robust plan would therefore recognize and include these resources.

### **3 Dealing with Uncertainties: Demand Forecast**

The robustness of BC Hydro's integrated resource plan depends to a large measure on the accuracy of its forecast assumptions for both demand and the take up of demand side management and conservation initiatives ("DSM").

Demand forecasts are always subject to a degree of uncertainty: a robust plan needs to be responsive to the evolution of demand. For example, although the plan explicitly identifies the effect of LNG developments, there may be further upwards uncertainty in the demand forecast as a result of other economic development within the province in support of the growing LNG industry. A step change in the take-up of electric or plug-in hybrid cars could also have a significant impact on the demand forecast, although the impact could be either beneficial or disruptive depending on the degree and effectiveness of advanced planning. Conversely, future economic development may not drive new load growth to the same extent as seen in the periods following previous recessions.

BC Hydro's DSM forecasts are laudable as stretch targets for the province. However, the assumptions appear aggressive when compared both against what has been achieved to date in British Columbia, and against the results or planned results of similar programs in other North American jurisdictions. BC Hydro's planned savings of almost 12% by F2023 are almost twice those forecast by other utilities. Over-forecasting likely savings will tend to overstate the cost-benefit of DSM compared to alternative options, and is likely to result in the selection of an economically inefficient supply portfolio. While DSM is an essential tool in management of future supply-demand balance, British Columbia should be cautious about relying too heavily on DSM programs the effectiveness of which has not been proven through past experience or large-scale trials.

A robust plan should demonstrate how supply and demand will continue to be balanced even if the actual load, net of DSM, differs materially from the planned load. This could include, for example, the procurement of a diverse portfolio of new clean energy resources of differing capacities and technologies.

### **4 BC Hydro Supply Options: Primary focus on Site 'C'**

BC Hydro is planning on three large, discrete new supply projects to meet the planned net load increase over the twenty year planning period: Site 'C', Revelstoke Unit 6, and capacity increases at GM Shrum.

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While the proposed Site 'C' project can be a useful long-term addition to the provincial generation portfolio, it is important to manage key uncertainties associated with this project including its timelines, local support, and costs. Relatedly, any decision to proceed to construction should be based on a comprehensive and realistic projection of the likely ultimate cost. This should include a full, independent evaluation of the risks that will be borne by ratepayers and taxpayers, including the potential for public-private partnerships to reduce these risks wherever appropriate.

The plan makes a number of assumptions about the Site 'C' project which include considerable uncertainties going forward:

- The scope of the \$7.9 billion cost estimate: How the province will deal with potential upward pressures or uncertainties associated with this estimate is not adequately addressed in the draft IRP, nor does the draft IRP form a complete basis for comparison against IPP alternatives. For example, there is no budget for interconnection costs and/or system upgrade costs, overhead and financing costs, all of which are likely to be significant. This may hide long-term costs to British Columbia's ratepayers. In particular, cost comparison with IPP generation alternatives will be misleading if costs are not compared on a like-for-like basis e.g. Site 'C' is evaluated over 100 years while IPP projects are evaluated over the 40 year term of their power purchase agreement with BC Hydro (despite the fact that these projects will continue operating to the benefit of the province thereafter). Without being further addressed in the IRP, there is a danger that the plan will systematically underestimate the cost of Site 'C' while overestimating the cost of IPP renewable energy projects.
  
- The robustness of the cost estimate: It is not clear whether the cost estimate fully accounts for design risks especially relating to geology; the changing regulatory environment e.g. the new *Fisheries Act*; due consideration of local impacts and opposition; and the history of cost escalation for major projects. We note that the World Commission on Dams reports that the average cost over run on projects of this nature is 50%. Taken together, there is a high probability the final project cost will be higher than \$7.9 billion. This should be recognized in comparing the cost of Site 'C' with alternatives such as IPPs, where the cost is known in advance and is fixed (the private sector investor bears the risk of any cost overruns and delays).
  
- Risk to taxpayers / ratepayers: Any decision for BC Hydro to build Site 'C' outside of a public-private partnership fully exposes ratepayers and taxpayers to the financial risk of project delays, cost escalation and output performance shortfalls, including the viability of a planned 100 year life expectancy.



**5 Other Supply Options: Renewable Generation from IPPs**

Independent power producers (“IPPs”) already supply almost one quarter of British Columbia’s electricity. IPPs play an important role in ensuring British Columbians continue to have access to low cost, clean, reliability electricity supplies.

Brookfield believes that an incremental approach to development that recognizes the unique skills and experience of a diverse range of industry participants is preferable. IPPs are particularly well suited to manage the risks involved with clean and renewable energy project development, where they have already played a significant role. Encouraging IPP projects (in addition to those being pursued by BC Hydro), as well as considering public-private partnerships on larger-scale projects has several advantages, including:

- Diversity of development approaches, enabling competition to reduce up-front costs, enabling innovation (such as community partnerships) and avoiding overreliance on a single approach or region.
- Experience, particularly from beyond British Columbia where major clean and renewable energy project development has been prevalent and increasing in recent years.
- Risk transfer away from ratepayers, particularly where processes and partnerships are well-managed thus reducing burdens of potential cost overruns on ratepayers and strengthening incentives on the developer to ensure on-time and on-budget completion.
- Access to capital, from diverse sources, particularly at a time of constrained government budgets.

At least as importantly, pursuing IPP clean energy projects enables a more comprehensive array of resources in the province and builds on a strong history of successful community and First Nations partnerships, which provides a number of benefits including:


- An incremental approach to supply – enabling smaller scale additions of renewable capacity over the near term to better adjust to uncertainties in projected supply and demand as they materialize over time.
- Resource diversity – enabling a broader array of technologies, such as wind, solar, and small hydro to complement larger project development over time such as Site ‘C’.
- Geographic diversity of economic development and jobs benefits – enabling energy infrastructure development benefits such as community partnerships, tax revenue, and jobs to be spread across broader areas of British Columbia.

The diversity provided through the development of other clean energy resources, and the adoption of incremental (phased) development approaches will be invaluable even as Site ‘C’ planning and development proceeds. It is



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critical that the province does not foreclose other opportunities now. IPPs have an important complementary role in providing both incremental supply and diversity of supply to the province. Enabling new IPP-led clean energy generation projects will provide flexibility to respond to demand and DSM uncertainty, and respond cost-effectively to changes in BC Hydro’s large-scale, centralized, and long-term generation projects as they proceed through development to construction. In addition to preserving this flexible, low-cost option for British Columbia’s electricity ratepayers, enabling such development is critical to the health of the important IPP industry in British Columbia.

<p><b>Kokish Hydroelectric Project</b></p> 	Owner / operator	Kwagis Power, a joint venture between the 'Namgis First Nation and Brookfield Renewable Power
	Location	Kokish River, northeast Vancouver Island
	Type	45 MW run-of-river with very low ecological footprint
	Capacity	145 GWh, enough for 13,000 homes
	Investment	\$200m (approx.) \$11.87m spent in local communities to date with a further c.\$3m forecast local spend to complete construction
	Key Dates	<ul style="list-style-type: none"> <li>• Major permitting complete - May 2012</li> <li>• Start of commercial operation - April 2014</li> </ul>
	Other benefits	<ul style="list-style-type: none"> <li>• Sustainable economic development for 'Namgis community</li> <li>• Peak generation coincides with winter peak demand</li> <li>• \$1m p.a. water rent</li> <li>• \$1m p.a. municipal taxes to local municipalities</li> <li>• Reinforces Northern Vancouver Island electricity system</li> <li>• Currently 160 construction employees on site</li> <li>• Investor financed at no cost to taxpayers</li> </ul>

The IPP community and clean energy also provide a number of other benefits to British Columbians:

- a. First Nations and community partnerships – IPPs provide opportunities for First Nations and communities to participate in and benefit from infrastructure development in their traditional territory either alone or with partners of their choosing. This also helps ensure proper stewardship of the environment.
  
- b. Local/regional economic development – regional generation development by IPPs avoids the concentration of economic development in support of coastal LNG facilities in a single region with little spin-off benefit for other communities province-wide. IPPs have established a network of local suppliers supporting jobs across the province in construction, engineering, accounting, planning etc., many drawn from local communities. To postpone all prospective clean energy projects indefinitely would be to disband these networks and the economic benefits they would have brought to individuals and communities across the province.

- c. British Columbia is an acknowledged leader in using public-private partnership development of major provincial infrastructure to secure long-term benefits for taxpayers. Properly structured, well-managed procurement processes reduce or eliminate the burdens of potential cost overruns on ratepayers and strengthen incentives on the developer to ensure on-time and on-budget completion. Competitive pressures drive innovation, enabling reduced up-front cost savings beyond relying solely on a single provincially-backed entity.
  
- d. IPPs not only bring expertise and experience developing clean energy projects, they also provide access to capital from diverse sources, important particularly at a time of heightened government fiscal constraints. It is important when comparing BC Hydro projects with IPP-led projects to ensure competitive neutrality and, in particular, to include the full costs of the capital risks retained by taxpayers for BC Hydro's investment in projects such as the proposed Site 'C'.

Planning for IPPs to develop carefully selected clean energy projects procured through well-managed processes will complement BC Hydro's own generation developments while avoiding unplanned reliance on large natural gas-fired generation or imports.

## **6 Recommendations**

For the reasons outlined above, we believe that IPP generation projects have an important and complementary role to play in British Columbia's *Integrated Resource Plan*, providing substantial benefits to ratepayers, minimizing risks, and enabling greater and more diverse economic development benefits for the province.

Encouraging these IPP clean energy projects requires a flexible approach to development and flexibility in processes. For example, preserving off-ramps for major development projects and enforcing this right with respect to projects which have run into difficulties that materially affect their economic viability. Equally as important are flexible processes, including ongoing planning process, as well as consistent market sounding and RFP processes. Given the clear benefits they can provide the province, British Columbia should employ these flexible processes to avoid foreclosing other options such as clean energy from IPP resources.

Building on this, Brookfield recommends the following:

**Brookfield**

- a. Brookfield supports the basic goal of demand side management as part of the province's stewardship of its natural resources; however, BC Hydro should ensure that a realistic and objective assessment of the success of existing programs and the potential future conservation opportunity are undertaken. Realistic assessments of conservation potential are important to avoid overestimating the potential and/or underestimating the costs of programs required to achieve the targets. As with supply, a most-competitive cost planning approach should be applied to conservation and demand management programs, including consideration of the impacts during periods of surplus energy in the province, and comparison against supply alternatives.
  
- b. Brookfield agrees with the stated goal of optimizing the current IPP portfolio; However, projects which are clearly now unable to proceed should have contract termination provisions exercised, and the power purchase agreements transferred to other parties with cost effective alternatives. The province should not back away from the valuable benefits that IPP projects can provide as described earlier. We believe the province should not rely solely on a small number of very large-scale projects to secure its long-term electricity needs while foreclosing on opportunities to develop cost-effective smaller scale clean energy resources across the province. We therefore recommend that the province conduct ongoing, regular market sounding on clean energy through incremental streamlined clean energy calls. This not only enables the development of a diversity of projects wherever they are cost-effective, it also allows for reevaluation of costs on an ongoing basis. This is important to consider since the costs of wind energy and solar projects have substantially dropped since British Columbia's last Clean Energy Call, a fact by which many other jurisdictions pursuing renewable energy have been benefitting from over recent years. Regular market testing through RFP processes would help to facilitate continual cost comparison of alternatives in the best interests of British Columbian ratepayers.
  
- c. A strong transmission backbone is critical in ensuring the reliability of an integrated province-wide electricity system, especially where geography has resulted in wind and hydro generation resources being a considerable distance from the major load centres. However, all-new transmission lines are increasingly difficult and expensive to permit and construct. We therefore support BC Hydro's plans for non-wire options, such as reactive compensation, to cost-effectively increase the capacity of existing transmission paths including the main 500 kV north-south path from GMS to Kelly Lake. In addition to supporting the potential future development of Site C, the province should consider other clean energy options that can be delivered cost-effectively to new and existing load centres through unlocking new capacity in existing electricity transmission lines.

- d. We encourage BC Hydro to continue working with the government, with LNG developers on the north coast, and with the natural gas extraction and mining industries in the northeast to explore opportunities for clean energy to offset carbon emissions. This will become increasingly important as British Columbia expands its role as a global natural gas producer. Environmentally-responsible extraction and delivery are becoming increasingly important determinants of long-term success of natural gas infrastructure. British Columbia's commitment to clean energy, particularly as complimented from diverse sources that can be provided quickly, incrementally and cost-effectively by IPPs, can play a central role in ensuring the environmental sustainability of such resources.

Comments to BC Hydro in Integrated Resource Management Plan  
October 18, 2013

Submitted by Elaine Golds, Ph.D. ([egolds@sfu.ca](mailto:egolds@sfu.ca)), Conservation Chair, Burke Mountain Naturalists, Coquitlam

These comments are submitted on behalf of the Burke Mountain Naturalists ([www.bmn.bc.ca](http://www.bmn.bc.ca)), a group of approximately 200 people who reside mainly in the communities of Coquitlam, Port Moody and Port Coquitlam in the lower mainland.

1. No Support for LNG

We do not support the development of any LNG facility which is to be supplied with electricity from BC Hydro. We feel it is entirely inappropriate for what is almost fossil-fuel free electricity to be used to support fossil fuel exports from BC. BC Hydro will never have a sufficient supply of electricity to supply all the potential demand to meet LNG needs so we feel it would set a very poor precedent for BC Hydro to develop plans to provide an initial 3000 GWh of electricity for LNG development. In particular, we are concerned about plans to develop gas from the Horn River basin which contains approximately 12% CO<sub>2</sub>. To develop this gas would almost certainly result in the release of this CO<sub>2</sub> to atmosphere since there are no plans in place to capture and store the carbon. Developing natural gas from dirty sources such as these with clean electricity makes absolutely no sense.

2. Conservation First

We strongly support BC Hydro developing more conservation initiatives to make better and more efficient use of existing electricity sources. BC Hydro has developed a good reputation for doing this with its power-smart program with the exception of its so-called Smart Meter Program which, to date, cannot be shown to have resulted in any conservation of electricity but cost a huge amount of money. We encourage BC Hydro to take additional measures to achieve even better conservation of our electricity resources.

3. No Support for Site C

We definitely do not support the development of Site C. We feel that BC Hydro has made a poor case for its need (other than to supply LGN which we do not support). The damage that would be done to the Peace Valley from constructing yet another major dam would be immense and we feel that the people of the Peace River Valley have already made sufficient sacrifices to supply electricity to people in the rest of the province. Site C is opposed by First Nations and many other residents in the Peace Valley. Their wishes should be respected. We cannot support the loss of wildlife habitat and agricultural land that would occur should Site C be built.

4. Managing Resources Wisely

We certainly support wise management of resources including those owned by private industry. In this regard, BC Hydro needs to do more to ensure that run-of-river electricity is not damaging fish habitat. Provincial oversight of these operations is clearly lacking. We do not support increased use of such facilities given their poor environmental performance and the fact that their electricity is mainly available when BC Hydro already has ample supplies from its own system. We strongly encourage BC Hydro to develop their own requirements to ensure environmental sustainability and public transparency when purchasing electricity from private suppliers.

It is not clear to us why BC Hydro is purchasing electricity from private sources generated from natural gas when the use of Burrard Thermal is so heavily curtailed. Surely, this is not cost-effective. Burrard Thermal should be used to generate electricity during peak demand periods in winter. If limitations are put on the use of natural gas to generate electricity for the grid (i.e., the requirement for 93% fossil fuel-free electricity), then such limitations should apply to all generation of electricity from natural gas including that from private industry. We also encourage BC Hydro to make use of the Columbia downstream benefits to generate more electricity for use in BC.

In order to ensure that BC Hydro is using resources wisely, we think all of its actions and programs should be subject to review by BCUC to ensure the needs of the people of BC are being met in a sustainable fashion. In recent years, some projects undertaken by BC Hydro have been removed from the purview of BCUC; it is often these projects that have been the most questionable.

#### 5. Resource Smart Planning

We certainly support the proposed upgrades to Revelstoke and GM Shrum to increase peak capacity.

We thank you for the opportunity to comment.



**CLEAN BALANCE POWER INC.**

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**Clean Balance Power Comments Regarding  
BC Hydro's Integrated Resource Plan  
Submitted to Government on August 2, 2013**

**October 16, 2013**

**Introduction**

BC Hydro submitted its Integrated Resource Plan ("IRP") to the Province on August 2, 2013. BC Hydro has stated that it will receive written comments on its submission during the period from September 3 to October 18, 2013. BC Hydro has stated, further, that it intends to review comments received during this period, and that it will use those comments to "inform" the final IRP that is submitted for Government's approval by November 15, 2013.

Clean Balance Power submits the following comments for consideration by BC Hydro in respect of that process.

**Clean Balance Power**

The Province of British Columbia is blessed with significant rainfall and dramatic topographical variance located in mountainous regions adjacent to the Province's energy load centres. Even by global standards, this offers BC ratepayers a unique comparative advantage in cost-effective, clean and sustainable, utility-level energy storage.

Pumped hydro storage is the world's most common means of providing large utility electricity storage, primarily because it can expeditiously balance large variations in load and supply on complex grids within seconds.

The mandate of Clean Balance Power, a company formed by the former principals of Cloudworks Energy Inc., is to develop pumped storage hydroelectric capacity in British Columbia. Clean Balance Power believes that:

1. pumped storage hydro offers a long term, clean and sustainable source of capacity representing a reliable, cost-effective, and GHG-free alternative to carbon-based capacity alternatives such as natural gas-fired peaking plants;
2. pumped storage hydro offers significant advantages relative to the capacity attributes of a large, reservoir-based hydroelectric capacity alternative such as Site C, while at the same time creates a fraction of the environmental footprint and avoids significant social cost to the Province, First Nations and ratepayers; and



3. pumped storage hydro opportunities in British Columbia can be sited near the industrial, commercial and residential load centres of the Province. In the Lower Mainland, the permitting advantages of pumped storage relative to a large gas-peaking plant are obvious. In addition, this optimum siting advantage means ratepayers can benefit from the deferral of future costs of ancillary services and high-voltage transmission investments, and that Powerex can be offered a new trading platform to replace the one it will lose from the mothballing of the Burrard thermal generating station.

### **The IRP Process**

Clean Balance Power remains both uncertain and concerned about the public process concerning the IRP. We note that:

1. these comments are being supplied to BC Hydro, rather than to Government as the approving body;
2. there appears to be no process by which Government will be made aware of the comments submitted in this process, or how those comments have or have not been incorporated into the final version of the IRP;
3. neither Chapter 1 of the IRP nor any other document of which we are aware provides clarity about any future process that may be undertaken with respect to the IRP once the final version is submitted to Government on November 15, 2013; and
4. despite the long gestation period of the IRP to date, BC Hydro has provided itself with less than one month to digest and incorporate comments received in this process – a time frame which would seem inappropriately tight to reflect meaningful changes.

These factors are of considerable concern to Clean Balance Power. We note the stark contrast between this process and the public and transparent regulatory process used by virtually all other utilities of which Clean Balance Power is aware.

### **Clean Balance Comments**

Notwithstanding our fundamental procedural concerns, Clean Balance Energy makes the following observations on the August 2, 2013 IRP for BC Hydro's consideration.

#### **1. The Canadian Entitlement and the IRP**

BC Hydro's Recommended Action 7 is to pursue "bridging options" for capacity, through the use of market purchases and reliance on the Canadian Entitlement under the Columbia River Treaty. This would seem to be a significant assumption given the risks associated with the renewal of this Treaty. Moreover, and by BC Hydro's own assessment, this is a violation of existing legislated obligations in respect of self-sufficiency.

Clean Balance Power believes that it fundamentally inappropriate for BC Hydro to offer a base-case plan that appears contrary to legislation. Clearly such a solution could never be proposed in an independently-regulated IRP, and we assume would only be included in this document with the prior

consent of Government. Public planning exercises are only usefully conducted when the context and boundaries are understood – if the rules have been changed, this should be done openly so that all stakeholders can understand and assess the real public-policy parameters.

**RECOMMENDATION #1**

*BC Hydro should amend its base-case to conform to applicable legislation, or it should fully disclose its basis for relying on Government actions to accommodate its planning approach.*

**2. Understated Delivery Risk of DSM and Site C**

The implied justification for relaxing the self-sufficiency requirements is that the capacity gap is both relatively small, and relatively short-lived. Meanwhile, BC Hydro states that the option-costs for market or Canadian Entitlement are “expected to be incidental business expenses” – an unfortunately vague and even trivializing term in this context.

However, Clean Balance Power notes that to conclude that the capacity gap is both small and transient, one has to rely on the assumption that the extremely ambitious DSM targets are met and that Site C is available at its earliest in-service date. These assumptions are casually made in section 8.2.7.1 where the proposed strategy is justified, despite being raised as serious risks elsewhere in the document.

In order to implement this recommendation, the IRP states that BC Hydro and Powerex will “monitor market conditions” to ensure that imports are viable. It was concerns about Powerex’s ability to execute a reliable import strategy that led to the soon-to-be-abandoned self-sufficiency requirement in the first place. No mention is made, let alone assurance granted, that the probability of success is different now.

In addition, in section 8.2.7.1, BC Hydro compares the cost of covering the three-year gap through market purchases with the cost of building “new natural gas generation or Revelstoke Unit 6 solely for a three-year period before Site C’s earliest ISD”. This statement – which makes the choice sound self-evident – clearly relies on the reader ignoring (i) delivery risk for both DSM and Site C; (ii) lead-times for the alternatives; and (iii) the re-emergence of a capacity gap in roughly 15 years.

In fact, the fractured structure of the IRP document and its disconnection of risks and recommendations make it next to impossible to measure the risk associated with various recommendations. In a regulated process, interveners could work around this short-coming through information requests. In this circumstance, there is no such opportunity.

Overall, then, BC Hydro’s statement (page 6-120) that it is “comfortable” with the risks is simply inadequately explained and impossible to assess. In addition, discussion (at page 6-129) about advancing Resource Smart projects and gas-fired generation as a hedge against risks are not sufficiently-well explained to ensure that the timing can be matched to potential need.

**RECOMMENDATION #2**

*BC Hydro should clearly set out how its reliance on market purchases and the Canadian Entitlement would be managed under a range of scenarios, by more clearly linking its base-case risks to its contingency plans. This should lead to execution plans which truly address the legitimate risks*

*inherent in BC Hydro's base case, rather than relying on BC Hydro to "monitor" and "manage" market and infrastructure-development matters (the thrust of BC Hydro's execution approach under section 8.2.7.2) that are clearly beyond its control.*

*A more thoughtful review of DSM and Site C delivery risk may lead to a more balanced perspective on the need for other domestic, supply-side, capacity additions (that is, beyond the "advancement" theory outlined in Chapter 6). Clean Balance Power believes that pumped storage should be more carefully considered as part of that mix.*

*Clean Balance Power believes that BC Hydro's analysis of capacity alternatives, notably as set out in section 6.2.7.2, is too general for its purpose, and lacks the careful analysis and assessment the subject deserves.*

*The IRP's strong endorsement of gas-fired capacity may well be correct ultimately, but the self-evidence with which gas is justified in this IRP is simply not adequate for the purpose or resource comparison, and contains a tone of certainty that cannot be justified given BC Hydro's recent history of first supporting, then rejecting, and now re-supporting gas-fired generation.*

### **3. Unsubstantiated and Overstated Statement of Pumped Storage Development and Operational Uncertainty**

More specifically, Clean Balance Power believes that BC Hydro's analysis of pumped storage as a capacity alternative is deficient in a number of important aspects.

The statement that "[c]apacity options other than natural gas fired generation and [Resource Smart] projects have significant development and operational uncertainties" is sweeping and unsupported. As the IRP itself notes (page 3-63), "pumped storage is the most widespread energy storage system in use on power networks with over 100,000 MW installed worldwide." Moreover, historically, BC Hydro's core strength has been and remains building, operating and managing large hydro-electric installations in the Province, essentially the skill set required to develop pumped storage capacity in the Province. It is difficult to see how such a ubiquitous technology as pumped storage could be, in any serious review, casually dismissed as having "operational or development uncertainties."

BC Hydro further elaborates somewhat on its concerns about pumped storage development at page 6-20, observing that "pumped storage has not yet been permitted or developed in BC, and thus significant uncertainties exist around the permitting process and development timelines."

Clean Balance Power takes some umbrage with such a comment.

Clean Balance Power has been actively working with First Nations groups and various government ministries to move a number of potential pumped storage sites through the pre-permitting phases of development in the Lower Mainland for the past 3 years precisely to reduce the uncertainty of pumped storage permitting and development.

Because of these efforts, the company believes that due to the limited environmental footprint of pumped storage, particularly closed-loop pumped storage, some sites could be permitted as fast, or faster, than gas-fired generation and at a very reasonable cost. *The real focus of BC Hydro in the IRP should be to more carefully understand and assess timelines and risks associated with permitting and*

*development of pumped storage projects in British Columbia rather than dismiss the technology as uncertain.*

The fact that there is already over 130,000 MW of pumped storage capacity in the world, more than 20% of this in the United States, would suggest that there is a large part of the global utility sector that might not agree with the IRP's conclusions.

Moreover, contrary to the IRP conclusions, the United States Government is actually moving quickly on embracing more pumped storage in that country and acting to reduce permitting uncertainty. On February 14, 2013 the U.S. Senate passed the Hydropower Regulatory Efficiency Act of 2013 which, under Section 6, would "improve the regulatory process and reduce delays and costs for hydropower development at...closed-loop pumped storage projects" and "investigate the feasibility of the issuance of a license for...closed-loop pumped storage projects in a 2-year period".

Finally, in the next paragraph on page 6-20 of the IRP, gas-fired generation is trumpeted as having a "relatively short construction time-line *once permitting is secured.*" (emphasis added).

Such sophistry – contrasting in adjacent paragraphs one technology as having a unique permitting challenge, while promoting another's speed by focusing on post-permitting time lines – is not a helpful analysis.

Moreover, the underlying argument is selective. It has been years since a gas-fired generation plant was permitted in BC, and there has been fundamental legal and public-attitude change since then. Site C, while exempt from review by the BC Utilities Commission, faces an unprecedented approval process. And while pumped-storage would be a unique regulatory proposition in BC, hydro-electric plants with similar impacts and technology are permitted regularly.

Indeed, Clean Balance Power, whose principals have considerable permitting experience in BC, has investigated a number of potential pumped storage sites in BC, and believes that pumped storage options, particularly those using a closed-loop design, could be permitted here in a matter of 2 years or less.

### **RECOMMENDATION #3**

*There is simply no reason for BC Hydro to dismiss pumped storage for reasons of operational or development uncertainty. Rather than simply discount a low-risk technology simply because it doesn't exist in British Columbia, the IRP should make recommendations to reduce this perceived uncertainty by recommending the BC Hydro Power Acquisitions group acquire a portfolio of permitted pumped storage sites near provincial load centres.*

#### **4. Significantly Understated Advantages of Pumped Storage Relative to Other Capacity Alternatives**

Firstly, BC Hydro identifies and discusses, in the general case, the cost issues associated with pumped storage. The IRP estimates the UCC of the lowest cost available pumped storage opportunity at points of interconnection in the Lower Mainland at \$118/kw-year roughly the same as \$120/kw-year estimated for its own capacity projects in the Kelly-Nicola region, but higher than \$100/kw-year estimated for BC Hydro's own pumped storage opportunity at Mica (the BC Hydro costs do not include costs required to get to the Lower Mainland). Clean Balance Power cannot reconcile the estimated UCC for pumped



storage used in the IRP, with the significantly lower costs that were estimated in the 2011 Knight Piesold report commissioned by BC Hydro.

Secondly, in light of the substantial capital cost and delivery risk of Site C, the IRP has not done enough to compare that resource option to alternatives that might include pumped storage. Site C has both energy and capacity attributes. The \$8 billion estimated cost of Site C is substantial for 1100 MW of capacity - *an estimated 6 times the cost per MW of a similar sized pumped storage facility located in the Lower Mainland region*. This does not include any estimate of the future the transmission costs required to deliver energy to load centres from northeastern BC where Site C is located.

Clearly, Site C also has energy attributes that are substantial. Accordingly, Clean Balance Power believes the IRP should be amended to compare the risks and costs of the Site C resource to that of a comparable “paired resource” - a gas-fired facility (energy) and a pumped storage facility (capacity) – that when operated together would have the same energy and capacity attributes as Site C.

Thirdly, Clean Balance Power believes the IRP does not reflect an open-minded approach to consider specific applications where pumped storage may offer critical advantages on either cost grounds – due to transmission constraints, for example – or on environmental grounds, perhaps due to air-shed limitations. These issues may apply, particularly, providing capacity options for the Lower Mainland or to LNG development cases.

Consider an LNG case in the Kitimat airshed for example. BC Hydro’s position would seem to be that a “peaker” can provide capacity needs more cheaply and effectively than local pumped storage. However, if the air-shed is already under stress from the LNG plants themselves and from the transportation infrastructure that they require, a peaker may not be viable.

Moreover, if there are pipeline capacity constraints, the gas-plant’s fuel cannot be costed at the market price of natural gas, but must also include the opportunity cost of not using that gas in LNG production. Effectively, the peaker is burning the LNG marginal cost and that changes the economics fundamentally.

A pumped storage plant uses fuel costed at one of the water-rental price, the opportunity cost of foregone market sales, or the cost of night-time imports. Unlike a gas peaker then, pumped storage fuel costs can be made immune to gas-price risk, and therefore representing an effective hedge against such risk. While this may seem like a trivial value in today’s gas market, the “straight-edge” forecasting implied in BC Hydro’s current support of natural gas has caught out many utilities, including BC Hydro, before.

In addition, BC Hydro has not provided an effective analysis of the role that pumped storage can play in GHG reduction. BC’s LNG industry will prevent the Province from meeting its GHG targets. Pumped storage operating in a hydro-dominant system will have a relatively low GHG footprint on an expected basis.

### **RECOMMENDATION #4**

*Clean Balance Power believes the IRP should have compare the risks and costs of the Site C resource to a comparable “paired” resource - gas-fired base-load (energy) generation and pumped storage (capacity) – which, when operated together, would have the same energy and capacity attributes as Site C. Further, Clean Balance Power recommends BC Hydro amend the IRP to reflect pumped storage*

*as a preferred capacity solution in cases where case-specific cost conditions, local air conditions, or Province-side GHG conditions violate the broader arguments for Resource Smart or gas-fired generation.*

**5. Understated Flexibility of Pumped Storage Relative to Other Capacity Alternatives**

The IRP has not appropriately differentiated pumped storage capacity leverage and flexibility relative to gas peakers and large reservoir-based capacity projects like Site C. Gas peakers and traditional reservoir based hydro facilities like Site C can “stop and start” producing energy but they cannot “swing” from production to consumption. For example, should domestic load drop by 2000 MW in a short period, a 1000 MW gas peaker would simply stop producing 1000 MW, leaving the system to deal with any conditions of oversupply (i.e., look for the next highest marginal cost 1000 MW to turn down). This oversupplied condition could be exacerbated should such an event occur during spilling (freshet), or if must-run scheduling or non-firm contracted renewables continue to generate in periods of soft demand. In extreme cases, Powerex may need to export the excess energy at very low prices.

In contrast, a 1000 MW pumped storage plant can stop producing energy and start consuming energy in seconds, effectively offering 2000 MW of “swing” capacity (ignoring efficiency losses of 15%-20%). In this case, Powerex could actually take advantage of weak pricing in neighbouring jurisdictions and import power to be stored in the pumped storage plant.

**RECOMMENDATION #5**

*For comparative purposes, the IRP has costed 1 MW of capacity from pumped storage similar to 1 MW of capacity from a gas peaker and 1 MW of capacity of a traditional reservoir-based hydro project like Site C. This is a significant oversimplification and dramatically understates the flexibility and benefits of pumped storage to the domestic system and to Powerex relative to other capacity alternatives.*

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October 18, 2013

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Re: Commentary on BC Hydro's draft 2013 Integrated Resource Plan

The Canadian Geothermal Energy Association (CanGEA) is pleased to offer the following comments on BC Hydro's draft 2013 Integrated Resource Plan (2013 IRP), released in August. We acknowledge the tremendous time and effort that BC Hydro staff has put into preparing the IRP and our industry welcomes this opportunity to provide comments and suggestions.

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CanGEA's comments on the 2013 IRP will directly address the specific request by the Minister of Energy regarding consultation on the IRP. In his August 23 letter to BC Hydro the Minister stated:

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, around-the-clock energy to the Canadian and U.S. markets and be a part of the solution to growing concerns about securing sustainable, cost-effective energy sources.

*"While the consultation should cover the IRP in its entirety, of particular interest is feedback on the changes to the IRP since BC Hydro undertook consultations in the spring and summer of 2012, and on uncertainty over the 20-year period and the contingency plans BC Hydro is proposing to deal with that uncertainty,"*

This Commentary will therefore focus on the main changes since the 2012 IRP, the high level of uncertainty, and BC Hydro's contingency plans.

### **Capacity more important in 2013 IRP than 2012 IRP**

One of the main changes from the 2012 IRP to the 2013 IRP was a fundamental shift in priority: from the pursuit of energy to the pursuit of capacity.

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The IRP Summary document devotes the same degree of attention to the pursuit of Capacity as it does to Conservation, Site C and Powering LNG. On energy, the Summary talks of "optimizing existing portfolio of IPP resources". IRP Chapter 8.2.4 clarifies this to mean "achieve an energy supply reduction of contracted energy by F2021 of roughly 1,800 GWh".





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The title of BC Hydro's IRP Summary page on capacity neatly ties together uncertainty, contingency and the pursuit of capacity. It states; *"Planning for the Unexpected – BC Hydro will continue to explore and advance capacity resource options for contingency purposes."*

The IRP shows a requirement for capacity much sooner than energy. The energy gap begins in F2027, whereas the capacity gap begins in F2021 - in the Base Resource Plan without LNG.

Comparing the 2012 IRP to the 2013 IRP reveals that BC Hydro has reduced the amounts required for both energy and capacity across the board. However, the amount of energy required was reduced more than the amount capacity required was reduced – i.e. 25% more in the year 2023.

Half of the Recommended Actions (RA) in the 2013 IRP are about capacity. The number and urgency of the RAs in the 2013 IRP increased over those in the 2012 IRP.

For example, where one of the 2012 IRP RAs stated; *Explore gas-fired contingency capacity options*, the related 2013 RA states; *Investigate natural gas generation for capacity*. Where one of the 2012 RAs stated; *Pursue DSM Capacity Options through voluntary conservation programs*, the related 2013 RA states, more pointedly; *Pursue DSM Capacity conservation through an industrial load curtailment program from 2015 – 2018 that can be relied upon over the long term*.

Conversely, the 2013 IRP reduces the pursuit of energy compared to the 2012 IRP. The 2012 IRP contained two RAs about developing two Calls for Clean Energy (for 2,000 GWh and 10,000 GWh). The 2013 IRP has one contingent RA about exploring energy supply options if LNG demand exceeds available resources – with no amounts specified. Indeed RA #4, in the 2013 IRP, constitutes the first time that BC Hydro has included an objective of reducing the amount of energy to be received from IPPs.<sup>1</sup>

The pursuit of capacity, included in the 2013 IRP, has resulted in some RAs that will likely require some legislative changes.

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<sup>1</sup> That is mainly for projects with Energy Purchase Agreements that have materially fallen behind on their project development schedules.



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RA #7 aims to "fill in the short-term gap in peak capacity with market purchases first and power from the Columbia River Treaty second. Both of these measures are ways to plan for importing power, which runs counter to the self-sufficiency requirement of the *Clean Energy Act*. Therefore, authorization will be required from the Lieutenant Governor-in-Council.

RA#16 is to "Investigate natural gas generation for capacity". This would be for gas generators serving loads other than LNG terminals, since they are the target of the gas projects in RA #10, which are to occur in the North Coast. New gas projects that do not serve LNG terminals run into three issues: the *Clean Energy Act*'s 93% (minimum) renewables threshold; the *Greenhouse Gas Reduction Targets Act*, and the 2007 Energy Plan's requirement that natural gas generation must produce zero net GHGs.<sup>2</sup>

### Geothermal can deliver capacity – and more

Geothermal power can deliver capacity without the above mentioned challenges associated with imports or with natural gas. It can also deliver renewable, emissions-free, firm energy, spinning reserve and VAR support. And it is made in B.C.

Geothermal has the highest Dependable Generation Capacity (DGC) of any fuel - even higher than natural gas. The IRP lists the DGC of geothermal at 100% of installed capacity, whereas the DGC of natural gas fired generation is 88-100%.

The IRP also shows that the Firm Energy Load Carrying Capability (FELCC) of geothermal is higher than that of natural gas. Specifically geothermal's FELCC is 100%, whereas a Combined Cycle Gas Turbine (CCGT) is 90% and a Simple Cycle Gas Turbine is as low as 18%.<sup>3</sup>

Pumped Storage has a DGC of 100%, but BC Hydro shows its FELCC as N/A. Pumped Storage is a net energy consumer. It consumes more energy than it generates.

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<sup>2</sup> The required GHG off-set markets are not yet available and the sequestration technologies are not yet feasible.

<sup>3</sup> Table 3-26 in the IRP



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Geothermal power has a small footprint and binary geothermal plants, the type that would be used in B.C., create no GHG emissions. It also creates the opportunity for integrated renewable heat projects, further enhancing B.C.'s green economy. Better still it is located in the right places.

### **Geothermal is located at the three new major load growth areas**

Both IRPs show that the biggest new loads are expected to be located at the LNG terminals, on the North Coast, the new mines in northwestern B.C., and the gas production activities in and around northeastern B.C.'s Horn River Basin. There are good prospective geothermal sites in all three locations. (See the map in the appendix.)

### **Geothermal can help power the LNG terminals**

Unlike natural gas, geothermal power produces a very low volume of noxious emissions. The three LNG plants proposed for Kitimat (by Shell, Chevron and the Haisla) will require 1,400 MW of capacity.

Preliminary air emission studies by the BC Ministry of Environment show that generating that amount of power will produce very large volumes of NOx and SOx emissions. The amounts appear to be far too large for the small capacity of the Kitimat air shed. One expert has stated; *"Kitimat is among the most constrained air sheds on the planet"*<sup>4</sup>

The Kitimat air shed already receives a large amount of SOx from Alcan's recently modernized smelter. Adding a significant amount of NOx and SOx, from producing 1,400 MW of natural gas generated power, may result in emissions of secondary combinations, which could impact the health of the people living in and around Kitimat.

A substantial amount of the power for the LNG terminals may need to come from natural gas turbines, but the air shed does not have the capacity for it all to come from this form of generation. If the remaining air shed capacity is simply given to the first one or two of the large LNG projects that apply for it, then this will preclude any other heavy industries from locating near Kitimat

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<sup>4</sup> Douw Steyn, a professor at the University of British Columbia Department of Earth, Ocean and Atmospheric Sciences, statement on March 19, 2013 in the Business in Vancouver article; [Kitimat could face sky-high pollution from BC energy boom.](#)



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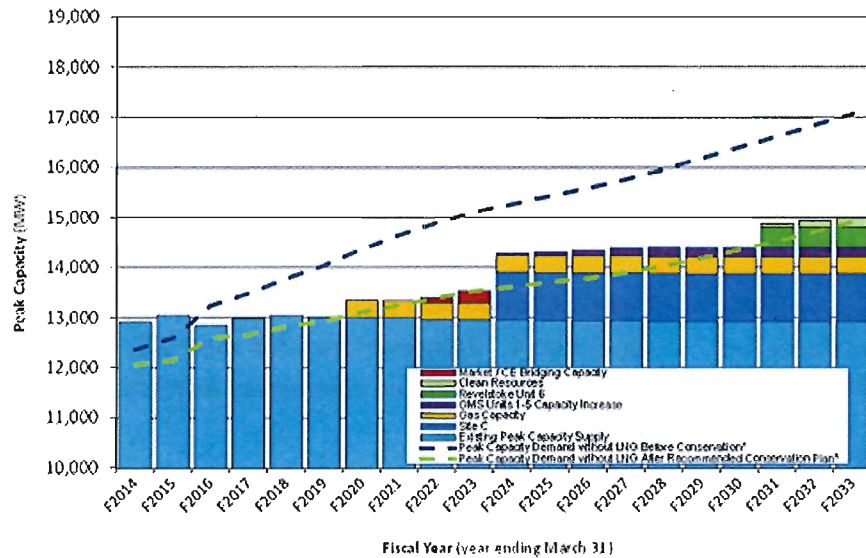
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in the future. Receiving renewable, and dependable, electricity from geothermal projects in the region would reduce the amount of local gas generation and the resulting emissions in the Kitimat valley.

Geothermal also delivers base load energy, with a reliable flat profile that matches the high load factor requirements of industrial facilities. Of all fuels, including natural gas, geothermal is best able to deliver the very high reliability requirements needed by LNG terminals.

The timelines required for developing geothermal projects would work well with both LNG development and the IRP generally. The graph below, for the IRPs Base Resource Plan with LNG, shows that capacity is needed in 2020. That is when the LNG terminals are expected to be running at full production. Geothermal can be ready by 2020.

**Table 1: Capacity Load Resource Balance: Base Resource Plan with LNG**



In the above graph, geothermal would replace 200 MW of Gas Capacity starting in 2020 plus replace another 100 – 200 MW of Market Purchases in 2022 and 2023. If geothermal grew at about 200 MW a year until it reached 1,000 MW, Site C could be delayed until 2028. No gas fired generation or market purchases would be needed to reach resource balance. It is notable that it is estimated that the province as a whole has a resource base that can



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support well in excess of 1,000 MW of capacity. For example, California, a jurisdiction that shares similar geology with B.C., has over 3000 MW of capacity installed.

### Geothermal is a low-cost resource option

Geothermal has the lowest Unit Energy Cost (UEC) of all the main renewable generation sources.<sup>5</sup> IRP Table 3-26 shows the following UECs for Adjusted Firm Energy:

	\$/MWh
Geothermal	\$90
Site C	\$88
CCGT	\$57

The UEC for geothermal would be less than for Site C if both were evaluated using the same asset life (40 years vs 70 years) and the same weighted average cost of capital.

The above UEC for a CCGT is based on today's low gas price outlook. BC Hydro's UEC for a CCGT in its 2008 Resource Options Report was 21% higher, at \$69/MWh, when gas prices were higher. Gas UECs would rise further if more carbon costs (i.e. higher carbon taxes, off-set charges, or cap and trade carbon levys) were enacted.

The IRP states that; *"Geothermal appears to be a low-cost resource option."*

However, the IRP lists geothermal as a *"Currently Unviable Option"*. The IRP states that it *"has never been bid into a BC Hydro power acquisition process by an IPP. There are no commercial geothermal electricity projects in B.C. at this time."*

There are hundreds of geothermal power plants operating around the world. Geothermal is a well-proven technology, and represents over 11,000 MW of installed capacity globally.

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<sup>5</sup> Table 3-26 in the IRP shows Biogas and MSW is cheaper. However they are small. Their potential is less than 10% of the energy and less than 2% of the capacity of geothermal.





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### **Geothermal can deliver electricity in 2020**

The main reason no IPPs have bid a geothermal project in to a BC Hydro power acquisition process is because the required Commercial Operating Dates (COD) were too short. The calls required the IPP project to start operating within 3 – 4 years after bids were submitted.

But that has changed. The above IRP graph shows that the required COD would be 7 years away – in 2020. Geothermal IPPs will bid to a Call with a COD in 7 years.

### **Geothermal can strengthen key parts of the grid**

Geothermal generation in the North Coast area would be good for the local grid. It would be located at the end of the 500 km long radial transmission line. Putting base load energy and capacity into the west end of the line would improve the local grid's reliability substantially. LNG terminals and new mines need a high level of system reliability.

Plugging a strong generator like geothermal into the west end of the lateral will also allow BC Hydro to defer building a second 500 kV transmission line from Prince George to the coast to provide line redundancy. That new line has been estimated to cost about \$1.5 billion. BC Hydro has estimated that the line may take 7 years to permit and build. High voltage transmission lines are notorious for being delayed. If it was delayed much it will be too late for In Service Dates of the LNG terminals' fully built-out phases.

Geothermal generation in the Horn River Basin (HRB) area would also be good for the grid in that region. The HRB is located around Fort Nelson. It is not connected to the main BC Hydro grid. The Fort Nelson grid is largely a stand-alone system. The 138 kV transmission connection with Alberta is too small to support the substantial potential load growth that will occur when the LNG terminals start drawing the huge additional volumes of natural gas from the Horn River Basin.

Plugging base load geothermal electrical generation into the Fort Nelson system would be good for local system reliability. Natural gas production facilities (processing plants, pipeline compressors and drill rigs) need high levels of system reliability.



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Plugging a dependable generator like geothermal into Fort Nelson will allow BC Hydro to defer building a new 500 kV transmission line from GMS to Fort Nelson. That project, the North East Transmission Line (NETL), has been estimated at a cost of over \$1 billion. BC Hydro has estimated that NETL may take 5 years to build, but has also acknowledged that it could face further delays. A substantial number of new natural gas plants, compressors, and drilling rigs will be requiring energy around 2020 to produce the gas feedstock for the LNG terminals. The BC JobsPlan goal is for three LNG terminals to be fully operational by 2020.

It is notable that the \$2.5 billion saved, from foregoing the construction of transmission lines, would build 500 MW worth of geothermal power and heat.

### **Geothermal increases fuel diversity**

The IRP recommends adding capacity through building Site C and expanding Revelstoke and GMS. If many of the proposed large resource development projects (LNG, new mines, and expanding natural gas production facilities) do proceed, a substantial amount of new capacity-rich projects will be required, including Site C, Revelstoke and GMS.

However, adding any of those projects increases B.C.'s already high dependence on hydro-electric generation. Adding geothermal power to B.C. will increase the province's fuel diversity.

### **Recommendations for the final IRP**

The Minister of Energy has requested BC Hydro submit the final IRP by November 15, 2013. CanGEA requests that BC Hydro consider the following revision and four modifications in the final IRP:

#### **Remove geothermal from the list of "Currently Unviable Options"**

State that geothermal could be expected to bid into an acquisition process that included Commercial Operating Dates that were 5 to 7 years from the date of the call.

**Modify Recommended Action #10** to include working with the geothermal industry to explore geothermal supply options on the north coast to enhance transmission reliability and to meet the expected load.





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**Modify Recommended Action #13**, regarding "undertaking studies to keep open electricity supply options" in the Horn River Basin, to include specific mention of geothermal resources.

**Modify Recommended Action #14**: Add geothermal to natural gas. The modified RA could state; Investigate natural gas and geothermal generation for capacity. Working with industry, explore natural gas and geothermal supply options to reduce their potential lead time to in-service and to develop and understanding of where and how to site such resources, should they be needed.

**Modify Recommended Action #15**, regarding "investigate procurement options to serve future Fort Nelson load" to include specific mention of geothermal resources.

CanGEA appreciates the opportunity to comment on the draft IRP and to suggest where and how geothermal could be included in the final IRP. We hope our recommendations will help BC Hydro make the IRP successful and we are committed to working with to ensure the success of the plan.

If you have any questions please feel free to contact me or Steve Davis, our advisor on the IRP, and the principal author of this letter.

Warm Regards,

Alison Thompson, MBA, P.Eng (B.Eng., M.Eng.)  
Chair, CanGEA; Executive Committee, International Energy Agency Geothermal Implementing Agreement; Director, International Geothermal Association



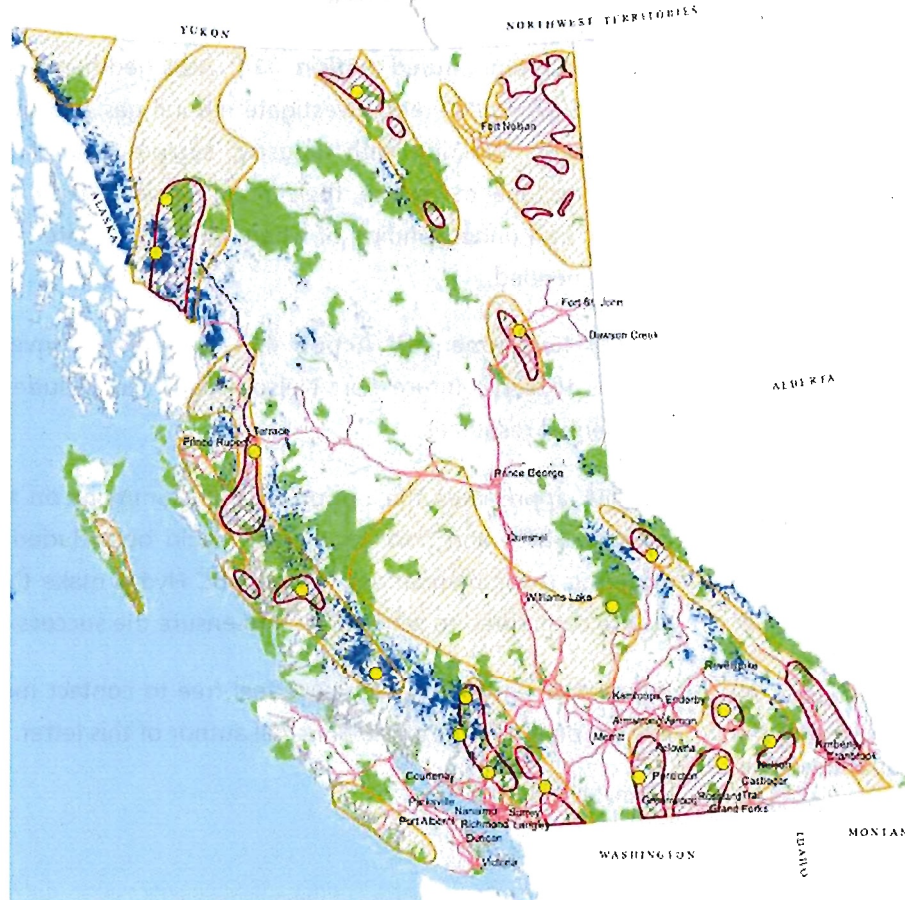
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CanGEA promotes the industry and the potential of geothermal energy in Canada through outreach events, research, policy work and representation of Canadian interests internationally.

Appendix 1. Map of Potential Geothermal in B.C. (by BC Hydro)



The red ovals show areas with high potential geothermal sites. There are several high potential geothermal sites in the North Coast and Fort Nelson areas.

On the North Coast one of the highest potential geothermal areas is around Terrace and Kitimat where LNG terminals are being proposed. The other, more northerly area with high geothermal potential, is located near Iskut where several energy-intensive large mines are proposed.

In northeastern B.C., one of the high potential geothermal areas surrounds Fort St. John, which is in the Montney Gas Basin. The other, more northerly area surrounds Fort Nelson, which is in the Horn River Gas Basin.



October 18, 2013

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To whom it may concern

We are writing this letter to provide feedback to BC Hydro's recently released Integrated Resource Plan (IRP).

**What is the impact on rates?**

We are BC Hydro's largest customer. We operate in a trade exposed, energy intensive industry and the impact of BC Hydro's supply strategy is critical to our continued competitiveness. Presently, BC industrial electricity rates are more expensive than a number of jurisdictions which our company competes with, any significant increase threatens our competitiveness and rate uncertainty complicates investment strategies.

We are not alone, we estimate 12% of the domestic load can be characterized as energy intensive and trade exposed. These customers cannot pass along domestic tax (e.g., PST on electricity) and rate increases to their customers. We suspect that the negative impact of higher rates on domestic demand may be understated in the IRP. A sizeable rate increase for this class may trigger destruction of domestic demand, either as a result of closures or conversion to self-generation, with serious implications for the remaining rate payers.

**What happens when self-generation is cheaper than BC Hydro?**

The IRP projects relatively flat market prices for electricity and natural gas over the 20 year period. This suggests that either rates in BC will also remain flat or the cost of electricity delivered to industrial customers *at Tier 1 rates* will exceed market purchases or the fuel cost of natural gas fired self-generation (inclusive of Carbon Tax) in the near future. In this scenario it would be financially prudent for some customers to separate from the grid or, in the case of LNG, never connect.

This dramatically increases the financial burden on other rate payers while eliminating the need for new resources. This risk cannot be evaluated without a forward rate projection.

**Is this the right time to contemplate Site C?**

No, there is a great deal of risk associated in the load forecast both within the existing customer base as well as potential LNG Industry. We feel there is significantly more downside risk to the load forecast as higher rates accelerate a drive to more energy efficient equipment, self-generation or, in the worst case, customer closures.

In this environment we feel the focus needs to be on smaller, flexible generation options that can be deployed quickly to minimize stranding generation and transmission assets. High efficiency gas fired cogeneration plants appear to be a reasonable option if located adjacent to high electrical and thermal loads. This concept would:

- minimize generation cost,
- maximize use of a domestic resource, and;
- minimize the need for additional transmission.

They also offer the potential to secure the competitiveness of large customers while providing rate payers with a low cost, low risk supply option that would persist beyond the life of the facility.

We feel it would be wise to suspend Site C development until there is greater certainty around LNG development and management of the Regulatory Deferral balances.

**Do we support LNG development?**

Our company will receive no direct benefits from LNG facilities in this province but would still support this growth based on its overall value to government and communities. However this development cannot be subsidized at the risk of our current competitiveness. Specifically, there needs to clarity around 2 key issues, namely:

- a. Carbon Policy: We expect a consistent application of the Carbon Tax among all industrial users, and;
- b. Contribution Policy: We need to see the rate impact on **existing** customers for building the proposed infrastructure to support this new **potential** load and how it will be apportioned among the stakeholders.

**Do we support a Conservation First strategy?**

Yes, we know that there are more opportunities to improve electrical efficiency within our plants and we strongly feel that this is the lowest cost supply option available to BC Hydro. Presently this opportunity is constrained by Powersmart financial security policy. However, removing this barrier could provide significant low cost conservation opportunities.

**Do we support minimizing the cost of the resource portfolio?**

Absolutely, we expect BC Hydro to manage the commercial terms within the Electricity Purchase Agreements (EPA's) to ensure maximum benefit for all ratepayers based on the situation at the time. In addition to managing the existing EPA's BC Hydro should also estimate the opportunity to reduce their obligation to purchase high cost, marginal supply through bilateral agreements with IPP's or suspend deliveries to a period when those resources will be required (e.g., dispatch agreements, EPA buybacks, Buyer's turndown, COD delay, etc.).

**Do we support increasing system capacity investments?**

Yes, but in the appropriate sequence. The capacity projects proposed in the IRP appear logical however we would delay any spending commitment until after an aggressive industrial load management program has been implemented and BC Hydro has fully explored the generation resources we have available, namely Burrard Thermal and Island Generation.

We feel that BC has a unique opportunity with a relatively small customer group with concentrated loads to use this load as a capacity tool. The potential capacity resources from industrial customers will be a function of the program design and will be lower risk and more cost effective than direct investments in capacity only generation. The IRP recommends pursuing a Voluntary Load Response program for F2015. We suggest accelerating this program for availability in winter 2014 since we already have experience with type of program. Moreover, we feel there is a great opportunity to coordinate industrial loads within BC through rate signals and, in some cases, direct control to maximize system reliability and trade opportunities.

Finally, all alternatives should be tested and compared to a scenario that fully utilizes the existing gas fired generation in the province, including Burrard Thermal, to ensure that we minimize rate impacts for all ratepayers.

**What would we see as next steps?**

1. Disclose rate impacts over the span of the IRP for the scenario options
2. Implement an industrial demand response program in F2014
3. Evaluate the opportunity for gas fired power plants collocated with existing industrial facilities.

Thank you for the opportunity to participate in the process.

Regards,

Carlo Dal Monte

Energy Director  
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Via e-mail: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com), October 18, 2013

To the Integrated Resource Planning Team:

We have reviewed BC Hydro's August 2013 release of the Draft Integrated Resource Plan (IRP) and are pleased to have the opportunity to provide comments on its content. In summary, we believe the IRP is incomplete due to a number of excluded essential elements, and as a result unnecessarily increases risk for the ratepayer, northern communities and British Columbians. In addition, we believe the IRP, in its current form, will hinder job growth, as opposed to create jobs for British Columbians, a key element of the Provincial Government's objectives. While we appreciate the work, analysis and effort that went into the IRP, we would like to suggest ways to reduce the risk for British Columbians and meet the goals of the Provincial Government.

### **Premature Reliance on Site C**

#### ***Social License***

A large part of the IRP's forecast energy requirement comes from Site C, a project that has yet to receive an Environmental Assessment Certificate. Relying on such a large project at such an early stage in its assessment is very risky, especially when a significant portion of future load growth is to be met by energy from Site C. Large projects, in general, receive much more scrutiny/criticism due to their large footprint. There are a number of First Nations and community groups in the Peace region that oppose the project. Site C has made two failed attempts at development in the past, so why is this project identified as a low risk potential in the IRP? More importantly, why is it relied on to close the domestic load resource gap over the next 10 years? Such a decision is at odds with a planning process that should otherwise select resource options that are less risky.

Note that we support the development of Site C, but only to facilitate the integration of new wind energy. This makes good economic sense given the wind/storage hydro compatibility in BC. However, the IRP doesn't even mention this potential advantage.

#### ***Economics***

BC Hydro's own analysis shows that a 10% increase in capital cost will result in Site C being economically substandard when compared to a portfolio of clean plus thermal generation. This small margin for cost overrun is of great concern given the recent cost overrun of over 80% percent for the North West Transmission Line. It is highly likely that Site C costs will exceed its estimated \$7.9 billion, leaving ratepayers and taxpayers to pick up the tab. As a result, the long



term impact on ratepayers has a much higher chance of exceeding that of the renewable plus thermal alternative.

Given this high economic risk by comparison to other generation portfolios, why was Site C alone selected? Site C is a huge project with enormous economic risk with no flexibility for change once it is started. A 10% advantage is too small for such risks that will ultimately be borne by ratepayers and taxpayers.

In addition, we note that BC Hydro's own analysis of relative weighted average cost of capital penalizes private sector development by approximately 40%, yet Site C has been selected based on only a 10% advantage.

### **Neglecting Electrification of LNG**

In the past, BC Hydro has been an enabler of industrial development. From 2001 through 2010, BC Hydro has taken on the responsibility of encouraging development of the renewable energy industry by issuing various calls for power. BC Hydro has also been diligent in ensuring that industrial growth in BC has access to electricity. All that may be a thing of the past. The IRP is in stark contrast to this legacy. Moreover, the IRP doesn't provide any guidance to one of the biggest industries that has ever graced this province. LNG development is burgeoning and LNG developers acknowledge that one of the single most important issues to building in BC is reliability of power supply.

Instead of embracing the opportunity, the IRP provides no direction and as a result LNG developers are looking to self-generate using gas drive turbines. The implication of such a decision may be staggering for the renewable energy industry. Even more damaging is the effect on the air quality within the narrow airsheds of Kitimat and Prince Rupert.

Why hasn't the IRP offered an alternative to such a decision made by LNG proponents? Even if BC Hydro is unable to meet demand for electrification of even a portion of the LNG, why haven't alternative renewable energy portfolio options that address greenhouse gas emissions (GHG) been offered to LNG proponents to produce (as the Premier desires) "the cleanest LNG in the world"? These GHGs may be so prevalent that they could limit the number of LNG plants to one, and potentially restricting development of all new industries in the effected airsheds.

By omitting the electrification of LNG, the IRP will decimate the renewable energy industry in BC. Renewable energy jobs will leave BC. Investment in renewable energy development (which is already slowed considerably) will dry up. Consultants, contractors, labourers, First Nations all in northern communities will no longer enjoy the work they've been receiving from renewable energy companies like Chinook Power Corp. This will ultimately force lay-offs, especially for smaller support consultancies and contractors, all in northern communities.

Such consequences associated with the omission of electrification have not even been addressed in the IRP. In fact, it appears that the IRP is presenting conclusions around this issue rather than developing the appropriate and complete analysis on the implications for decisions taken by the LNG industry.

Indeed, the IRP appears to diminish BC Hydro's leadership role as an enabler and custodian of industrial development. This is of deep concern to the wind energy industry given our reliance on BC Hydro for growth opportunities.



### **Increased Demand Side Management Risk**

The IRP suggests that Demand Side Management (DSM) will save 72% of domestic load growth. We don't understand how DSM will provide for such a huge savings when most of the savings have already been achieved. DSM has been active for the past 30 years. In that time, many of the technological advances in energy savings have been developed and deployed, especially in the last 10 years.

Of the three DSM methods (Rates, Codes and Standards, Programs), the vast majority (approximately 70%) of DSM costs come from the DSM Programs, yet these Programs yield less than 30% of the expected energy savings. The DSM Programs is an expensive gamble especially if it doesn't succeed, because failure will result in having to spend to acquire additional energy to meet demand. This is equivalent to paying twice for new energy, a risk much too great for ratepayers.

In addition, we will go as far as stating that DSM, in its current form, is flawed. With the majority of BC Hydro's costs fixed, any reduction in energy use (i.e. successful DSM) will result in reduced revenues to BC Hydro. This will necessitate an increase in rates to pay for those fixed costs, not to mention the debt. Thus, too much reliance is being placed on DSM to 'find' 72% of the projected domestic load growth. And this choice is a risk far too great for the financial health of BC Hydro.

### **Workforce Shortage and Lost Jobs**

Developing Site C during the same period as large LNG development is occurring will only lead to skill shortages and construction delays. This is a consequence of multiple mega-projects being constructed at the same time. Developing Site C at this time will only result in the importation of skills/jobs from out of province and not provide for home grown jobs for British Columbians.

Conversely, if smaller projects were developed/constructed over the course of the next ten years, there would be much less strain on the home grown skills sets, making the growth in British Columbia much more manageable.

In addition, whilst the development of Site C will benefit the Peace Regional economy, it does nothing to boost the economies of the rest of British Columbia. Whereas, development of wind energy projects across the province will have a much smaller environmental footprint and benefit local communities all over British Columbia (e.g. local jobs, municipal taxes, etc.).

Why hasn't this analysis been included in the IRP? What jurisdiction would the development contractors awarded to Site C be importing jobs from? This issue strikes to the heart of the BC Government's commitment to jobs in BC for British Columbians.

The IRP shows that market purchases of electricity will be made over the next 10 years to close the domestic load resource gap up until Site C is due to be commissioned. These purchases (like the diurnal purchases made by BC Hydro) have the effect of supporting jobs in other jurisdictions as opposed to creating jobs and prosperity by building generation in BC. Why is the IRP not assessing the economic advantage of building generation in BC? In addition, foreign market purchases will likely be sourced from thermal and coal plants. Are ratepayers aware that the emissions from these plants included are not included in the legislated 93% clean category? All to say that market purchases are an added risk to the decision to rely on Site C.

**Recommendations**

1. Reduce DSM projection for domestic load growth to a realistic value. This will obviously increase the load resource gap which in turn may be filled by renewable energy, namely wind energy as opposed to one large project. Remember the implications of an underperforming DSM will be double the cost of building new energy today.
2. Reduce BC Hydro debt by pulling back on DSM Programs and push for better Codes and Standards. Finally, explore and assess the benefits of moving the rate structure to a time of use payment as opposed to stepped rates (which penalize commercial and industrial growth).
3. There is much less risk in developing wind energy projects across British Columbia, then developing one mega-project (Site C). In addition, smaller wind energy projects may be scaled to such unknowns as load forecast, whereas Site C, once committed, may not be needed, and will add to BC Hydro's long term debt. Being fleet footed reduces the risk to ratepayers and smaller wind energy projects only take 3-5 years to build out.
4. Explore the options for electrification of the LNG industry. Utilize the renewable energy industry to provide this energy by assessing regular 'calls for power' to fill the load growth gap over shorter periods of time.
5. Support a leadership role in the environment and management of industrial requests for energy by guiding the LNG industry towards electrification.
6. Propose to the LNG industry reliable energy by blending wind energy with gas-fired electric generation.

We are at a pivotal point in the very survival of the renewable energy industry. Getting the IRP right for this industry, environment and British Columbians is of utmost importance. If you have any questions regarding the content of this letter and submission, I would be pleased to discuss it at your convenience. Thank you for the opportunity to contribute to this discussion and to express concerns and recommendations.

Sincerely,



Stephen Cheeseman  
President & CEO



**A submission by the  
Canadian Wind Energy Association  
to BC Hydro on the  
Integrated Resource Plan  
dated August 2, 2013**

October 18, 2013



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## Executive Summary

On behalf of our 60 BC-based members and the wind energy industry across Canada, the Canadian Wind Energy Association (CanWEA) is pleased to respond to the BC Hydro Integrated Resource Plan dated August 2, 2013. Our members acknowledge the significant amount of time and effort that BC Hydro employees have invested in the draft IRP and the resource planning process, and we appreciate the opportunity to share with BC Hydro our industry's perspectives, comments and recommendations on the draft IRP.

CanWEA is encouraged with IRP findings clearly demonstrating that with recent productivity gains and price declines, wind energy resources now constitute most of BC's lowest-cost "clean or renewable" options for new power generation, with the best resources coming in at or below the current estimated cost of Site C.<sup>1</sup> We believe that BC Hydro can and should leverage these findings, adding incremental amounts of new low-cost wind generation in response to evolving supply needs. This would make a major contribution to increasing the resiliency of the utility's energy supply strategy, reducing cost and delivery risks to ratepayers, and ensuring that the utility's plans better reflect the BC Government's legislative and policy priorities.

Regarding the draft IRP's analysis and conclusions, CanWEA has a number of fundamental concerns:

- The plan does not take sufficient account of the Government of British Columbia's emerging economic and energy priorities, many of which will result in increased energy demand within northern British Columbia. The plan also limits the options for which types of generation technologies will be used to meet potential new demand.
- The robustness of the analysis in the IRP is undermined by a series of high-risk assumptions on future costs and timelines. As a result, the Base Resource Plan (BRP) that underscores these assumptions is highly dependent on the success of just two critical elements: that Site C is delivered on-time and on-budget, and that BC Hydro will be able to meet its aggressive demand side management (DSM) targets. We feel strongly that the growth in energy demand from the nascent LNG industry has been significantly underestimated, placing considerable additional strain on a few options, which inherently reduces the resiliency of the plan.

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<sup>1</sup> See Section 7: "Wind energy's competitiveness".



- Approval of the BRP in the IRP would effectively involve shutting down the existing market for an entire 'free-enterprise' sector that is making a significant contribution to BC's economy. The result would be a near-complete cessation of development work on renewable energy generation in BC, the elimination of most BC-based jobs and companies active in the sector, lost local development opportunities for First Nations and rural communities throughout BC, and a profound loss of expertise in developing cost-effective, low-impact clean energy in this province.
- The plan lacks a practical, effective and low-cost contingency resource plan (CRP). In particular, the CRP assumes the existence of a locally-based clean energy sector able to quickly and cost-effectively build new generation in the event that the BRP falls short – which paradoxically would be eliminated with the implementation of the BRP.

In the following pages, CanWEA provides details on a number of recommendations designed to measurably assist BC Hydro in developing a robust and resilient IRP that will better serve the public interest in the years to come. CanWEA recommends:

1. The IRP should factor in the significant social and economic benefits of partnerships with First Nations and, at a minimum, ensure supply option comparisons include First Nations.
2. The IRP should encourage electrification and an expanded role for renewables – specifically for LNG ancillary power requirements, new mines and upstream natural gas – by including the potential load from these new projects and industries in the BRP.
3. The December 2013 load forecast, currently under development, should align with the *BC Jobs Plan* and other government priorities.
4. A role for P3s in transmission projects should be extensively explored.
5. The IRP should indicate the percentage increase in BC Hydro debt (\$/MWh) that Site C will add and the effective energy cost for the project at a current estimated capex of \$7.9 billion, as well as at capex increments of 10%, 25% and 50% above this estimate.
6. The IRP should reflect the new cost of wind energy in a manner that more accurately balances the cost of capital for different projects and the associated risk to the ratepayer.
7. BC Hydro should procure new low-cost renewable energy sources to service the expected load growth from various economic development activities.
8. The IRP should explore direct load control as a further low-cost means of achieving peaking capacity.
9. The IRP should evaluate the pros and cons of acquiring wind firmed by natural gas in isolated sections of the BC grid.
10. The IRP should build new Contingency Resource Plans that reflect several scenarios.



## 1.0 About CanWEA

CanWEA is the voice of Canada’s wind energy industry, with an active presence in promoting the responsible and sustainable growth of wind energy in British Columbia and across Canada. A non-profit association, CanWEA serves as the leading source of credible information about wind energy and its social, economic and environmental benefits.

Established in 1984, CanWEA represents the wind energy community — organizations and individuals who are directly involved in the development and application of wind energy technology, products and services. CanWEA membership includes Canada’s wind energy leaders and some of the largest wind developers, wind turbine manufacturers and wind energy service providers in the world.

In British Columbia, CanWEA has over 60 member companies that operate and build wind energy developments, many of whom have been active in BC for nearly two decades. CanWEA members also include an expanding supply chain of BC-based firms who provide an increasing array of support services to the industry. See Appendix A for a list of CanWEA member companies in BC.





## 2.0 About Wind Energy in BC

British Columbia is endowed with world-class wind energy resources that can strengthen the province's energy supply in both the near and long term.

The results of BC Hydro's 2012 re-assessment of BC's wind energy resources – included in the IRP – substantiates that with increased productivity and falling costs, wind energy now provides the bulk of BC's lowest-cost energy generation opportunities. According to BC Hydro's analysis, wind energy in BC can now provide:

- 7,730 gigawatt-hours (GWh) from 18 resource areas at a weighted average cost of \$97.50/MWh;
- 45% of all new "clean or renewable" energy supply priced at less than \$110 per MWh (Site C provides another 27%); and
- 43,875 GWh from 111 resource areas at a weighted average cost of \$133 per MWh - equivalent to 84% of BC Hydro's total domestic load in 2012.<sup>2</sup>

B.C. currently has three operating wind projects - the 102-megawatt (MW) Bear Mountain Wind Park, the 144-MW Dokie Wind facility, and the 142-MW Quality Wind Project. Vancouver Island's first wind project, the 99-MW Cape Scott Wind Farm on the northern tip of Vancouver Island, is expected to begin commercial operations very shortly. Wind energy projects represented 47 per cent of the 3,266 GWh per year of contracted energy that was procured by BC Hydro through the 2008-2011 Clean Power Call competitive process.

During construction, each 100 MW of installed wind energy capacity provides 430 person-years of direct employment and ranges between \$200 and \$300 million in capital investment.<sup>3</sup> During operation, a 100 MW wind farm provides approximately ten full-time jobs within the local community, and contributes approximately \$70 million in revenue to the Province, local governments and First Nations over a 25-

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<sup>2</sup> Unit energy costs at point of interconnection. Data from: BC Hydro 2013 Resource Options Report Update: Resource Options Database (RODAT) Summary Sheets. IRP Appendix 3a-4, dated August 2, 2013. This information enclosed as Appendix B.

<sup>3</sup> Factors derived from: Clear Sky Advisors Inc. Review of CanWEA's BC WindVision Analysis. Report prepared for CanWEA. September 30, 2011. Available at: [http://www.canwea.ca/windvision\\_bc\\_e.php](http://www.canwea.ca/windvision_bc_e.php)



year operating term. Wind energy developments on Crown Land also provide significant, additional economic opportunities for First Nations including jobs, job training and ownership options.

Wind power is one of several sources of clean energy supply available in British Columbia. As of 2011, the clean energy sector as a whole has contributed more than \$2 billion to the provincial economy<sup>4</sup>, and \$378 million to government revenue for public services – money that pays for our hospitals and schools. Further this economic development has created 18,000 person-years of employment.

The wind industry in BC has the expertise, the financial capacity and the desire to work with BC Hydro to deliver wind energy projects that are the envy of the world.

Moreover, as a non-depleting natural resource, wind energy generation can provide long-term investment, jobs and revenue benefits to communities. Repowering at the end of an operating term provides additional construction jobs, capital investment, continued local employment and government revenues for the next generation. It also leverages existing on-site infrastructure and new technology to further reduce future production costs. Just as the hydroelectric dams built decades ago have become today's low-cost generation resources, the wind energy generation installed today will become our children's low-cost heritage resources.

Wind projects enjoy a high level of public support across the province. An August 2012 Harris Decima poll found independent renewable power generation, such as wind, to be the most popular choice of British Columbians at 72%, significantly higher than natural gas (44%). More recently, a poll conducted for BC Hydro's Site C Project reaffirmed these numbers with the greatest amount of support for independent renewables at 70%. This new poll also highlighted the public would be more comfortable with Site C if a parallel effort was devoted to develop other clean sources of energy for the province (86%).

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4 Clean Energy BC. Backgrounder: Benefits of Private Power. March 8, 2013. Available at:

<http://www.cleanenergybc.org/media/Backgrounder%20Benefits%20of%20Private%20Power%20130318.pdf>



### 3.0 Provincial Context

The IRP is an important planning tool for BC Hydro, the BC Government and stakeholders involved within the energy sector. BC's wind industry understands that BC Hydro must balance constraints, specific requirements and stakeholder interests while ensuring the best interests of the ratepayer are protected. However, the IRP cannot be viewed in isolation; it must reflect the social and environmental aspirations of British Columbians and the current economic direction of the province as set out by BC Hydro's sole shareholder, the Government of British Columbia. This is consistent with the historic role played by the utility since it was founded in 1961 by W.A.C. Bennett.

#### 3.1 Liquefied Natural Gas and other economic potential

The Shareholder's Letter of Expectation directs BC Hydro to "foster economic development".<sup>5</sup> Moreover, the Government of British Columbia has made a bold and visionary commitment to ensure the province produces the "cleanest LNG in the world". CanWEA strongly supports this commitment. With converting natural gas to LNG requiring a tremendous amount of energy – as does the "upstream" extraction, processing and transportation – the most effective way to deliver the development vision is to ensure as much of this energy as possible comes from clean renewable sources. The Premier has acknowledged this, and has directed the Minister of Natural Gas Development to "maximize the use of clean power in LNG projects" as a core element of the government's new mandate.<sup>6</sup> Deployment of wind energy to meet the ancillary power requirements of several LNG plants presents a huge opportunity for BC Hydro to provide competitively-priced, clean electricity to support the economic development of the province.

As a low-cost, zero-emission electricity supply, wind energy would be an excellent source of clean power to fulfil the promise of manufacturing the cleanest LNG in the world. BC's wind industry is

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<sup>5</sup> Available at: <http://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/accountability-reports/openness-accountability/governments-letter-of-expectations.pdf>

<sup>6</sup> Mandate letter to Minister of Natural Gas Development. June 2013.



ready and fully capable of assisting BC Hydro and the BC Government to deliver the cleanest LNG in the world.

Beyond LNG, there is the prospect of demand growth from other industrial and commercial customers across the northern region of the province. The upstream natural gas sector that will supply gas to the LNG facilities is also a priority, and there is opportunity for electrification of energy use in this sector to grow this industry while simultaneously cutting diesel fuel costs and GHG emissions.

Further, the government's *BC Jobs Plan* includes a focus on growing the mining industry. Given the much higher cost of diesel power relative to electricity supply, the success of this plan depends on having adequate supplies of electricity available to support these new industrial developments.

Given the scale of industrial development opportunities, these projects will also increase residential electricity demand across northern BC. The *Natural Gas Workforce Strategy and Action Plan* estimates the construction of five LNG terminals will require 63,500 workers, of which one-third will be directly involved in building the terminals. The workforce plan also estimates a permanent operating staff of 2,400. In addition, 61,700 new workers will be needed to build and operate the facilities required to explore, drill, extract, process and transport the additional volumes of gas needed to feed the LNG terminals.<sup>7</sup> This will mean approximately 135,000 new jobs in the region for this one industry alone.<sup>8</sup>

Since B.C.'s northwest and northeast regions currently have a total labour force of only 86,500, it is clear that northern BC's labour force will not be able to meet the labour demand generated by the growth of the province's natural gas industry.<sup>9</sup> It is also clear the utility needs to plan now for

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<sup>7</sup> Petroleum Human Resources Council of Canada. B.C. Natural Gas Workforce Strategy and Action Plan. Produced for the BC Natural Gas Workforce Strategy Committee. July 2013. Available at: <http://www.rto.bc.com/Assets/RTO+Assets/About+RTO/BC+NG+Strategy+2013JUL.pdf>.

<sup>8</sup> Ibid. p.8

<sup>9</sup> Ibid., p.9



a major increase in residential and commercial demand for electricity in communities across northern British Columbia, as well as the increased industrial load.

As a key element of the government's new mandate, Premier Clark directed the Energy Minister to "work with the Clean Energy sector to ensure that there remain significant opportunities for renewable energy companies to provide power to BC".<sup>10</sup> Ensuring that BC Hydro meets the rapidly growing electricity demand in northern British Columbia is a significant opportunity where wind energy can play an important role.

### 3.2 First Nations

Fostering economic development and leveraging opportunities for First Nations is a priority for the government and a focus of the wind energy sector. The wind industry is and will continue to deliver tangible, long-term economic benefits to First Nations throughout BC. The BC Government has implemented measures that have supported First Nation investments of time and energy into developing relationships with wind proponents. These wind projects have the potential to distribute benefits from resource development activities in the region directly to First Nation communities, while strengthening the local economy and providing much-needed jobs.

For example, the Province has created the First Nations Clean Energy Business Fund and the CFN Protocol Agreement. Approximately 70 First Nations have received more than \$4 million to fund feasibility studies and equity investments in clean energy businesses. **Given the lack of any opportunities for clean energy procurement in the Base Resource Plan of the IRP for the next 18 years, the IRP would not appear to be consistent with the government's stated priorities involving First Nations.**

Beyond this, it is important to note that the government's mandate includes instruction from Premier Clark to the Minister of Aboriginal Relations and Reconciliation to assist First Nations in achieving demonstrable progress in moving clean energy projects forward.

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<sup>10</sup> Letter from Premier Clark to Energy Minister Bennett. June 10, 2013. Available at: [http://www.gov.bc.ca/premier/cabinet\\_ministers/bill\\_bennett\\_mandate\\_letter.pdf](http://www.gov.bc.ca/premier/cabinet_ministers/bill_bennett_mandate_letter.pdf)



### 3.3 Reducing and diversifying risk

We understand BC Hydro must keep the interests of the ratepayer foremost in mind as the utility moves forward with its resource plan. Premier Clark has directed the Energy Minister to keep rates low and reduce potential future impacts to ratepayers as a core element of the government’s mandate – a priority that has been confirmed in numerous statements by the Minister.

However, approximately half of the IRP Recommended Actions involve significant future expenditures including BC Hydro increasing capital spending by \$10 billion.<sup>11</sup> **The need to reinvest in aging heritage infrastructure is well understood, and further delays will only increase costs, but the IRP fails to recognize the value of private sector investments, in spite of the proven track record of independent power producers (IPPs) and public-private partnerships (P3s) in lowering overall costs and reducing risk to ratepayers.**

### 3.4 Greenhouse Gas Emissions

According to the Pembina Institute, the further development of BC shale gas resources required to supply 5 LNG plants is expected to produce 3.4 million tonnes of emissions on the northwest coast and an additional 16.5 million tonnes of GHG emissions in the NE Peace Region<sup>12</sup>. The legislated requirement to reduce BC’s overall GHG emissions by approximately 20 million tonnes by 2020 will be harder to achieve if renewable energy is not used to its maximum potential.

While the initial LNG projects will likely use natural gas turbines to directly power gas compression, supplying ancillary energy needs with electric power from the grid remains an area where renewable energy could make a significant difference in the GHG profile of these projects.

**The failure of the IRP to address crucial elements of the government’s policy agenda has produced a very conservative load growth forecast that does not reflect government’s priority of developing new industrial activity across northern BC.** While the draft IRP correctly states that the level of uncertainty on load forecast is very high, the current load forecast is underestimated rather than overestimated.

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<sup>11</sup> IRP Recommended Actions 1, 6, 8, 9, 12, 13, 14 and 16 involve increasing BC Hydro spending.

<sup>12</sup> Pembina Institute July 2013 report: BC LNG Proposals and GHG Emissions.



It is critical that the IRP reflect the priorities of the provincial government noted above, particularly in view of the impact on electricity supply and demand in BC. The attributes of wind energy projects reflect important broad provincial objectives, including providing regional economic development, stabilization of electricity rate increases as BC Hydro reinvests in aging infrastructure, and enabling emission reductions associated with “clean” development of industrial sectors. The wind energy sector should be part of the energy supply mix moving forward: wind projects address the needs of the utility and ratepayers, and will deliver on the priorities of the government, First Nations and the people of BC.

In the following sections, CanWEA provides commentary on specific aspects of the draft IRP.





## 4.0 IRP Assumptions

The IRP is critically dependant on a number of assumptions that put the plan at risk. While any forward-looking plan is based on a number of projections and assumptions, **the draft IRP contains a number of questionable assumptions over which BC Hydro would appear to have little or no effective control, and which are fully assumed in the Base Resource Plan.**

- *The proposed Site C will be completed on time, at a cost not exceeding the \$7.9 billion cost estimate announced in 2011.*
  - Cost over-runs and/or delays on this project are likely due to one or more of the following factors:
    - Detailed engineering, the environmental assessment and negotiations with affected First Nations have yet to be finalized.
    - Construction of Site C will not be completed for over a decade, and coincides with the building of several other industrial mega-projects in northern BC, likely triggering higher labour and material costs, increasing the likelihood of cost overruns.
    - Experience in BC and elsewhere shows that public utilities often face scheduling and cost control challenges on large capital projects.
  
- *Wind energy and other renewable energy options will cost more than Site C.*
  - Based on the risk of cost overruns at Site C, the potential for wind energy and other renewables will be far more competitive and could conceivably cost less than Site C.
  - For more information about wind energy’s competitiveness, please refer to Section 7.0: “Wind energy competitiveness” below.
  
- *PowerSmart will fully achieve DSM targets.*
  - The IRP has introduced some of North America’s most aggressive DSM targets. Success will depend on British Columbians changing electricity consumption patterns and reducing electricity usage over the next ten years, an unprecedented event over the past 30 years.
  - BC enjoys some of North America’s least expensive electricity rates, further reducing economic incentives for increased efficiency and conservation.
  - Without time-of-use rates there are even fewer incentives to curb electricity usage.



- *Natural gas prices will remain at historic lows and will not exceed US\$4.90/MMBTU for the next dozen years.<sup>13</sup>*
  - This is a significant, potentially volatile risk based on the anticipated increase in built-in North American demand (i.e. increases in total natural gas generation plant capacity and the natural gas vehicle fleet in reaction to these current low rates) and the increasing integration of world energy markets over the next ten years.
  
- *Carbon costs will not increase materially for 20 years.<sup>14</sup>*

Given the rising frequency and magnitude of catastrophic losses from extreme events linked to climate change, there is considerable risk of new government policies, taxes or other fiscal levers that increase carbon costs (e.g., carbon taxes, cap-and-trade levies, GHG offsets).
  
- *Mid-Columbia hub prices will remain under \$40/MWh for the next 20 years.<sup>15</sup>*

The accelerated retirement of aging coal power plants may place upward pressure on costs.
  
- *Sufficient transmission capacity available from the US.*
  - The IRP's Contingency Resource Plans assume sufficient transmission capacity 365 days a year at the two already-congested western interties with Washington State and down the I-5 corridor to meet any shortfall in the Base Resource Plan.
  
- *BC will not be affected by significant fluctuations or shifts in annual precipitation.*
  - BC's high dependence on hydroelectricity is an element of high risk during drought years and shifts in precipitation patterns over the next two decades. The IRP misses an opportunity to diversifying supply and risk through the addition of increased wind energy rather than the dominant focus on investments in BC's hydro-dependant system.

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<sup>13</sup> IRP Table 5-2 "Natural Gas Price forecast scenarios" shows that, for the Mid Electricity –Mid GHG, Mid Gas scenario, the price in 2025 is \$4.90/mmBTU.

<sup>14</sup> IRP Table 5-3 "GHG Price Forecast by Market Scenario" shows that, for the Mid Electricity –Mid GHG, Mid Gas scenario in B.C., the price in 2035 will remain at the \$30/tonne that it is today

<sup>15</sup> IRP Table 5-8 "Electricity prices at Mid-C" shows that, for the Regional Mid scenario, the price just rises to \$40/MWh in 2033.



## 5.0 Base Resource Plan

The Base Resource Plan of the IRP provides no opportunity for clean energy producers for the next 18 years. The paradox is that BC Hydro would appear to prefer the shutdown of a dynamic, existing market and a private sector making significant contributions to BC's economy. The result would be a near-complete cessation of development work on renewable energy generation in BC and lost economic opportunities for First Nations, direct and indirect jobs, and a loss of expertise to other jurisdictions.

The Base Resource Plan is further problematic on its reliance on just two supply measures, DSM and Site C, thereby compromising the plan's resiliency in the likely event of changing circumstances.

The IRP correctly states that DSM targets are aggressive and their results will not be known for years. Unfortunately, the combination of highly uncertain demand and a wide range of possible outcomes from employing aggressive DSM measures mean resulting gaps between demand and supply are highly uncertain.

In the current IRP, BC Hydro suggests that the gap between demand and existing supply in 2024 could be as much as 10,000 GWh (if the DSM target is met) or 15,000 GWh (if DSM target is not met), while assuming that Site C would be built on time and on budget. Remarkably, the plan does not appear to consider the impact of cost overruns on Site C, or anything beyond a two-year delay in project completion. The result is a Base Resource Plan that has little chance of meeting actual load with identified supply measures, and a limited ability to ramp up DSM efforts or increase the output and/or speed on the completion of Site C if an expected energy shortfall emerges.

**An improved and more resilient BRP in the IRP – one in which low-cost resources developed by BC's clean energy producers play a meaningful role in meeting the province's future electricity demand – is essential.**



## 6.0 Contingency Resource Plan

In light of the fact that the BRP envisages no IPP role in future clean energy development in British Columbia, it is remarkable that BC Hydro's Contingency Resources Plan nevertheless assumes the continuing presence of a clean energy sector. In reality, the adoption of the IRP in its current form would result in clean energy developers closing offices and ceasing to prepare projects for bids. In effect, the BRP recommendations directly undermine the feasibility of the CRP.

An alternative approach would be to develop a more realistic CRP for the BRP set out in this plan. This would require modelling the level of power purchase imports that would be required in 2024 if no clean renewable projects have been prepared for a bid, and determining the impact of a shortfall in inertia capacity to handle this rising level of imports.



## 7.0 Wind energy competitiveness

CanWEA is pleased to see that BC Hydro recognizes the sharp decline in the cost of wind energy within the past few years.

The IRP's updated Resource Options Report states that prices for wind turbines have dropped "by approximately 20% to 30%" since 2009 and that the productivity of lower-cost turbines has increased through the deployment of new technology.<sup>16</sup> According to a BC Hydro study, the productivity of new turbines has increased by an average of 6 to 18% depending on the strength of the wind energy resource.<sup>17</sup> Results in the IRP's Resource Options Database (RODAT) confirm that wind energy projects now dominate the cost curve of BC's lowest-cost renewable energy resources. The ten lowest-cost wind energy resources in BC could produce 5600 GWh at an average cost just over \$95 per MWh, only 1% higher than the estimated \$94/MWh cost of Site C, assuming a 2010 cost estimate. Yet, these figures assume a 7% cost of capital for the wind projects, as opposed to a 6% cost of capital for Site C.<sup>18</sup>

**BC Hydro's assumptions in the draft IRP reflect biases that increase the apparent cost of wind energy.** The reassessment of wind energy resources noted above assumes a mere 15% decline in turbine prices; choosing a value in the top half of the observed range would have dropped the entire cost curve for wind energy projects by 4% or more.

Further, the IRP's revised RODAT increases the assumed cost of capital for wind projects by 40% relative to Site C vis-à-vis previous drafts of the IRP.<sup>19</sup> While CanWEA recognizes the cost of capital may be lower for Site C, the entire risk of the project is borne by the ratepayer, whereas the ratepayer avoids the

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<sup>16</sup> BC (cont'd) Hydro. Integrated Resource Plan. Appendix 3A-1: 2013 Resource Options Report Update. August 2, 2013. p.110

<sup>17</sup> Ibid. p.109-110

<sup>18</sup> Ibid. p.20; BC Hydro 2013 Resource Options Report Update: Resource Options Database (RODAT) Summary Sheets. IRP Appendix 3a-4, dated August 2, 2013. p.469.

<sup>19</sup> In the 2012 Draft IRP, all generation options (including Site C) were assessed using a 6% cost of capital (i.e.  $6\%/6\% = 100\%$ ), whereas the 2013 IRP employs a 7% cost of capital for all wind energy projects, and a 5% cost of capital for Site C (i.e.  $7\%/5\% = 140\%$ ). Ibid.; BC Hydro: 2012 Integrated Resource Plan. Appendix 3A-1: 2010 Resource Options Report. May 2012. pp.34-35.



same level of risk when the project is being developed by independent power producers, as has been the case for existing wind developments in BC. This change ignores the impact from the transfer of risk. With wind energy resources not evaluated on a level playing field, the significant gains in competitiveness recently achieved by wind energy are obscured.

When the results of the new RODAT are recalculated using the same cost of capital assumptions that were used in the Draft IRP of 2012 (i.e. in which all projects are assessed at a 6% cost of capital), it indicates the 5600 GWh of wind energy noted above could be built for an average unit energy cost of approximately 4% less than Site C (assuming the latter is built for no more than the 2010 estimated cost), even prior to the factoring in of further reductions in the modelled price of turbines.<sup>20</sup>

**Given that BC Hydro's analysis confirms wind energy's competitiveness, it is in BC's interest to recognize a role for wind energy as BC's new lowest-cost source of renewable energy generation.**

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<sup>20</sup> See Appendix 2.



## 8.0 Recommendations

British Columbia's clean energy sector has matured significantly in the last 15 years and is making a significant economic and environmental contribution to provincial and local economies. Wind energy developers have positive relationships with First Nations in almost every corner of the province. The projects are supported by British Columbians and represent a significant opportunity to leverage the social license of wind energy with other government priorities. There is interest and desire by British Columbians to see a growing and healthy wind energy sector

CanWEA recommends BC Hydro take the following steps to increase the robustness of the draft IRP.

### 8.1 Acknowledge government policy priorities

The IRP should support the government's stated objectives regarding First Nations, LNG, mining and natural gas as well as fostering economic development generally.

CanWEA members in BC have developed some of the most innovative partnerships with First Nations of any industry.

- 8.1.1 BC Hydro should factor in the significant social and economic benefits of partnerships with First Nations and ensure that supply option comparisons include First Nations.

The IRP should support the government's commitment that BC LNG will be the "cleanest in the world" and reflect other key economic development priorities identified in the *BC Jobs Plan*.

- 8.1.2 The IRP should encourage electrification and an expanded role for renewables – specifically for LNG ancillary power requirements, new mines and upstream natural gas – by including the potential load from these new projects and industries in the BRP.





## 8.2 Revise Load Forecast

BC Hydro lists ten LNG terminals that have been proposed for the northern BC coast<sup>21</sup>. If built, the three terminals targeted in the *BC Jobs Plan* would export 34 million tonnes per year (mtpa) from Kitimat and an additional 20 mtpa from Prince Rupert.

This 54 mtpa of LNG exports will require about 22,000 GWh per year for the downstream energy alone,<sup>22</sup> with a further 14,000 GWh per year for the upstream energy loads. Yet BC Hydro's IRP provides for only 3,000 GWh (and only as a potential variation on its Base Resource Plan).

The *BC Jobs Plan* estimates that 54 million tonnes of LNG exports per year would occur by 2020, yet less than 10% of the 36,000 GWh annual energy requirement appears in the IRP. The IRP's Base Resource Plan states: "The 2012 Reference Load Forecast presented in this document does not include any specific LNG demand beyond very small allocations associated with on-site construction."<sup>23</sup>

- 8.2.1 CanWEA recommends the December 2013 load forecast, currently under development, should align with the *BC Jobs Plan* and other government priorities. The updated load forecast should include more potential new loads. The targets identified in the *BC Jobs Plan* (three LNG terminals by 2020, plus 8 new mines and 9 expanded mines by 2015) are reasonable assumptions for a revised forecast.

## 8.3 Address cost control and debt management issues

BC Hydro is rapidly increasing its debt load, due primarily to the need to reinvest in the utility's aging infrastructure, but also from new capital build (e.g., ILM, smart meters). Private sector and P3 models greatly reduce risk, and produce lower-cost projects with shorter timelines. As such, the IRP should recommend ways to limit future costs and debt.

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<sup>21</sup> Table 2-4 LNG Summary, BC Hydro 2013 IRP

<sup>22</sup> Page 2-8 in BC Hydro's May, 2012 Draft IRP estimated the energy requirement for Shell's 24 mtpa plant at 10,000 GWh per year, plus another 2,000 GWh for pipeline compression and 800 GWh for transmission losses, with a total capacity requirement of 1,200 MW for the plant and 500 MW for the pipeline compression. Projecting this plant energy requirement onto the total 54 mtpa gives 21,600 GWh of annual energy.

<sup>23</sup> Appendix 3.3 - LNG Load Outlook, of Appendix 2A, Electric Load Forecast



- 8.3.1 The role of P3 in future electricity transmission planning and development should be thoroughly examined in the IRP.

Even at the current estimate of \$7.9B, Site C represents significant new debt for BC Hydro. The draft IRP acknowledges that a 10% budget over-run would no longer make Site C the lowest cost option.

- 8.3.2 The IRP should state the percentage increase in BC Hydro debt that Site C will add, in addition to showing the effective energy cost (in \$/MWh) for Site C at the current estimated capex of \$7.9 billion, and at capex increments of 10%, 25% and 50% above this estimate.

#### 8.4 Incorporate low-cost renewables into BRP

BC Hydro's analysis indicates the province's lowest cost wind resources (at POI) are now cheaper than Site C as a direct result of falling wind costs in the last three years (from increased productivity and lower turbine costs). However, the IRP biases these results based on assumptions regarding the cost of capital for wind projects relative to Site C.

- 8.4.1 BC Hydro should reflect the new cost of wind in a manner that accurately balances the cost of capital for different projects and the associated risk to the ratepayer.

If BC Hydro revises its load forecast in the draft IRP, new sources of energy supply will need to be identified. Broadening the IRP's sources of supply to meet new electricity demand will increase the plan's resiliency and reduce risk.

Moreover, since the current plan's CRP depends on the presence of a clean energy sector, the utility should ensure the plan does not ignore impacts on the potential long-term viability of the renewable industry. If the sector is not viable in the short or medium term, expertise and capital investments will be allocated to other jurisdictions. In the event that BC Hydro is compelled to activate contingency plans, this will result in significant cost increases because the sector will have to re-establish itself in BC.

- 8.4.2 BC Hydro should undertake efforts to procure new, low-cost renewable energy sources to service the expected load growth from new economic development activities.

Wind energy generation is ideally suited to complement the existing heritage assets of BC Hydro's system. Wind energy peaks in the winter when water levels are traditionally low in dams and can be used most effectively in combination.



- 8.4.3 The IRP should explore direct load control as an additional low-cost means of achieving peaking capacity. Voluntary direct load control DSM programs for residential and commercial as well as industrial accounts are a proven, cost-effective means of providing matching supply and demand during the few hours of annual peak load when the variability of wind energy generation could require firm back-up.
- 8.4.4 BC Hydro should evaluate acquiring wind firmed by natural gas in constrained portions of the BC grid where existing hydroelectric resources are unable to provide effective integration of wind energy production.

## 8.5 Revise Contingency Resource Plan

The wind industry in BC is concerned the BC Hydro contingency plan is unachievable in the draft IRP. The CRP should be revised and expanded to reflect the potential load from electrified LNG terminals, new mines, natural gas production and the extension of the grid to the Horn River gas basin.

- 8.5.1 Additional CRP should be constructed to reflect several scenarios, including:
  - LNG loads of 0, 5,000, 10,000, and 20,000 GWh in 2022
  - NE gas production loads of 5,000, 10,000, and 20,000 GWh in 2022
  - Site C delayed by 2 and 5 years
  - DSM results achieving 33% and 66% of target, and
  - Combinations of the above



## **9.0 Conclusion**

CanWEA and its 60-member wind industry caucus in British Columbia appreciate the opportunity to provide comments on BC Hydro's August 2013 draft Integrated Resource Plan. BC's wind energy sector is well placed to play a leading role in generating low-cost electricity for the growing energy needs of British Columbia. In its current form, the IRP does not sufficiently advance or support key government priorities, such as First Nations' participation, delivering the cleanest LNG in the world, reducing risks and limiting GHG growth. Further, the IRP is based on risks that will have a profound impact on the capacity of the utility and province to sustain new economic opportunity and to meet the public interest over the medium-to-longer term.



## Appendix A: BC member companies of the Canadian Wind Energy Association

- ABB Inc.
- Acciona Wind Energy Canada Inc.
- Aeolis Windpower Corp.
- AltaGas Ltd.
- Alterra Power Corp.
- Altus Group
- ATCO Power
- Avro Wind Energy Inc.
- Blakes, Cassels and Graydon
- Borea Construction
- Brookfield Renewable Power Inc.
- Bullfrog Power
- Capital Power
- Chinook Power
- Clark Wilson LLP
- Competitive Power Ventures (CPV)
- DESSAU
- Dillon Consulting Limited
- EDF EN Canada
- EDP Renewables (Horizon)
- Elemental Energy
- Enel Green Power Canada Inc.
- Enercon Canada Inc.
- Eolectric Inc.
- Exelon Wind
- Finavera Wind Energy Inc.
- Gamesa Technology Corporation
- Garrad Hassan Canada Inc.
- GE Energy
- GENIVAR Inc.
- Goldwind USA, Inc.
- Hatch Energy
- Hemmera Envirochem Inc.
- Innergex Renewable Energy Inc.
- Invenergy Canada LLC
- IPR-GDF Suez North America
- Knight Piésold Ltd.
- M.K. Ince and Associates Ltd.
- Mainstream Renewable Power
- Miller Thompson LLP
- Mortenson Canada Corporation
- Natural Forces Wind Inc.
- Natural Resource Solutions Inc.
- NEXEN Marketing
- NextEra Energy Canada
- ORTECH Consulting
- Renewable Energy Systems Canada Inc. (RES)
- REpower Canada
- Rohmann Shipping
- Sea Breeze Power Corp.
- Sequoia Energy Inc.
- SgurrEnergy Ltd.
- Shell Canada
- Siemens Canada Limited
- Stantec Consulting Ltd.
- Suncor Energy Products Inc.
- Suzlon Wind Energy Corporation
- Tetra Tech



**Appendix B: Lowest cost wind energy resources**

**B.1 Cost of BC wind energy resources from 2013 BC Hydro Resource Options Database (7% cost of capital assumed), and estimated cost of BC wind energy resources for 6% cost of capital**

Source: IRP. Appendix 3A-4: 2013 Resource Options Report Update. Resource Options Database (RODAT) Summary Sheets. August 2, 2013.

	<i>Wind resource area</i>	<i>production</i>	<i>cumulative production</i>	<i>UEC at POI</i>	<i>UEC at POI: cumulative weighted average cost</i>	<i>UEC at POI x0.9401</i>	<i>UEC at POI x0.9401: cumulative weighted average cost</i>
		<i>(GWh)</i>	<i>GWh</i>	<i>(\$/MWh)</i>	<i>(\$/MWh)</i>	<i>(\$/MWh)</i>	<i>(\$/MWh)</i>
				<b><i>7% cost of capital</i></b>	<b><i>7% cost of capital</i></b>	<b><i>estimated 6% cost of capital</i></b>	<b><i>estimated 6% cost of capital</i></b>
1	PC28	590.8	590.8	90	90.00	84.61	84.61
2	PC19	441.3	1032.1	92	90.86	86.49	85.41
3	PC13	541	1573.1	92	91.25	86.49	85.78
4	PC21	371.4	1944.5	92	91.39	86.49	85.92
5	PC16	376.5	2321.0	95	91.98	89.31	86.47
6	PC14	526.8	2847.8	96	92.72	90.25	87.17
7	PC10	1022.7	3870.5	97	93.85	91.19	88.23
8	PC20	608.8	4479.3	98	94.42	92.13	88.76
9	PC15	381.9	4861.2	98	94.70	92.13	89.03
10	PC09	713.4	<b>5574.6</b>	100	<b>95.38</b>	94.01	<b>89.66</b>
11	PC18	486.2	6060.8	101	95.83	94.95	90.09



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ENERGY ASSOCIATION

ASSOCIATION CANADIENNE  
DE L'ÉNERGIE ÉOLIENNE

12	PC42	219.4	6280.2	101	96.01	94.95	90.26
13	PC11	473.1	6753.3	101	96.36	94.95	90.59
14	PC41	155.3	6908.6	101	96.46	94.95	90.68
15	PC48	504.5	7413.1	106	97.11	99.65	91.29
16	PC26	416	7829.1	106	97.58	99.65	91.74
17	PC06	761.2	8590.3	110	98.68	103.41	92.77
18	VI14	112.6	8702.9	113	98.87	106.23	92.95
19	VI12	150.9	8853.8	113	99.11	106.23	93.17
20	NC09	1024.8	9878.6	113	100.55	106.23	94.53
21	PC27	333.3	10211.9	114	100.99	107.17	94.94
22	PC40	350.1	10562.0	115	101.45	108.11	95.38
23	VI13	104.7	10666.7	118	101.62	110.93	95.53
24	SI12	545.2	11211.9	119	102.46	111.87	96.32
25	VI15	125.7	11337.6	121	102.67	113.75	96.52
26	PC05	352.5	11690.1	122	103.25	114.69	97.07
27	SI23	569.3	12259.4	122	104.12	114.69	97.88
28	NC10	279.8	12539.2	122	104.52	114.69	98.26
29	PC12	308.4	12847.6	123	104.96	115.63	98.68
30	PC25	450.4	13298.0	123	105.57	115.63	99.25
31	SI20	122	13420.0	124	105.74	116.57	99.41
32	PC43	139.2	13559.2	125	105.94	117.51	99.59
33	PC47	107.7	13666.9	125	106.09	117.51	99.74
34	PC17	315.2	13982.1	125	106.52	117.51	100.14
35	PC37	231.4	14213.5	126	106.83	118.45	100.43
36	SI15	814.1	15027.6	126	107.87	118.45	101.41
37	BC20	294.5	15322.1	127	108.24	119.39	101.76
38	BC22	696.9	16019.0	127	109.06	119.39	102.52
39	PC04	348.8	16367.8	128	109.46	120.33	102.90
40	VI08	113	16480.8	128	109.59	120.33	103.02
41	PC34	906.3	17387.1	129	110.60	121.27	103.97
42	NC07	322.4	17709.5	129	110.93	121.27	104.29
43	SI10	312.7	18022.2	130	111.26	122.21	104.60
44	SI22	126	18148.2	130	111.39	122.21	104.72
45	VI07	502.1	18650.3	131	111.92	123.15	105.22





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46	SI14	232.5	18882.8		131	112.16		123.15	105.44
47	NC01	1729.5	20612.3		132	113.82		124.09	107.00
48	BC18	425.7	21038.0		132	114.19		124.09	107.35
49	SI04	252.5	21290.5		133	114.41		125.03	107.56
50	SI19	148.3	21438.8		133	114.54		125.03	107.68
51	SI16	1631.7	23070.5		133	115.85		125.03	108.91
52	VI05	702.7	23773.2		134	116.38		125.97	109.41
53	PC32	367.9	24141.1		134	116.65		125.97	109.66
54	NC12	229.7	24370.8		134	116.82		125.97	109.82
55	SI18	335.4	24706.2		135	117.06		126.91	110.05
56	SI32	89	24795.2		135	117.13		126.91	110.11
57	BC21	589.1	25384.3		135	117.54		126.91	110.50
58	NC02	666.1	26050.4		136	118.01		127.85	110.94
59	BC19	279.1	26329.5		136	118.20		127.85	111.12
60	PC36	424.9	26754.4		136	118.49		127.85	111.39
61	SI27	248.8	27003.2		137	118.66		128.79	111.55
62	SI05	354.8	27358.0		137	118.90		128.79	111.77
63	PC44	104.8	27462.8		138	118.97		129.73	111.84
64	PC38	329.8	27792.6		138	119.19		129.73	112.05
65	SI37	87.3	27879.9		138	119.25		129.73	112.11
66	PC01	455	28334.9		139	119.57		130.67	112.41
67	SI11	329.9	28664.8		139	119.79		130.67	112.62
68	NC11	195.1	28859.9		139	119.92		130.67	112.74
69	BC25	425.5	29285.4		140	120.22		131.61	113.01
70	SI28	260.9	29546.3		141	120.40		132.55	113.19
71	NC08	463.4	30009.7		141	120.72		132.55	113.49
72	SI13	566.7	30576.4		143	121.13		134.43	113.87
73	VI10	89.1	30665.5		144	121.20		135.37	113.94
74	PC07	325.2	30990.7		145	121.45		136.31	114.17
75	PC03	222.4	31213.1		145	121.61		136.31	114.33
76	SI03	355	31568.1		145	121.88		136.31	114.58
77	BC23	277.5	31845.6		145	122.08		136.31	114.77
78	VI11	111.7	31957.3		145	122.16		136.31	114.84
79	PC29	201.1	32158.4		146	122.31		137.25	114.98



**canwea**

CANADIAN WIND  
ENERGY ASSOCIATION

ASSOCIATION CANADIENNE  
DE L'ÉNERGIE ÉOLIENNE

80	SI01	552.8	32711.2		146	122.71		137.25	115.36
81	VI06	333.1	33044.3		147	122.95		138.19	115.59
82	SI38	236.5	33280.8		147	123.12		138.19	115.75
83	VI02	466.8	33747.6		148	123.47		139.13	116.07
84	SI30	395.9	34143.5		148	123.75		139.13	116.34
85	BC08	490.2	34633.7		149	124.11		140.07	116.68
86	SI29	313.6	34947.3		150	124.34		141.02	116.89
87	BC13	480.6	35427.9		150	124.69		141.02	117.22
88	BC26	375.5	35803.4		151	124.97		141.96	117.48
89	SI09	211.9	36015.3		151	125.12		141.96	117.62
90	SI06	293.9	36309.2		152	125.34		142.90	117.83
91	PC24	285.1	36594.3		153	125.55		143.84	118.03
92	PC02	371	36965.3		154	125.84		144.78	118.30
93	PC23	149.7	37115.0		154	125.95		144.78	118.41
94	SI08	256	37371.0		155	126.15		145.72	118.59
95	BC17	824.5	38195.5		156	126.79		146.66	119.20
96	BC09	438.2	38633.7		157	127.14		147.60	119.52
97	PC08	130.1	38763.8		159	127.24		149.48	119.62
98	SI26	263.5	39027.3		159	127.46		149.48	119.82
99	BC24	321.1	39348.4		161	127.73		151.36	120.08
100	SI31	340.1	39688.5		161	128.02		151.36	120.35
101	SI02	151.2	39839.7		164	128.15		154.18	120.48
102	PC22	442.3	40282.0		172	128.64		161.70	120.93
103	PC45	111.1	40393.1		174	128.76		163.58	121.05
104	BC10	458.5	40851.6		176	129.29		165.46	121.55
105	BC15	622.9	41474.5		176	129.99		165.46	122.21
106	VI04	177.6	41652.1		179	130.20		168.28	122.40
107	NC06	553.7	42205.8		180	130.85		169.22	123.02
108	BC11	386.4	42592.2		181	131.31		170.16	123.44
109	BC12	289.9	42882.1		189	131.70		177.68	123.81
110	NC05	660.4	43542.5		192	132.61		180.50	124.67
111	BC07	333.2	<b>43875.7</b>		198	<b>133.11</b>		186.14	125.14



**B.2 Derivation of correction factor to estimate UEC at POI for 6% cost of capital**

Data from: Updated Assessment of the Estimated Costs of Wind Energy in British Columbia.  
 Prepared for CanWEA by GL GH. September 13, 2013.

0.9401 average ratio of LCOEs: 6% cost of capital vs. 7% cost of capital  
 0.9318 largest difference  
 0.95 smallest difference

	wind resource area	base LCOE: 7% cost of capital	base LCOE: 6% cost of capital	6% / 7% ratio
1	BC07	113	106	0.9381
2	BC08	104	97	0.9327
3	BC09	103	97	0.9417
4	BC10	115	108	0.9391
5	BC11	124	116	0.9355
6	BC12	132	124	0.9394
7	BC13	106	99	0.9340
8	BC15	104	97	0.9327
9	BC17	93	87	0.9355
10	BC18	99	93	0.9394
11	BC19	94	89	0.9468
12	BC20	92	86	0.9348
13	BC21	94	88	0.9362
14	BC22	96	91	0.9479
15	BC23	106	100	0.9434
16	BC24	121	114	0.9421
17	BC25	99	93	0.9394
18	BC26	104	98	0.9423
19	NC01	83	78	0.9398
20	NC02	90	85	0.9444



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21	NC05	102	96	0.9412
22	NC06	102	96	0.9412
23	NC07	97	91	0.9381
24	NC08	97	91	0.9381
25	NC09	85	80	0.9412
26	NC10	95	90	0.9474
27	NC11	104	97	0.9327
28	NC12	93	87	0.9355
29	PC01	91	85	0.9341
30	PC02	102	96	0.9412
31	PC03	107	100	0.9346
32	PC04	95	89	0.9368
33	PC05	91	85	0.9341
34	PC06	82	77	0.9390
35	PC07	102	96	0.9412
36	PC08	119	112	0.9412
37	PC09	94	88	0.9362
38	PC10	75	71	0.9467
39	PC11	95	89	0.9368
40	PC12	95	89	0.9368
41	PC13	89	84	0.9438
42	PC14	94	88	0.9362
43	PC15	94	88	0.9362
44	PC16	93	87	0.9355
45	PC17	83	78	0.9398
46	PC18	79	74	0.9367
47	PC19	88	83	0.9432
48	PC20	76	71	0.9342
49	PC21	88	83	0.9432
50	PC22	110	103	0.9364
51	PC23	107	100	0.9346
52	PC24	98	93	0.9490
53	PC25	87	82	0.9425
54	PC26	77	73	0.9481



55	PC27	82	77	0.9390
56	PC28	85	80	0.9412
57	PC29	98	92	0.9388
58	PC32	93	88	0.9462
59	PC34	86	81	0.9419
60	PC36	92	86	0.9348
61	PC37	89	84	0.9438
62	PC38	95	89	0.9368
63	PC40	90	84	0.9333
64	PC41	79	74	0.9367
65	PC42	80	75	0.9375
66	PC43	100	94	0.9400
67	PC44	103	97	0.9417
68	PC45	122	114	0.9344
69	PC47	94	88	0.9362
70	PC48	81	76	0.9383
71	SI01	98	92	0.9388
72	SI02	107	101	0.9439
73	SI03	99	94	0.9495
74	SI04	94	88	0.9362
75	SI05	95	89	0.9368
76	SI06	101	95	0.9406
77	SI08	100	95	0.9500
78	SI09	101	95	0.9406
79	SI10	90	85	0.9444
80	SI11	101	95	0.9406
81	SI12	84	79	0.9405
82	SI13	94	88	0.9362
83	SI14	93	88	0.9462
84	SI15	88	83	0.9432
85	SI16	90	85	0.9444
86	SI18	90	85	0.9444
87	SI19	104	98	0.9423
88	SI20	99	93	0.9394



**canwea**

CANADIAN WIND  
ENERGY ASSOCIATION

ASSOCIATION CANADIENNE  
DE L'ÉNERGIE ÉOLIENNE

89	SI22	96	91	0.9479
90	SI23	94	89	0.9468
91	SI26	94	89	0.9468
92	SI27	89	84	0.9438
93	SI28	90	85	0.9444
94	SI29	97	91	0.9381
95	SI30	93	88	0.9462
96	SI31	98	92	0.9388
97	SI32	103	97	0.9417
98	SI37	105	99	0.9429
99	SI38	101	95	0.9406
100	VI02	85	80	0.9412
101	VI04	88	83	0.9432
102	VI05	82	77	0.9390
103	VI06	83	78	0.9398
104	VI07	78	73	0.9359
105	VI08	99	93	0.9394
106	VI10	115	108	0.9391
107	VI11	104	98	0.9423
108	VI12	82	77	0.9390
109	VI13	88	82	0.9318
110	VI14	87	82	0.9425
111	VI15	92	87	0.9457



CANADIAN ASSOCIATION  
OF PETROLEUM PRODUCERS

October 18, 2013

BC Hydro Integrated Resource Plan  
P.O. Box 2850  
Vancouver, BC V6B 3X2

via email: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

**Re: Comments on 2013 BC Hydro Draft Integrated Resources Plan**

The Canadian Association of Petroleum Producers (CAPP) represents companies, large and small, that explore for, develop and produce natural gas and oil throughout Canada. CAPP's member companies produce more than 90 percent of Canada's natural gas and crude oil. CAPP's associate members provide a wide range of services that support the upstream oil and natural gas industry. Together CAPP's members and associate members are an important part of a national industry with revenues of about \$100 billion-a-year. CAPP's mission is to ensure the economic sustainability of the Canadian upstream petroleum industry in a safe, environmentally and socially responsible manner, through the constructive engagement and communication with governments, the public and stakeholders in the communities in which we operate.

CAPP appreciates the opportunity to present these comments to BC Hydro on the Integrated Resource Plan (IRP). CAPP believes the upstream oil and gas industry is an important stakeholder in British Columbia's (BC) communities and a key contributor to the prosperity of the province. Electricity policy is important to the upstream natural gas industry as it informs and influences decision about the energy sourced used to develop the natural gas resource in northeast British Columbia. Further to the IRP, discussions such as the Dawson Creek/Chetwynd Area Transmission (DCAT) hearings, the Industrial Electricity Policy Review (IEPR) and the Peace River Electrification Supply (PRES) highlight the importance of involving industry when managing the electricity demand/load balance in BC.

After reviewing the IRP, CAPP will aim to consolidate its comments into the major themes laid out by BC Hydro.

**Supporting LNG**

Market diversification and access to the global demand for natural gas through LNG exports is an imperative for future growth and success of the upstream natural gas industry in BC. A world Class LNG industry is in the early stages of development on the west coast of BC. With more than a dozen different projects in the early phases and no Final Investment Decisions (FIDs) made, there is uncertainty in the electricity demand/load forecast. As LNG proponents make decisions in the coming month or years about which power option they intend to use and FIDs are made, it will be

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necessary to revisit the demand/load forecast. Within this time frame LNG proponents are likely to make business decisions about the technology they will use in their facilities and if they will self-generate or draw power from the provincial grid. The narrowing of the demand/load forecast uncertainty can facilitate BC Hydro to develop a more robust set of recommendations.

CAPP continues to advocate for fair equal treatment of all industry users. This position was made clear in CAPP's recent IEPR submission. Sound electrical policy should be built on non-discriminatory principles supporting open-market forces and the drive for efficiency and competitiveness. Unequal treatment of industrial rate payers will create distortion in the market and undermine the overall investment and business climate of British Columbia.

### **Conserving First**

Industry acknowledges demand side management, conservation and suppression are sound policies in the near term, with additional emphasis placed on improved efficiency of infrastructure and load side equipment. CAPP supports BC Hydro's Powersmart programs that promote high electrical efficiency installations as an effective means of conserving energy.

### **Powering Tomorrow**

CAPP is encouraged by the open manner in which the potential for natural gas generation is discussed in the IRP. CAPP believes that natural gas is a viable alternative for power generation, is environmental and cost comparative, and should be considered more widely to meet BC's future electricity demand. Combined Cycle Gas Turbines (CCGT) can provide a cost-effective source of electricity, can be sited to enhance system reliability and security, and are flexible tools to quickly accommodate shifts in demand or shortages of supply. Their moderate capital cost adds to the operating advantages that CCGTs provide for electric utilities. The flexibility and low cost of CCGTs can enable BC Hydro to maintain competitive rates for all classes of rate payers. CAPP recommends further investigation into effective implementation of this type of technology in BC.

A more detailed review of some of the costs for natural gas options discussed in Chapter 3 of the IRP is recommended to ensure that the lowest cost options are properly reflected in the report. CAPP believes gas powered generation merits a higher priority in the IRP option recommendation list.

### **Managing Resources**

The expansion of natural gas exploration and production in BC has increased the demand for electricity in portions of the province which are isolated from the grid, or lack sufficient reliability and/or are in need of system reinforcement. The process for new electrification reinforcement/expansion projects in northeastern BC has challenged the upstream industry's investment and business planning due to long lead times and/or unpredictable timelines. These challenges can discourage electrification and push industry to consider alternative options. A recent example can be illustrated with the DCAT process in Dawson Creek. CAPP and industry appreciated the engagement efforts made by BC Hydro during the DCAT process however the regulatory portion expanded significantly due to an unnecessary expansion of scope which delayed the project by year. As new significant projects like PRES are advanced, CAPP looks forward to working with BC Hydro to ensure industry can make timely and efficient business decision.

October 18, 2013

Page 3 of 3

Re: CAPP Comments on 2013 BC Hydro Draft Integrated Resources Plan

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On behalf of CAPP and our member companies, thank you for the opportunity to present these comments. Our members have a desire to work with BC Hydro and welcome the chance to engage in further discussions around electricity supply and demand in British Columbia. If you have any questions concerning our comments I can be contacted at (250) 634-4010 or e-mail: [geoff.morrison@capp.ca](mailto:geoff.morrison@capp.ca).

Sincerely,

A handwritten signature in black ink, appearing to read 'Geoff Morrison', with a long horizontal line extending to the right.

Geoff Morrison  
Manager, British Columbia Operations

DM #233098



Eva Lotta Schmidt  
Business Development Manager  
Phone: (514) 363-7266  
Email: [eva-lotta.schmidt@enercon.de](mailto:eva-lotta.schmidt@enercon.de)

October 18<sup>th</sup>, 2013

British Columbia Hydro and Power Authority  
18th Floor – 333 Dunsmuir Street  
Vancouver, BC

Via e-mail: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

**Re: Commentary on BC Hydro Draft 2013 Integrated Resource Plan**

To Whom It May Concern,

ENERCON Canada Inc. is pleased to offer the following written comments on *BC Hydro's Draft 2013 Integrated Resource Plan (IRP)* released in August 2013. We welcome the opportunity to share with you the perspective of a wind turbine manufacturer and operations & maintenance service provider. Having further collaborated with the *Canadian Wind Energy Association (CanWEA)* and *Clean Energy BC*, we respectfully request your careful review of these submissions in parallel with our own.

In response to the *Draft IRP*, ENERCON wishes to share its concerns on two fronts: 1) that the *Base Resource Plan* fails to provide opportunity to the renewable energy sector for the next 18 years, thereby undermining significant investment interest and economic development opportunities as well as social, environmental and health benefits for the Province in embracing a sustainable low-carbon energy future. Further, 2) while deciding not to create a base renewable energy industry, the *IRP's Contingency Resource Plan* assumes the viability of this industry if and when the need for flexible renewable project development should arise. This duality is both contradictory and impractical and further prohibits important economies of scale and the development of expertise for deployment of said *Contingency Plan*. We believe that the current *IRP* leaves no place for new investment and leaves substantial missed opportunity for the Province in the realization of its sustainable energy future.

ENERCON remains supportive of the BC Government's efforts to ensure that investment in developing the Province's Liquefied Natural Gas Terminals produce the "cleanest" LNG in the world and believe one of the most efficient and effective ways to deliver on this commitment is to encourage electrification wherever



possible and to use renewables in order to reduce Green House Gases. Wind energy is ideally suited to help deliver the required power expected for this industry; satisfying the delicate water- and air-shed considerations unique to the Kitimat Region as well as the aspirations of the region's stakeholders. Wind energy further constitutes an excellent long-term investment for electrical infrastructure beyond the lifespan of the LNG resource extraction plan. We are concerned that without electrification of the LNG load and/or upstream production and transport, LNG produced in British Columbia will be a high emitter of Green House Gases, undercutting the government's pledge to produce the "cleanest" LNG in the world.

As a turbine designer, manufacturer, and O&M service provider, ENERCON has maintained its excellent global reputation with more than 21,700 turbines worldwide with a total rated power of more than 32 GW (10/2013). In Canada since 2001, ENERCON holds 1,350 MW of installed capacity coast-to-coast (10/2013), representing 3<sup>rd</sup> place ranking in total installations. In 2009, ENERCON is proud to have installed British Columbia's first wind farm *Bear Mountain* (34 x E-82/3.0MW turbines) together with partner *AltaGas*. With offices and service stations across Canada and manufacturing facilities in Ontario and Quebec, ENERCON is the largest direct wind employer in Canada offering more than 600 full-time positions dedicated in wind. ENERCON sees British Columbia as the next wind market driver of the country and looks forward to expanding our presence in support of this province's renewable energy programs.


ENERCON products are known for their innovative technology, outstanding reliability and excellent returns on investment worldwide. ENERCON is known for setting benchmarks in the industry for nearly 30 years and is well respected for its long-proven direct drive generator design, constant technological sophistication, and high quality standards for turbine performance and grid integration. Currently, the product catalogue is one of the wind industry's widest and includes on-shore turbines ranging from 800kW to 7.5MW.

Based upon our extensive experiences and ENERCON's reputation for constructive collaboration with stakeholders, utilities, and policy makers, we wish to offer our fullest support to help craft the future of British Columbia's energy landscape.

Please do not hesitate to contact us for any additional information.

Respectfully submitted,

ENERCON Canada Inc.

  
Eva Lotta Schmidt



Ron Zeilstra  
Resource Development Manager  
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Vancouver, B.C. V6E 4M3  
Tel: 604-209-4357  
E-mail: ron.zeilstra@fortisbc.com  
www.fortisbc.com

October 19, 2013

**Re: Comments on the Draft BC Hydro 2013 Integrated Resource Plan**

Dear Sirs:

BC Hydro has requested written submissions on its Draft BC Hydro 2013 Integrated Resource Plan (IRP) to be submitted by October 18, 2013. This letter is FortisBC Inc.'s response, as managing partner of the Walden Power Partnership and its fully owned subsidiary ESI Walden, (collectively known the WPP) regarding the draft IRP. WPP owns the non-regulated Walden North (Walden) clean run of river hydroelectric generation facility located on Cayoosh Creek near Kelowna. The Walden power plant is one of several projects referred to in the IRP which have a BC Hydro Electricity Purchase Agreement (EPA) which can be terminated after the 20<sup>th</sup> year of its commercial operation date. These existing EPAs represent some of the lowest cost IPP renewable energy available to BC Hydro at this time. WPP will limit its comments on the IRP to issues which impact these projects.

In Section 4.2.5.1 of the IRP, which discusses the action to reduce spending on EPAs, one of the 3 categories of potential EPA portfolio supply reductions identified is "EPA renewals where contracts are coming to end of life". The Walden EPA falls into this category, although the terminology is technically incorrect. The EPAs from BC Hydro's 1988 and 1989 procurements do not expire, but after the 20<sup>th</sup> anniversary of Commercial Operation Date either party has a right to issue a 6 month Termination Notice, otherwise the EPAs continue from year to year. So to be clear, BC Hydro is proposing that it exercise its right to terminate these EPAs and to re-contract some of these projects under new and updated contract terms, including price. Regardless of how the re-contracting is characterized, WPP's primary concern is with the fact that BC Hydro is expecting to exercise its right to terminate these EPAs, potentially stranding some of these projects, while continuing to sign higher price EPAs through the Standing Offer Program (SOP).

The IRP states "BC Hydro now estimates that...about 75 per cent of the small hydroelectric EPAs that are up for renewal in the next 5 years will be renewed, and all remaining EPAs will be renewed"<sup>1</sup>. Given the temporary suspension of retail access by the province, the cost of wheeling through the BC Hydro system, and the record low prices in the Mid-C market, this effectively means that BC Hydro plans for 25% of these clean run-of-river projects to be economically stranded, and will likely have to shut down. At the same time BC Hydro will be signing EPAs with new high efficiency co-generation projects and other eligible clean projects through the SOP with higher effective prices (after applying locational base prices and time of delivery shaping factors) than the existing EPAs. Stranding existing low cost clean resources and replacing them with higher cost new clean resources with a similar energy profile is not in the public interest. The Walden facility is a clear example where current cost of service and

<sup>1</sup> BC Hydro 2013 Draft IRP, Chapter 4, page 4-14, lines 3-11.

pricing under the EPA is significantly below the prices offered under the SOP, and also below BC Hydro's indicated costs to develop Site C and other projects.

The IRP states "Due to the fact these are existing projects where the IPPs initial capital investment has been fully or largely recovered over the years of operation..."<sup>2</sup> WPP takes strong exception to that assumption. While these clean renewable projects are existing projects, and they don't face the same development, construction and commissioning risks as new projects, the assumption that the projects have amortized their investment over the term of the EPA rather than life of the generating facility is unrealistic. At the time of these contracts there was no liquid Mid-C market, there was no BC Hydro Open Access Transmission Tariff, and given that these contracts were evergreen, there was a reasonable expectation that the EPAs would continue or be renegotiated on reasonable terms after the 20 year period. In addition, these projects have incurred sustaining capital expenditures during the years of operation which also need to be recognized. BC Hydro does not make this assumption for its own projects. If it did, Site C energy costs would skyrocket.

The IRP states that "BC Hydro believes that EPA renewals should be completed at a price within a range defined by (i) the seller's opportunity cost, which is the electricity spot market and (ii) the cost of service for the seller's plant after consideration of other factors such as the attributes of the energy product and associated non-energy benefits."<sup>3</sup> As discussed in the previous paragraph, BC Hydro assumes that the capital investment has been fully recovered over the initial years of operation. The treatment of depreciated capital and expected future sustaining capital becomes the key issue in a cost of service analysis. Cost of service should be set to allow for a fair and reasonable return on and recovery of invested capital. In addition, a cost of service approach that is based recovery of a long term forecast of costs, should also address changes in costs that are beyond the control of the IPP producer (e.g. income taxes, property taxes, water fees). A cost of service approach that does not allow full recovery of fixed and variable costs, including return on and recovery of capital, is fundamentally flawed.

The IRP states that EPAs (including "EPA renewals") were assessed on: Cost, Implementation Risk; System Benefits and economic development benefits<sup>4</sup>. The IRP does not provide the formula and weightings for this assessment, and this should be provided.

The IRP states "In the process of developing and analyzing the IRP as discussed in Chapters 4 and 6, the LRMC was reduced from \$135/MWh to \$100/MWh. This reduced value informed the levels of DSM modeled and the upper price limit on IPP EPA renewals."<sup>5</sup> It goes on to further say "Depending on the amount of LNG load that BC Hydro ultimately serves and whether non-LNG load growth occurs as expected, the LRMC may be reduced to about \$85/MWh and still provide an adequate supply of resources for expected load through to F2033."<sup>6</sup> WPP's concern is the heavy planning reliance on two uncertain resources, DSM and Site C, and the impact on BC Hydro's LRMC if they fail to deliver on time and on budget. In any case, many if not all IPPS with existing EPAs that are nearing the end of their initial contract terms are delivering energy to BC Hydro at costs lower \$85/MWh. A diversified portfolio, including 100% of the re-contracted IPP projects, is important.

<sup>2</sup> BC Hydro 2013 Draft IRP, Chapter 4, page 4-14, lines 12-14.

<sup>3</sup> BC Hydro 2013 Draft IRP, Chapter 4, pages 4-14 to 4-15.

<sup>4</sup> BC Hydro 2013 Draft IRP, Chapter 4, page 4-11, lines 1-22.

<sup>5</sup> BC Hydro 2013 Draft IRP, Chapter 8, page 8-50, lines 4-7.

<sup>6</sup> BC Hydro 2013 Draft IRP, Chapter 8, page 8-50, lines 9-12.



The IRP states: “Consistent with subsection 2(k) and 2(f) of the *CEA*, BC Hydro considered the economic development potential of resources, and the development of First Nations and rural communities through the use of clean or renewable resources. Some future potential IPP EPAs are tied to Impact Benefits Agreements (IBAs) signed with specific First Nations. The existence of these IBAs was one of several factors used to determine which IPP EPAs would be included as resources during the near to mid-term period of the planning horizon when self-sufficiency needs are met.”<sup>7</sup> WPP believes that First Nations economic development opportunities are an important factor, whether or not an IBA has been signed. This is consistent with Initiative #6 in Premier Campbell’s mandate letter to Minister John Rustad: “Work with BC First Nations to ensure they participate in the Standing Offer Program by BC Hydro through the First Nations Clean Energy Business Fund.”<sup>8</sup>

As discussed above, in the IRP BC Hydro states it is planning to only re-contract 75% of these existing clean run-of-river projects. It is not clear if this is a negotiating position to force concessions to a lower price, or if it actually plans to strand these projects, forcing them to shut down, even if they can continue to deliver energy at or below BC Hydro’s LRMC. Even with the cost pressures and energy surpluses BC Hydro is facing, this is not prudent utility practice and is not in the public interest.

The 2007 Energy Plan envisioned a SOP to reduce the administrative burden of small projects bidding into BC Hydro calls. The re-contracting negotiations for the Walden EPA have been going on for over a year and are still continuing. Replacement of the existing EPAs with new agreements also has the potential to trigger other requirements that could add costs and other challenges to allow continued operations of the facilities. WPP believes that BC Hydro should allow these projects, including Walden North, to continue operate under their current EPAs, and not exercise its right to terminate these EPAs as long as they fall below the SOP price or BC Hydro’s LRMC of new clean resources. Alternatively, BC Hydro should re-establish the eligibility of these projects to bid into the SOP.

Please do not hesitate to contact me at 604-209-4357 or [ron.zeilstra@fortisbc.com](mailto:ron.zeilstra@fortisbc.com) if you have any questions or concerns regarding these comments.

Sincerely



Ron Zeilstra  
Resource Development Manager

<sup>7</sup> BC Hydro 2013 Draft IRP, Chapter 4, page 4-7, lines 12-16., page 4-8, lines 1-2.

<sup>8</sup> [http://www.gov.bc.ca/premier/cabinet\\_ministers/john\\_rustad\\_mandate\\_letter.pdf](http://www.gov.bc.ca/premier/cabinet_ministers/john_rustad_mandate_letter.pdf)





Renewing what's possible.

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October 18, 2013

**VIA EMAIL**

BC Hydro ([integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com))  
18th Floor – 333 Dunsmuir Street  
Vancouver, BC  
V6B 5R3

To Whom it May Concern,

**IRP Response**

Finavera Wind Energy ("Finavera") is pleased to offer the following written comments on BC Hydro's Draft 2013 Integrated Resource Plan (the "IRP") released in August. We recognize the tremendous amount of effort on the part of BC Hydro staff that has gone into preparing this draft and we welcome the opportunity to share with you the comments and concerns of Finavera.

We have structured our comments in a manner that we believe brings attention to Issues and Recommendations, and then supports these Recommendations with high level analysis.

**The Issue**

The IRP, if accepted as drafted, will shut down the renewable energy development industry in British Columbia for the next decade. This will put an entire generation of development professionals out of work, or force their activity out of province. From a purely Finavera perspective we have invested over \$20M directly into the BC economy over the last 10 years and have employed a work force of between 12 and 20 FTE in Vancouver during that time. In addition, we would estimate another 20 FTE's per year of employment has been generated within supporting professionals, related to environmental, permitting, engineering and construction. Under the IRP as drafted, the next \$20M Finavera invest will be in other jurisdictions.

## Our Recommendations

Finavera has two main issues with the IRP as drafted: the assertions that BC Hydro built projects are the lowest cost supply alternatives; and the load forecast. Finavera believes that an open book "apples to apples" comparison of supply alternatives is the best way to deal with the first of these two issues. We would be delighted to compare our development projects on an open book basis with BC Hydro development projects much as we did in the 2008 power call. We also believe that an RFP for a modest amount of renewable energy procured on an annual basis is the best format to carry out this type of open book supply option comparison.

In terms of the Load Forecast, we would encourage government to contract a third party review of the Load Forecast taking into consideration the investment that Government wants to drive in the LNG, mining, and oil and gas sector and also considering electricity market mechanisms, structure, rate design, DSM and capital planning. An independent review would also allow for an assessment of how the industrial growth targets can be achieved whilst also meeting the Province's Carbon Emissions commitments.

## Background

Finavera has been developing wind energy projects in British Columbia (as well as Alberta, Washington State, Oregon and Ireland) since 2003. During this time we have invested approximately \$20M directly into the BC economy and employed a work force in Vancouver ranging from 12 to 20 FTE. We have also worked constructively with many local stakeholders including: BC Hydro; the Municipalities of Tumbler Ridge, Chetwynd, Dawson Creek and Fort St. John; The Ministries of the Environment, Energy and Forest and Land Natural Resource Operations; and First Nations such as McLeod Lake Indian Band, West Moberly First Nation, Halfway River First Nation, Doig River First Nation and the Saulneau First Nation.

## Analysis

All of this investment and constructive dispersed economic development will now end as a result of the IRP if it is accepted by Government in its current form. The IRP states that BC Hydro will not require any new energy for the next decade, and conveniently, when that energy is required, only BC Hydro built, owned and operated projects will be the lowest cost option for securing that energy.

From a general sense, our most important concern about the IRP is that it appears to be a very well written, thoroughly researched document but one gets the impression that the authors are attempting to reinvent the world with a "made in BC solution" rather than "looking over the mountain tops" to see what the rest of Canada, the continent and the

world are doing. From a Canadian perspective there is no attempt to bench mark best practices against investor owned utilities such as Emera or Fortis, or against other hydro rich crown owned utilities such as Manitoba Hydro or Hydro Quebec. From a world perspective there are lots of countries who have already faced many of the same issues that BC Hydro is facing and have overcome those challenges with superior strategies.

Specifically, there are two major components to the BC Hydro IRP thesis that we take exception to: the Load Forecast; and the Resource Supply Option Stack, specifically the assertion that Site C remains the lowest cost energy supply option.

### **The Load Forecast**

At Finavera, we are developers and we do not employ a large group of planning and forecast experts. We are however, consumers of electricity and we work with other electrical utilities across North America and Europe assessing demand for the product we develop. Forecasting is an art form, and by definition we can all agree that the only thing we know for sure is that any forecast will not accurately reflect reality. In our view, the Load Forecast has three major shortcomings: one, it does not support the Government's Job Plan; two, it does not reflect the expected population and consumer demand growth forecast for British Columbia; and three, it does not contribute to meeting the Province's Greenhouse Gas Emissions targets.

### **The Jobs Plan**

The Jobs Plan calls for:

- enormous investment in the Cleanest LNG in the world;
- an expansion in major mining activity;
- increased drilling for natural gas in NE BC; and
- increased pipeline and rail activity to move goods around the Province.

All of these activities require that energy and more specifically, clean green energy, is available in order to secure the investment required to fund this development. The IRP appears to ignore the majority of this requirement for new energy and new energy infrastructure. Apparently the view of the IRP is that for example, a mining company will need to invest the money to build the mine, before the load for the mine becomes reflected in the load forecast. Unfortunately investment does not work that way ... the infrastructure needs to be commissioned and ready to be in place before any of the investment required to drive the Jobs Plan can be secured. This is especially true with electricity infrastructure where development lead times are long.

### **Population Growth**

The BC population is forecast to increase by 15% over the next ten years and average electricity consumption per individual all across North America is growing at a fairly consistent rate. The IRP fails to acknowledge either the forecast population growth or the forecast individual consumption growth that every other jurisdiction in North America seems to be experiencing. The IRP then doubles down on this mistake by assuming that our made in BC Demand Side Management programs will mitigate any load growth that we do experience. Again, looking to jurisdictions outside BC (i.e. everyone else in the world) would be a good place to start in terms of validating the IRP's hopes as far as DSM mitigation of load growth. The short answer is that there are very few examples of other jurisdictions experiencing or predicting this type of success with DSM ... perhaps people in BC really are unique in terms of their buying habits, but our energy-use per capita figures would indicate otherwise.

### **Cost of Supply**

The cost of Site C is detailed in the IRP as being the lowest cost energy supply option available to BC Hydro. This is not supportable by any kind of transparent calculation. At \$8B for 1100MW, Site C will have an installed cost of \$7.27M/MW making it one of the most expensive generation projects ever built in North America on a \$/MW basis. This estimate does not include the cost of transmission upgrades nor does it factor in the average cost overrun that BC Hydro has experienced on the capital projects they have undertaken over the last ten years.

Despite the fact that this estimate does not include transmission, and does not include any provision for historical average cost overruns at BC Hydro, this project cost estimate is still more than twice the installed cost for the Muskrat River Hydro Project being built by NALCOR and Emera in Labrador: cost estimate of \$2.9B including 1,000 km of transmission for 894MW, leading to an installed cost of \$3.52M/MW. As a further comparison, the cost of windfarms currently under construction in BC is in the \$2M to \$3M/MW range (depending on scope).

There is no disputing the enormous capital cost of Site C, but the IRP is very non-transparent on the conversion of that enormous capital cost into an expected cost per unit of energy produced over the lifetime of the project. Similarly there is no discussion of the rate impact of Site C, nor of the fact that economic development driven by Site C will all be focused in one region of BC rather than spread widely across the province as would be the case with a larger number of smaller sized projects. Betting all of the province's energy needs on a single project such as Site C, with all of its inherent construction and First Nation risks, and the upward pressure this massive expenditure would exert on rates, does not seem like a sensible approach for a Government, who is



so rightly concerned about rising electricity rate costs being experienced around the world.

At the very least as part of the IRP BC Hydro should sit down with privately owned developers and engage in side by side comparisons of energy alternatives on a fully transparent basis. We as a developer would be more than happy to go open book to finally put to bed the argument that we as private developers are inherently more expensive.

The IRP is quite clear that by using BC Hydro's assessment methodology, BC Hydro built, owned and operated projects are always the lowest cost resource. Oddly, this conclusion is not supported by any other utility in North America. Also, from a common sense perspective this does not pass the acid test.

Comparison of the cost of BC Hydro building a project versus a private developer building a project has to start with the basics of project development:

- We buy our equipment from the same manufacturers – one can argue who gets the best deal, but I would encourage BC Hydro to show me any equipment that they can acquire at a lower cost than the private sector;
- We use the same construction work forces to build our projects – gone are the days when the utilities had their own construction workers – we both outsource from the same suppliers;
- We use the same Engineering firms to provide the engineer, procure and construct functions;
- We build to the same reliability and safety standards;
- We build to the same Environmental and regulatory standards; and
- Our cost of money differs by a percentage point at maximum.

In summary, the input variables are the same, the risk associated with privately funded development inures completely to the private investor instead of to ratepayers and/or taxpayers, and yet under the IRP cost of supply analysis, the output cost of supply favours the projects of the entity involved in the analysis. Again, this does not pass the test of common sense and leads to our conclusion that an open book, "apples to apples" comparison is absolutely required before any supply side commitments are finalised.

### **Greenhouse Gas Emissions Targets**

Over the past decade, BC has been lauded as an international leader in greenhouse gas emissions and carbon pricing, under the strong leadership of the Liberal Party. However, recently the Province has seen many excellent development opportunities

arise, including increased coal exports, other mine development and LNG opportunities. All of these opportunities for growth put pressure on meeting carbon emissions targets, but they also present a great opportunity for progressive and strong leadership. As evidenced around the globe, additional of clean energy is key to meeting carbon emissions targets and empowering growth in other industrial sectors where emissions are unavoidable.

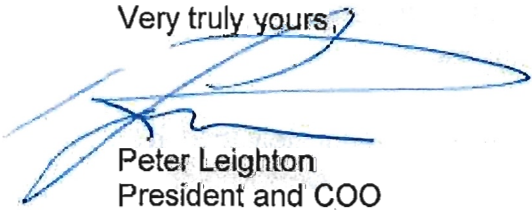
## **Conclusions**

In conclusion we repeat our Recommendations as noted earlier.

Finavera believes that an open book "apples to apples" comparison of supply alternatives is required. We would be delighted to compare our development projects on an open book basis with BC Hydro development projects much as we did in the 2008 power call. We also believe that an RFP for a modest amount of renewable energy procured on an annual basis is the best format to carry out this type of open book supply option comparison.

In terms of the Load Forecast, we would encourage government to contract a third party review of the Load Forecast taking into consideration the investment that Government wants to drive in the LNG, mining, and oil and gas sector and also considering electricity market mechanisms, structure, rate design, DSM and capital planning. An independent review would also allow for an assessment of how the industrial growth targets can be achieved whilst also meeting the Province's Carbon Emissions commitments.

Very truly yours,



Peter Leighton  
President and COO  
Finavera Wind Energy Inc.

c.c.  
Honourable Bill Bennett, MLA  
Minister of Energy and Mines and Responsible for Core Review  
Via e-mail: MEM.Minister@gov.bc.ca

28 October 2013

File: 9050-20-099

BC Hydro  
6911 Southpoint Drive  
Burnaby, BC V3N 4X8

Dear Sirs:

**Re: BC Hydro draft Integrated Resource Plan**

Thank you for the opportunity to submit comments on BC Hydro's Integrated Resources Plan (IRP), particularly as some of its content would be alarming to citizens in our regional district. The Fraser Valley Regional District (FVRD) is extremely disappointed that the IRP includes three potential municipal solid waste (MSW) incinerators, one of which would be located in the Lower Mainland. This disregards both the sensitive nature of our airshed, which already experiences elevated levels of air contaminants, as well as the FVRD's well-known position against additional incineration capacity in this region.

The possibility of three MSW incinerators in the province is incompatible with pursuing Zero Waste, a waste management strategy that Metro Vancouver, the FVRD, and the province itself aim to follow. By definition, Zero Waste excludes the option to incinerate as incineration is not a sustainable solution for waste management.

Further, as generating electricity from MSW incineration is neither clean nor renewable, which the *BC Clean Energy Act* requires, the FVRD requests that BC Hydro exclude MSW incineration from its list of viable electricity resources in the IRP. The enclosed appendix details how MSW is not a clean or renewable resource and how generating electricity by its incineration is very inefficient.

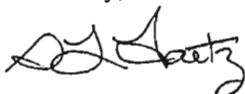
The FVRD is also writing to the following agencies on this matter:

- BC Utilities Commission, encouraging them to pursue electricity sources that are clean, renewable, and efficient, and to exclude MSW incineration from the suite of viable options
- Minister of Energy and Mines, requesting that he refrain from granting MSW the status of a clean or renewable resource
- Minister of Environment, highlighting that BC Waste to Energy facilities are currently permitted to operate at an appallingly low 23% efficiency, due to the inclusion of European coal-based adjustment factors in efficiency calculations

BC Hydro portrays themselves as leaders in providing clean energy and meeting electricity needs through conservation and energy efficiency. MSW incineration violates these worthy principles.

If you would like to discuss this further, please contact Rebecca Abernethy, Environmental Services Coordinator at 604-702-5057 ([ravernethy@fvrd.bc.ca](mailto:ravernethy@fvrd.bc.ca)).

Sincerely,



Sharon Gaetz  
Chair



BC Hydro – Comments from the FVRD on the Draft Integrated Resource Plan  
October 28, 2013

### Appendix

Chapter 3 of the IRP lists biomass in the form of municipal solid waste (MSW) as a clean or renewable resource, and assumed that any incineration facility(ies) would meet the requirements of the *BC Clean Energy Act*. The FVRD does not believe that MSW should be considered a clean or renewable resource, and as such, should be excluded as a viable resource in the IRP.

First, MSW should not be considered biomass or biogenic. The *BC Clean Energy Act* lists biomass and biogenic waste, defined as non-fossilized organic refuse, as an acceptable renewable resource. However, typically less than 50% of MSW in BC is biogenic, and this percentage is expected to decrease.<sup>1,2,3</sup> Further, many local governments have started or are planning organic diversion programs in their municipalities and regions, which will further reduce the amount of organic material entering the waste stream. Removal of organic material from MSW reduces methane emissions, a potent greenhouse gas, reduces volume of waste that must be processed, and provides a valuable resource as compost. The remaining composition of the MSW, currently over 50% by mass and expected to increase as organics are removed, consists largely of plastics, which should definitely not be considered a renewable resource.

Second, MSW incineration is not an efficient or clean method of generating electricity. The BC Ministry of Environment requires MSW incineration facilities to be at least 60% efficient,<sup>4</sup> based on a formula developed by the European Commission.<sup>5</sup> However, this model includes an adjustment that incentivizes electricity generated by MSW incineration by a factor of 2.6 relative to European coal plants. This adjustment should not be used in BC where the vast majority of our electricity is generated by clean hydro, not burning coal. Exclusion of this factor permits MSW incineration facilities with an actual efficiency of 23% to be deemed acceptable in this province, a number that is too low to be satisfactory.

Further, the incineration of biomass results in substantial carbon dioxide emissions, a greenhouse gas responsible for climate change. MSW wood waste in particular releases significant amounts of carbon dioxide into the atmosphere when burned. Recycling wood into other products, rather than burning it, not only keeps the carbon sequestered and out of the atmosphere, but also prevents the need for the collection of additional raw materials. In fact, a July 2013 ruling by the United States Court of Appeal, DC Circuit confirmed that Clean Air Act limits on carbon dioxide emissions do apply to biomass burning facilities, striking down an Environmental Protection Agency exemption for biogenic carbon dioxide.<sup>6</sup> Incineration of plastics and other components in MSW similarly emit a multitude of air contaminants, which adversely affect human health and the environment. Disregarding greenhouse gas emissions from MSW incineration goes against BC's greenhouse gas emission reduction goals.

As generating electricity from MSW incineration is neither a clean nor a renewable resource, which the *BC Clean Energy Act* requires, the FVRD requests that BC Hydro exclude MSW incineration from its list of viable resources in the IRP (section 3.7.5 and section 4.4.6.1). The FVRD is also writing to the BC Utilities Commission on this matter, and to the Minister of Energy and Mines to request he refrain from granting MSW the status of a clean or renewable resource, and to the Minister of Environment to highlight that Waste to Energy facilities in BC are currently allowed to operate well below 60% efficiency due to the inappropriate inclusion of coal-based adjustment factors in efficiency calculations.

BC Hydro – Comments from the FVRD on the Draft Integrated Resource Plan  
October 28, 2013

### References

- <sup>1</sup> Fraser Valley Regional District. Solid Waste Management Plan Update Draft. 2011. Available online: <http://www.fvrd.bc.ca/Services/garbageandrecycling/fvrdsolidwastemanagementplan/Pages/default.aspx#>
- <sup>2</sup> Sperling Hansen Associates. Capital Regional District Solid Waste Stream Composition Study: 2009-2010 Final Report. 2010. Available online: [http://www.crd.bc.ca/waste/documents/2009-2010\\_WASTE\\_STREAM\\_COMPOSITION\\_STUDY.PDF](http://www.crd.bc.ca/waste/documents/2009-2010_WASTE_STREAM_COMPOSITION_STUDY.PDF)
- <sup>3</sup> TRI Environmental Consulting Inc. Metro Vancouver 2011 Solid Waste Composition Monitoring. 2012. Available online: [http://www.metrovancouver.org/about/publications/Publications/2011\\_Waste\\_Composition\\_Report.pdf](http://www.metrovancouver.org/about/publications/Publications/2011_Waste_Composition_Report.pdf)
- <sup>4</sup> BC Ministry of Environment. Information Sheet: Waste-to-Energy and Solid Waste Management Plans: Considerations for the Inclusion of Waste-to-Energy Facilities (WTE) in Solid Waste Management Plans. 2010. Available online: <http://www.env.gov.bc.ca/epd/mun-waste/waste-solid/sw-mgmt-plan/pdf/wte-factsheet-nov25.pdf>
- <sup>5</sup> European Commission Directorate-General Environment. Guidelines on the Interpretation of the R1 Energy Efficiency Formula for Incineration Facilities Dedicated to the Processing of Municipal Solid Waste According to Annex II of Directive 2008/98/EC on Waste. 2008. Available online: <http://ec.europa.eu/environment/waste/framework/pdf/guidance.pdf>
- <sup>6</sup> US Court of Appeals. No. 11-1101 Center for Biological Diversity et al. v. Environmental Protection Agency. 2013. Available online: [www.cadc.uscourts.gov/internet/opinions.nsf/.../11-1101-1446222.pdf](http://www.cadc.uscourts.gov/internet/opinions.nsf/.../11-1101-1446222.pdf)



October 18, 2013

Mr. Charles Reid  
President and CEO  
British Columbia Hydro and Power Authority  
18th Floor – 333 Dunsmuir Street  
Vancouver, BC

*Via e-mail:* [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

**RE: Commentary on BC Hydro DRAFT 2013 Integrated Resource Plan (“IRP”)**

GDF SUEZ Canada, Inc. (“GDF”), a part of GDF SUEZ Energy North America, Inc., manages a range of energy businesses in the United States, Mexico, and Canada, including electricity generation representing a capacity of close to 13,000 MW, primarily natural gas generation. In North America the group manages 27 renewable facilities powered by wind, biomass, and traditional hydro energy, totaling a capacity of 668MW. In Canada specifically, the company currently operates nine wind farms and one solar park totaling 573MW in the Canadian Maritimes and Ontario, and a 110MW combine cycle co-generation facility in southwestern Ontario. The 99MW Cape Scott wind project, which is approaching commissioning on north Vancouver Island, is our first generation project in British Columbia (“BC”).

Our experience in developing, constructing and commissioning the Cape Scott project has been extremely positive. We were embraced by our host community, welcomed by the three First Nations on whose traditional territory the project is located and encouraged by the skilled trades and resources available to us on the Island, without which the project would not have been successful. The government and BC Hydro’s support and co-operative approach were critical in getting Cape Scott constructed and commissioned. We hope that this is the first of BC based projects in our portfolio.

GDF is pleased to submit comments in response to BC Hydro’s 2013 draft IRP. GDF applauds BC Hydro for its commitment to ensuring the province benefits from a reliable and robust energy system. The development of a comprehensive energy framework for managing supply and demand while balancing benefits to ratepayers, stability/reliability of the system, protection of the environment and economic development throughout the province, is essential to the stability of the province’s economy.

While recognizing the tremendous amount of work that went into development of the draft IRP, GDF supports the position of the Canadian Wind Energy Association (“CanWEA”) and Clean Energy BC (“CEBC”) that the draft IRP does not represent a comprehensive energy plan for the province. We believe that there are certain elements of the draft IRP that deserve review: first and foremost, the seeming incongruities between government policy priorities and the stated resource mix proposed in the IRP; second, the omission of LNG and northern industrial development demand within the Reference Load Forecast; and lastly, the lack of a balanced mix of resources, technologies and proponents within the Base Resource Plan (“BRP”), including clean sources

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such as renewable energies like wind and hydro developed by a blend of public, private and First Nations participation.

**Balancing Government Policy Priorities and the IRP**

The BC Government has set an ambitious strategy in place to grow the economy in order to provide long-term opportunity and stability for the people of BC. Taking advantage of BC's unique competitive advantages, i.e. rich and abundant natural resources such as natural gas and minerals and its proximity and access to global markets, the Government has established a series of top priorities including a significant push to develop an export LNG industry, establish new mines and increase natural gas production. These strategies, many of which are well underway, imply large growth in demand in northern BC. Additionally, the Government has stated that these developments must be undertaken to ensure respect for and protection of BC's natural environment. The Premier has stated, and reconfirmed on many occasions, that her Government must ensure development of the cleanest LNG in the world.

The current draft IRP does not account for the implications of these priorities. The IRP should include an assessment of the energy needs, both upstream and downstream, of the BC Government's economic development plans, including the LNG industry, and explore options to service these needs with the cleanest supply possible. The IRP should support the Government's stated goal of being the cleanest LNG in the world. Electrification provides this opportunity and BC Hydro, through the IRP, should demonstrate that it is serious about making electrification a reliable, cost effective option to industry.

**Omission of LNG and northern industrial development demand from the Reference Load Forecast and Base Resource Plan**

The BC Jobs Plan and the Liquefied Natural Gas Strategy have been extremely successful in promoting development and investment into a burgeoning LNG sector. Over a dozen facilities have been identified, seven have commenced initial development and three facilities already have licenses approved. Even if only a fraction of these facilities are commissioned, the demand for new energy will increase by tens of thousands of GWhs annually. Yet, the Reference Load Forecast and Base Resource Plan within the IRP reflect only a portion of the annual energy requirements that the LNG strategy will require, both upstream and downstream.

The IRP's base case assumes that LNG facilities will be designed to be self-sufficient through on-site combustion of some of the gas supply at the facility. The environmental consequences of this would be staggering. The lost opportunity and optionality for expanding province-wide renewable energy infrastructure and the associated benefits is also staggering.

As stated above, the IRP should include an assessment of the upstream and downstream energy needs of the LNG industry, and explore options to service these needs with as much electrification as possible.

**The Role of Renewable Energy and the Clean Energy Sector**

BC, through its policies and programs, has fostered a very successful clean energy sector and renewable energy deployment, attracting billions of dollars of investment and bringing hundreds of MWs of new hydro and wind assets on-line. Unfortunately, the IRP does not reflect the tremendous opportunity to continue this success.

GDF SUEZ

The IRP places a significant reliance on Site C and Demand Side Management (“DSM”) to meet the Load Resource gap and manage load growth over the life of the Plan. This seems disproportionate to the risks associated with both of these projects and has the potential to undermine the success and efficacy of the IRP.

Site C is a massive undertaking. It faces significant economic and social license risks and its success is anything but certain. Additionally, based on the historic record of DSM programs in BC, reliance on these measures to produce over 10,000GWh of annual savings relative to the forecast load growth out to 2024 also comes with a level of risk. While development of Site C and the encouragement of DSM measures have merit and value to the BC system, dependence solely on these two initiatives could result in a system that lacks resilience in response to changing conditions and circumstances and one that lacks flexibility to expand supply to meet demand in the future.

Balancing these two initiatives with encouragement of a robust mix of resources from a diverse blend of investors and partners is essential to ensure adequacy of supply, value to rate-payers, diversity of economic opportunities and benefits and competitive economic development within the province. As part of the plan to address the resource supply gap that BC faces, BC Hydro should seek to establish procurement targets for new clean supply and look ahead to set targets that help to maintain and further advance the significant investments the clean energy sector has fostered in BC to date.

The IRP should propose a broad resource mix that includes renewables, and to some extent gas-fired generation, and encourage a broad spectrum of public, private and First Nations participation. We strongly believe that the IRP can be designed to ensure that the private sector and First Nations are actively involved in developing reliable, cost effective clean energy supply to power BC’s future growth, while minimizing the impact on rate-payers.

GDF supports the submissions and recommendations of the Canadian Wind Energy Association and Clean Energy BC and their calls for a sustained, stable, and predictable procurement regime with defined targets for our sector.

As stated at the outset, we recognize the challenges that BC Hydro faces in developing a long-term plan for the energy sector that balances a ranges of competing goals. The consequences of getting it wrong will have lasting impacts on the province, its economy and its people. The benefit of getting it right means a strong, sustainable and competitive energy future. We encourage BC Hydro to review the areas identified in this letter and propose revisions to the IRP.

I would welcome the opportunity to discuss this submission with you and your colleagues.

Sincerely,



David Timm  
Vice President, Strategic Affairs





British Columbia Hydro and Power Authority  
18th Floor – 333 Dunsmuir Street  
Vancouver, BC V6B 5R

Via e-mail: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

## Re: Commentary on BC Hydro draft 2013 Integrated Resource Plan

GL Garrad Hassan (GL GH) would like to provide BC Hydro with the following written comments on BC Hydro's draft Integrated Resource Plan (IRP), *Meeting B.C.'s Future Electricity Needs*, released in August 2013. GL Garrad Hassan is the world's largest renewable energy consultancy and a recognized technical authority. The company provides independent technical and engineering services, products and training courses to the onshore and offshore wind, solar, wave and tidal sectors. GL Garrad Hassan has more than 30 years experience and has provided consulting services on thousands of renewable projects. GL GH has an office located in Vancouver, BC, which was opened in 2008.

GL GH would like to acknowledge the years of work and countless hours devoted by BC Hydro staff to the creation of the IRP, an important planning tool for the utility, the BC Government and others within the electricity sector. That said, GL GH is concerned with the perceived limited future market potential for renewable energy generation sources, such as wind energy, and the impact that this may have on what is one of the province's burgeoning industries. As such, GL GH would like to submit the following comments for consideration in the review process.

**Additional wind energy generation should be part of the province's energy supply mix, as it provides cost benefits to rate payers and economic and environmental opportunities to the province.**

Based on previous studies and analysis conducted by GL GH to assess the expected cost of energy from wind generation in BC, most recently in 2012<sup>1</sup>, it is GL GH's opinion that wind energy is a cost-competitive resource option for BC's energy supply mix. With wind power continuing to descend down the cost curve and further productivity gains expected from improvements in modern turbine technology, GL GH considers that its economic profile will only continue to improve, making it competitive with all other renewable and non-renewable electricity supply options available in BC.

GL GH further notes that the seasonal generation profile of a high percentage of potential wind farms sites in the province show an excellent match to the province's seasonal load profile. BC is also blessed with high quality wind resources spread across different regions of the province; these have the potential to sustain a vibrant industry while providing low-cost, low-carbon electricity to consumers. However, as a relatively new industry in the province, wind energy developers and associated companies supporting the project development lifecycle and supply chain may be deterred by continued uncertainty surrounding the local demand for wind energy supply. With other jurisdictions, both in North America and globally, becoming increasingly attractive options for investment, an uncertain local market could tip the balances in favour of development elsewhere, resulting in the loss of a promising industry in BC, along with its associated economic and environmental benefits.

Wind energy can also be used as part of a more diversified energy portfolio and integrated with other types of electricity generation to lessen the environmental impact and extend the life of those resources that are not renewable. For example, wind energy can provide some of the energy necessary to power the extraction and processing of natural gas, which, though considered clean by the province, is a finite, hydrocarbon resource.

Diversifying the energy mix would provide two advantages. First of all, it would create a more resilient portfolio, lessening supply risks that BC Hydro's customers would be exposed to. Second, though the IRP is only intended to guide BC's next 20 years of energy procurement, wind and other renewable energy sources can extend the life of non-renewables beyond the IRP's 20-year horizon would help BC Hydro to fulfill its mandate of providing power "for generations".

**Wind generation projects further relationships and provide economic benefits to First Nations and rural communities.**

Wind energy projects provide an opportunity to build enduring partnerships with First Nations and rural communities. Given that wind power projects are fundamentally less intrusive than large hydro or fossil fuel plants, their development can directly include

<sup>1</sup> "Assessment of the Estimated Costs of Wind Energy in British Columbia, GL GH Report 102831-CAVA-R-01-C, [http://www.canwea.ca/pdf/Assessment\\_Est-Cost-of-Wind-Energy\\_BC.pdf](http://www.canwea.ca/pdf/Assessment_Est-Cost-of-Wind-Energy_BC.pdf), May 2012.

GL Garrad Hassan



First Nations and local government (i.e. municipal and regional) in the planning process, offering chances for partnerships that otherwise wouldn't be available. Such partnerships can foster a sense of ownership and allow for a more direct distribution of benefits. Also, local renewable generation projects provide safe and well-paying permanent jobs, which improve the overall economic outlook of communities.

In conclusion, GL GH recommends that wind energy receive a larger role in the IRP's planned energy mix. Wind is a valuable resource for BC to consider—the province has world-class resources that can attract investment and economic development if a reasonable level of market certainty is present. Furthermore, wind projects provide unique opportunities to build partnerships with First Nations, communities, and other members of the public. Finally, integrating wind energy and other renewable energy sources into BC's energy portfolio would help to increase the resilience of the province's energy supply mix.

Thank you for the opportunity to comment on the IRP and for the consideration of the recommendations we put forth.

Respectfully,

A handwritten signature in black ink, appearing to read 'Carole', with a horizontal line extending to the right.

Carole Barbeau  
President  
GL Garrad Hassan Canada Inc.



October 18, 2013

British Columbia Hydro and Power Authority  
18th Floor – 333 Dunsmuir Street  
Vancouver, BC  
[integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

**Re: GE Canada - Commentary on BC Hydro draft 2013 Integrated Resource Plan**

GE Canada is pleased to submit comments in response to the BC Hydro Integrated Resource Plan. GE has operated in Canada since 1892, and today employs over 7000 people throughout the country. GE offers solutions across the energy value chain, drawing on our proficiency in a range of power generation sources, as well as long-standing expertise in oil and gas equipment – including LNG compression, smart grids, and pipeline integrity. GE Canada believes that BC Hydro has undertaken a generally prudent approach to planning future investments within a context of ongoing load uncertainty, and its mandate to ensure competitive rates while meeting the requirements of applicable legislation. We are pleased to support in particular BC Hydro's emphasis on conservation, and to its approach to supporting LNG development and working cooperatively with the natural gas industry in the Horn River Basin and North Coast. In addition, GE has the following recommendations to add to this process.

1. BC Hydro should include the value of diversification of generation sources for the robustness of the power system in its analysis and forward planning. Overreliance on one source of power carries risk, and in periods of drought or low water supply, both wind and natural gas can increase the resiliency of the system and work as complimentary sources of power. Wind's levelized cost of energy has already decreased by up to 26% per kilowatt hour, and costs will continue to decline as technology improves. Efficiency and turbine performance have also significantly improved, and high-output wind turbines can deliver up to 25% more efficiency and generate 15% more electricity than previous technology.
2. Improved power generation performance, regardless of source, is derived from how power systems are working with data. GE would encourage BC Hydro to continue to invest in developing and implementing automation and intelligence technology to drive better visibility, management, resiliency and availability into the electrical grid.
3. GE recommends that consultation with the natural gas industry regarding energy supply choices include technology and equipment providers in order to ensure an in-depth understanding of the state of technology and upcoming advancements is available to decision-makers.
4. Regardless of the energy source for power generation, GE encourages BC Hydro to commit to the use of best available technology for efficiency and performance in its procurement processes in order to ensure that British Columbia is using its resources – both natural and capital – in the most effective manner.
5. The Energy Objectives Regulation of July 2012 and the ability of LNG export proponents to select power sources based upon the economic and reliability factors they deem essential for the viability of the project should be reaffirmed.

We appreciate this opportunity to comment and look forward to collaborating with BC Hydro and the B.C. government throughout the energy planning process.

Respectfully,  
*Jeanette Patell*  
Government Affairs & Policy Leader (Energy)  
GE Canada

Hancock, Susan

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**From:** Alistair Howard <alistair.howard@boralex.com>  
**Sent:** 2013, October 17 5:52 PM  
**To:** Integrated, Resource Planning  
**Subject:** General IRP Comments

Thank you for the opportunity to comment on BC Hydro's draft Integrated Resource Plan (IRP). Boralex Inc. operates an asset base of over 500 MW in Canada, the Northeastern United States, and France. Included in our portfolio are two contracted BC assets: Ocean Falls (14.5 MW hydro) and Jamie Creek (22 MW run-of-river). Furthermore, we have a development office in Vancouver and are actively pursuing a number of short and long-term opportunities in British Columbia.

Boralex is an active member of CanWEA and Clean Energy BC. We are supportive of the IRP consultation input that each of these associations is submitting; however, we felt that certain aspects should be highlighted and emphasized and we have therefore prepared minor comments of our own.

For economic growth to occur in British Columbia there will be a corresponding increase in energy usage (whether supplied by BC Hydro or other). This energy can either be delivered using fossil fuels (increasing BC's GHG emissions) or zero emission renewable energy. British Columbia's energy objectives are clearly laid out in the Clean Energy Act. One of the principal objectives of this legislation is to reduce British Columbia's greenhouse gas emissions. This objective includes emission targets (e.g. "by 2020 and for each subsequent calendar year to at least 33% less than the level of those emissions in 2007"), as well as actions ("encourage the switching from one kind of energy source or use to another that decreases greenhouse gas (GHG) emissions in British Columbia).

The IRP document concludes (Page 6-85) that "achieving these [Clean Energy Act] targets will likely require large scale fuel switching to low or zero emissions energy sources such as low emission or renewable electricity"; however the IRP only provides the recommendation that "BC Hydro's ongoing efforts to monitor provincial, national and international climate policy developments and analyze potential system demand will facilitate responding to potential future policy-driven electrification initiatives."

Efforts to monitor policy do not provide any encouragement for electrification or fuel switching. BC Hydro currently serves 95% of the province's population and can be expected to continue to serve the majority of the provincial demand. In order for British Columbia to meet its targets for GHG emission reductions BC Hydro must take a leadership role in promoting fuel switching to low or zero emission energy sources. **BC Hydro's IRP should include specific actions to promote and stimulate electrification, fuel switching, and the development of renewable energy sources.**

BC Hydro's IRP assumes throughout the IRP that the forecast for natural gas pricing as well as any GHG emission costs will remain low for the long term. This assumption includes a significant amount of risk that the forecast could be wrong (IRP page 5-14 "when natural gas spot market prices are low (such as currently), the long-term price forecast tends to be low and vice versa").

For GHG emission targets to be achieved this energy must come from low or zero emission energy sources. The IRP asserts that independent power is not competitive against BC Hydro's proposed portfolio; however other jurisdictions have developed competitive acquisition processes with specific measures to promote economic development and contain pricing. For example, Quebec recently released details of its upcoming wind RFP which includes a price cap of 9.5 cents/kWh as well as specified regions for projects. This type of RFP will provide Quebec with a diversified portfolio, price certainty, targeted economic development, and a zero emission energy source.

BC Hydro conservatively forecasts a growth of over 23,000 GWh/year over the next 20 years (40% growth). British Columbia has an opportunity to use cost competitive renewable electricity for economic development, employment, and leadership in GHG emission reductions. **BC Hydro's IRP should include specific actions to use renewable energy to help BC's economy grow while meeting its Clean Energy Act objectives.**

We look forward to reviewing the final IRP incorporating the latest round of consultation and feedback.

Sincerely,

**Alistair Howard**

Manager, Project Development (British Columbia)

Directeur, développement de projets (Colombie-Britannique)

**Boralex Inc.** | 606-1155 Robson St. | Vancouver, BC | V6E 1B5

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October 18, 2013

**BC Hydro Integrated Resource Plan (IRP)**

Dear Sirs,

We wish to Comment on the BC Hydro Integrated Resource Plan Document

Comment #1

In regard to the above document and the statement on page 6-49 of the IRP to the effect that “**the land and freshwater footprint of Site C reservoir represents a conversion of habitat from terrestrial and river environments to a reservoir environment, and not a loss of productive environment**” we wish that it be corrected to reflect the projected loss of productive farmland and wildlife habitat, and further that, the IRP be placed before the British Columbia Utilities Commission for review.

Further:

According to figures supplied by the BC Hydro lands department, the proposed Site C reservoir would initially inundate approximately 603 Hectares within the District of Hudson's Hope. A further 1037 hectares would be placed under a statutory right of way because of the possibility of it becoming part of the reservoir due to erosion, sloughing, etc.

Not all productive environments are created equal. The loss of productive farmland, wildlife habitat, present and future businesses and habitations that are associated with “terrestrial environments” is significant and the “conversion” to a reservoir environment is not of equivalent value.

The statement quoted above should be omitted or changed to reflect the lack of equivalency.

Comment #2

Without being a subject matter expert on electrical demand, generation costs, GHG emissions, and so on, it is very difficult to assess the information in the Integrated Resource Plan. That is why the scrutiny of an independent body such as the BC Utilities Commission is so important. Knowing that BC Hydro's information has been thoroughly scrutinized by an independent body would give the public comfort.

Would you please confirm with me once this oversight has been corrected and affected?

Regards,

Tom Matus, CAO



Renewable Energy.  
Sustainable Development.

BY EMAIL; ORIGINAL TO FOLLOW BY MAIL

October 18, 2013

Charles Reid  
President and CEO  
BC Hydro  
333 Dunsmuir  
Vancouver, BC V6B 5R3

**RE: BC HYDRO DRAFT 2013 IRP**

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Dear Charles:

Innergex Renewable Energy Inc. (Innergex) is pleased to provide you with a comprehensive summary of the comments we provided in the official online consultation for the BC Hydro's Draft 2013 Integrated Resource Plan (IRP).

Innergex is a leading Canadian independent renewable power producer. Active since 1990, the company develops, owns, and operates run-of-river hydroelectric facilities, wind farms, and solar photovoltaic farms and carries out its operations in British Columbia, Quebec, Ontario, and Idaho. Innergex strives for sustainability in all aspects of our business: the energy we produce, the contribution we make to local communities, the revenues we generate, and the returns we provide to investors.

A significant amount (62%) of our assets are in British Columbia: Innergex is in the middle of deploying approximately **\$1 billion of capital investment** in BC (representing six run-of-river facilities that will come online between 2013 – 2016 as contracted with BC Hydro). To date we have invested over \$1.5 billion and have 17 projects operating and under construction in BC. A key success to our suite of diversified run-of-river and wind projects is our partnerships with First Nations communities. For each of our projects in BC, Innergex works together with local First Nations on whose traditional territories we are active. We have concluded over 20 Impact Benefit Agreement with First Nations in BC. We are proud of the contributions we have been able to make and want to continue to help build this Province.

With regard to the draft IRP, Innergex has three main areas of interest and concern. These relate to:

- Managing resources and the impacts on the clean energy sector
- The role of the clean energy sector in supporting the development of LNG
- Powering tomorrow through a diversity of electricity options

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### Managing Resources

Specifically, Innergex is concerned about the impact that the draft IRP would have on future economic development in BC, particularly in terms of limiting the diversification of regional and local economies. As with any industry, the capital and resources we deploy to invest is mobile and we operate within a competitive global marketplace. In order to enable this capital to continue to be spent in BC, our company requires a degree of certainty for the future procurement of renewable energy projects in BC. It is also essential to ensure sustainable employment for both our employees and our diverse supply chain. We are very concerned about the lack of certainty provided by the Draft IRP in terms of the future of our sector. We strongly encourage the Government and BC Hydro to implement a more predictable, sustainable procurement process which would better facilitate both investment and employment (as opposed to the current “boom-bust” model).

Innergex also would like to recommend that the BC Government and BC Hydro re-examine the overall procurement framework. For example, issuing electricity purchase agreements (and corresponding water licences and land tenures) for long periods of time would enable both a lower cost of electricity and also provide longer-term price certainty for the ratepayer. Smaller, more regular procurement will avoid a concentration of projects being constructed concurrently, which can lead to escalating materials and labour costs. Innergex is willing and able to work with both the Government and BC Hydro to explore these and other options.

### Supporting LNG

The BC Government has indicated that development of a liquefied natural gas (LNG) industry in BC presents a generational opportunity. We agree and strongly believe that the continued development of regionally-based renewable energy projects will allow the prosperity created by this new sector to be shared by multiple regions of British Columbia. Innergex has seen first-hand the benefit these projects can bring to isolated communities. In many cases, renewable energy is the best and only resource available to a First Nation to harness for economic development.

As a leading renewable energy developer we continue to be excited about LNG, especially given the Premier’s aspiration to have it be the cleanest LNG in the world. We are confident there is an opportunity to create a synergy that marries the high quality renewables BC offers with the remarkable natural gas resource in BC. We appreciate the complexity of predicting electricity needs for a nascent industry, but Innergex believes it behooves all of us to fully examine the data and engage in a concerted and coordinated way with the LNG sector to fully understand and reach agreement on the future power needs of the LNG sector, both for primary and ancillary needs.

### Powering Tomorrow

Innergex strongly encourages the BC Government and BC Hydro to re-consider the value of the development of a diversity of electricity options – diversity in fuel type, diversity in geographic location, diversity in development strategy – instead of a reliance on two major sources of new electricity (DSM and Site C), both with considerable risks as identified in the IRP.

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First Nations in particular see an important and potential community-changing opportunity in independent power production. Working with many First Nations on our different projects in BC, we hear from the Chiefs, Councillors, elders and community members what the renewable sector offers. It provides training, jobs, empowerment and experience in a resource sector that can translate into other opportunities for those First Nations.

Innergex applauds the BC Government and BC Hydro for its leadership and vision in creating the platform for a world class renewable energy sector. We need to work together to ensure we can continue to build on this success. Innergex is committed to continuing to work with the BC Government, BC Hydro, First Nations and local communities and LNG proponents to enable success in the development of the new LNG sector which maximizes the use of renewable energy. We hope to continue to invest and help BC harness its strong renewable endowment.

In closing, we appreciate that BC Hydro has an enormous job in balancing all the factors required to produce an effective planning document. We appreciate your work and collaboration, and would welcome the opportunity to have a further dialogue on these and other points at any time.

Sincerely,

[original copy signed]

Michel Letellier  
President & CEO

CC: Honourable Bill Bennett  
Minister of Energy and Mines & Minister Responsible for BC Hydro

Chris O'Reily  
Executive Vice President, Generation

Doug Little  
Vice President, Energy Planning & Economic Development

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## IRP Consultation

October 15, 2013

To whom it may concern,

RE: August draft IRP.

Marine Renewables Canada is the Canadian association pursuing development of Canada's opportunities associated with tidal, river current and wave energy. This association had its roots in efforts to explore British Columbia's wave and tidal resources, in BC Hydro's interest in wave in early 2000s and the association operating as the Ocean Renewable Energy Group from 2004.

We have worked directly with BC Hydro and through a variety of task forces, climate action initiatives and long-term system planning efforts. The medium to long-term potential for energy production from river and tidal currents and from waves has been recognised in modifications to the Standing Offer programme to include non-commercialised technology and in the emerging energy FIT enabled by the Clean Energy Act.

As such, the IRP must be seen as a step back in examining the potential transition of the BC Hydro system into a diversified and resilient network of power production clusters. It provides no starting points for new activities that could be available at industrial scale in the coming decades. While the IRP states that it evaluates using "enhanced system reliability" and "economic activity", the interpretation of the first may be mostly focused on integration issues and the latter simply looks at construction and operation benefits, ignoring any aspect of building industrial capacity that can work elsewhere.

As a planning exercise that states "*BC Hydro's Integrated Resource Plan provides a longterm look at how BC Hydro can cost-effectively meet our customers' needs – by continuing to promote conservation and energy efficiency, by developing or acquiring renewable energy resources for the future, and by planning for the emerging LNG industry.*" it is hard to see a long-term scenario that meets the Climate Action agenda, the Hydro Power and Authority Act and the potential LNG strategy of the Province. In contrast with earlier generations in which capacity was developed allowing the provincial economy to grow, the IRP offers that BC Hydro will "be prepared to advance procurement...as required to meet LNG..." Given the lead times experienced even with mainstream commercially proven clean energy projects, it is hard to see how this could result in anything less than a drive for natural gas powered generation.

It is perhaps in British Columbia's interest that the medium to long-term options be considered more thoroughly. The UVic based West Coast Wave Initiative was recently funded by NR Can and is generating new data on resource availability. NRCan and NRC have completed a first assessment of river current potential. The science of tidal resource assessment has been significantly advanced by work in Nova Scotia. The UK Carbon Trust report of 2006 cited in the

The power to think bigger.

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marine  
renewables  
canada

marinerenewables.ca

IRP has been overshadowed by current UK work toward a FIT regime and the existence of one, and an imminent additional, FIT for tidal in Nova Scotia. The growing number of full-scale device deployments and real plans for the first pilot power plants in UK, France and in Nova Scotia make this an option whose timing may be in question, but the question of whether marine renewables get developed is not. To treat the marine renewables option as "too far out" to be of interest means missing out on the learning from early development and risks keeping them in unexplored territory for longer than they deserve. It also ensures that any economic echo from building a new industrial approach will be lost.

On Aug 14, 2009 OREG submitted a commentary to BCTC that was not dissimilar to these comments. What has changed since then is that other jurisdictions (even in Canada) have made progress towards pilot marine renewables plants and some technologies have now demonstrated years of uninterrupted service as certified power plants. That this is not reflected in the IRP, and that no strategy is included to keep these options open is testimony that the scope of the IRP is narrower than British Columbia's interest.

Regards,

A handwritten signature in black ink, appearing to read "Chris Campbell".

Chris Campbell  
Executive Director, Marine Renewables Canada

The power to think bigger.

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October 18, 2013

British Columbia Hydro and Power Authority  
333 Dunsmuir Street  
Vancouver, BC V6B 5R3

Via e-mail: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

**Re: Commentary on BC Hydro draft 2013 Integrated Resource Plan**

To whom it may concern:

We are writing to provide comments on BC Hydro's Integrated Resource Plan (IRP), *Meeting B.C.'s Future Electricity Needs*, released in August 2013. Our company has established an office in British Columbia and has been working in the BC renewable energy sector for over six years. In this time we have worked with private and First Nation partners to investigate wind energy projects and have committed significant investment and assets to this end.

We believe that BC Hydro has an important role to play in strengthening BC's clean energy legacy and enabling a vibrant clean energy sector and economy. However, we believe that in its current form the IRP is not in the best interests of British Columbians and the clean energy industry.

In our view some of the shortcomings of the proposed IRP include:

- No procurement opportunities for wind power (or other renewable) projects
- Limited mention of electrification of GHG-intensive resource development (upstream oil and gas developments, LNG plants) which are necessary for a GHG-constrained society
- Heavy reliance on the Site C project to complete on budget and on time

We believe these shortcomings will result in the following:

- Closure and divestment of many clean energy companies and projects removing high quality jobs and investment from BC
- Significantly increased greenhouse gas emissions due to the combustion of natural gas in order to power the LNG plants (negating any 'Cleanest LNG' goals in the process)
- Limited to no economic or infrastructure benefits to different regions in BC due to the concentration of major power projects in Fort St. John and Kitimat/Prince Rupert (i.e. from Site C and LNG projects)
- Limited opportunities for First Nation engagement and partnerships due to the concentration of projects in the Peace and North Coast
- High financial risks to British Columbians if forecasts for energy demand, Site C budget and timing, LNG project uptake, and conservation targets deviate from those planned.

We commend BC Hydro for the thorough analysis in the IRP and for the ambitious conservation targets that are being set. However, we are sufficiently concerned that the IRP misses the opportunity create a modern, distributed, energy system based on clean and renewable projects in BC, that it will cause a migration of clean

2013 IRP Consultation Response – MKI

energy companies and talent from BC, and that, in its present form, it systemically enables an energy system with a significant GHG footprint at a point when we should be doing the opposite.

We recognize BC Hydro's leadership role in ensuring clean air and a reliable electricity supply for all British Columbians. We hope that we can work together with BC Hydro to bring forward projects that benefit BC's residents, First Nations, economy, and environment. Thank you for giving us with the opportunity to provide our thoughts and feedback.

Best Regards,  
MKI



Martin K. Ince, P.Eng.  
President

cc. Nicolas Heap, CanWEA

**Hancock, Susan**

---

**From:** Juergen Puetter <jpuetter@aeoliswind.com>  
**Sent:** 2013, October 18 1:01 PM  
**To:** Integrated, Resource Planning  
**Subject:** IRP Comments

To Whom It May Concern:

We are the original developer of the first operating wind power project in BC, the Bear Mountain Wind project. We are very optimistic and enthusiastic about the future prospects for renewable energy in BC and its use in meeting future energy demand growth. We have reviewed the draft 2013 Integrated Resource Plan, and would like to share with BC Hydro the significant concerns we have with its findings and recommendations. Much to our surprise, we are finding that this version of the IRP draft has concluded that for the foreseeable future energy demand growth will not be met by use of additional renewable energy, and growth of the BC Hydro transmission and generation systems and IPP procurement, and will instead be satisfied using combination of

- natural gas fired compression in the case of LNG load,
- most likely natural gas fired generation in the case of satisfying the NE BC gas drilling, production, and processing activities (Montney and up to Horn River Basin)
- all other interim demand growth will be met by
  - the Demand Side Management ("DSM") measures amounting to some 7,800 GWhs by 2021,
  - open market purchases,
- and other demand that will transpire at around 2021 will be met by Site C

This combination leaves the Province of BC and the ratepayer exposed to unwarranted risks of the future energy demand being higher than projected, and resource options used to meet that demand being more costly than anticipated, and not readily available.

Please note that as recently as two years ago BC Hydro's own assessment spoke of "unprecedented load potential in the North, with Montney at 350-800MW, Horn River at 250-750MW, north coast LNG at up to 1,700MW, and mining at 300-500MW". Clearly such loads can only be served if BC Hydro takes the initiative of building the infrastructure to serve such loads. That is the kind of initiative that led to the construction of the hydro dams in the 1960's that made BC as strong as it is today. Absent such initiative, the growth in loads will be served by burning fossil fuels that generate unsustainable amounts of GHG emissions and importing fossil fuels based energy, as contemplated in the current draft IRP. Such emissions will greatly exceed the legislated provincial GHG emission targets, and will not support the objective of "cleanest LNG in the world" as stated by our Premier. Nor will this support the BC Jobs Plan, as energy imports are equivalent to shipping jobs and investments out of BC.

More specifically:

- the projected energy demand in this draft IRP is conservative, and has very high risk of being significantly exceeded. Please see the up to 3,750 MW of northern BC load listed above, referenced from BC Hydro's 2011 presentation. It appears that most of this demand is not reflected in this draft IRP not because it no longer exists, but rather because it was not presented with a viable interconnection option.
- The confidence in and reliance on DSM measures is too great and has very high risk of resulting in significantly less reduction in energy use than planned. Please note that the average per capita energy usage in BC has not changed in many years despite years of spending on DSM programs, while the population of BC will continue to grow.
- Site C has a very high risk of its capital costs being higher than currently estimated, and being delayed or even cancelled due to environmental and social concerns including those of First Nations. For reference, please note the current cost overruns on the NW Transmission Line, and the pushback from public and First Nations on the

## Integrated Resource Plan Appendix 7I

proposed pipeline projects. Also, the proposed timeline for Site C construction coincides with construction of the LNG mega projects, which means that Site C will be in competition for resources and skilled labour.

- Reliance on open market purchases has a very high risk of (a) having to be relied on for much longer than expected due to the factors discussed above, (b) presenting BC Hydro with costs much higher than expected. Marginal cost of power is driven by gas fired generation, and those costs are notoriously cyclical, as is the gas price. It is extremely unlikely that the currently depressed gas price will not recover over the next 7-10 years. Also, market purchases represent a mix of fossil fuelled GHG emitting energy that is being imported into the province.
- Reliance on waiting to see what happens and then sourcing energy from IPPs if the above factors transpire is risky if by the time the energy shortage is upon us the IPP industry will have been sidelined for a decade or more. Lead times for a large scale wind power project can reach 6 to 7 years (2-3 years for environmental approvals, 1 year for engineering and preconstruction, and likely 3 seasons for constructing the projects due to short construction seasons). In the meantime most IPPs will have significantly reduced or eliminated their presence in BC.
- Not relying on wind power to a larger extent is risky, as it is at this time the lowest cost renewable energy available to BC Hydro. Please note that in the resource options report, if the cost of Site C and NE BC Peace region wind energy were presented using the same cost of capital, wind energy would be cheaper. Also, the 15% reduction in wind energy capital costs used in the calculation were understated, as BC Hydro recognized in its discussion that the actual cost reductions in that industry are up to 30%. Furthermore, the lower cost of capital (5% for Site C vs. 7% for IPPs) used in Site C calculations does not recognize the fact that a project delivered by an IPP proponent will absorb cost overruns and will deliver the contracted price of energy, while a public entity project will simply pass cost overruns on to the rate payer with the resulting cost of energy being higher than planned. This nullifies the cost of capital advantage claimed by Site C.

Given the factors discussed above, the most likely scenario is that over the next 10 years or so there will be need for electricity well in excess of what the current IRP is recognizing. The most logical way to address this outcome is to prepare a moderately sized clean power call for the 2014 time frame, as the energy will be required later this decade, and the wind power will provide for the most cost effective renewable power purchase available. A clean power call of the size of 3,000 to 4,000 GWhs with projects to be delivered in the 2017-2019 time frame would keep the IPP sector in BC strong and viable and ready to be an essential partner to BC Hydro as further needs for energy become self evident in 5 to 10 years. Further benefit will be in greater involvement of First Nations in the development of this province, considering that many of the IPP projects include First Nations as partners or participants.

Therefore the current draft of the IRP must be re-examined and resubmitted to (a) lessen the risk profile to the province by recognizing the very significant supply / demand gap that is most likely to occur, (b) better align with the BC Jobs Plan and Premier's clean energy vision for the province, and (c) include the clean power call as discussed above.

Respectfully submitted,

Aeolis Wind Power Corporation

*Juergen Puetter*  
President



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Hancock, Susan

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**From:** pveacoordinator <pveacoordinator@gmail.com>  
**Sent:** 2013, October 18 7:32 PM  
**To:** Integrated, Resource Planning  
**Subject:** Comments from Peace Valley Environment Association on IRP

Following are comments on BC Hydro's August 2013 Integrated Resource Plan from the Peace Valley Environment Association:

**Section 1: LNG**

1. We disagree with the Clean Energy Act's claim that LNG is a clean, renewable energy strategy. It is not in keeping with the steps urgently needed to reduce BC's impact on climate change, environmental degradation and biodiversity loss. We cannot support the extraordinary demand on freshwater supplies that LNG development would mean for the Peace River Region and for agriculture in particular.
2. We find the following aspect of the IRP unacceptable as a reason to build Site C Dam:
  - "11. Explore clean energy supply options, if LNG demand exceeds available resources:
  - Explore clean or renewable energy supply options and be prepared to advance a procurement process to acquire energy from clean power projects, as required to meet LNG needs that exceed existing and committed supply."

3. \_\_\_\_\_

We agree with this aspect of the IRP especially as it relates to LNG:

"As set out in Chapter 5, BC Hydro's assessment concludes that there are no suitable market opportunities that warrant the development of new clean or renewable resources for the purpose of exporting electricity for the foreseeable future. As a result, BC Hydro is not proposing to pursue projects or contracts specifically to serve the export market as part of the Recommended Actions.

1. However, the IRP does contemplate providing electrical power to support LNG production which will be for export and thus effectively negates its own statement. Furthermore, if the IRP were to include a recommendation that BC Hydro support technological innovation around non fossil fuel/ zero carbon power production it would be possible to generate exports of effective new energy technologies. At the very least the IRP should ensure that all costs of producing power would be included in the consideration of exports given that ratepayers will be subsidizing the provision of power to the potential exporters.

**Section 2: Conserving First**

1. We strongly disagree that Site C should be built at any time now or in the future.



2. The IRP undervalues conservation as a strategy for reducing demand. Once demand is reduced considerably, this would reduce the need to build expensive infrastructure.
  
2. “Maintaining” conservation measures is not enough. Conservation should be made the **highest priority** and DSM measures should be **increased** beyond 66%. Sixty-six percent is a **minimum** established by the government for Hydro. There are currently no government or regulatory constraints preventing BC Hydro from setting higher targets.
  
3. A voluntary industrial load curtailment can only be realized by increasing rates to drive down consumption. This may be supported by a system that rewards effective curtailments with lowered rates.
  
4. Rather than “relying on all three customer classes”, the concept of supporting the achievement of conservation savings through DSM should be expanded by innovative programs that encourage a range of sustainable, green, alternative energy systems to be investigated, produced and implemented across BC for residential, commercial and industrial customer classes. This should be combined with an expansion and enhancement of existing BC Hydro Electricity Purchase Agreements (EPAs) and Standing Offer programs for **all three classes once the need for the energy is confirmed**.
  
5. The IRP should consider the benefits of increasing our dependence on passive solar energy as a means of conservation. In the early 1980’s, Hydro recognized that incremental gains of passive solar would have an effect similar to conservation measures. Hydro should be promoting and possibly funding business or residential uses of solar powered technologies such as water heaters, space heaters, or lighting.
  
6. While conservation may be subject to “deliverability risk,” conservation programs and incentives can be ramped up as needed to maintain energy savings targets, so this risk should not be used to justify program cuts nor to build Site C Dam.
  
7. The IRP fails to recognize the tremendous opportunities possible with net metering. While BC Hydro does accept electricity from individuals that net meter with photovoltaics, wind, and other, it is a poorly promoted option. While net metering is growing in jurisdictions around the world, the majority of British Columbian's not aware this is even possible! BC is one of the few jurisdictions in North America that offer absolutely no incentive program for such. We are being left behind in this area compared to the rest of the civilized world. With the declining cost of PV systems, and increasing electricity rates, BC Hydro should at the very least launch a public awareness program on net metering to increase the amount of electricity produced in this manner. Net metering is the ‘100 mile diet’ of electricity. Excess power is consumed locally and transmitted on the existing grid. It reduces or eliminates the need for expensive grid expansions.

**Section 3: Powering Tomorrow**

1. The IRP asks the key question, “Should BC Hydro continue to advance Site C for its earliest ISD?” To this question we reply a resounding “NO”. We believe that the “need for” and “alternatives to” Site C Dam are not adequately studied nor proven in the IRP. Without this information it is imprudent for the IRP to place such emphasis on this project as a means of meeting Hydro’s capacity obligations.
2. We believe in the importance of keeping BC Hydro intact as a Crown Corporation for serving the public good; and that Site C could jeopardize that by incurring the additional \$7.9 Billion debt; and that this debt would very likely cause political pressure for privatization especially as the impact of such a large expenditure puts upward pressure on rates. If rates were allowed to reflect the cost of Site C they would need to increase substantially. Additionally the cost of borrowing for such a debt anticipated in the IRP will very likely cause a downgrading of BC’s AAA credit rate and result in an increased cost of borrowing for BC Hydro.
3. The laws of supply and demand and the elasticity of price with respect to demand, mean that as the price of new generation goes up, the demand for the electricity goes down. It is imprudent for the IRP not to adequately anticipate and assess the downward impact of rates pressure on future demand. As well, projections within the IRP need to be reassessed with this factor in mind.
4. We hold the view that ratepayers should not be forced to subsidize large industrial users through the development of new power generation capacity. It is unacceptable that the predominant demands for power in the Northwest are industrial in nature and that this anticipated demand provides the “need for” Site C Dam.
5. For a project of this magnitude and impact, we strongly believe that the Site C project must be overseen and assessed by BCUC.
6. The IRP dramatically undervalues the intact Peace River and the Peace River Valley ecosystems in the flood zone. Both are far more valuable to society and the future than Hydro’s IRP (or its Environmental Impact Statement for Site C) acknowledges. For example, the IRP does not adequately value the valley’s solar energy (such as solar energy stored in the form of food and feed), nor the value of the carbon sequestration provided by the boreal forest. Indeed, biodiversity services and functions are not accounted for in the IRP.
7. The geothermal potential of the Peace River Valley has not been given adequate weighting and consideration as an alternative to Site C dam. Geothermal energy often meets the requirements of “firm” and “dependable” energy supply and costs about the same to produce per megawatt hour as big Hydro with most of the costs up front. The advantage of geothermal turbine production is that it is available,

## Integrated Resource Plan Appendix 7I

clean, green, often firm and diversified. It is not subject to climate change droughts or massive flooding events. The IRP should consider high-potential regions where geothermal energy development would offer the biggest bang for the buck.

8. Another legitimate, alternative capacity option virtually ignored by the IRP is the Columbia River Treaty which could and should be used rather than building Site C dam.
9. Avoiding the estimated \$7.9 Billion cost of Site C dam would make possible increased investments in DSM, and other truly clean and sustainable alternative energy production (whether IPP or crown corporation). The energy and capacity available from alternative options if funded at \$7.9 billion would leave Site C in the dust.
10. From an economic point of view, the “cost effectiveness” case for Site C dam has not been made. Indeed, energy conservation resources are estimated to cost around \$40 to \$50/MWh, compared to supply-side resources costing \$60/MWh and up (Site C’s Unit Energy Cost is estimated to be \$88/MWh). Section 6.4 of the IRP does not represent an adequate analysis of cost comparisons. The “Generation Blocks” (page 6-32) used as comparators “predominately consist of wind resources to provide energy”. This is not a thorough or reliable comparison. Thermal energy potential is significantly undervalued and the analysis fails to recognize the significant costs of biodiversity losses or other economic impacts of building Site C dam. Again, BCUC should be conducting a thorough investigation into the ‘need for’ and ‘alternatives to’ Site C as well as a full economic analysis of the costs and benefits of Site C.
11. Page 20 of the 2013 IRP review and update of environmental attributes states, “BC Hydro has advised that the level of detail (of the environmental attributes assessment) associated with the attributes data is not expected to be as precise as would be required to support an environmental assessment or permitting process for a specific resource option project, nor are the attributes intended to address land use or land-use planning considerations which are outside of BC Hydro’s scope.” We argue that the IRP should not put so much emphasis on Site C dam given that it has not completed the Environmental Review Process. Such reliance appears to assume the independent outcome of this process will favour the project and/or that government will proceed regardless of the outcome. The IRP’s failure to adequately consider alternatives to Site C is imprudent and unacceptable.
12. The IRP indicates that Site C provides “renewable” energy, however it does not include the costs of decommissioning the dam and renewing the Peace Valley. It is entirely inappropriate that a project of this magnitude does not include a detailed decommissioning plan that provides information on all aspects of decommissioning including an estimated cost and timeline for covering these costs.

### Section 4: Managing Resources

## **Integrated Resource Plan Appendix 7I**

1. Cost effective planning should recognize and integrate the potential for technological innovation which will become increasingly viable both economically and practically. Such technologies include for example: solar photovoltaics (PV), geothermal energy systems, wind, micro turbines, and electric vehicle (EV) enhanced storage.
2. “Managing resources” must include investment in new, “green” technologies to meet future demand. Further, EPA’s and IPP’s should not remain predominantly hydro electric power. Hydro should enable and encourage the development and use of alternative energy sources that are carbon neutral for example wind, thermal, and solar power.
3. One entirely feasible option that should receive much greater emphasis and value in the IRP is geothermal power. The technology for tapping geothermal energy exists now. For example, using drilling/fracking technology, a well can be drilled and fracked, with cold water put down to the hotspot; and a second well drilled to access the steam produced to drive a turbine. The water could be recycled and would not be permanently poisoned and withdrawn from the precious and finite freshwater supply. The IRP Map in Appendix 3A-10 identified potential geothermal sites. There are likely hundreds more.
4. A restriction of most alternate energy systems is that they are not firm or reliable. Geothermal energy often meets both requirements and costs about the same to produce per megawatt hour as big Hydro with most of the costs up front. The advantages of geothermal turbine production is that it is available, clean, green, firm and diversified. It is not subject to climate change droughts or massive flooding events. It has been estimated that tapping into the geothermal values of the northeast could be done easily, and relatively cheaply, to the point it would offset the need to build Site C at all. The heat resource in that area dwarfs the oil and gas resource. Generating power is a longer term return, and while the costs are up front.

### **Section 5: Planning for the Unexpected**

1. Upgrades to and enhancements of existing facilities makes good sense providing the environmental impacts assessments are done with diligence.
2. Effective and prudent contingency planning must include greater attention to climate change impacts. The IRP should focus more of its planning and projections on the serious likelihood of climate change driven events becoming more extreme and disruptive (even to a predominantly hydroelectric system) than is currently contemplated in the IRP.

### **Section 6: General IRP Comments**

1. The IRP as a whole represents a failure of vision. While its intention is to focus on the future, it fails to consider innovation and the paramount need to be able to adapt to an increasingly unpredictable future.

2. The IRP's public consultation process is inadequate and definitely not consistent with broadly inclusive best practices, specifically: the public has not been made sufficiently aware of the consultation process, its timing window nor its importance; the IRP is a massive and information-dense document that doesn't clearly identify assumptions behind the recommendations; the timeframe for the consultation period is too short and does not allow sufficient time for people to digest and comment on the information in the IRP; the small print caveat in the consultation form that disallows self or third party identification is inadequately explained and could invalidate comments without notification to the commentor; and finally this process fails to allow the public to see, in a timely manner, the comments that others have made.
  
3. Even though it falls outside of the mandate of the IRP we believe it is critically necessary to broaden BC Hydro's mandate to include development and implementation of alternative, "truly green" sustainable technologies and energy supply rather than mainly focussing on hydroelectric power production. Even though hydroelectric power is seen as a relatively low GHG producer, large dams do produce significant GHGs in the form of methane. We argue that the risks to the environment from building new hydroelectric facilities such as Site C dam are unacceptable.
  
4. Further, we reiterate that allowing for comments is not enough to test the IRP as thoroughly as is needed. To achieve credibility as a reliable planning document, the IRP must be referred to the British Columbia Utilities Commission for thorough review and effective public consultation.

--

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Say "NO" to Site "C" Dam!

@SavePeaceValley



BC CLIMATE ACTION  
COMMUNITY 2012

October 17, 2013

British Columbia Power Authority  
18<sup>th</sup> Floor – 333 Dunsmuir Street  
Vancouver, BC  
V6B 5R3

Attention: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

Re: Comments on BC Hydro's Draft Integrated Resource Plan

On behalf of the Regional District of Nanaimo Board of Directors, I am pleased to provide these comments on BC Hydro's Draft Integrated Resource Plan (IRP).

Firstly, the RDN Board acknowledges the challenges and complexity of delivering reliable and inexpensive electricity to ratepayers in the Province. Nevertheless, it is our view that there are significant omissions in the Draft IRP as currently written, primarily oriented around the lack of a clear commitment to developing and deploying renewable energy resources across the Province in general, and on Vancouver Island in particular.

The comments that follow are organized around the categories presented in the online comment form.

#### Supporting LNG

Recommended Action: To 'support the LNG industry' by reinforcing an existing 500 kilovolt transmission line from Prince George to Terrace; working with industry to explore natural gas supply options on the north coast to enhance transmission reliability to help meet the expected load; and being prepared to acquire clean energy supply in the future if LNG needs exceed existing, contracted supply.

#### *Somewhat Disagree*

The RDN is supportive of the development of the natural gas sector in BC, particularly as a fuel source to drive down emissions in the transportation sector. When contrasted with diesel fuel and gasoline, natural gas is a clean and locally abundant alternative. However, relying on natural gas to generate electricity represents a move backwards in light of the Province's targets and leadership on climate change. Ideally BC Hydro, through the IRP, complements provincial commitment to the natural gas sector by prioritizing development and deployment of renewable energy, including incorporating specific targets for renewable energy generation in the IRP, and if necessary for the IRP, emphasizing deployment of renewable energy on Vancouver Island.

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RDN Website: [www.rdn.bc.ca](http://www.rdn.bc.ca)

## Conserving First

Recommended Action: To support 'conserve first' by maintaining BC Hydro's demand-side management measures at the same level going forward as has been undertaken in recent years, and preparing to increase these measures as load increases. BC Hydro is relying on all three customer classes to undertake demand-side activities and meet our 7,800 gigawatt hour target in fiscal 2021.

## *Strongly Agree*

The RDN strongly supports the demand side management initiatives led by BC Hydro, and applauds BC Hydro for its DSM successes to date. The RDN is committed to improving the efficiency of its facilities, and values BC Hydro's commitment and assistance in our corporate and community wide efforts to reduce electricity consumption in our region.

## Powering Tomorrow

Recommended Action: To 'power tomorrow' by building Site C, a proposed third dam and generating station on the Peace River, which would provide cost-effective, reliable and renewable electricity for generations.

## *Somewhat Disagree*

Rather than expressing opposition to the development of Site 'C', our concern is the lack of explicit inclusion of renewable energy sources in powering tomorrow. Without that commitment in the IRP today, planning for renewable energy will stall, setting back investment in a globally relevant and growing sector at least five years, and perhaps longer if a more favourable investment environment can be found elsewhere. British Columbia should support strong growth in the renewable energy sector, and communities on Vancouver Island would welcome that investment.

## Managing Resources

Recommended Action: To 'manage resources' by managing the costs associated with BC Hydro's current energy portfolio of EPAs and selecting the most cost-effective plan to meet customers' needs within the context of the Clean Energy Act.

## *Somewhat Disagree.*

While delivering inexpensive electricity to ratepayers is a primary objective of the IRP, a narrow focus on short term price prevents a broader conversation on full costs, and long term investment opportunities. We recognize that there may well be economic barriers that inhibit deployment in the renewable energy sector at present, but signaling to the private sector that investment in renewable energy is not a priority will cause investment to leak elsewhere for the foreseeable future. The RDN would welcome growth in the renewable energy sector, even if that growth takes a generation to mature. If private sector renewable energy developers had the confidence that British Columbia was a jurisdiction committed to generating renewable energy, growth in the sector would accelerate here, yielding economic and environmental benefits over the longer term. Incorporating targets for renewable energy production or purchase into the IRP would support this direction.

## Planning for the Unexpected

Recommended Contingency Plans That: Continue to advance capacity resource options, including advancing the Revelstoke Generating Station Unit 6 Resource Smart Project; the GM Shrum Generating Station Resource Smart project; and working with industry to explore natural gas supply options.



***Somewhat Disagree***

Reiterating comments above, the RDN does not object to the content present, but would like to see the addition of explicit reference to the importance of renewable energy resources in discussions oriented around planning for the unexpected. Specifically, the IRP should include a discussion on the role of distributed generation as a means to ensure resilience and self-sufficiency for power generation in BC, particularly in remote and rural areas of the province and on Vancouver Island.

**Other Comments**

The Regional District of Nanaimo would consider it ideal if the IRP made clear reference to Vancouver Island as a focal point for renewable energy development and deployment in British Columbia, where distributed generation on the Island provides a resource for the grid, instead of the present reality where powering Vancouver Island presents a transmission challenge for the grid. We understand fully that this is not a short term vision. Realizing it may be a generation away, but we must work toward it with diligence and dedication over the immediate term in order for the vision to become a reality.

British Columbia has shown remarkable leadership over the last decade in terms of mobilizing action on climate change. Our hope is that the Province continues that leadership into the future by acknowledging the importance of renewable energy generation for the future, and making a firm commitment to the globally significant, growing industry by preserving a path forward that accelerates innovation and diversification in the sector.

Sincerely,



Joe Stanhope  
Chairman  
Regional District of Nanaimo, Board of Directors

c.c. Honourable Rich Coleman, Minister of Natural Gas Development  
Board of Directors  
Paul Thorkelsson, Chief Administrative Officer



October 18th, 2013

**VIA EMAIL**

BC Hydro Integrated Resource Plan  
333 Dunsmuir Street  
Vancouver BC, V6B 5R3  
integrated.resource.planning@bchydro.com

**Re: Response to Integrated Resource Plan**

**Introduction**

Rupert Peace Power Corp. (RPPC) respectfully makes the following submission to BC Hydro relating to the 2013 "Integrated Resource Plan" (IRP).

RPPC is a B.C. based developer of renewable wind and hydro generation throughout the Province. Founded in 2006, RPPC holds significant tenure for wind and hydro developments on northern Vancouver Island, numerous areas in and around Prince Rupert, along the North West Transmission Line corridor, in the Peace region and in a number of other pockets in the interior. These tenures are at various stages of development and permitting, with many of the tenures significantly advanced in terms of First Nations engagement, data collection, and environmental studies and permitting. This is particularly the case in the areas in and around the significant natural gas developments in northeast and northwest B.C. We believe that strong and genuine First Nation partnerships and community participation are critical to our, and B.C.'s, success.

**20 Year Uncertainty**

The Minister of Energy very clearly outlined in his letter to BC Hydro of August 23rd, 2013 that this round of consultation must address two areas of "particular interest": Changes made to IRP since the 2012 draft and uncertainty around 20 year forecast and the recommend contingency plans.

As an interested stakeholder we firmly believe that the solutions being offered in this IRP do not sufficiently address the near term and medium term needs the Province will face with respect to the supply demand gap. With aggressive conservation targets that will likely not be achieved, load growth based on population and resource development outside of LNG development, the gap can begin as early as 2016. In order for new supply to come online by that time new sources of power would need to be sought now. In fact, the lead times required, from permitting through to construction and operation, routinely take in excess of five years. We do not believe this IRP goes far enough to address the potential for the energy supply gap to exist sooner than forecast, that conservation targets have not been achieved in the past and will not be achieved again, and that the plan does not go far enough to acquire new power from renewable energy sources, which are a solution that can be brought online in a more expedited manner and significantly faster than Site C or longer term conservation "opportunities".

**Conservation/Conserving First**

**Suggestions**

Rupert Peace Power Corp.  
PO Box 556 Pemberton BC, V0N 2L0



BC Hydro is proposing that 66% of new load can be met through DSM. We believe there are significant challenges with this, including that, in 2011 BC Hydro for the first time missed its DSM targets. Is 66% therefore not an unrealistically aggressive target?

One of the primary drivers of new load is industrial expansion, particularly as it relates to natural gas and LNG developments and new mines. This is also a significant public policy objective of the current government. As such, is it realistic to use the lure of "reduced demand" as the basis for supplying the electrons that will be required by such energy intensive development?

For these resource developers and industries, certainty is critical, including certainty of electricity supply. We suggest that a 66% target for DSM is not only overly optimistic but will not be an attractive inducement to the certainty required for energy intensive resource development, from a price point of view as well as from a reliability, capacity and certainty perspective.

In addition, we fundamentally believe that B.C. and BC Hydro should increase their focus on areas that create net incremental wealth and revenues for the Province, through construction activity, regional economic activity, First Nations partnerships, all of which occurs with the development of renewable energy infrastructure, as opposed to the significantly more limited economic benefits associated with curbing demand. Building infrastructure creates jobs and wealth. Curbing demand is, at best, a modest economic wealth creator.

### **Managing Resources**

#### **Supportive**

We support the efforts made to ensure that prices paid for power are reasonable and that existing IPP operating projects are providing value to the BC Hydro system.

We further support BC Hydro's acknowledgement that "Independent power producers have been bringing value to BC Hydro's system since the late 1980s, and they will continue to have an important role in providing clean, renewable electricity for decades to come."

#### **Suggestions**

We suggest that when considering any potential projects to come online are done so considering the scope of the benefits they can provide to First Nations, local communities and the province in terms of economic benefits and job creation. Investment in these projects plays a large part in helping our provincial economy grow, further adding to the value these projects provide. We also believe that BC Hydro fails to appreciate the risk premium associated with project development namely, that ALL risks are borne by the private sector relating to independent power producer (IPP) development, and NO risks are borne by the ratepayer.

### **Procurement/Powering Tomorrow**

#### **Supportive**

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PO Box 556 Pemberton BC, V0N 2L0



While we are supportive of the proposed transmission upgrades in this section, the only solutions for new power proposed are to continue with Site C and to purchase power from market sources. We feel these solutions are limited and short sighted. There is a degree of uncertainty around both options that makes new supply from IPP developers an easy option to include here.

### Suggestions

Any future request for proposal (RFP) process should commit to regular calls for power (CFP). Such calls should focus on quality projects, not quantity, should be regionally focused with a bias towards distributed generation, and should include heightened expectations regarding First Nation partnerships. This would allow IPP's to develop projects in a timely manner, allows IPP's to create consistent work for consultants in engineering, environmental and other areas, and allows for better negotiations with First Nations as there is increased certainty. This would enable IPP's to become more competitive in their work which ultimately has an impact on expected returns on investments and thus price. BC Hydro has a demand curve going forward that shows ever increasing requirements, why not plan to acquire power on a regular incremental basis?

Recognizing the significant lead times for an RFP preparation, EPA award, permitting and construction – BC Hydro should consider now a proposed regional call for renewable power in the high and growing energy supply regions of the northwest and the northeast. This will allow sufficient time for development of renewables commensurate with energy intensive resource development, a blending of price of renewables and gas generation, the opportunity to firm renewables with natural gas, and the opportunity for natural gas emissions to be offset by renewable development.

New potential supply exists from renewable energy developers that can be brought online faster than both Site C and natural gas supply options. We suggest that the IRP include more options to unlock the renewable energy potential that exists.

### LNG Demand/Supporting LNG

#### Supportive

We agree with BC Hydro's proposal that if LNG demand increase above expected levels that clean energy supply can be a part of the solution. However we feel that this is only part of the solution. Clean energy supply should be a part of the solution to ensure a stable supply of energy to LNG development before a gap exists.

We further support the need for transmission upgrades from Prince George to Terrace, however these upgrades should consider the potential for new energy supply to connect to the system, and that this is not simply a new line for LNG development. With stable transmission in a region, new IPP supply will look closer at those regions for potential development. We also support BC Hydro's continued attention on the Northeast and its willingness to keep new electricity supply options open.

#### Suggestions

As a proponent with interest in the Northeast, we recognize the opportunity to supply new developments with clean electricity. We also recognize that whether or not Site C will proceed, there is

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an abundance of clean energy supply that is waiting to be developed that can provide a solution to new energy demand for resource development in the Northeast, as well as the opportunity for renewable energy to work in concert with the Peace River generation in terms of shaping of power supply related to demand, markets and weather.

We suggest that BC Hydro develop a plan for integrating the renewable energy potential of the Northeast through province wide procurement or regional procurement efforts. This will provide certainty where there is currently uncertainty around the likelihood of Site C proceeding. This also provides certainty where natural gas potential for supply has not yet been identified.

We suggest that BC Hydro develop a "Plan B" for supply if Site C is not to proceed. As we have realized through this process, planning for the long term takes time and this plan does not offer much confidence in a scenario where Site C is not progressed. BC Hydro has planned for certain levels of new resource development. However, we believe BC Hydro is being conservative in its estimations relating to LNG development, natural gas development and new mine development. We suggest that BC Hydro provide more clarity around demand side potential.

#### **Contingency Plans/Planning for the Unexpected**

##### **Suggestions**

This section of the IRP focuses on upgrades to Revelstoke Dam, the Resource Smart Project at GM Shrum and investigating new natural gas supply options. We believe that these approaches to contingency planning do not provide the proper solutions for B.C. Potential IPP supply is already known, in many cases it has been de-risked and if given the opportunity to sell to BC Hydro, can come online faster than natural gas supply that BC Hydro is suggesting they need to learn more about. With an independent clean energy sector waiting to provide supply with innovative energy projects, we suggest that BC Hydro considers these projects as more viable options than natural gas.

##### **First Nations**

B.C.'s First Nations have, for the past number of years, consistently taken the position that clean energy developments, done right and in partnership with affected communities, are of significant benefit. At the leadership level, First Nations have continued to pass resolutions in support of clean energy, in particular as it relates to their aspirations for wealth creation, community economic development, and training. Going back to the B.C. Government's initial Energy Plan for BC, introduced over ten years ago, First Nations have sought meaningful participation in this sector. Ten years later, just as First Nations throughout B.C. and at the leadership level are united in their approach and have achieved the capacity for meaningful participation, BC Hydro's IRP takes the position that in fact these opportunities should now be limited and curtailed. First Nations want clean energy developments. They want to work in partnership with the development community. They want to make their own decisions in a manner that is best for their own community. Just as they have worked for and waited for these opportunities, they seem to be withdrawn from them through the current proposed IRP. Attached to this submission are some very clear demonstrations of B.C. First Nations support for IPP development and their expectations with regard to future B.C. Government and BC Hydro IPP procurement. (Please see attachments included in this email).

Rupert Peace Power Corp.  
PO Box 556 Pemberton BC, V0N 2L0



**Conclusion**

RPPC appreciates the opportunity to provide feedback on the 2013 Integrated Resource Plan. We believe that new supply can be provided by independent power producers and we look forward to being part of helping the Province meet its clean energy targets. We feel that the IRP in its current form does not go far enough to meet the needs of B.C.'s First Nations who play a significant role in the future of resource development in this Province.

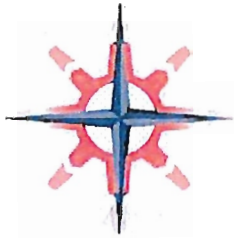
Overall this plan does not go far enough to capture the advantages that a robust renewable energy sector can provide. The IPP sector in B.C. is ready to step up and push our projects to development. These are projects that can be brought online in a relatively short timeline, that are clean, renewable and provide a new source of supply in a currently under-developed market. The benefits to First Nations, local communities and the Province are evident. BC Hydro should be taking advantage of this potential and this plan does not enable that to happen.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark", enclosed within a hand-drawn oval.

Mark Grant  
Rupert Peace Power Corp.





# FIRST NATIONS SUMMIT

## RESOLUTION # 0610.08

**SUBJECT: SUPPORT FOR THE "JOINT STATEMENT FROM PARTICIPATING NATIONS REGARDING THE BC CLEAN ENERGY ACT"**

---

### WHEREAS

- A. Aboriginal title and rights and treaty rights continue to exist in British Columbia.
- B. The Government of British Columbia recently passed the *Clean Energy Act*.
- C. First Nations made a number of recommendations through the Green Energy Task Force report to ensure that Indigenous interests were incorporated into the *Green Energy Act*.
- D. The Government of British Columbia ignored nearly all of the First Nations recommendations in the Green Energy Task Force report and failed to consult First Nations on the development of the *Clean Energy Act*.
- E. The UN Declaration on the Rights of Indigenous Peoples confirms that the free, prior and informed consent of Indigenous Peoples must be secured prior to any decisions that will impact their communities.
- F. On May 19, 2010, approximately 47 First Nations signed a "Joint Statement from Participating Nations Regarding the BC Clean Energy Act" calling for any decisions on the *Clean Energy Act* to be delayed for at least 6 months until adequate consultation and accommodation of our Aboriginal title and rights occurs.
- G. On June 8, 2010 the First Nations Energy and Mining Council held a meeting to gain a better understanding of the recently announced *Clean Energy Act* and to develop a coordinated action plan.

### THEREFORE BE IT RESOLVED

- 1. That the First Nations Summit Chiefs in Assembly support the attached May 19, 2010 "Joint Statement from Participating Nations Regarding the BC Clean Energy Act".
- 2. That the First Nations Summit Chiefs in Assembly remind the Government of British Columbia that the land question remains unresolved and that resource revenue sharing, joint decision-making and joint planning between BC First Nations and the government must occur in relation to any decisions or actions taken under the authority of the *Clean Energy Act*.



PAGE TWO

RESOLUTION # 0610.08

SUBJECT: SUPPORT FOR THE "JOINT STATEMENT FROM PARTICIPATING NATIONS REGARDING THE BC CLEAN ENERGY ACT

3. That the First Nations Summit Chiefs in Assembly direct the First Nations Summit Task Group to work with the Union of BC Indian Chiefs, the BC Assembly of First Nations, the BC First Nations Energy and Mining Council, and other like-minded organizations, to ensure that Aboriginal title, rights and interests are addressed through the *Clean Energy Act*.

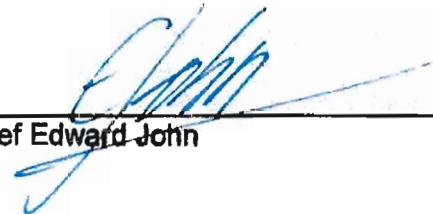
MOVED BY: Chief Tom Nelson, Quatsino First Nation  
SECONDED BY: Chief Les Sam, Tseshaht First Nation  
DATE: June 11, 2010

Passed by consensus.

ENDORSED BY:

  
\_\_\_\_\_  
Dan Smith

  
\_\_\_\_\_  
Chief Douglas White III Kwulasultun

  
\_\_\_\_\_  
Grand Chief Edward John



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1200-100 Park Royal South  
West Vancouver, BC  
V7T 1A2  
Ph: 604-926-9903  
Fx: 604-926-9923  
Toll Free: 866-990-9939



500-342 Water Street  
Vancouver, BC  
V6B 1B6  
Ph: 604-684-0231  
Fx: 604-684-5726

May 21, 2010

Honourable Blair Lekstrom  
Minister of Energy, Mines and Petroleum Resources  
PO Box 9060 Stn Prov Govt  
Victoria, BC V8W 9E2  
VIA FAX: (250) 356-2965

Honourable George Abbott  
Minister of Aboriginal Relations and Reconciliation  
PO Box 9060 Stn Prov Govt  
Victoria, BC V8W 9E2  
VIA FAX: (250) 953-4856

Dear Honourable Ministers,

First Nations leaders have significant concerns regarding the BC Clean Energy Act, and earlier this week issued the attached joint statement on the proposed legislation.

We understand that there is a confirmed meeting with some of the coastal Chiefs that have echoed these concerns. We fully support this request and encourage that the meeting be held prior to the Committee Stage to allow for amendments to occur prior to the passage of the bill.

Sincerely,

On behalf of the FIRST NATIONS SUMMIT:

Grand Chief Edward John

Dan Smith

Grand Chief Doug Kelly

On behalf of the UNION OF BC INDIAN CHIEFS

Grand Chief Stewart Phillip

Chief William Charlie

Chief Robert Chamberlin

On behalf of the BC ASSEMBLY OF FIRST NATIONS:

Regional Chief Jody Wilson-Raybould

cc. Dave Porter, BC First Nations Energy and Mining Council  
Hon. Gordon Campbell, Premier of British Columbia

## Joint Statement from Participating Nations Regarding the BC CLEAN ENERGY ACT

May 19, 2010

**WHEREAS** Aboriginal Title and Aboriginal and Treaty Rights continue to exist in British Columbia;

**WHEREAS** the First Nations of British Columbia never surrendered jurisdiction over our lands and resources;

**WHEREAS** the 2005 New Relationship statement agrees to establish processes and institutions for shared decision-making about the land and resources and for revenue and benefit sharing. It agrees to a new government-to-government relationship based on respect, recognition and accommodation of aboriginal title and rights;

**WHEREAS** the BC government has recently held first reading of the Clean Energy Act. This Act represents the future direction for green energy production and exports. This act was constructed without First Nations involvement and there was no consultation prior to the introduction of the Act. We are told the Act was guided by a Green Energy Task Force however upon review of the legislation it is clear that the majority of the First Nations recommendations were ignored;

**WHEREAS** the Clean Energy Act exempts significant major hydro and transmission projects from oversight by the BC Utilities Commission; and

**WHEREAS** the provincial Crown has unilaterally implemented these sweeping changes ignoring the court-recognized legal obligations for meaningful consultation and accommodation in the development of the Clean Energy Act.

**We, the assembled Nations from across British Columbia speak with one voice to say:**

- 1. We call upon the BC government to amend the proposed Act and incorporate all recommendations that support First Nations involvement in clean energy opportunities.**
- 2. We call upon the Premier and Cabinet to immediately engage in a discussion with First Nations leaders to work out a solution to incorporate our recommendations.**
- 3. We call upon the BC government to delay the bill until adequate consultation and accommodation with First Nations occurs.**

Signed at Chief Joe Mathias Centre, Coast Salish Territory.

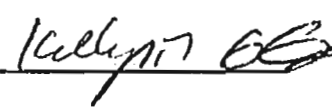

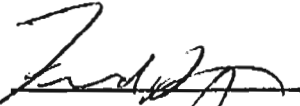
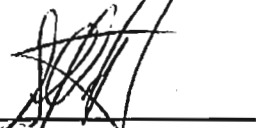



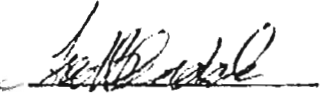
Joint Statement from Participating Nations  
Regarding the BC CLEAN ENERGY ACT

May 19, 2010

Name	Signature	First Nation
<u>Dan Smith</u>	<u>Dan Smith</u>	<u>FNS</u>
<u>Roland Willson</u>	<u>[Signature]</u>	<u>WMAFN.</u>
<u>Wilf Adam</u>	<u>[Signature]</u>	<u>Laka Bobine</u>
<u>Chief Bill Wilbur</u>	<u>Chief Bill Wilbur</u>	<u>Squamish</u>
<u>Chief Tim Murrel</u>	<u>[Signature]</u>	<u>Upper Nicola Band</u>
<u>CHIEF MEL BOBB</u>	<u>Mel Bobb</u>	<u>SPOZZUM F.N.</u>
<u>Chief Leonard Andrew</u>	<u>[Signature]</u>	<u>Lil'wat</u>
<u>Chief Otis Jasper</u>	<u>[Signature]</u>	<u>Soowahlie</u>

Joint Statement from Participating Nations  
Regarding the BC CLEAN ENERGY ACT

May 19, 2010

Name	Signature	First Nation
<u>Kukpi7 Christian</u>		<u>Sylatshin</u>
<u>Dave Porter</u>		<u>Kaska Dena</u>
<u>Fred Sam</u>		<u>Nak'ardli</u>
CHIEF <u>ED WHITFORD</u>		<u>HALFWAY RIVER FN</u>
CHIEF <u>FRED ROBINS</u>		<u>ESKOTENC.</u>
Chief <u>Norman Davis</u>		<u>Doig River</u>
Chief <u>A. Ralph Thavange</u>		<u>N'Quateua.</u>
<u>Fred Stewart</u>		<u>Amaxda'w</u>

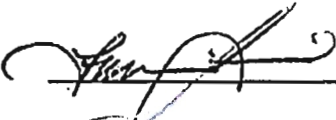
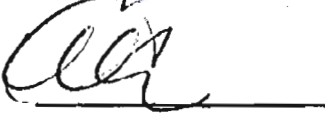





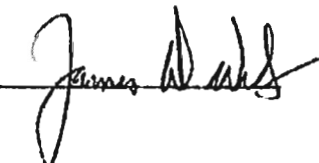
Joint Statement from Participating Nations  
Regarding the BC CLEAN ENERGY ACT

May 19, 2010

Name	Signature	First Nation
<u>Clifford Alva</u>	<u>[Signature]</u>	<u>Ts'Kw'ay/axw</u>
<u>TOM NELSON</u>	<u>[Signature]</u>	<u>Quatino</u>
<u>NELSON LEON</u>	<u>[Signature]</u>	<u>Adams Lake Indian Band</u>
<u>ANNIE HOWARD</u>	<u>[Signature]</u>	<u>Gitsegukla Band</u>
<u>JOE HALL</u>	<u>[Signature]</u>	<u>Tzeachten</u>
<u>Terrie Davidson</u>	<u>[Signature]</u>	<u>Boothroyd</u>
<u>Ruby Adams</u>	<u>[Signature]</u>	<u>Shackan</u>
<u>Peter Lambrecht</u>	<u>[Signature]</u>	<u>Gitwiyishikw</u>

Joint Statement from Participating Nations  
Regarding the BC CLEAN ENERGY ACT

May 19, 2010

Name	Signature	First Nation
Chief FRED SAMUELSON		Siska Indian Band
Chief Ann C. LeGie		WIMS LAKE BAND
Chief Mike Canoe		Cann Lake Band
C. HARLENE BELLER		ESKETCHIC FIRST NATION
GRAND CHIEF STEWART PHILLIP		Penticton Indian Band Union of BC Indian Chiefs
Chief Bob Chamberlin		Kwicksutaneuk Ah-Kwa-mish First Nation
Chief Ruby William		NATISUNATION
James D Wilson		KDC



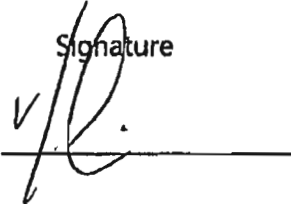
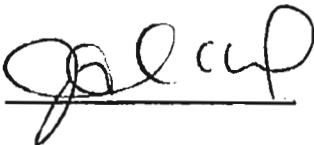
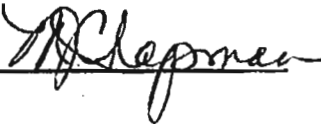
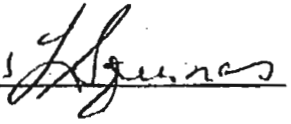
Joint Statement from Participating Nations  
Regarding the BC CLEAN ENERGY ACT

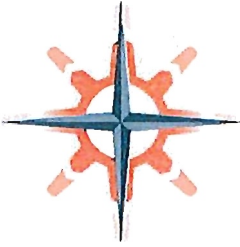
May 19, 2010

Name	Signature	First Nation
<u>Chief Ron J. John</u>	<u>Ron G. John</u>	<u>Chkwathil (Hupwesk)</u>
<u>Chief Gordon Child</u>	<u>Gordon Child</u>	<u>Kwakwaka</u>
<u>BEN JACK Sr.</u>	<u>B. Jack Sr.</u>	<u>Mowachah/muchalakt</u>
<u>Norman George</u>	<u>N. George</u>	<u>mowachah/muchalakt</u>
<u>JONATHAN KRUGER</u>	<u>[Signature]</u>	<u>OKANAGAN NATION PENTICTON INDIAN BAND</u>
<u>Gerónimo Squinas</u>	<u>[Signature]</u>	<u>Uhtako Dene Nation</u>
<u>DAVID WALKEM</u>	<u>[Signature]</u>	<u>COOKS FERRY</u>
<u>CLIFFORD AILEO</u>	<u>[Signature]</u>	<u>Nuu-chah-nulth Tribe Council</u>

Joint Statement from Participating Nations  
Regarding the BC CLEAN ENERGY ACT

May 19, 2010

Name	Signature	First Nation
<u>Duane Gaxent'Asoch</u>		<u>Tsetin Tingit Council</u>
<u>Katti Dickie</u>	<u>K Dickie</u>	<u>Fort Nelson</u>
<u>Jackie Thomas</u>		<u>Saik'uz Whut'en Dayi</u>
<u>Chief Kowamteco Michel</u>	<u>K. Michel</u>	<u>Noositch/Na'kapanux</u>
<u>Chief Maureen Chapman</u>		<u>Skawahlook</u>
<u>Chief Willie Christie</u>	<u>W Christie</u>	<u>Chehalis Indian Res</u>
<u>Chief Liliane Sgomas</u>		<u>Lheost'uz Dene</u>
_____	_____	_____



# FIRST NATIONS SUMMIT

October 13, 2011

Honourable Christy Clark  
Premier of British Columbia  
PO Box 9041 STN PROV GOVT  
Victoria, BC V8W 9E1

Honourable Rich Coleman  
Minister of Energy and Mines  
PO Box 9060 STN PROV GOVT  
Victoria, BC V8W 9E3

Dear Premier Clark and Minister Coleman:

We enclose for your consideration a resolution passed by the First Nations Summit Chiefs in Assembly in September 2011 urging the BC Government to ensure that amendments to the *Clean Energy Act* provide for economic, environmental and social benefits for First Nations and opportunities for development of clean energy projects within their environmental standards.

In order to facilitate this we request an immediate meeting with you to ensure there is an adequate process undertaken for consultation with First Nations on amendments to the BC *Clean Energy Act*. Please have your officials contact Colin Braker at the First Nations Summit office either via email ([cbraker@fns.bc.ca](mailto:cbraker@fns.bc.ca)) or telephone (604 926 9903) to arrange a meeting as soon as possible.

As you will recall, the First Nations Leadership Council wrote to Premier Clark on September 8, 2011 (letter enclosed) calling on the Province to meaningfully consult with First Nations before making any changes to clean energy policy or legislation that may impact on First Nations in this sector. No response has been received to date.

Once again, we request a meeting with you, to be attended by First Nations Energy and Mining Council representatives, to discuss this important matter.

Yours truly,

**FIRST NATIONS SUMMIT TASK GROUP**

Grand Chief Edward John

Chief Douglas White III Kwulasultun

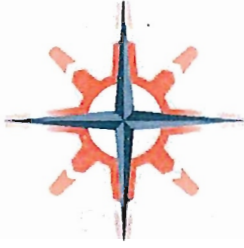
Dan Smith

Enclosures (2)

First Nations Summit Resolution #0911.08 (Call on BC to Consult on any Proposed Changes to the BC *Clean Energy Act*)

First Nations Leadership Council letter dated September 8, 2011 re:  
Consultation with First Nations on Proposed Changes to *Clean Energy Act*

cc. Honourable Mary Polak, Minister of Aboriginal Relations and Reconciliation  
Dave Porter, CEO, BC First Nations Energy and Mining Council  
Union of BC Indian Chiefs  
BC Assembly of First Nations



# FIRST NATIONS SUMMIT

## RESOLUTION #0911.08

**SUBJECT: CALL ON BC TO CONSULT ON ANY PROPOSED CHANGES TO THE BC CLEAN ENERGY ACT**

---

### WHEREAS

- A. The Government of British Columbia completed a review of BC Hydro in late June 2011 in order to provide recommendations and options for minimizing the rate increase.
- B. As a result of the BC Hydro Review, the Ministry of Energy and Mines is now working on making amendments to the *BC Clean Energy Act*.
- C. The key amendment to the *BC Clean Energy Act* is to change the self-sufficiency provisions which currently require BC Hydro to be self-sufficient by 2016 at critical water levels.
- D. The BC Hydro Review recommends changes to the self-sufficiency provisions that will have the effect of reducing the need to acquire local renewable generation and may reduce or eliminate the need for clean power calls.
- E. Clean energy projects provide significant economic, environmental and social benefits to BC First Nations.
- F. The Government of British Columbia originally passed the *BC Clean Energy Act* on June 3, 2010 without consultation with First Nations.
- G. Just prior to the passing of the Act, in May 2010, the First Nations Leadership Council issued a statement by 47 participating First Nations expressing concerns with the proposed *BC Clean Energy Act*. At that time, the leaders asked for the opportunity to propose amendments prior to the passage of the bill and the BC Government refused to allow for amendments by First Nations.
- H. Amendments to the *Clean Energy Act* are being made by the BC Government, once again without consultation with First Nations which is inconsistent with the honour of the Crown and the spirit of reconciliation.

### THEREFORE BE IT RESOLVED

- 1. That the First Nations Summit Chiefs in Assembly direct the First Nations Summit Task Group to immediately and on a priority basis meet Minister Coleman and Premier Clark to ensure there is an adequate process undertaken for consultation with First Nations on amendments to the *BC Clean Energy Act*.

PAGE TWO

RESOLUTION #0911.08

SUBJECT: CALL ON BC TO CONSULT ON ANY PROPOSED CHANGES TO THE  
BC CLEAN ENERGY ACT

2. That the First Nations Summit Chiefs in Assembly urge the BC Government to ensure that amendments to the *Clean Energy Act* provide for economic, environmental and social benefits for First Nations and opportunities for development of clean energy projects within their environmental standards.


MOVED BY: Chief Bill Cranmer, 'Namgis First Nation  
SECONDED BY: Kathryn Teneese, Ktunaxa Nation  
DATED: September 23, 2011

Passed by consensus.

ENDORSED BY:

  
\_\_\_\_\_  
Dan Smith

  
\_\_\_\_\_  
Chief Douglas White III Kwulasultun

  
\_\_\_\_\_  
Grand Chief Edward John



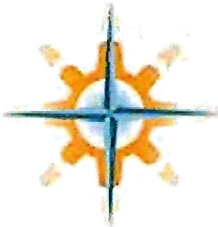
## FIRST NATIONS LEADERSHIP COUNCIL



BRITISH COLUMBIA  
ASSEMBLY OF  
FIRST NATIONS

507-100 Park Royal South  
West Vancouver, BC  
V7T 1A2

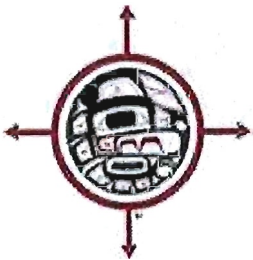
Ph: 604-922-7733  
Fx: 604-922-7433



FIRST  
NATIONS  
SUMMIT

1200-100 Park Royal South  
West Vancouver, BC  
V7T 1A2

Ph: 604-926-9903  
Fx: 604-926-9923  
Toll Free: 866-990-9939



UNION OF  
BRITISH COLUMBIA  
INDIAN CHIEFS

500-342 Water Street  
Vancouver, BC  
V6B 1B6

Ph: 604-684-0231  
Fx: 604-684-5726

September 8, 2011

Honourable Christy Clark  
Premier of British Columbia  
PO BOX 9041 STN PROV GOVT  
Victoria BC V8W 9E1

**Re: Consultation with First Nations on Proposed Changes to *Clean Energy Act***

Dear Premier Clark,

We are writing to call on the Province to meaningfully consult with First Nations before making any changes to clean energy policy or legislation that may impact on First Nations in this sector.

When the BC Government rolled out the *Clean Energy Act* last spring, First Nations were not consulted, despite the Crown's to engage First Nations in meaningful consultation when contemplating decisions, including at the strategic level, with the potential to impact on Aboriginal title, rights or treaty rights. We are aware that the Government of British Columbia completed a review of BC Hydro in late June in order to provide recommendations and options for minimizing the rate increase. It is our understanding that the Ministry of Energy and Mines is now moving to make amendments to the BC *Clean Energy Act* and other regulations to address the recommendations in the BC Hydro Review.

To this end, we are seeking your support for First Nations involvement in this process and in their pursuit of lower energy costs, protection of the environment, local job creation and economic development through clean and renewable energy projects. As First Nation communities become increasingly involved in the clean energy sector, they are realizing their goals of both energy and economic self-sufficiency.

We are concerned that unilateral amendments to regulations and legislation, particularly changes to the self-sufficiency provisions, would have the effect of reducing or eliminating the need to acquire local renewable generation. Clean and renewable energy projects provide significant benefits to many BC First Nations at a time when there are not many resource related economic development opportunities on the landscape. At least 125 First Nations are involved in the clean energy sector; either as lead proponents or through various forms of partnerships. Several First Nations in remote locations are not on the provincial integrated transmission grid and as a result, they spend as much as 30% of their total limited funding on diesel generation to power their communities. Clean energy projects provide a potential solution. Additionally,



the BC Government shares 50% of its water rentals and land leases collected from Independent Power Producers with First Nations.


First Nations have been involved in building and influencing the Clean Energy sector from the ground up; indeed, several First Nations are the developer/operator of projects. Any curtailment of economic development opportunities through clean energy projects will impact the province directly through increased unemployment and lack of investments in the hinterland where it is needed.

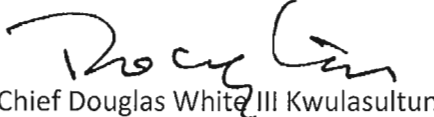
All British Columbians will benefit from the improved health, economic prosperity and self-sufficiency of First Nation communities and families gained through policies and legislation that facilitate greater access and participation of First Nations in the Clean Energy sector. Enclosed is a letter that we have sent to Minister Coleman on this matter.


As we work towards closing the gap between First Nations and other British Columbians on economic opportunities, it is critically important for our future to “get it right” on clean energy. We are committed to working with you and your administration to make this happen. We look forward to your positive response.

Sincerely,  
**FIRST NATIONS LEADERSHIP COUNCIL**

**On behalf of the FIRST NATIONS SUMMIT:**

  
Grand Chief Edward John

  
Chief Douglas White III Kwulasultun

  
Dan Smith

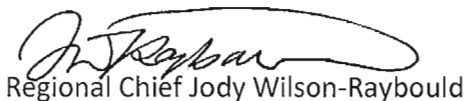
**On behalf of the UNION OF BC INDIAN CHIEFS:**

  
Grand Chief Stewart Phillip

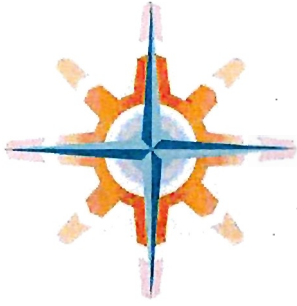
  
Chief Bob Chamberlin

  
Chief Marilyn Baptiste

**On behalf of the BC ASSEMBLY OF FIRST NATIONS:**

  
Regional Chief Jody Wilson-Raybould

Cc: Honourable Mary Polak, Minister of Aboriginal Relations and Reconciliation  
Honourable Rich Coleman, Minister of Energy and Mines  
Dave Porter, CEO, BC First Nations Energy and Mining Council



# FIRST NATIONS SUMMIT

**UPDATED:**

## IMPORTANT INFORMATION FOR FIRST NATIONS INTERESTED IN CLEAN ENERGY DEVELOPMENT IN BC

October 2, 2013

TO: BC FIRST NATIONS INTERESTED IN CLEAN ENERGY DEVELOPMENT IN BC

Dear Chiefs & Councils:

RE: FIRST NATIONS INVOLVEMENT IN CLEAN ENERGY DEVELOPMENT IN BRITISH COLUMBIA

Attached for your information and use is an updated copy of First Nations Summit Resolution #0913.11 (First Nations Involvement in Clean Energy Development in British Columbia), which concerns First Nations involvement in the energy sector and the impact of BC Hydro's Integrated Resource Plan (IRP) on First Nations economic development. BC Hydro is seeking written comments on its IRP from the public, stakeholders and First Nations until October 18, 2013.

***Please note: The previous version of this information package contained an earlier version of the resolution. The FINAL corrected version of the resolution is contained in this updated information package.***

### **BACKGROUND:**

Energy development, and in particular clean energy development, has become an increasingly important part of First Nations economic development within British Columbia and may play an important part of closing the socio-economic gap. Many First Nations have played a leading role in Independent Power development within British Columbia.

Given this, First Nations were dismayed to read that the recently released BC Hydro IRP failed to address, in any way, the desires or expectations of First Nations across the Province. The plan, by and large, has no role for First Nations and extremely limited opportunities for new procurement.

It is important for First Nations to exert political pressure on the BC Government and BC Hydro to ensure that First Nations' opportunities in the energy sector are maximized.

### **ACTION ITEMS:**

As part of the follow up to this resolution the following actions are recommended:

1. **Provide Comments to BC Hydro's IRP.** First Nations Interested in Clean Energy Development in BC are encouraged to provide comments to BC Hydro's IRP by the deadline date of October 18, 2013. Please go to the following address for further information and to receive an electronic First Nations Comment Form:

[https://www.bchydro.com/energy-in-bc/meeting\\_demand\\_growth/irp/get\\_involved/fn\\_consultation.html](https://www.bchydro.com/energy-in-bc/meeting_demand_growth/irp/get_involved/fn_consultation.html)

2. **Send a letter to Premier Clark and Minister Bennett seeking BC's commitment to work collaboratively with First Nations leadership to maximize First Nations' opportunities in the energy sector.** A template letter for First Nations interested in clean energy/IPP opportunities has been drafted to be sent to Premier Clark and Minister Bennett and is attached. Interested First Nations should revise the draft letter as necessary and send as soon as possible to the Province.

Please contact Marilyn Teneese at the First Nations Summit office by email at [mteneese@fns.bc.ca](mailto:mteneese@fns.bc.ca) to request a copy of the template letter as a WORD file.

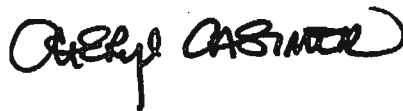
Once again, the timeframe for this matter is extremely short. The deadline to provide written comments to BC Hydro concerning its Integrated Resource Plan is October 18, 2013. It is also recommended that the letter to Premier Clark and Minister Bennett be sent as quickly as possible to ensure maximum impact.

Respectfully,

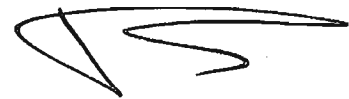
**FIRST NATIONS SUMMIT TASK GROUP**



Grand Chief Edward John



Cheryl Casimer

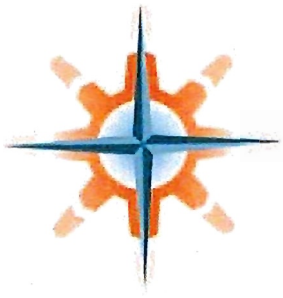


Robert Phillips

Attachments (2)

First Nations Summit Resolution #0913.11 (First Nations Involvement in Clean Energy Development in British Columbia) [2 pages]

Draft Template Letter to Premier Clark and Minister Bennett re: First Nations vision for clean energy development in BC [3 pages]



## FIRST NATIONS SUMMIT

### RESOLUTION #0913.11

**SUBJECT: FIRST NATIONS INVOLVEMENT IN CLEAN ENERGY DEVELOPMENT IN BRITISH COLUMBIA**

---

#### WHEREAS:

- A. First Nations have always and continue to hold Aboriginal title and rights to the lands and resources within their respective territories.
- B. The court rulings *Haida* and *Taku* require the Provincial and Federal government to fulfill their duties to act honourably toward all First Nations through meaningful consultation and accommodation, and through good faith negotiations aimed at reconciliation of Aboriginal sovereignty and asserted Crown sovereignty.
- C. The *United Nations Declaration on the Rights of Indigenous Peoples* affirms Indigenous rights to own, use, develop and control lands and resources, and requires states to give legal recognition and protection to these rights, through, inter alia, obtaining their free, prior and informed consent before adopting legislative or administrative measures affecting Indigenous peoples and before approving any project affecting their lands and resources.
- D. Energy development, and in particular clean energy development, can be an important part of First Nations economic development and is an important part of closing the socio-economic gap.

#### THEREFORE BE IT RESOLVED:

- 1. That the First Nations Summit Chiefs in Assembly direct the First Nations Summit Task Group to engage with the Provincial government to:
  - a. ensure involvement of interested First Nations in the energy sector; and
  - b. determine what, if any, potential impacts may arise from BC Hydro's Integrated Resource Plan.
- 2. That the First Nations Summit Chiefs in Assembly direct the First Nations Summit Task Group to work with the Union of BC Indian Chiefs, the BC Assembly of First Nations, the Clean Energy Working Group and Clean Energy BC to create a collective response to BC Hydro's Integrated Resource Plan.
- 3. That the First Nations Summit Chiefs in Assembly direct the First Nations Summit Task Group to engage leadership from the Province and BC Hydro to ensure that the Integrated Resource Plan is revised to in reflection of First Nations input.

PAGE TWO

RESOLUTION #0913.11

SUBJECT: FIRST NATIONS INVOLVEMENT IN CLEAN ENERGY DEVELOPMENT IN  
BRITISH COLUMBIA

Passed by consensus.

MOVED BY: Chief Garry Feschuk, shishalh Nation  
SECONDED BY: Chief Cliff Sampare, Gitsegukla Indian Band  
DATED: September 27, 2013

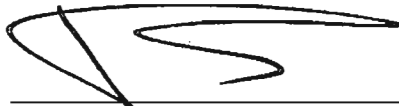
ENDORSED BY:



Cheryl Casimer



Grand Chief Edward John



Robert Phillips



Renewable Energy Systems Canada Inc.

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British Columbia Hydro and Power Authority  
18th Floor – 333 Dunsmuir Street  
Vancouver, BC  
Sent by Email: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

October 18, 2013

**RE: Comments on BC Hydro draft 2013 Integrated Resource Plan**

To Whom it May Concern,

Renewable Energy Systems Canada Inc. (RES) welcomes the opportunity to provide feedback on the August 2, 2013 draft Integrated Resource Plan (IRP), as submitted to the Ministry of Energy and Mines. RES' comments are presented in consideration of the critical importance the IRP will play in determining the quality of the province's industrial development, no less than the manner in which British Columbia assures itself of a truly clean, local, reliable, and low-cost energy future.

Established in 1982, RES is a global developer of renewable energy and transmission infrastructure projects. We are active in markets around the world, including the United Kingdom, Europe, North and South America. In North America alone, we have developed and constructed over 1,000 km of transmission lines, and built more than 5,700 MW of wind and solar projects. In Ontario, we have built 220MW of wind and solar projects, transmission infrastructure, and frequently provide construction services to other developers in the Ontario market. We have also built the largest wind farm to date in Alberta, a 150 MW project completed in April 2013. Through our BC development activities to date, RES has demonstrated its commitment to helping realize the clean energy vision entrenched in the BC Clean Energy Act and repeating our international success here and for the benefit of all British Columbians.

Reaction & Comments to the Draft IRP

**Regrettably, RES cannot support the recommendations prescribed by the draft IRP nor its underlying assumptions.** RES therefore kindly asks BC Hydro to reconsider its proposal in light of the following considerations:

**1. The draft IRP misstates the cost of wind power**

The IRP overstates the actual cost of wind power in its Resource Options Report by neglecting the significant and continued decline in project capital costs, notably in wind turbines which represent at

least 70% of a project's capital costs. Further, the cost of wind power to BC ratepayers will continue to benefit from technological improvements yielding productivity gains and, consequently, reductions in the price of wind-generated electricity.

Neither of these realities are adequately reflected in the IRP Resource Options Report (ROR), as updated. Instead, the ROR relies on a base-case wind turbine price that is nearly 20% above market – and this for a technology that continues to mature and pass along the benefits of cost reductions to BC ratepayers.

We note that according to BC Hydro's own study, the productivity of wind turbines has also increased dramatically over the short term (an average of 6% to 18% depending on the quality of the wind resource). As the IRP proposes a long-term vision for the province's energy mix, RES contends that it would behoove BC Hydro to have these steady improvements reflected in its onshore wind resource projections and cost estimates.

Applied to a portfolio of wind power projects distributed throughout the province, these adjustments alone would deliver 5,100 GWh of wind energy at an average unit energy cost that is less than that of Site C's projected \$95 per MWh (assuming no further adjustments to the budgeted capital cost of \$7.9 billion).

### **2. Omission of LNG electrification ignores environmental costs and electrical system opportunity**

Like the government of British Columbia and all British Columbians, RES supports responsible investments in BC burgeoning LNG industry.

Rather than recognize the potential LNG load as an opportunity to cost-effectively and sustainably modernize the BC grid by supplying *truly* clean and renewable power to LNG proponents, the IRP simply assumes that all this new energy (save an inconsequential fraction) will be provided by the industry burning its own fossil fuels. Should it be endorsed, this approach would result in massive environmental damages to the air-shed hosting LNG refrigeration compression facilities and roll-back any progress made by the province in curbing its share of global greenhouse gas emissions.

We propose that this fossil-fuelled power supply should not be presented as a foregone conclusion. Instead, we urge BC Hydro to consider supplying a significant portion of the LNG load from truly clean and renewable resources such as wind. This approach would support the BC Government's commitment to local, renewable energy as well as ensure a sustainable LNG energy supply that enjoys broad public support and minimized environmental hazards.

### **3. The Demand Side Management (DSM) targets are excessively ambitious and unprecedented**

Over the next decade (i.e. through 2024), domestic load *before* DSM is forecast to increase by over 14,000 GWh/year. Under the draft IRP's Base Resource Plan, the single largest program proposed to



meet this growing load is DSM; this promises to reduce the domestic load by over 10,000 GWh/year by 2024 (or 72% of the incremental domestic load growth). BC Hydro further projects to achieve this target by spending \$1.2 billion on its DSM program.

BC Hydro's recent DSM experience, however, tells an altogether different story of what is in fact achievable and realistic: Over the period from 2003 to 2011, BC Hydro expended over \$1.1 billion on its DSM measures (with DSM participants spending another \$1.4 billion), and yet residential and commercial usage under 35 kV reveals that the electrical consumption per customer during this period remained virtually flat. The question must therefore be asked if future DSM milestones will be met with the same level of success as targets of previous years. Furthermore, should the long-term load forecast hold true while the DSM targets fall short, British Columbia could face an unanticipated energy shortage of varying proportions. Neither the consequences of this outcome nor a strategy to mitigate its occurrence is considered in the present draft IRP.

#### **4. No clear benefit to the First Nations of British Columbia, particularly of Northern BC**

First Nations have been enthusiastic and committed partners in the development of well-developed renewable energy projects in British Columbia. The draft IRP will virtually eliminate all further opportunities for participation in renewable energy projects since no additional clean power calls would be anticipated until 2031. This de-facto IPP 'moratorium' is all the more probable given that the Standing Offer Program, in its present form, is not sufficiently robust to generate viable 15 MW projects in Northern British Columbia and accrue benefits to the First Nations living in these reaches of the province.

#### **Recommendations**

So as to facilitate a sustainable energy supply, mitigate many of the avoidable consequences of a rapidly growing LNG sector, and sustain the confidence and good faith of British Columbians in their Government and publicly-owned utility, RES respectfully requests that BC Hydro revise the draft IRP in order to:

- A. Include an assessment of the energy needs of the LNG industry, both upstream and downstream, and an investigation of the options to serve those needs with as much electrification as possible.
- B. Revise the IRP to recognize the necessity of the electrification of northern industrial development, including the LNG both upstream and downstream.
- C. Guide the LNG industry towards electrification with renewables.
- D. Propose a blend of gas-fired generation and renewables that will make electrification feasible, reliable and cost-effective for the LNG industry.

- E. Propose a blend of public, private and First Nations participation that will allow electrification to proceed in a timely and cost-effective manner

Sincerely,



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Philippe Abergel  
Development Manager, BC  
Renewable Energy Systems Canada Inc.



SUSTAINABLE RESOURCE MECHANICAL ENGINEERING AND PROJECT MANAGEMENT

October 17, 2013

BC Hydro  
333 Dunsmuir  
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V6B 5R3  
Email: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

Attention: **Integrated Resource Planning Team**

Subject: **Comments - August 2013 Draft Integrated Resource Plan  
Marine Renewable Energy**

Thank you for providing an additional consultation opportunity for the IRP as requested by the BC Ministry of Energy and Mines. We apologize for not making a submission sooner on this critical planning exercise. I am writing on behalf of SRM Projects Ltd, a small renewable energy engineering firm trying to establish itself on Vancouver Island, and as a member of the board of directors of Marine Renewables Canada ([www.marinerenewables.ca](http://www.marinerenewables.ca)).

Long term electrical utility planning is clearly a complicated puzzle and the comments contained here are not intended to take away from the good work that has been done in assembling the draft IRP; rather, the comments are intended to inspire BC Hydro to make small but important changes to the IRP to better comply with the Clean Energy Act by including emerging renewable energy sources, like wave and tidal, as a planned part of future portfolios. These minor changes will not noticeably affect ratepayer costs or power supply reliability but will have substantially positive effects on economic development for coastal First Nations and other communities, many still struggling after the decline of the forest industry. On the national scale, these minor changes could make the difference between Canada becoming a leader in the budding world marine renewable energy industry (with the associated economic rewards), or a follower, purchasing equipment and expertise from others. In recognition of the importance of being proactive to stay in the game, Canada made a successful bid to host the *International Conference on Ocean Energy* in Halifax in 2014. The stakes are a lot higher than the BC IRP currently reflects.

### **Marine Renewable Energy Sources Dismissed in IRP**

The IRP is a long time frame planning document (to 2033) and as such it must consider that technology will continue to evolve to meet the needs of society. Emerging renewable energy sources like offshore wind, geothermal, wave and tidal energy have been excluded from the 2013 IRP portfolio consideration simply because they have not yet been proven in BC (IRP 3.7.2). In fact, to varying degrees, these technologies are already being adopted in other parts of the world such as Europe, and are making commercial power today.

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SUSTAINABLE RESOURCE MECHANICAL ENGINEERING AND PROJECT MANAGEMENT

In the case of marine renewable energy, which is a focus of this letter, there are commercial tidal energy installations in Strangford Lough, Northern Ireland (Marine Current Turbines "Seagen", producing commercial power since 2008 <http://www.marineturbines.com/>), Den Oever, Netherlands (Tocado "T100", producing commercial power since 2008 <http://www.tocado.com/>) and Cobscook, Maine (Ocean Renewable Power Company "TidGen", producing commercial power since 2012 <http://www.orpc.co/default.aspx>). Verdant Power (<http://verdantpower.com/>) completed multi-year grid connected demonstration trials in East River New York and grid connected installations at FORCE (<http://fundyforce.ca/>) in Nova Scotia are also expected very soon in addition to smaller demonstration size projects in BC (Canoe Pass, Dent Island) and Nova Scotia (Digby Gut and several others).

In addition, major global energy equipment suppliers such as Alstom Power, Voith Hydro, Andritz and Siemens have marine energy product lines in advanced development. Following a typical commercialization development curve, we expect these technologies to advance rapidly while costs continue to drop.

Tidal energy provides a cyclic but constant on average power supply that is not affected by seasons or weather and can be predicted accurately many years in advance. Wave energy in BC would provide the most power during our winter, exactly when we need it. These attributes make marine energy attractive additions to the BC Hydro power portfolio, which is encumbered by freshet oversupply.

Also, while many in BC are focusing on LNG, interest in marine renewable energy is high and building, with about 38 investigative license applications registered with the Ministry of FLNRO at this time. Another reflection of this interest is in the formation of the Pacific Tidal Energy Development Committee in February 2012. The committee includes members from industry, First Nations, cities, equipment developers, government and academic institutions (<http://srmprojects.ca/engineering/community>).

Finally, BC signed a MOU with Nova Scotia to collaborate on advancing tidal energy initiatives in September 2012 (see attached). The draft IRP fails to support this MOU.

*For the reasons above, there must be an allowance in the IRP for future portfolios that have some exposure to renewable energy technologies which are emerging today and have application in BC, like marine energy, but will be commercialized before the end of the planning time frame.*

*Further, as enabled by the Clean Energy Act (Part 4 Section 16), BC Hydro should recommend a capacity limited Feed In Tariff (FIT) be created specifically for marine renewable energy. Nova Scotia has implemented a \$652/MWh community FIT (COMFIT) for small projects and is poised to launch a full FIT for larger projects: (<http://thechronicleherald.ca/business/1154448-tariffs-proposed-for-tidal-energy>). If BC was to follow a similar marine energy industry development policy as in Nova Scotia, our calculations suggest that a \$500/MWh FIT could kick off a 50MW pilot industry with \$200-300 million in investment.*





SUSTAINABLE RESOURCE MECHANICAL ENGINEERING AND PROJECT MANAGEMENT

## Intent and Spirit of Clean Energy Act Not Fully Recognized in IRP

### British Columbia Energy Objective 2(d)

“to use and foster the development in British Columbia of innovative technologies that support DSM and the use of clean or renewable resources”

The draft IRP as written only fosters the development of more traditional clean resources like hydro power and wind power. In BC, with much of the population living near the ocean, there is another important clean resource that is abundantly available to harness and that is marine renewable energy. The IRP needs to go a step further and foster innovative new technologies, like tidal and wave power generation, to support BC/Canadian companies like Clean Current, Mavi Innovations, SurfPower, Waterwall Turbine, Accumulated Ocean Energy, Mermaid Power, Idenergie, Jupiter Hydro and New Energy Corporation who are all working diligently to create new economic opportunities.

### British Columbia Energy Objective 2(k)

“to encourage economic development and the creation and retention of jobs”

While building conventional technology power generation facilities by itself does create jobs, it only creates short term construction jobs and limited ongoing operational and maintenance jobs. In contrast, providing limited critical support to enable the *creation of a new industry*, such as for marine renewable energy, would provide construction, operational and maintenance jobs *plus* jobs in manufacturing/sales of new equipment technology as well as development of an entire new design and installation/retrieval supply chain capable of serving a national and global market. This new supply chain could also include equipment rebuild shops that service wind, tidal and wave power generation units at 3 to 5 year intervals (typical power farm arrays would cycle individual units out on a staggered basis, creating a constant demand for rebuild services). What we want to see is BC Hydro take an active role in nurturing and encouraging the development of this new and promising industry - instead of taking a passive wait and see approach which will simply assure that we will be buyers of other's technology and services.

### British Columbia Energy Objective 2(l)

“to foster the development of First Nation and rural communities through the use and development of clean or renewable resources”

As stated above, the draft IRP as written only fosters the development of more traditional clean resources like hydro power and wind power. In BC, with much of the population living near the ocean, there is another important clean resource that First Nations and rural communities can harness and that is marine renewable energy.

Feedback from the IRP consultation process from First Nations and the Technical Advisory Committee (IRP pp 7-55, 7-64) clearly demonstrates a preference for clean power sources like tidal and wave energy. In addition, there was significant interest in replacing remote community diesel generation with clean power sources – a common situation for First Nations and other remote communities or resorts that exist in places like the Discovery



SUSTAINABLE RESOURCE MECHANICAL ENGINEERING AND PROJECT MANAGEMENT

Islands (between Vancouver Island and the BC mainland). These kind of energy projects are important capacity building and economic development initiatives that promote wellness and higher living standards for residents of these remote communities.

While the Standing Offer Program works well on its own for traditional clean resources, it really doesn't help foster the development of clean marine renewable energy because the electricity pricing structure is not currently adequate for the emerging tidal and wave energy technologies. *This is another reason why we also need a FIT for small community size projects (up to 15 MW) as described above.*

### Comment Summary

Marine renewable electricity has been reliably generated in other parts of the world since 2008. To fully support the intent of the Clean Energy Act in the goals of economic development and diversity of clean energy, BC Hydro should adopt an active, instead of passive, role with respect to marine renewable energy development in BC. Ideally, this should be done by making a small allowance specifically for future marine renewable power sources in the IRP. At a minimum, a general allowance should be made in the IRP for future power from emerging renewable energy sources with BC applications that are not currently installed in BC but are in advanced stages of development elsewhere in the world.

Most importantly, the IRP should include a recommendation to revisit and implement a marine renewable energy feed in tariff in 2014 to support the BC Clean Energy Act, the BC-NS MOU on tidal energy development collaboration and the Canadian effort to maintain a leadership position in the promising world marine renewable energy industry. We should not turn a blind eye to this significant, clean economic opportunity.

Yours truly,

A handwritten signature in black ink, appearing to read "Scot Merriam", with a long horizontal flourish extending to the right.

Scot Merriam, P.Eng.  
Principal

Copies to:

Bill Bennett, Minister of Energy and Mines  
Les MacLaren, Asst. Deputy Minister, Electricity and Alternative Energy Division, MEM  
Heather Johnstone, Policy Advisor, Electricity, MEM  
Chris Campbell, Executive Director, Marine Renewables Canada

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Nova Scotia – British Columbia  
Memorandum of Understanding  
Collaboration on Tidal Energy Initiatives

This Memorandum of Understanding dated this 11 day of Sept, 2012

BETWEEN:

HER MAJESTY THE QUEEN in right of the Province of Nova Scotia  
(as represented by the Minister of Energy ("Nova Scotia"))

OF THE FIRST PART

- and -

HER MAJESTY THE QUEEN in right of the Province of British Columbia  
(as represented by The Ministry of Energy, Mines and Natural Gas ("British Columbia"))

OF THE SECOND PART

WHEREAS

Nova Scotia and British Columbia (hereinafter referred to as the "Participants")

RECOGNIZE a common interest and commitment to develop marine renewable energy resources for the diversification of their electricity markets, the reduction of their carbon footprints and new economic development, which supports the objectives of the British Columbia *Clean Energy Act*, the Nova Scotia Renewable Electricity Plan and the Nova Scotia Plan for Tidal Development;

INTEND to secure benefits to both of their jurisdictions through the development of mutually beneficial marine renewable energy technology;

IDENTIFY the Bay of Fundy and locations offshore British Columbia as two of the more promising marine renewable energy resource areas on the planet; and

NOTE that tidal research has been taking place in their collective jurisdictions for 100 years and that the first tidal project in Canada was commissioned in Nova Scotia in the 1980s and that the first in-stream tidal devices in Canada have been placed in locations in both British Columbia and Nova Scotia;

NOW THEREFORE, THE PARTICIPANTS AGREE AS FOLLOWS:

1. Objective

This Memorandum of Understanding (MOU) sets out the understandings under which the Participants will cooperate on marine renewable energy research and development to ensure the maximum contribution to their respective renewable energy development goals.



**2. Economic and Social Cooperation**

- (i) In order to attain their objective, the Participants agree to engage in the following initiatives: To further the research on development issues surrounding marine renewable energy, including research on community acceptance and support, impacts on marine life and birds, contribution to grid stability and associated matters;
- (ii) To bring together marine renewable energy academics, researchers, policy makers and private sector developers from the jurisdictions of the Participants in Nova Scotia for the purpose of sharing best practices and discussing regulatory frameworks and adaptive management approaches.
- (iii) To identify promising small and larger scale marine renewable tidal technologies and collaboratively support full development of Canadian models including their commercialization and manufacture in Canada as well as building global expertise in the sector for export of goods and services.
- (iv) To explore and discuss the possibility of expanding this MOU within Canada to include other provinces and territories;
- (v) To exchange information on a timely basis to support the achievement of the objectives; and
- (vi) To generally investigate opportunities and areas within which to cooperate on further marine renewable energy technology and application with federal and other partners and together where it is advantageous to do so; in particular, in the areas of:
  - a. Commercializing marine renewable energy technology; and
  - b. Developing a national framework for marine renewable energy regulation and legislation.

**3. Council**

- (i) The Participants agree to establish a Council ("the Council"), consisting of the senior officials of the Departments of Energy for British Columbia and Nova Scotia (and other interested senior officials at the discretion of the Ministers).

The Participants agree to ensure that its representatives on the Council will communicate annually or as the Participates each require.
- (ii) The Participants may consult, in accordance with their internal mechanisms, their respective private and public sectors concerning matters related to the work of the Council.
- (iii) Participants may also consult entities outside of their immediate jurisdictions concerning matters related to the work of the Council.

**4. Work Program**

The Council members will, after consulting colleagues and private sector partners from each of their respective jurisdictions, jointly prepare and implement a Work Program to initiate the implementation tasks for this MOU and will place it for consideration before the Council for its approval.

The Participants may establish, with new initiatives, frameworks or other mechanisms intended to achieve the objectives of this MOU.

**5. Effective Date**

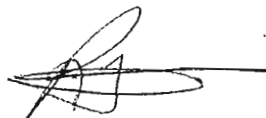
- (i) This MOU will come into effect on the date it is signed by the last Party to do so, and it will remain in effect until October 31, 2013 unless terminated by either Party in accordance with clause 6(ii).

**6. Administration**

- (i) This MOU may be extended with the mutual written consent of the Parties for a period not exceeding one year beyond the expiry date referred to in article 5(i).
- (ii) This MOU may be terminated at any time with the mutual written consent of the Parties or by either Party upon 30 days written notice by a Party.
- (iii) This MOU may be amended at any time as the Parties may agree through an exchange of letters between the Parties and any amendment will come into effect on the date of the last signing.
- (iv) This MOU is not intended to create legal obligations under federal, state, provincial or international law or to be legally binding or enforceable before any court.

IN WITNESS WHEREOF, the Participants have caused this Memorandum of Understanding to be signed in duplicate by their respective agents duly authorized in that behalf.

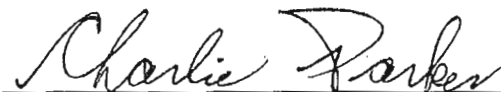
FOR AND ON BEHALF OF HER MAJESTY THE QUEEN, in right of the  
Province of British Columbia



\_\_\_\_\_ Date:

Honourable Rich Coleman, Minister of Energy, Mines and Natural Gas

FOR AND ON BEHALF OF HER MAJESTY THE QUEEN, in right of the  
Province of Nova Scotia



\_\_\_\_\_ Date:

Honourable Charlie Parker, Minister of Energy



# Sea Breeze Power Projects Inc.

A wholly owned subsidiary of Sea Breeze Power Corp.

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Voice (604) 689-2991 Fax (604) 689-2990

October 18, 2013

VIA HAND DELIVERY and EMAIL: [Integrated.Resource.Planning@BCHydro.com](mailto:Integrated.Resource.Planning@BCHydro.com)

British Columbia Hydro and Power Authority  
18th Floor – 333 Dunsmuir Street  
Vancouver, BC V6B 5R3

Dear BC Hydro IRP Project Team,

Re: **Draft 2013 Integrated Resource Plan - Response Commentary to BC Hydro**

Sea Breeze Power Projects, Inc. (“SBPPI” a wholly-owned subsidiary of Sea Breeze Power Corp.), appreciates this opportunity to provide written comments on BC Hydro’s Draft Integrated Resource Plan (“IRP”) released in August, 2013.

As a major planning document addressing the anticipated future energy requirements and industry in British Columbia, the IRP admirably tackles many of the issues facing our Province in the complicated and constantly shifting electricity sector. We acknowledge BC Hydro’s efforts to balance the issues of reliability, system integrity and electricity rates, particularly in light of the energy surplus and need for capacity in the Lower Mainland.

We draw your attention to the proposed **Juan de Fuca Cable (“JDF Cable”** - described in detail below), which is capable of providing valuable solutions to many of the issues identified in the IRP:

- 1 - Ability to Fill a Short Term Gap in Peak Capacity ..... p. 4
- 2 - Manage the Risks Involved with Forecasting Loads ..... p. 6
- 3 - Reduce Our Dependency on Natural Gas Generation for Capacity ..... p. 8
- 4 - Provide a Bridging Mechanism for Site C ..... p. 8
- 5 - Effect a Beneficial Impact on Rates Over the Next 10-15 Years ..... p. 9
- 6 - Stabilize the Higher Cost of Future Power ..... p. 9
- 7 - Reduce Reliance on the Burrard Thermal Generating Station ..... p. 10
- 8 - Facilitate LNG Electric Drive – Reduce Emissions ..... p. 11
- 9 - Provide New Transmission Capacity for the Lower Mainland / Vancouver Island .. p. 11
- 10 - Defer the Need for Transmission Upgrades in the Lower Mainland / Vancouver Island, and Defer the Need for New Generation Capacity on Vancouver Island .... p. 12
- 11 - Facilitate Availability of Clean Power for the North Coast ..... p. 13
- 12 - Provide Additional Clean Energy Supply Options ..... p. 14

Just as significantly, the **Juan de Fuca Cable** ably addresses issues not referenced in the IRP, but which are nonetheless facing British Columbia.

- **Additional Energy Capacity in the Event of Site C Delay, and DSM Shortfalls** ..... p. 14
- **Strategic Diversification of Regional Energy Portfolio to Mitigate Climate Uncertainty** p. 14
- **Support for BC Hydro’s “Self Sufficiency” Requirements** ..... p. 15

Following construction, and when operated in conjunction with our **Firm Power Proposal**<sup>1</sup> (presented to government in a Term Sheet dated August 24, 2012, and revised and re-submitted again on October 16, 2013), the **Juan de Fuca Cable** can dramatically resolve a number of energy capacity and load dilemmas facing British Columbia. Foremost among these is the need to fill the short term peak capacity gap (years 2016 – 2023) identified in the IRP.

The **Juan de Fuca Cable** will also enhance reliability by enabling Greater Victoria to receive substantial power from two directions.

The **Juan de Fuca Cable** provides unique flexibility and resiliency capable of addressing issues such as stakeholder concerns with new capacity options, energy requirements of the LNG industry, environmental concerns, and uncertainty regarding future loads, power rates, and infrastructure construction schedules.

**Overview**

The **Juan de Fuca Cable**, a proposed new 550 MW bi-directional electricity transmission cable crossing beneath the Strait of Juan de Fuca, will expand transmission capacity between British Columbia and the US Pacific Northwest by adding a new interconnection between these two regions.

The interconnection points will be outside Victoria in the Capital Regional District area of southern Vancouver Island, British Columbia, and in the City of Port Angeles on the Olympic Peninsula in Washington State. Upgrades to both systems (accounted for in the Project's financial model) will ensure full integration of the new infrastructure on a regional basis, and effectively increase the transmission capacity between Vancouver and Seattle (the “I-5 corridor”), an estimated 25%.

The **Juan de Fuca Cable** will allow power to be delivered to Vancouver Island and, if desired, transmitted eastward across the Georgia Strait, and onward through southern British Columbia to B.C.'s storage reservoir system. In other words, the **Juan de Fuca Cable** will enable:

- increased capacity for Vancouver Island, and
- increased capacity to import from the US to Vancouver and the rest of the BC system.

The current physical limitations of our cross-border transmission capacity preclude the opportunity to import a block of firm power of 550MW. Construction of the **Juan de Fuca Cable** enables this possibility.

Apart from the **Firm Power Proposal** currently being offered by Sea Breeze, there are several other market-based financing formulas available for consideration for construction of the **Juan de Fuca Cable**. Each of these formulas could benefit British Columbians by minimizing future rate increases, through avoidance of both the cost of capital investment, as well as the associated risks of capital investment in a new transmission infrastructure (including the risk of cost over-runs), and introducing new mechanisms of accountability to the process of expansion of the electric system in British Columbia.

As a requirement for meeting future electricity loads in the province, British Columbia's transmission system needs augmentation of its capacity and flexibility.

One case in point - the deployment of the Montana-Alberta Tie Line - will result in a significant operational reduction of the Alberta-BC intertie, thereby reducing system flexibility and lowering the ability to import and export. During a serious and long-term drought, the ability to import power in British Columbia may be of critical value. The **Juan de Fuca Cable** will expand new transmission capacity into and out of British Columbia.

The **Juan de Fuca Cable** can be constructed and in service within three years. All major Canadian and US permits have been acquired with very minimal public opposition. Although the Project's "Certificate of Public Convenience and Necessity" (issued by the Canadian National Energy Board) has expired and requires re-application, this will involve minimal risk and time since studies and consultation have already been conducted, and the new application will be re-submitted in substantially the same form as was previously accepted.

Utilizing HVDC "Voltage Source Conversion" technology, recognized internationally for its reliability, fast and accurate power control, and low environmental impact, the undersea **Juan de Fuca Cable** also provides insurance against possible delays in future construction of other Lower Mainland and Vancouver Island infrastructure projects, and serves as a valuable bridging solution for meeting short and medium-term power demand. Additional benefits of the **Juan de Fuca Cable** include substantial improvements in system stability, reliability, and capacity.

#### **Addressing Issues in the Integrated Resource Plan**

The **Juan de Fuca Cable** is capable of providing practical and economic solutions to a number of concerns articulated in the Integrated Resource Plan ("IRP") issued by BC Hydro on September 23, 2013, as follows:

##### **1. Ability to Fill a Short Term Gap in Peak Capacity**

**Problem Identified in the IRP: Recommended Action # 7.** *"Fill the short-term gap in peak capacity with cost-effective market purchases first and power from the Columbia Treaty second."*



Figure: Proposed Juan de Fuca Cable route (in red) and regional transmission grid.



A market-based financing approach being proposed by Sea Breeze Power Projects Inc., referred to as the "**Firm Power Proposal**," will allow British Columbia to acquire **550 MW of Firm Power** at a highly competitive rate of **\$69/MWh for 10 years**. This will enable British Columbia to meet a substantial portion of its future load growth without exposure to the risk of price-spiking inherent to short term trading on the spot market, and with reduced reliance on new, capital intensive generation projects during this period.

Acceptance of the **Firm Power Proposal** by British Columbia will allow the **Juan de Fuca Cable's** new transmission infrastructure to be built at **NO COST** and with **NO FINANCIAL RISK** to British Columbia taxpayers and ratepayers. This means there is no risk of cost over-runs (all risk is assumed by the developer). Negotiable provisions are available for eventual public ownership of the asset.

The capacity shortfall appears to range from 500 MW in F2016 to 1200 MW in F2020 (after DSM). With seventy percent of the BC Hydro (BCH) system load located in the Southwest (Vancouver Island, Vancouver, and the Lower Mainland), much of the shortfall in system capacity (or energy) will be in the region where the **Juan de Fuca Cable** can deliver power.

- Buying power via the **Firm Power Proposal** to be transmitted across the **JDF** line would preclude BCH's need to rely on spot market purchases and Canadian Entitlement) from F2017 to F2020. From 2021 to 2027 this would reduce the need to buy gas capacity.
- The **Firm Power Proposal** helps British Columbia avoid the risks of market-based energy purchases (which are unpredictably priced and are not firm power), through a contracted price for committed quantities of power, for the duration of the agreement.
- The **Juan de Fuca Cable** can serve as a better medium term bridging solution for the same reasons as are presented above.

If the IRP's projected power gap persists beyond 2023, or if new gaps develop, it is risky to rely on power from the Canadian Entitlement under the Columbia River Treaty. This agreement can expire or be amended in 2024, with re-negotiations to begin as early as 2014. Media reports indicate that some powerful constituencies in the U.S. oppose maintaining the current arrangements for the return of power (or payment in lieu) under the Canadian Entitlement as specified in the current Treaty. Consequently B.C. is at risk by adopting future plans that rely on a blind assumption that those benefits will continue beyond 2024.

- Whether or not the Canadian Entitlement continues in something like its current form, the **Juan de Fuca Cable** relieves congestion in the Puget Sound region of Washington State that occurs whenever power (e.g., the return of the Canadian Entitlement) is exported through that region to B.C. Notably, Treaty power has priority and poses a risk of leaving local utilities in the Puget Sound Region short of transfer capacity.<sup>2</sup> If anticipated DSM (conservation) targets are not met, the amount of capacity needed each year is **about twice** the amount previously mentioned, i.e. in 2020 the shortfall increases from 1200 MW to 2300 MW.

## 2. Manage the Risks Involved with Forecasting Loads

**Problem Identified in the IRP:** BC Hydro's IRP notes that its long-term resource planning is complicated by the considerable uncertainties about predicting load<sup>d</sup> growth and the risk that load growth will either exceed or fall below expectations, potentially resulting in inadequate capacity on the one hand and inefficient investment on the other. See IRP § 1.1.2, pp. 1-5-6; IRP § 4.3.4.1, p. 4-37 ("*The uncertainty around the load forecast is one of the largest uncertainties faced by BC Hydro in its long-term planning process.*").



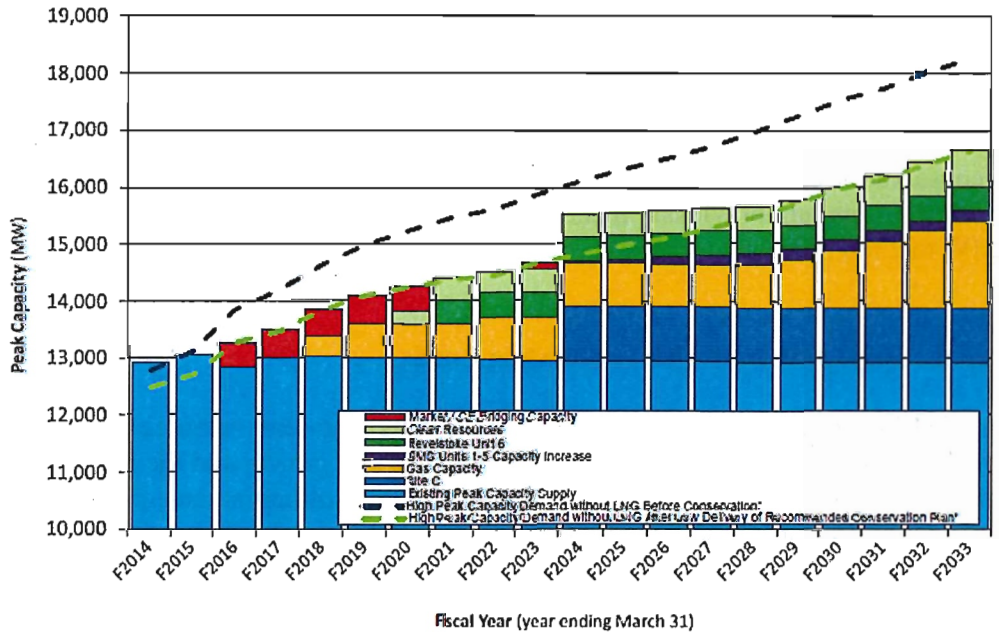
Chapter 8 (page 8-39)

“There is a three-year capacity gap without Expected LNG load from F2021 to F2023. BC Hydro proposes to rely on the market, backed up by the Canadian Entitlement provided under the Columbia River Treaty for up to about 200 MW, to meet any system capacity shortages during this period because the reliance is for a short period and because the market/Canadian Entitlement is cost-effective as compared to B.C.-based capacity resources that could be in-service by F2021 and would only be needed for about three years.”

The **Juan de Fuca Cable** and the **Firm Power Proposal** offer a superior short term bridging solution to meet any short term gap in peak capacity, compared to reliance on unspecified and unpredictable electricity market purchases, and the unknowns connected with relying on return of the Canadian Entitlement under the Columbia River Treaty.

In **Appendix 8a, Figure 6, page 18** (see below), the graph (showing high peak capacity demand without LNG both before and after conservation) indicates a capacity gap beginning in 2016 and extending through 2023, to be filled in the first two years (2016-2017) with market purchases, to be filled in years 2018 through 2023 with a combination of market purchases and gas, and then to be filled in years 2020 through 2023 with market purchases, gas, and increasing amounts of unspecified clean resources and power from Revelstoke Unit 6. This culminates with Site C coming on line in 2024, with continued reliance on gas capacity, clean resources and Revelstoke 6 in the years 2024 through 2033.

Figure 6 CRP without LNG – Capacity



\* Including planning reserve requirements

**Issue identified in Minister Bennett's letter of August 23, 2013:**

*"While the consultation should cover the IRP in its entirety, of particular interest is feedback on the changes to the IRP since BC Hydro undertook consultations in the spring and summer of 2012, and on uncertainty over the 20-year period and the contingency plans BC Hydro is proposing to deal with that uncertainty."*

The **Juan de Fuca Cable** addresses this challenge strongly and uniquely, providing tremendous flexibility ("contingency") and resiliency in the following ways:

- The **Juan de Fuca Cable** can be utilized as a risk reduction tool.
- If there are regional pricing imbalances (e.g., between the Mid-C power trading market and British Columbia) the additional conduit provided by the **Juan de Fuca Cable** promotes flexibility and presents opportunities for arbitrage.
- The **Juan de Fuca Cable** increases trading capacity for both buying and selling.
- The transmission capacity provided by the **Juan de Fuca Cable** enables BC Hydro to meet load growth at competitive rates and would reduce BC Hydro's exposure to price spikes that can occur in short term trading in the spot market.
- If load is high, the **Juan de Fuca Cable** allows more imports. If load is lower than forecast, the **Juan de Fuca Cable** allows for more exporting of electricity.
- If Mid-C is low, the **Juan de Fuca Cable** allows more imports. If high, the **Juan de Fuca Cable** allows more exports.
- If Site C is delayed, the **Juan de Fuca Cable** allows more imports.
- If DSM does not meet targets, the **Juan de Fuca Cable** allows more imports.
- If gas prices are high, the **Juan de Fuca Cable** allows more exports from Clean Energy IPPs in BC, backed up by BC Hydro storage reservoirs.
- If gas prices increase significantly, driving up the cost of power from the Island Cogeneration Plant (and back-up capacity from Burrard Thermal), the **Juan de Fuca Cable** can provide extra capacity on Vancouver Island and/or the Lower Mainland.
- If the Interior to Lower Mainland transmission line is delayed, the **Juan de Fuca Cable** can provide a safety net.
- If Burrard Thermal experiences a problem, the **Juan de Fuca Cable** can provide an alternate emergency power source.

- If BCH needs more capacity in the system and the 93% limit (or higher carbon costs, or higher gas prices) restricts the use of gas power, the **Juan de Fuca Cable** being located adjacent to the load centre, can fill the gap.

### 3. Reduce Our Dependency on Natural Gas Generation for Capacity

**Problem Identified in the IRP: Recommended Action #16:** *“Investigate natural gas generation for capacity. Working with industry, explore natural gas supply options to reduce their lead time to in-service and to develop an understanding of where and how to site such resources, should they be needed.”*

The **Juan de Fuca Cable** addresses concerns implied by or related to this Recommended Action in the following ways:

- The **Juan de Fuca Cable** can effectively supply additional capacity as an alternative to natural gas, providing such capacity without increasing British Columbia’s GHG emissions, and without affecting the 93% Clean threshold required for renewables.
- The **Firm Power Proposal**, facilitated by the **Juan de Fuca Cable** will add to the predictability and reliability of prices and quantities of additional power deliveries.
- Seventy percent of B.C.’s load is in the Lower Mainland and Vancouver Island. The **Juan de Fuca Cable**’s terminus in Canada is close to these major load centers, which would help avoid the need to rely on natural gas generation in that region.
- Natural gas generation is subject to inherent risks and uncertainties, (e.g. susceptibility to price spiking), whereas with the **Firm Power Proposal** in place, power prices would be predictable and stable for the duration of the agreement. It should be noted that typically 66% of the cost of natural gas generation is the cost of fuel.

### 4. Provide a Bridging Mechanism for Site C

**Recommended Action #6:** *“Continue to advance Site C. Build Site C to add 5,100 GWh/year of annual energy and 1,100 MW of dependable capacity to the system for the earliest in-service date of F2024 (for all six generating units) subject to: environmental certification; fulfilling the Crown’s duty to consult, and where appropriate, accommodate Aboriginal groups; and Provincial Government approval to proceed with construction.”*

The **Juan de Fuca Cable** can complement this Recommended Action in the following ways:

- The **Juan de Fuca Cable** and the **Firm Power Proposal** can act as a bridge, effectively serving as a virtual generator for additional power until Site C has been completed and put into service. Note that the **Juan de Fuca Cable** can be constructed and operational within three years.

- If completion of the Site C project is delayed, as commonly occurs with projects of this nature and scope, the **Juan de Fuca Cable** together with the **Firm Power Proposal** can provide a partial backstop, with up to 550 MW of reliable capacity at a predictable and competitive price.
- After Site C has been completed, the **Juan de Fuca Cable** opens up additional capacity and flexibility for exporting power as well as new capacity for transactions involving energy storage or arbitrage.
- If for some reason this Recommended Action is not achieved (e.g. construction of Site C does not get under way within the period contemplated by the IRP), the **Juan de Fuca Cable** offers other important benefits. Since the cable can be constructed and operational within three years it can mitigate problems resulting from cancellation or significant delays in construction of Site C, and provide time to construct and place in service alternate generation infrastructure.

## 5. Effect a Beneficial Impact on Rates Over the Next 10-15 Years

**Problem Identified in the IRP:** *BC Hydro's IRP notes that in defining the IRP's objectives, one of the three energy objectives in the Clean Energy Act is "to ensure [BC Hydro's] rates remain among the most competitive of rates charged by public utilities in North America." IRP § 1.2.3, p. 1-16.*

The **Juan de Fuca Cable** addresses this objective in the following ways:

- The **Juan de Fuca Cable** can bring competitively priced power north into British Columbia where it can flow through 'at cost' to LNG and other industrial operators, with no rate impact.
- By using the **Juan de Fuca Cable** to import inexpensive firm power that can be used to serve new industrial load (including LNG ancillary power requirements) on a "flow-through" cost basis, BC Hydro can avoid encroaching on the finite supply of low-cost legacy power that is presently available to its ratepayers.

## 6. Stabilize the Higher Cost of Future Power

**Problem Identified in the IRP:** BC Hydro's IRP states that the price of new power produced from clean or renewable sources by Independent Power Producers ("IPPs") will be \$125 per MWh, that new capacity at Site C will be \$83/MWh, and that prices for power from combined cycle gas turbines (CCGT) will range from \$42/MWh to \$139/MWh - depending on the size of the generation plant, and assumptions about economic factors such as prevailing market rates for power, natural gas prices, and carbon taxes. IRP § 6.2.6, p. 6-12.

The **Juan de Fuca Cable** addresses this need in the following ways:

- **The Juan de Fuca Cable** is a valuable bridging mechanism until other resources are developed in BC.
- Firm power coming north via the **Juan de Fuca Cable** in conjunction with the **Firm Power Proposal**, will have a guaranteed price of **\$69 MWh** for the term of 10 years (in addition to providing a host of valuable system benefits). In contrast, power from Site C is estimated to cost **\$83 MWh**.
- It should be noted that the **Juan de Fuca Cable** can be in operation within three years.
- Power purchased through the **Juan de Fuca Cable** and the **Firm Power Proposal** will not be subject to the cost and timing uncertainties of Site C, or risks associated with uncertainties about power prices or gas prices that are related to reliance on gas turbine generation systems.
- Replacing the capacity of a new CCGT with similar capacity via the **Juan de Fuca Cable** and the **Firm Power Proposal** will involve no capital investment or ongoing financial risk to BC Hydro or its ratepayers, no risk of cost over-runs, a near-term and predictable timetable, and full accountability.

## **7. Reduce Reliance on the Burrard Thermal Generating Station (“Burrard”)**

**Problem Identified in the IRP:** BC Hydro’s IRP states that Burrard is to eventually be retired as a standby source of capacity pursuant to the Clean Energy Act, except for emergencies or for voltage support. IRP ¶ 3.7.1, pp. 3-82-83.

The **Juan de Fuca Cable** addresses this challenge in the following ways:

- The **Juan de Fuca Cable** can provide alternate emergency back-up for power for Vancouver, and Volt Amperes Reactive (“VARs”) for Vancouver Island.
- The **Juan de Fuca Cable** provides a lower-cost alternative to the high price of peak power generation at Burrard.
- The **Juan de Fuca Cable** reduces the commodity price risk inherently associated with fuel for Burrard by increasing the supply options.
- Use of the **Juan de Fuca Cable** instead of Burrard will eliminate a significant source of air pollution, protecting air quality in the Lower Mainland and Fraser Valley.

## 8. Facilitate LNG Electric Drive – Reduce Emissions

**Problem Identified in the IRP:** A conflict is apparent between two of the directives in the IRP Summary: (1) the need to comply with the Clean Energy Act’s objective of “*Using clean or renewable resources to help achieve provincial GHG reduction targets*” and (2) supporting development of the emerging liquefied natural gas (LNG) industry, particularly in the north of the Province.

The "Expected LNG" planning in the north assumes use of direct-drive for the liquefaction process. A recent Tides Canada report, ‘The Cleanest LNG in the world?’ <http://cleanenergycanada.org/works/cleanest-lng-in-world/>, and subsequent media reports<sup>4</sup> predict that the increased emissions (CO<sub>2</sub>) associated with direct-drive could be similar to those attributed to the Alberta oil sands industry in 2010, which may lead to undesirable comparisons.

There have been discussions with certain LNG proponents about use of electric drive as a more environmentally responsible choice. The "Expected LNG" scenario in the IRP is significantly short in its assumptions of power required if even a portion of the LNG industry opts for electric drive instead of direct drive. This shortfall could conceivably be in the thousands of MW.

The **Juan de Fuca Cable** addresses these concerns in the following ways:

- The **Juan de Fuca Cable** provides access to low cost energy from the U.S. to supply demand in the Lower Mainland, which would free up clean energy from existing assets in the Peace River and Kootenay regions of British Columbia to supply expected increases in loads from the LNG and mining industries. Some of these benefits are enhanced if the **Firm Power Proposal** is also implemented.
- Delivery of power via the **Juan de Fuca Cable** to Vancouver Island reduces the need to wheel power from hydroelectric generation plants in the north of the Province, southward into the Lower Mainland/Vancouver Island region. This benefit is enhanced by avoiding the customary line losses of 8% normally incurred during north-to-south transmission.
- Delivery to Victoria of imported firm power from the United States frees up 550 MW of capacity to supply northern British Columbia, reducing the need for direct-drive power for the liquefaction process and/or gas-fired electrical generation capacity to power drilling, production, transport, and other industrial support processes.

## 9. Provide New Transmission Capacity for the Lower Mainland/Vancouver Island

New transmission capacity will be required for the Lower Mainland/Vancouver Island area even with the Interior to Lower Mainland Transmission Line (“ILM”) entering service in 2015, but especially if the ILM is delayed and/or if Demand Side Management (“DSM”) falls short of projections.

**Problem Identified in the IRP:** BC Hydro's IRP states that even with the projected completion in January 2015 of the 500kv ILM reinforcement project, *"in the absence of incremental DSM or new or renewed dependable capacity supply in the Coastal region, new transmission transfer capability will be required in F2022"* to serve anticipated loads in the Lower Mainland /Vancouver Island area. IRP § 2.5.3, p. 2-49.

BC Hydro's IRP also states that *"future sources of capacity in the Lower Mainland/Vancouver Island region other than natural gas-fired generation...have significant uncertainties in terms of development and operations,"* and then indicates a new transmission line to the Lower Mainland could be needed by 2029. IRP § 6.2.7.1, p. 6-17.

The **Juan de Fuca Cable** addresses these needs in the following ways:

- The **Juan de Fuca Cable** can provide the needed "dependable capacity supply" into the coast region, and offers "new transmission transfer capability."
- The **Juan de Fuca Cable** can serve as an insurance policy against delay in completion of planned infrastructure projects, and against catastrophic failure of existing or new facilities.
- The **Juan de Fuca Cable** can deliver power to points on Vancouver Island that are otherwise extremely costly or difficult to reach from the Lower Mainland.
- Power imported onto Vancouver Island from the U.S. via the **Juan de Fuca Cable** will offset the need to send more power from the Lower Mainland to Vancouver Island, thereby reducing future congestion on ILM Transmission Line, and deferring the requirement for more transmission capacity in that corridor.
- Subject to a negotiated agreement, the **Juan de Fuca Cable** can be a government-owned asset at the end of a bridging period.

**10. Defer the Need for Transmission Upgrades Lower Mainland/ Vancouver Island, and New Generation Capacity on Vancouver Island**

**Problem Identified in the IRP:** *"[W]ithout incremental DSM [demand-side management], renewal of the EPA [electricity purchase agreement] with Island Cogeneration [gas-fired generator] or new on-island dependable capacity generation, new transmission upgrades between the Lower Mainland and Vancouver Island would be required in F2023."* IRP § 2.5.4 (p.2-50, 2-51).

The **Juan de Fuca Cable** makes it possible to avoid or postpone the need for transmission upgrades between the Lower Mainland and Vancouver Island, as well as the need for new generation on Vancouver Island, as indicated in Chapter 2 (pages 2-50 and 2-51) in the IRP.



The Island Cogeneration Plant (“ICP”) in Campbell River currently operates on a stand-by basis with contracted fees of approximately \$150,000 per day<sup>3</sup>, on a contract that extends through March 2022.

At a significantly lower cost than is presently being paid, the **Juan de Fuca Cable** could supply twice the amount of capacity that the Island Cogeneration Plant is capable of, PLUS all the other system benefits a new regional transmission line would provide, including greater energy stability, energy security, expanded capacity, and several valuable ancillary services. The operational cost of the **Juan de Fuca Cable** acting as a "virtual generator" is expected to be substantially less than operating ICP in production mode.

The **Juan de Fuca Cable** offers advantages when considering seismic stability in the region. While ICP generates power on Vancouver Island, its viability is subject to the seismic integrity of the relatively rigid gas pipeline to the Lower Mainland. While the **Juan de Fuca Cable** route will also pass through seismically active areas, as a flexible cable it is inherently less vulnerable to earthquake damage than a relatively rigid pipeline. Accordingly, in the event of a significant earthquake, the **Juan de Fuca Cable** has a higher probability of remaining intact and able to transmit electricity than the gas pipeline.

## 11. Facilitate Availability of Clean Power for the North Coast

**Problem Identified in the IRP. RA #10:** *“Explore natural gas-fired generation for the north coast: Working with industry, explore natural gas supply options on the north coast to enhance transmission reliability and to meet the expected load.”*

The **Juan de Fuca Cable**, together with the **Firm Power Proposal**, addresses concerns related to this Recommended Action in the following ways:

- The **Juan de Fuca Cable** efficiently delivers power from the U.S. to where it is needed in British Columbia. Delivery to Vancouver Island offsets the need to wheel power from any of the distant hydroelectric generation plants south into the Lower Mainland /Vancouver Island region.
- If the **Firm Power Proposal** is implemented then there is an additional benefit in obtaining reliable quantities of firm power at a predictable, established price.
- The **Juan de Fuca Cable** also supports efficient re-direction of power generated in the northern portion of the province, so that it can serve growing loads in the northeast and the northwest rather than wheeling it south to serve loads in the Lower Mainland / Vancouver Island region.

This also promotes energy efficiency since line losses amount to approximately 8% when sending power from the Peace River region to the Lower Mainland/Vancouver Island area.

## 12. Provide Additional Clean Energy Supply Options

**Problem Identified in the IRP:** BC Hydro's IRP recommends the following in **Recommended Action #11**: *“Explore clean or renewable energy supply options and be prepared to advance a procurement process to acquire energy from clean power projects, as required to meet LNG needs that exceed existing and committed supply.”* IRP ¶ 8.3.2, p. 8-54, “. ”

The **Juan de Fuca Cable** together with the **Firm Power Proposal** addresses this challenge in the following ways:

- The **Juan de Fuca Cable** and the **Firm Power Proposal** efficiently deliver power from the US to points in British Columbia where it is most needed. Delivery to Vancouver Island offsets the need to wheel power from any of the distant hydroelectric generation plants, existing or planned, south into the Lower Mainland/Vancouver Island region.
- The **Juan de Fuca Cable** also supports efficient re-direction of power generated in the north of the province to remain in the north, to serve growing load in the northeast and the northwest, rather than requiring it to be diverted to serve loads in the Lower Mainland and Vancouver Island. This avoids line losses (amounting to approximately 8%) that would otherwise be incurred in sending power from north to south.

### Additional Advantages and Capabilities

There are additional advantages and capabilities that are provided by the **Juan de Fuca Cable** and **Firm Power Proposal**, some of which are implicit in the IRP, and some of which simply constitute good power planning policy.

- The **Juan de Fuca Cable** adds capacity in the event of various contingencies, *eg*:  
Electricity shortfalls due to delays in completion of Site C or for other reasons;  
Electricity demands are higher than anticipated even if both Site C is completed and DSM goals are met;  
Prices for natural gas rise to unforeseen levels; or energy security or national security issues emerge.
- The **Juan de Fuca Cable** and **Firm Power Proposal** help diversify the energy supply portfolio. This is particularly important in view of anticipated impacts of climate change, including changes in the quantity, timing, and forms of precipitation.

For example, even if total precipitation within the province remains constant, its value for energy production is highly dependent on whether it falls in the right watersheds, in the right form (e.g., snow), and in the right seasons. All of these variables are subject to change, but the direction and extents of such changes are not known with certainty. BC Hydro's water-powered heritage asset system is highly vulnerable to such changes due to its concentration in only two of British

Columbia's six major watersheds (Columbia River and the Peace River). New transmission capacity that links British Columbia to different geographic regions adds valuable diversity.

The **Juan de Fuca Cable** and **Firm Power Proposal** are compatible with BC Hydro's "self-sufficiency" objective.

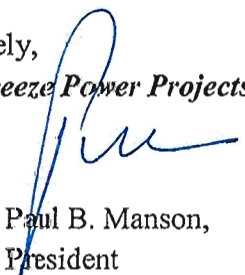
- The **Juan de Fuca Cable** and **Firm Power Proposal** bridges the power needs of British Columbia until projects are built to meet self sufficiency requirements.
- As long as the "Canadian Entitlement" continues in force, the **Juan de Fuca Cable** allows more efficient and reliable repatriation of downstream benefits into the load areas by increasing transmission capacity and by providing an alternative transmission pathway in case of impairments or catastrophic failure of the existing transmission grid in the I-5 corridor.
- The **Juan de Fuca Cable** and **Firm Power Proposal** support self-sufficiency by eliminating the estimated 8% line losses associated with wheeling power from large remote generation sites to the Lower Mainland /Vancouver Island area.
- The **Juan de Fuca Cable** supports asset optimization during times of seasonal surplus by increasing export capacity during those times.

Thank you for your consideration of these comments.

We look forward to the inclusion in the revised IRP of the **Juan de Fuca Cable** and the **Firm Power Proposal** as contributing solutions to British Columbia's electricity challenges and, primarily, capacity needs.

Please feel free to contact us at any time for further information about the **Juan de Fuca Cable** or the **Firm Power Proposal**.

Sincerely,  
*Sea Breeze Power Projects Inc.*

per:   
Paul B. Manson,  
President

*encl. Term Sheet "Firm Power Proposal" dated October 16, 2013*

Notes:

- 1) See Term Sheet, attached, for **Firm Power Proposal**.
- 2) Challenge for the Northwest: Protecting and managing an increasingly congested transmission system, BPA, April 2006 at 7-10, accessed at [http://www.bpa.gov/corporate/pubs/Congestion\\_White\\_Paper\\_April06.pdf](http://www.bpa.gov/corporate/pubs/Congestion_White_Paper_April06.pdf);  
BPA Fact Sheet - BPA to automate transmission curtailment procedure for the Puget Sound Area, September 2007 accessed at [http://www.bpa.gov/corporate/pubs/fact\\_sheets/07fs/fs092607.pdf](http://www.bpa.gov/corporate/pubs/fact_sheets/07fs/fs092607.pdf);  
Letter dated September 15, 2004 from Puget Sound Energy, Seattle City Light, and Snohomish County PUD No. 1 submitting comments to BPA re potential solutions to obviate BPA Northern Intertie transmission reliability curtailments and disputes, accessed at [http://www.transmission.bpa.gov/Business/Customer\\_Forums\\_and\\_Feedback/Programs\\_in\\_Review/documents/PSANI091504\\_TBL\\_PIR\\_Comments.pdf](http://www.transmission.bpa.gov/Business/Customer_Forums_and_Feedback/Programs_in_Review/documents/PSANI091504_TBL_PIR_Comments.pdf);  
Final Draft - 2009 Biennial Transmission Expansion Plan, Rev. 2, ColumbiaGrid, February 2009 at 57.
- 3) BC Hydro pays \$150,000 a day to an Alberta power corporation to be in standby mode, GlobalNews.ca, November, 2012, accessed at <http://globalnews.ca/news/308344/bc-hydro-pays-150000-a-day-to-an-alberta-power-corporation-to-be-in-standby-mode/>
- 4) B.C.'s LNG plants won't be cleanest: report  
Proposed LNG plants could emit up three times more carbon dioxide than comparable foreign facilities, accessed at <http://www.cbc.ca/news/canada/british-columbia/b-c-s-lng-plants-won-t-be-cleanest-report-1.1865355>  
Clark accused of watering down clean LNG promise, Oct. 2, 2013, accessed at <http://www.theglobeandmail.com/news/british-columbia/clark-accused-of-watering-down-clean-lng-promise/article14648992/>



## Sea Breeze Power Projects Inc.

A wholly owned subsidiary of Sea Breeze Power Corp.

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### TERM SHEET

Date: October 16, 2013

To: Honourable William Bennett,  
Minister of Energy and Mines, British Columbia

From: Sea Breeze Power Projects Inc. ("SBPP")

This Term Sheet describes proposed transactions between SBPP and the British Columbia Government or their agent, BC Hydro (collectively, "the Province") for the sale and purchase of electricity imported into British Columbia via the Juan de Fuca Cable (submarine transmission connection), a proposed new transmission interconnection between Port Angeles, WA and Victoria, BC.

This Term Sheet offers two scenarios:

1. A transaction of "550 MW Firm Power" over a period of 10 years.
2. A transaction of "275 MW of Firm Power" coupled with an "Option for 275 MW of Transmission Capacity", over a period of 15 years.

The power delivered to the Province would be Firm Power delivered around the clock, and would have a carbon intensity approximately equal to or lower than power sourced from "new-build" natural gas. The BC Carbon Tax would not apply to the imported power.

Acceptance of either Scenario #1 or #2 herein, would allow the Juan de Fuca Cable to be built with no further financial commitments from the Province.

The proposed transactions would be executed in accordance with a new Master Agreement between SBPP and BC (to be negotiated). An option to purchase the Juan de Fuca Cable could be included in the agreement.

**Scenario #1: Purchase of 550 MW Firm Power**

Trade Date: TBD

Products: Firm Electric Power

Buyer: Government of British Columbia

Seller: Sea Breeze Power Projects Inc.

Quantities: Firm Power: 550 MW flat (All Hours)

Point of Delivery: BC Hydro's Pike Substation (near Victoria, BC)

**Pricing:**

Table 1 shows prices for a 10 year contract for Firm Power. As discussed in the cover letter, this proposal offers significant system benefits. As shown below, these benefits would partially offset the power costs, and could also provide flexibility in structuring the overall transaction.

**Table 1:** Price for 10 year power sale contract on 550 MW Firm Power

Scenario	Contract Term	Power Price (\$/MWh)	Value of System Benefits* (\$/MWh)	Net Cost (\$/MWh)
#1	10 Years	69.00	(10.00 - 15.00)	54.00 - 59.00

\*This column reflects potential system benefit values to the Province. These estimates are for a range of benefits which include (but are not limited to) the opportunity to eliminate transmission losses associated with the current need to transmit electricity from BC Hydro's dams in the northeast and Kootenay regions of BC to the Lower Mainland and Vancouver Island, a reduced need to operate the Burrard Thermal plant, and increased system reliability for the Lower Mainland and Vancouver Island.



**Scenario #2: Purchase of 275 MW Firm Power with Option on 275 MW Transmission Capacity**

Trade Date: TBD

Products: Firm Electric Power;  
Option on South-to-North Transmission Capacity

Buyer: Government of British Columbia

Seller: Sea Breeze Power Projects Inc.

Quantities: Firm Power: 275 MW flat (Delivered All Hours)  
Option on Capacity: 275 MW (South-to-North, Any Hour)

Point of Delivery: BC Hydro's Pike Substation (near Victoria, BC)

**Pricing:**

Table 2 shows pricing for 275 MW of Firm Power coupled with an Option on 50% (i.e. 275 MW) of the south-to-north Capacity on the Juan de Fuca Cable. The Option on Transmission Capacity is priced at \$10/kW-month. This scenario would give the Province additional flexibility in the amounts of power it wishes to draw.

**Table 2:** Price for 275 MW Firm Power with an Option on 275 MW Transmission Capacity (priced at \$10/kW-month).

Scenario	Contract Term	Option Price (\$/kW-mo)	Power Price (\$/MWh)	Value of System Benefits* (\$/MWh)	Net Power Cost (\$/MWh)
#2	15 Years	10.00	69.00	(10.00 - 15.00)	54.00 - 59.00

\*This column reflects potential system benefit values to the Province. These estimates are for a range of benefits which include (but are not limited to) the opportunity to reverse transmission losses associated with the current need to transmit electricity from BC Hydro's dams in the northeast and Kootenay regions of BC to the Lower Mainland and Vancouver Island, a reduced need to operate the Burrard Thermal plant, and increased reliability for the Lower Mainland and Vancouver Island.



# SIEMENS

Doug Little  
VP Energy Planning and Economic Development  
BC Hydro  
P.O. Box 2850  
Vancouver, BC, V6B 3X2

William (Bill) Smith  
Senior Vice President, Energy Sector  
Siemens Canada Limited  
1550 Appleby Line  
Burlington, ON, L7L 6X7

October 18, 2013

Dear Doug,

BC Hydro's Integrated Resource Plan (IRP) has been a comprehensive initiative that will undoubtedly be a critical mechanism to propel BC towards its goal of energy self-sufficiency. The stakeholder consultation process has helped shape a thorough plan that is aligned with the needs of the province and its people. For this, BC Hydro and its government shareholder are to be congratulated.

Increasing energy demand, strong growth in the Oil & Gas and Mining sectors, and an emerging Liquefied Natural Gas (LNG) industry, will drive dramatic change in the energy landscape of BC. Additions to the new draft of the IRP have brought further clarity to these areas of development, and have identified the necessary actions and objectives to achieve sustainable growth in the province, while taking environmental responsibility and fiscal prudence into consideration.

As with our previous feedback to the IRP, we wanted to provide our input in the form of a letter that highlights four main areas of domain expertise that Siemens has, which are aligned with the needs and goals of BC. In addition to sending this letter to you, we've also sent it by e-mail to the IRP project team.

## 1. Renewable Energy

Resource development and the establishment of strong provincial policy have helped make BC's commitment to clean energy generation successful. As the global trend of increasing renewable energy generation continues to evolve, Siemens continues to develop new solutions and technologies to achieve grid parity with traditional forms of generation.

Specifically, Siemens Wind Power is continuously improving its Wind Turbine technology, enabling us to provide solutions that improve reliability and performance, reduce maintenance, allow for easier transportation and installation, and ultimately lower the cost of energy. We also want to take this opportunity to stress the viability of offshore Wind Power generation, which – as the recognized leader and largest manufacturer of offshore wind turbines in the world – we have extensive experience and a successful track record in. Our proven offshore technology allows us to de-risk projects and lower the total cost of ownership.

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Siemens.  
The global network of innovation.™  
Innovier à la grandeur du monde.™

# SIEMENS

Siemens is proud of our recent exclusivity agreement with Naikun Wind Energy, which defines us as the supplier for the first phase of the Haida Energy Field in Northern BC. Through a careful analysis of site-specific wind data by our experienced offshore wind experts, we were encouraged to discover that Naikun's wind site has one of the strongest and most consistent offshore wind resources in the world. Through its close proximity to the proposed LNG terminals on BC's West coast, the 400MW wind farm will meet demand generated from the LNG industry while boosting the province's economic development through long-term service and construction job creation.

We have provided further details of advancements in wind turbine technology to BC Hydro through the Canadian Wind Energy Association.

## 2. LNG and Gas-Fired Generation

BC's commitment to producing the "cleanest LNG in the world" will help the province maintain its standing as a low carbon leader and achieve its aggressive GHG reduction target. Through careful examination of the proposed LNG developments and associated emissions forecasts, organizations such as Clean Energy Canada have concluded that integrating electrical drive systems in the development of LNG projects is imperative to ensuring that LNG produced in British Columbia joins the ranks of current world-leading operations.

Siemens' eLNG solutions have helped world-class LNG terminals sustain a competitive advantage in a global energy marketplace increasingly focused on lower carbon energy. Our experience with Statoil's Snøhvit project in Norway has helped the facility produce what has been deemed to be the cleanest LNG in the world. Our upcoming involvement with the Freeport LNG terminal expansion project in Texas will allow the facility to also be added to the current world-leading LNG operations. If BC joins these projects in choosing to use eLNG solutions, it is unlikely that the province will be challenged for cleanest over life of project since 93% of its generation comes from renewable hydro resources.

Siemens has also had impressive success with its Flex-Plant technology, which enables unsurpassed operational flexibility and maximum efficiency. The Flex-Plant's ability to effectively ramp up and down to optimize renewable generation makes it a steward of environmental low emissions, and a flexible partner for renewables. By integrating proven, fast-start technology in a high-efficiency, three-pressure reheat combined cycle, the Flex-Plant can achieve full load in less than half the time required by traditional combined cycle plants. The faster, more efficient, dispatchable power is designed to significantly reduce start-up emissions and start-up fuel costs, and can therefore result in higher dispatch and increased generation revenue.

We are already active in sharing our ideas with First Nations groups and project developers, and would be happy to have our experts provide you with further details on our technology.

## 3. Transmission

BC's transmission system needs to adapt to support the province's steadily growing electricity demand and developing LNG industry, providing the reliability needed to meet the expected load. As BC's transmission system undergoes reinforcements to move power from the Southern Interior and Northern regions to major load centers in the Lower Mainland and Vancouver Island, effective planning is needed to ensure that BC's electricity is transported safely and efficiently. Siemens provides efficient and reliable power transmission products and solutions that can help BC strengthen the links between its energy generation and operation.

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Our HVDC solutions, currently being deployed in Alberta, provide the best economic solution to improve system stability through load and supply controllability. HVDC enhances grid flexibility and reduces footprint, cost, and lead time by allowing the operation of AC grids with extremely low short-circuit levels, or passive loads. In addition, our FACTS improve dynamic stability and power quality by increasing the availability and reliability of electrical grids through fast voltage regulation and load control.

#### 4. Smart Grid and Conservation

The recommended actions defined by the IRP identify several areas of opportunity for Smart Grid solutions, which Siemens offers a complete spectrum of products, solutions, and services in. Our remote microgrids, substation interoperability solutions, distribution management systems, Virtual Power Plants and Demand Response tools, as well as COMPASS consulting services, all provide the tools needed for BC to improve energy delivery and reduce environmental impact.

A thorough explanation of these solutions and how they relate to BC's unique energy needs, put together by our Smart Grid Division, is included as an attachment to this document.

We hope these thoughts are helpful in BC Hydro's planning process. We see an array of possibilities in each technology area and would welcome the chance to further discuss these possibilities with you. Together, we can work to drive forward the clean, economic engine that BC will become for its residents and for the rest of Canada.

Sincerely,



William (Bill) Smith

cc. IRP Project Team, [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

# SIEMENS

## Siemens Smart Grid Division

BC Hydro – Integrated Resource Plan (IRP)

### Remote Microgrids

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Off-grid power systems number in the thousands globally, and many of these are still powered by diesel generation. Canada is not an exception. Others showcase smart and much cleaner combustion technologies capable of reducing diesel consumption by as much as a third even without any renewable generation. Once renewable distributed energy generation is added to the mix, these remote systems begin to look like real microgrids. Microgrids are smart grids that can operate intelligently with or without external power supply (at least for a while) utilizing different capabilities to be self sufficient and manage power consumption in the wisest way. These capabilities include –among others– new power supplies, such as wind power, solar, storage, etc. combined with power management systems that determine and control the right power usage.

One could safely assume that the majority of these new power supplies will be produced and distributed via microgrids and other related forms of distributed energy resources in remote communities like small countryside towns, First Nation communities, etc.

The global market for remote microgrids can be divided in four key segments: commodity extraction, physical islands, village electrification, and remote military. Siemens may assist identifying issues related to all these segments, including business cases, opportunities, and implementation challenges, associated with remote microgrids. Siemens Smart Grid Division has been an active player in the development of key technologies related to remote microgrids.

BC's extensive territory offers an immense potential for the development of microgrids that make an even more efficient use of power supplies in remote locations. According to Point No.5 of the BC Hydro Summary – IRP Recommended Actions, Microgrids could become a good incentive mechanism for potential new customers seeking to establish new operations in the Province, by including tax reductions or benefits if the new settler includes microgrid technologies into their new facilities.

### Interoperability

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Multiple protocols exist worldwide for substation automation, which include many proprietary protocols with custom communication links. Interoperation of devices from different vendors would be an advantage to Utilities using substation automation devices. For that purpose the international standard IEC 61850 was created, which is a single protocol for complete substation considering modelling of different data required for a substation, which also includes definition of basic services required to transfer data so that the entire mapping to communication protocol can be made future proof, allowing high interoperability between systems from different vendors, as well as defining a common method/format for storing complete data. This standard also defines complete testing required for the equipments which conforms to the standard.

The main advantages of using IEC 61850 are:

- Simple substation structure: No more interface problems. With IEC 61850, protocol diversity and integration problems are a thing of the past.
- Everything is simpler: From engineering to implementation, from operation to service. Save time and costs on configuration, commissioning and maintenance.
- Reduction of costs: IEC 61850 replaces wiring between feeders, control switches, and signaling devices.
- More reliability: You only use one communication channel for all data – in real time, synchronized via Ethernet.

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According to Points No.1, 2 and 3 of the BC Hydro Summary – IRP Recommended Actions, efficiency measures and also savings can be accomplished if the IEC 61850 standard is adopted at BC Hydro facilities when replacing old, or aging equipment and for new installations. Siemens is the global market leader in this area, therefore BC Hydro would benefit from our experience in IEC 61850 migration or new substation projects .

## Resiliency and Reliability

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Sadly, most weather forecasters predict that superstorms will be even more prevalent world-wide due to climate change. More major outages happen every year now compared to the ones in the past few years due to storms, hurricanes, floods and even immense forest fires. As a result, more and more Utilities are addressing reliability and resiliency as their main goals.

On the other hand, critical infrastructure cannot be completely protected from physical damage during such extreme events. Improving reliability and resiliency in preparation for natural disasters also serves a Utility well under ordinary circumstances. Every utility will accomplish these goals differently. Some will focus on comprehensive, highly integrated suites of smart grid technologies. Others will make targeted investments with a narrower technology scope. Every utility has its own regulatory pressures, legacy systems, geographic circumstances and reliability and resiliency issues – and the business case must be developed and gain regulatory approval.

Siemens Smart Grid Division offers advanced distribution management systems combining Supervisory Control and Data Acquisition, outage management, and fault and network analysis functions for the first time on a software platform under a common user interface.

This simplifies all work processes and facilitates entering and updating of data. The system also allows network operators to not only control and monitor their distribution network more reliably, but also carry out maintenance and repair work more efficiently. If new, emerging energy policies related to power management, control and distribution are to succeed, Utilities need to make their distribution networks more intelligent. They must also be capable of being controlled efficiently as smart grids in order to effectively channel the increasing volume of electricity fed in from renewable energy resources. This is exactly what Siemens' new systems allow power supply companies and utilities to do.

According to Point No.11 of the BC Hydro Summary – IRP Recommended Actions, clean or renewable energy supply options present the challenge of allowing interoperability supporting current regulations and standards, which also apply in case of outages. Siemens has the knowledge and technology scope through our DMS system to address these current and future challenges helping out to improve BC Hydro to reach its resiliency and reliability goals.

## Analytical Tools and Services

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Energy systems are changing worldwide: renewable and distributed generation are growing everywhere, while capacity problems are posing economic risks and aging infrastructure is threatening the security of the power supply. All these factors contribute to significant changes in the way Utilities manage their installed base, systems and financial situation to improve their particular business cases.

By incorporating more and more new smart grid technologies and new forms of power generation, distribution and storage, there is a need for intelligent solutions for central control of decentralized systems for power supply companies, industrial companies, operators of functional buildings, energy self-sustaining municipalities and regions, as well as energy service providers in deregulated markets. Such solutions have to manage intelligent integration of decentralized energy supply structures, being able to update forecasts for optimum scheduling and offer powerful communication for real-time optimization.

# **SIEMENS**

Also, demand response is a measure to meet grid peaking capacity requirements. The need to purchase expensive peaking power on the wholesale market to satisfy demand can be expensive. Lately, Utilities are seeking to automate demand response processes and offer their industrial, commercial and residential customers value-added services within their demand-side management programs. Demand Response can be used as a cost-effective way to reduce the need to purchase expensive whole power from inefficient forms of peaking generation.

According to Points No.10, 12 and 13 of the BC Hydro Summary – IRP Recommended Actions, BC-Hydro may increase the use of on-demand response tools, like Siemens Demand Response Management System (DRMS®), for their cost-effectiveness and relatively short implementation times, as well as our Decentralized Energy Management System (DEMS®) to create Virtual Power Plants to have a centralized way of control of the different elements of a smart grid. Additionally, by linking generation, distribution, metering, and energy supply management to BC Hydro business objectives Siemens COMPASS consulting services can align the strategy with their current development initiatives and goals.



October 15, 2013

British Columbia Hydro and Power Authority  
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**Attention:** [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

**Regarding:** August 2, 2013 Draft Integrated Resource Plan ("IRP")

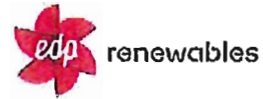
TimberWest Forest Corp. (TimberWest) and EDP Renewables Canada Ltd. (EDPR) appreciate the opportunity to provide comments on the IRP. We recognize the hard work and diligence BC Hydro has put into the IRP, but on several important points we very much disagree with the recommendations presented. We have provided detailed rationale in our attached comments, organized following the format of BC Hydro's online electronic process.

We believe that in revising the IRP BC Hydro should:

- Include options where clean and competitive renewable energy, including wind energy projects, are featured prominently in solutions for future electricity demand and are allowed to compete with other supply sources, like BC Hydro's Site C dam and natural gas-fired generation, on the basis of price, value and risk to the Province, ratepayers and taxpayers;
- First encourage the full and efficient use of existing publicly funded infrastructure and facilitate third-party market arrangements to sell power, before additional infrastructure is promoted that will increase debt and electricity rates;
- Make wind energy an integral part of British Columbia's future supply portfolio by setting a goal of 17% of BC Hydro's total demand for electricity to be provided by clean and competitive wind energy by 2025 (consistent with the Canadian Wind Energy Association's vision for British Columbia); and
- Fully embrace the importance of meeting the Provincial targets for greenhouse gas (GHG) emissions, and the Government's stated objectives of "... *ensuring that LNG operations in British Columbia are the cleanest in the world ...*"

TimberWest and EDPR are both world-class companies that want to invest in British Columbia. We believe the IRP is a unique opportunity to bring jobs and economic development to the Province by making a place for cost-competitive, clean renewable energy projects that benefit First Nations and local communities. We are concerned however, that in its current form, the





IRP sends a discouraging message to companies like ours. Investment decisions have long lead-times, and without clear signals for a future, prominent place for independent renewables in the IRP, we believe that investment will migrate to other jurisdictions which provide greater development certainty. Such investment will not be easily enticed back and British Columbia could see a lost decade for clean and competitive renewable energy.

We appreciate the opportunity to comment on the IRP and trust that our input will be considered by BC Hydro.

Yours truly,

A handwritten signature in blue ink, appearing to read "B Frank", written over a light blue circular stamp.

Brian Frank  
President and CEO  
TimberWest Forest Corp.

A handwritten signature in blue ink, appearing to read "Gabriel Alonso", written over a light blue circular stamp.

Gabriel Alonso  
CEO  
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## INTEGRATED RESOURCE PLAN COMMENTS

### Supporting LNG

*Please provide your level of support for BC Hydro's recommended action: to 'support the LNG industry' by reinforcing an existing 500 kilovolt transmission line from Prince George to Terrace; working with industry to explore natural gas supply options on the north coast to enhance transmission reliability to help meet the expected load; and being prepared to acquire clean energy supply in the future if LNG needs exceed existing, contracted supply.*

### **WE RESPECTFULLY DISAGREE**

*Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on supporting LNG.*

- **Electrification:** We support electrification (including to upstream and downstream LNG and other resource development) and the development of infrastructure to support electrification in British Columbia. However, we believe that ratepayers should realize the full value (through reduced GHG emissions, job creation, system efficiencies, and First Nations participation) and risk mitigation through an increase of clean and competitive wind energy in the supply mix.
- **Climate:** BC Hydro's IRP needs to facilitate the Province meeting its climate targets and to provide a framework for the next 5 years that will foster the development of clean and competitive wind energy. Further integrating clean and competitive wind energy into the supply mix will assist the Province in meeting its climate objectives. Through its environmental attributes and inherent lack of GHG, clean and competitive wind energy can counterbalance the greenhouse gas impacts associated with natural gas-fired generation.
- **Equal Opportunity:** Clean and competitive wind energy should be provided an equal opportunity to compete with BC Hydro's Site C dam and other supply options in meeting the needs of upstream and downstream LNG. The IRP should recognize the advantages of increasing clean and competitive wind energy in the BC Hydro system, with virtually a zero GHG emission footprint, versus natural gas-fired generation which, although being deemed "clean", produces greenhouse gases. The IRP should recognize that a diverse supply mix of technologies, separated geographically, will deliver more value and present a lower risk to ratepayers than solely planning for a single, large project funded by ratepayers and taxpayers alike. Clean and competitive wind energy is in the best interest of BC Hydro, its ratepayers, and the development of British Columbia's natural resources, and will help the BC Government fulfill its objectives for managing climate change, building jobs and ensuring First Nations participation.
- **Competitive:** Large-scale wind energy can and will compete with BC Hydro's Site C dam and other supply resources on price, value and risk. When the environmental attributes of wind energy and emissions of natural gas-fired generation are fully accounted for, large-scale wind

energy offers a reasonable alternative to natural gas-fired generation for LNG projects and permits not only the LNG projects, but also British Columbia, to achieve their environmental impact goals and to maintain social license.

- **Public/Private Partnerships:** BC Hydro's system has been paid for by ratepayers and taxpayers and should be considered a "public good". If the system can support additional competitive sources of power generation, Government should look to BC Hydro to facilitate and enable such sources which provide value to ratepayers and taxpayers. BC Hydro should encourage full use of existing publicly funded infrastructure, and facilitate and enable market arrangements between LNG and wind energy projects. There are strong examples of very successful public-private partnerships in British Columbia, and BC Hydro should be encouraged to facilitate market-based solutions (through transmission services) to make it easy for clean and competitive wind energy projects to serve new load.
- **Integration:** British Columbia is blessed with many options to acquire and store incremental power. In a portfolio such as BC Hydro's, wind generation, with BC Hydro's cooperation, can be made "firm". Wind in a portfolio is a viable supply source for loads (such as upstream and downstream LNG) requiring dependable supply.
- **Sharing LNG Benefits:** The Province should consider the benefits of distributing the wealth generated by upstream and downstream LNG development to other areas of the province less endowed with natural resources and opportunities. Procurement of clean and competitive wind energy by BC Hydro not only provides an opportunity for BC Hydro to optimize its system but also returns incremental economic multiples to the Province. By advancing competitive wind energy developments close to load, economic gains can be geographically dispersed throughout the Province.

### **Conserve First**

*Please provide your level of support for BC Hydro's recommended action: to support 'conserve first' by maintaining BC Hydro's demand-side management measures at the same level going forward as has been undertaken in recent years, and preparing to increase these measures as load increases. BC Hydro is relying on all three customer classes to undertake demand-side activities and meet our 7,800 gigawatt hour target in fiscal 2021.*

### **WE NEITHER AGREE NOR DISAGREE**

*Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on conserving first.*

- **Conserving Resources:** BC Hydro's system is an investment made by ratepayers and taxpayers, and should be considered a "public good". Where the system can offer a return to ratepayers and taxpayers by supporting additional competitive sources of power generation, then

BC Hydro should facilitate and enable such sources to come on-stream. BC Hydro's conservation objective should be expanded to include fullest use of existing infrastructure (lessening the timing, financial burden and risks of building new infrastructure) and to consider transmission losses associated with moving power for long distances from source to load. Clean and competitive wind energy close to load offers BC Hydro an opportunity to reduce costs and increase system efficiencies.

- **Conservation Target Contingency:** The IRP sets very aggressive goals for energy conservation and demand side management. While we applaud such ambitious targets, BC Hydro should commit to procure clean and competitive wind energy as a contingency where these conservation targets are not met and a supply gap needs to be filled.

### Powering Tomorrow

*Please provide your level of support for BC Hydro's recommended action: to 'power tomorrow' by building Site C, a proposed third dam and generating station on the Peace River, which would provide cost-effective, reliable and renewable electricity for generations.*

### **WE RESPECTFULLY DISAGREE**

*Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on powering tomorrow.*

- **Wind Goal:** Wind energy is materially under-represented in the BC Hydro current and proposed supply mix. The Government should encourage BC Hydro to take a portfolio approach to generation and, as has been done by most energy and power jurisdictions around North America and around the world (including regions similarly rich with hydro resources as BC, such as Quebec, Washington and Oregon) by setting a minimum target for wind energy. The IRP should be revised to include a goal that would see 17% of BC Hydro's total demand for electricity satisfied by wind energy by 2025, consistent with the Canadian Wind Energy Association's vision for BC.
- **Risk:** Privately-developed large-scale wind projects can be tailored to meet energy demand over time as they can be brought on-line incrementally, and do not have the same capital cost, construction and timing risks of large publicly-funded capital projects such as BC Hydro's Site C dam. Construction of the Site C dam is being proposed during the same period that will see numerous other mega projects (e.g. LNG plants, pipelines, Oil Sands projects) being developed. BC Hydro will be competing for people, equipment, material and supply chains. The risk of capital cost and timing overruns is significant for the Site C dam and that risk is not adequately reflected in the IRP and BC Hydro's support for the Site C dam.
- **Portfolio Value – Diverse Location and Technology Advancements:** Ratepayers benefit from decreased costs and reduced risks where BC Hydro maintains a diverse portfolio of generation

and transmission assets, which vary in technology and by geographic location. Large-scale wind energy can provide lower predictable rates to customers in the long-term compared to other alternatives available to BC Hydro. Ratepayers will be the beneficiaries of the significant technology advancements and increased efficiencies (taller towers and longer blades) that have been realized by the wind industry during the past several decades. The cost of wind energy continues to fall and is winning an increasingly larger market share in jurisdictions where it is allowed to compete with other technologies on an equal footing. The IRP should recognize clean and competitively priced wind energy in the supply mix that British Columbia proposes to rely on for "Powering Tomorrow".

- **Equal Consideration for All Options:** BC Hydro should expand its scope beyond the Site C dam and natural gas-fired power when planning for the needs of tomorrow's British Columbia. Power generated from clean and competitive wind energy can match that generated by the Site C dam on price and value (reduced GHG emissions, job creation, system efficiencies, and First Nations participation) without the associated risks (capital cost, construction and timing). Given the history of past success for public-private partnerships in the Province, British Columbia should test BC Hydro's assumptions on the Site C dam by opening a competitive and transparent process for alternative supply options.
- **Optimizing Existing Transmission System:** Developing large-scale wind energy close to load will delay and minimize the need for capital expenditures on new transmission. The IRP does not fully recognize the potential for optimizing the BC Hydro transmission system by analyzing the role that wind energy can play in ratepayers realizing the full benefits from their existing transmission system.
- **Market-Based Solutions:** When analyzing the possibility of increased electrification (including the electrification of oil and natural gas exploration, production, transportation and supply), the IRP should consider wind energy and should provide options for market-based, third-party sales within the Province. BC Hydro should be directed to actively facilitate market-based, creative solutions instead of focusing on Site C as the only viable option.

### **Managing Resources**

*Please provide your level of support for BC Hydro's recommended action: to 'manage resources' by managing the costs associated with BC Hydro's current energy portfolio of EPAs and selecting the most cost-effective plan to meet customers' needs within the context of the Clean Energy Act.*

### **WE RESPECTFULLY DISAGREE**

*Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on managing resources.*



- **Price, Value and Risk:** When determining how best to manage resources, BC Hydro's IRP should consider and distinguish value, price and risk. Decisions made solely on price ignore the other benefits (reduced GHG emissions, job creation, system efficiencies, and First Nations participation) and the reduced risks (capital cost, construction and timing) that can be realized from inclusion of clean and competitive wind energy in the future supply mix for British Columbia.
- **Message to Those Wanting to Invest in British Columbia:** Pulling back from renewables, and cancellation and delay of PPAs send a very negative message to renewable energy companies wanting to invest in British Columbia. Investment decision and development cycles required for wind energy typically have lead-times in the two to five year range, which when combined with the multi-year BC Hydro IRP cycle, represents nearly a decade before any new wind resources would have a chance in the province. Without a change to the IRP to encourage wind power, risk is high that investment will leave the province, migrating to other jurisdictions that provide greater development certainty.
- **Contract Award Process:** In order to avoid future issues where developers do not fulfill their contract obligations, BC Hydro should review its contract award process to strengthen criteria for screening projects and developers to verify experience, financial strength, and likelihood of success.

### Planning for the Unexpected

*Please provide your level of support for BC Hydro's recommended contingency plans that: continue to advance capacity resource options, including advancing the Revelstoke Generating Station Unit 6 Resource Smart Project; the GM Shrum Generating Station Resource Smart project; and working with industry to explore natural gas supply options.*

### **WE RESPECTFULLY DISAGREE**

*Please indicate the reasons for your level of agreement and/or provide additional comments on the complete set of recommended actions on planning for the unexpected (contingency plans).*

- **Short Lead Time for Wind Generation:** In BC Hydro's contingency planning, clean and competitive wind energy should be considered as an opportunity to bring on large-scale supply quickly and more rapidly than other options outlined in the IRP.
- **Uncertainty - Wind is Part of the Solution:** Despite the significant uncertainty in British Columbia's future supply/demand mix (risks with upstream and downstream LNG growth, efficacy of conservation and the cost and timing of the Site C dam), clean and competitive wind energy should be included in the IRP as an option for "Planning for the Unexpected". Wind energy should be considered in British Columbia's supply mix, as a competitive, non-GHG emitting resource that can be brought to market relatively quickly to fill unexpected supply gaps.

- **Procurement Process:** The competitive procurement process for acquiring power for the unexpected should be expanded to include clean and competitive wind energy and should be broadened to consider a range of criteria, including price, value (reduced GHG emissions, job creation, system efficiencies, and First Nations participation) and risk (capital cost, construction and timing).

### General Comments

*Please provide any additional comments you have on the IRP and the set of recommended actions.*

Where:

- The recommended actions in the IRP, by significantly reducing the role that wind energy can play in the future supply mix, do not reflect the importance of meeting the targets set by the Province for GHG emissions, and ... the government's stated objectives "... to create the environmentally cleanest LNG that has ever been produced anywhere on the globe"; and
- World class, large-scale wind projects can compete with other future supply options (including Site C) on price, value and risk,

the IRP should be amended to include competitively priced wind energy as an option for supplying future demand. The IRP should make wind energy an integral part of British Columbia's future supply portfolio by setting a goal of 17% of BC Hydro's total demand for electricity to be provided by clean and competitive wind energy by 2025. BC Hydro should be instructed to evaluate options considering price, value and risk to the Province, ratepayers and taxpayers. Value and reduced risk from world-class, large-scale wind energy projects originates from:

- Non-GHG competitive generation with price certainty;
- Opportunities for First Nations participation;
- Jobs, and investment;
- Broad distribution and sharing of benefits from resource development across BC;
- Experienced partners with the financial strength to assure project success;
- Utilizing existing infrastructure and capturing system efficiencies;
- Delaying the need for public expenditures on new transmission infrastructure; and
- Diversifying technology risk and geography concentration within BC Hydro's portfolio.



October 18, 2013

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Attention: Integrated Resource Planning Team

Re: Draft Integrated Resource Plan, August 2013

#### DISCUSSION & COMMENTS

Western Tidal Holdings Ltd. ("WTH") is a private, independent renewable energy development company whose principals represent over 150 years of collective natural gas storage and renewable energy development experience in the Canadian context. Specializing in early stage development and in advancing emerging technologies, the principals have founded special purpose enterprises that have gone on to permit and have under construction 684 MW of wind in Ontario across 7 projects, 108 MW of wind in Alberta and 5 MW of run of river in BC with additional solar and ocean projects in other jurisdictions in various stages of the development process.

Within the context of BC, WTH has identified tidal energy as a key worldwide emerging technology and has entered into site applications for investigative licenses to determine the resource capability of specific locations leading to the investment, construction and operation of tidal energy generation along the coastline of BC. Our business model focuses on prioritizing local job creation via the virtuous pathway of ground up, community based and First Nations supported projects. At WTH, we believe strongly that tidal energy holds the potential for the Province to capitalize on what might become its most reliable and politically acceptable source of clean energy with no unreliable feedstock requirement(s) and providing a power source nearest to population centers and coastal industries connected to the transmission and distribution grid. Tidal generation also offers diesel displacement opportunities in remote locations along coastal waterways. Worldwide, small tidal arrays have now been demonstrated to have inconsequential impact on marine wildlife. (see "Environmental Effects of Marine Energy Development around the World, Annex IV Final Report January 2013") prepared by Pacific North West National Laboratory).



In section 3.4.1.12 and 3.7.2 , we are disappointed with the dismissal of tidal energy as not viable within the 20 year time horizon of the planning process. Surely such a blanket dismissal is inappropriate and indicates both a reluctance to think creatively and a failure to monitor the pace of recent developments in the marine sector nearing commercialization within the early stages of the 20 year timing horizons of the IRP.

In our view, long term planning processes and incentives should always find the means to encourage the continuing evolution and turnover of new generation technologies which this planning document fails to address in sufficient detail.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Robert Savard", is written over a light blue rectangular background.

Robert Savard  
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October 18, 2013

British Columbia Hydro and Power Authority  
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Via e-mail: [integrated.resource.planning@bchydro.com](mailto:integrated.resource.planning@bchydro.com)

**Re: Commentary on BC Hydro draft 2013 Integrated Resource Plan**

To whom it may concern;

wpc Mountain Wind, wpc Canada Corporation subsidiary, appreciates the opportunity to respond to the BCHydro Integrated Resource Management Plan (IRP). Our company has over 2 GW in operation and 20 GW in development and/or planned. We are the largest wind power developer in Germany and have successful projects in 21 countries, including 6 projects under the FIT program in Ontario.

Building on our successes in Ontario, we have begun investigations in British Columbia. The reason is that the province has a world class wind resource, and wind power wonderfully compliments BCHydro's extensive legacy hydro electricity generation network. Another factor that attracted wpc to BC is the potential demand for renewable energy to support industrial development, i.e., from natural resource extraction to high tech, and along with it population growth.

To date, the successful growth of the province's industrial sector is attributed to the fact that industry and commerce has had access to reliable and low cost electricity. This is thanks to the insightful vision of Premier WAC Bennett. As indicated in the BCHydro IRP, future electricity demands can be met by the proposed strategies, including Demand Side Management and the construction of the Site C Dam. We do respect BCHydro's position, however, we would encourage that this position be revisited, because as identified in the CanWEA response, there are numerous assumptions that may pose a risk not only to BC Hydro's ability to meet future demand, but to the future economic development of the province.

Based on our experience in working with utilities around the world, wpc does see wind power as an opportunity to offset some of the potential risks to supporting the future electricity needs

of the province. The advantage to wind power is that it can be vetted and developed in a shorter time-frame and at a lower cost than most power generation methods, meeting near-term demand shortfalls. Also, wind power has a relatively low impact on the environment, and is well supported by rural and First Nations communities. This is augmented by the fact that wind power projects are consistent with BC Government's strategies to:

- reduce carbon emissions,
- have the cleanest LNG plants in the world, and
- create jobs and develop skills in rural communities.

Companies like wpd provide the opportunity to support a distributed power generation system across the province that compliments hydro, enabling load balancing and electricity security. This can be achieved at no risk to the rate payer; the developer assumes that risk, and the utility, industry, and public benefit. Cost and time over-runs are shouldered by the developer, not the rate payer.

Through wind power development, wpd plans to invest millions of dollars into BC communities, supporting jobs and economic development. We look forward to working with BCHydro to secure the province's future electricity needs, thereby supporting industrial growth and the people of BC.

Kind regards,  
Hally Hofmeyr



Hally Hofmeyr  
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