

Integrated Resource Plan

Chapter 7

Consultation

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1 This chapter provides a description of the consultations carried out by BC Hydro with
2 respect to the development of the Integrated Resource Plan (**IRP**), a summary of
3 consultation input received, and BC Hydro's response to the consultation input
4 ([Table 7-2](#) and [Table 7-3](#)).

5 **7.1 Overview of IRP Consultation**

6 Consultation on the IRP occurred in four broad phases. These phases, described
7 below, include: Foundations for Integrated Resource Planning, Input into the
8 Development of the IRP; Feedback on the May 2012 Draft IRP; and Written
9 Comments on the August 2013 IRP.

10 *Foundations for Integrated Resource Planning – Gathering Key Technical Inputs*

11 In the initial phase of developing the IRP, BC Hydro focused on gathering key
12 technical inputs to the planning process and updating its inventory of potential
13 energy sources. BC Hydro engaged technical experts in seeking information on its
14 resource options data. BC Hydro also sought input from stakeholders and First
15 Nations on the design of the consultation process. During this phase, BC Hydro
16 established a Technical Advisory Committee (**TAC**) to provide detailed technical
17 input and to assist BC Hydro in creating a thorough and well-considered IRP.
18 Section [7.2](#) provides a high-level description and summary of the outcomes of this
19 phase.

20 *Input into the Development of the IRP*

21 In March and April 2011, BC Hydro gathered First Nations, public and stakeholder
22 input into the development of the IRP prior to the development of a first draft plan.
23 This involved input on five key planning topics: potential future Demand Side
24 Management (**DSM**) options (i.e., conservation and efficiency options), electricity
25 generation options (including Site C), electrification, planning transmission and
26 export market potential. Two additional topics were covered with First Nations:
27 consultation process and opportunities for First Nations and rural communities'

1 involvement in clean energy development. Section [7.3](#) provides a high-level
2 summary of the outcomes from this phase of consultation and technical
3 engagement.

4 *Feedback on the May 2012 Draft IRP*

5 Subsequent to the consultation in spring 2011, the B.C. Government amended the
6 date by which the IRP was to be submitted from December 2011 to December 2012
7 to allow adequate time to consider amendments to the self-sufficiency policy, which
8 in turn informs the IRP. With new direction on self-sufficiency released on
9 February 3, 2012 in the form of amendments to the Electricity Self-Sufficiency
10 Regulation, BC Hydro completed its analysis, considered consultation input into the
11 development of the draft plan, and prepared a draft IRP. During the consultation
12 phase from May 28 to August 13, 2012, BC Hydro sought feedback on the draft IRP
13 from First Nations, public, stakeholders and TAC members. Section [7.4](#) provides a
14 high-level summary of the outcomes from this phase of consultation.

15 In November 2012, the BC Government announced its intention to extend the IRP
16 submission deadline from December 2, 2012 to August 3, 2013, to allow more time
17 to assess and determine the future electricity requirements of the liquefied natural
18 gas (**LNG**) industry.

19 BC Hydro updated its Load-Resource Balance (**LRB**) based on the December 2012
20 Load Forecast, and additional information regarding expected electricity from
21 existing resources and the future requirements of the LNG industry. The updated
22 outlook adjusted the need for new resources, which resulted in BC Hydro altering
23 some IRP recommended actions.

24 *Written Comment Period on the August 2013 IRP*

25 The IRP was submitted to the B.C. Government on August 2, 2013. In a letter dated
26 August 23, 2013, the Minister of Energy and Mines (**Minister**) instructed BC Hydro
27 to conduct a final round of written consultation related to the IRP by

1 October 18, 2013 before re-submitting the IRP to the B.C. Government by
2 November 15, 2013. In the letter, the Minister noted that “while the consultations
3 should cover the IRP in its entirety, of particular interest is feedback on the changes
4 to the IRP since BC Hydro undertook consultations in spring and summer 2012, and
5 on uncertainty over the 20-year period and the contingency plans BC Hydro is
6 proposing to deal with that uncertainty.”

7 From September 3 to October 18, BC Hydro invited written feedback from the public,
8 stakeholders and First Nations. Comments collected during this period were
9 considered as BC Hydro prepared the IRP for submission to the B.C. Government
10 for approval by November 15, 2013. Section [7.5](#) provides a high-level summary of
11 the outcomes from this consultation.

12 *Consideration of Input*

13 Following each round of consultation, BC Hydro considered the input it received
14 from all three streams of consultation along with other technical, financial,
15 environmental and economic development inputs as it moved into the next stage of
16 either drafting, or finalizing the IRP. A description of the results of this consideration
17 is found in section [7.6](#).

18 [Table 7-1](#) lists the consultation documents that were created during the development
19 of the IRP. These documents describe the consultation processes and outcomes
20 summarized in this chapter and are found in the IRP Appendices, as well as on the
21 BC Hydro website at www.bchydro.com/irp.

1

Table 7-1 List of IRP Consultation Documents

IRP Consultation Documents	Appendix
Terms of Reference	
Public and Stakeholder Terms of Reference (updated May 1, 2012)	Appendix 7A
Technical Advisory Committee – Terms of Reference (updated February 29, 2012)	Appendix 7B
Fall 2010	
2010 Resource Options Update Consultation Report (February 2011)	Appendix 3A-2
Spring 2011	
IRP Public and Stakeholder Consultation: Summary Report (Input Received March 1 to April 30, 2011) (May 2011)	Appendix 7C-1
· Appendices (May 2011)	Appendix 7C-2
IRP First Nations Consultation: Interim Report (May 25, 2011)	Appendix 7D
IRP Technical Advisory Committee Consultation: Submissions (Submissions Received on Consultation Topics, May 2011)	Appendix 7E
Spring/Summer 2012	
IRP Public and Stakeholder Consultation: Summary Report (Input Received May 28 to July 6, 2012) (August 2012)	Appendix 7F
IRP First Nations Consultation Report (September 26, 2012)	Appendix 7G
IRP Technical Advisory Committee Consultation: Submissions (Submissions Received on Consultation Topics, August 2012) (August 2012)	Appendix 7H
Summer/Fall 2013	
IRP Public and Stakeholder Consultation – Summary Report 2013 Report (Input Received from September 3 to October 18, 2013) (November 2013)	Appendix 7I
IRP First Nations Consultation Report (November 2013)	Appendix 7J
IRP Technical Advisory Committee - Written Submissions (Written Submissions on Consultation Topics 2013) (November 2013)	Appendix 7K

2 **7.2 Consultation Process Design and Description**

3 BC Hydro’s IRP consultation had three streams: a First Nations consultation stream,
 4 a public and stakeholder stream, and a technical stream (including the TAC). The
 5 consultation process designed for each stream is described in this section.

6 [Figure 7-1](#) illustrates the consultation process and streams in relation to the timing
 7 and phases of plan development.

1

Figure 7-1 Consultation Process Diagram



△- Technical Advisory Committee meeting

2

7.2.1 Public and Stakeholder Consultation Process Design and Description

3

4

As an input to the design of the public and stakeholder consultation process, BC Hydro held eight meetings with representatives from 19 different associations and groups to seek input into the process design. Specifically, these meetings helped to:

5

6

7

8

- Provide stakeholders with some initial ideas of how BC Hydro may engage them on the IRP

9

10

- Understand from stakeholders what they would like to be consulted on and how they would most like to be consulted going forward

11

12

- Ensure that the consultation process for the IRP would meet stakeholder expectations and needs

13

14

Key themes from the discussions were:

15

- **Transparency:** Stakeholders asked that the process for developing the IRP be transparent and documentation be made publicly available

16

17

- **Environmental Footprint:** Some stakeholders expressed interest in having cumulative effects and regional land use planning addressed in the IRP

18

-
- 1 · **Export Strategy:** Stakeholders were interested in how BC Hydro would
2 develop an export strategy
 - 3 · **Transmission:** Some stakeholders expressed an interest in how transmission
4 could support exports
 - 5 · **TAC:** Stakeholder support was expressed for the creation of a technical
6 committee to discuss the IRP at a detailed, technical level
 - 7 · **Electrification:** Stakeholders were interested in how electrification would be
8 addressed in the IRP
 - 9 · **DSM:** Stakeholders were interested in DSM options and scenario analysis
 - 10 · **Rates:** A request was made that the long-term rate forecast be available for
11 review.

12 Following the initial meetings with representatives from stakeholder groups,
13 BC Hydro sought input on the proposed public and stakeholder consultation process
14 and associated topics through a feedback form. The form was emailed to over
15 230 individuals across the Province and 28 responses were received. Key themes
16 from the consultation feedback forms included:

- 17 · **Consultation Topics:** Participants showed a strong interest in all five proposed
18 IRP topics (conservation and efficiency, electricity generation options,
19 electrification, transmission planning and export market potential), with
20 electricity generation options receiving the most interest
- 21 · **IRP Updates:** Stakeholders wanted to receive updates on the IRP consultation
22 process through either email or the website
- 23 · **Consultation Methods:** Stakeholders supported a number of methods of
24 consultation, including online ways to provide feedback, face-to-face
25 stakeholder meetings and public open houses. Several participants expressed
26 the desire to have the opportunity to participate in webinars.

1 In designing the IRP consultation process, BC Hydro considered best practices. For
2 example, it strove to provide stakeholders with opportunities to influence the design
3 of the consultation process, ensure the public was made aware of opportunities to
4 participate in consultation, and ensure materials were made available that would
5 encourage public understanding. In addition, it strove to ensure consultation was
6 only conducted on those topics where decisions could benefit from public input, and
7 input was used effectively to improve decisions. The process attempted to ensure a
8 range of consultation methods were used to maximize opportunities for participation.
9 Consultation summary reports were developed to provide participants, the public
10 and decision-makers with an analysis of the input received.

11 Details of BC Hydro's IRP public and stakeholder consultation process are outlined
12 in the Consultation Terms of Reference document included in Appendix 7A. They
13 include a description of the consultation process objectives, methods, approach to
14 reporting, and how input was to be used. Further details regarding stakeholder
15 feedback on IRP consultation design and feedback on the draft public and
16 stakeholder consultation plan is found at www.bchydro.com/irp.

17 Subsequent consultation activities included three rounds of consultation, one in
18 spring 2011, which collected input into the development of the IRP, another in the
19 spring/summer 2012, which collected feedback on the May 2012 Draft IRP and a
20 final round in fall 2013, which collected written comments on the IRP.

21 The spring 2011 consultation round involved 14 regional multi-stakeholder meetings,
22 12 public open houses, one webinar and a print and online Consultation Workbook
23 and feedback form. Notice of opportunities to participate in consultation was
24 provided through a news release, newspaper advertising, radio ads, BC Hydro bill
25 insert, phone calls, emails, social media (Twitter), and the BC Hydro website.

26 The spring/summer 2012 consultation round involved 13 regional multi-stakeholder
27 meetings, five public open houses, two webinars and a print and online discussion
28 guide and feedback form. Notice of opportunities to participate in consultation was

1 provided through a news release, newspaper advertising, BC Hydro bill insert,
2 customer e-newsletter, phone calls, emails, the BC Hydro website, social media
3 (Twitter) and the BC Hydro employee intranet.

4 As per direction from the Minister, the final round of consultation focused on seeking
5 written comments on the August 2013 IRP from the public and stakeholders
6 between September 3 and October 18, 2013. Feedback was sought via an online
7 written comment form and written submission. The IRP, submitted to government on
8 August 2, 2013, and summary document were made publicly available on
9 BC Hydro's website on August 23, 2013. Stakeholders were notified by email and
10 customers were notified through BC Hydro's customer e-newsletter.

11 **7.2.2 First Nations Consultation Process Design and Description**

12 BC Hydro invited B.C.'s First Nations, Tribal Councils, and First Nations
13 organizations to participate in the development of the IRP through a province-wide
14 consultation process. BC Hydro also invited the BC First Nations Energy and Mining
15 Council (**BCFNEMC**) to participate in consultation on the development of the IRP.
16 The BCFNEMC has been formally mandated to guide the BC First Nations Energy
17 Action Plan (2007) by three First Nations provincial political organizations: the Union
18 of BC Indian Chiefs, the BC Assembly of First Nations, and the First Nations
19 Summit.

20 BC Hydro invited 15 First Nations and First Nations organizations from around the
21 province to attend a workshop in Vancouver on September 24, 2010, to seek their
22 input and advice on the design of the consultation process. Seven participants
23 attended the workshop where BC Hydro provided background information on the
24 IRP and outlined a proposed approach to consulting with First Nations on the IRP.
25 The input and advice received included:

- 26 · Increase the number of regional workshops from five to eight or nine, and
27 increase the amount of participant funding to attend workshops

-
- 1 · Provide First Nations with immediate notice of the development of the IRP and
 - 2 hold a round of regional workshops in the fall of 2010 on the approach to
 - 3 consultation and on the resource options update
 - 4 · Integrate the input and concerns raised in the public and First Nations
 - 5 consultation streams
 - 6 · Prepare First Nations for informed discussion of the IRP in advance of the
 - 7 regional workshops
 - 8 · Provide a non-technical explanation of what the IRP is and what it is not
 - 9 · Fund technical advisors trusted by First Nations for the duration of the
 - 10 development of the IRP
 - 11 · Fund the BCFNEMC to coordinate with communities on the development of the
 - 12 IRP
 - 13 · Provide opportunities to access financial resources at both the umbrella
 - 14 organization and community level and provide funding to individual First
 - 15 Nations to conduct their own studies or hire their own technical experts in
 - 16 connection with the development of the IRP
 - 17 · Hold political level meetings involving First Nations and the B.C. Government
 - 18 · Consider measures to assist in building relationships

19 In developing its approach to consultation, BC Hydro considered the input and
20 advice received, along with other factors, including the scope and purpose of an
21 IRP, any legal requirements for First Nations consultation, the timelines associated
22 with legislated requirements to submit the IRP to the B.C. Government, and the cost
23 to BC Hydro's ratepayers. For example, First Nations were advised that BC Hydro's
24 IRP does not, by itself, commit BC Hydro to any specific capital project.
25 Implementation of the IRP Recommended Actions requires subsequent government

1 agency and/or regulatory approvals, and will be the subject of consultation
2 requirements; refer to Chapter 9.

3 All B.C.-based First Nations were notified by BC Hydro about the development of the
4 IRP. Opportunities to provide input into the development of and to provide feedback
5 on a draft IRP occurred via two rounds of regional workshops in March 2011 and
6 June/July 2012 and a final round of consultation in summer/early fall of 2013, which
7 involved written comments.

8 Between January and April 2011, BC Hydro's consultation activities on the IRP were
9 focused on sharing information on the planning process and receiving input from
10 B.C. First Nations on the development of the Draft IRP, which centred around six
11 planning topics – the five topics used in all consultation streams, as well as an
12 additional topic relating to the development of clean and renewable energy in First
13 Nations communities.

14 From May 2012, when the draft was first made available, until August 2012, the
15 focus of BC Hydro's consultation activities were again to share information on the
16 planning process, including important updates since 2011, as well as to seek First
17 Nations' feedback on the draft recommended actions.

18 Prior to the regional workshops in 2011 and 2012, "pre-reading" material was
19 enclosed with the notification letters to First Nations to enable more informed
20 discussion at the regional workshops, as per input and advice received from First
21 Nations during a consultation design workshop in September 2010. Participants in
22 the workshops were offered funding and reimbursement of travel expenses for their
23 attendance at these workshops. There was also an opportunity for First Nations to
24 provide written comments following both rounds of workshops. First Nations were
25 also invited to participate in the public and stakeholder consultation stream during
26 the first two rounds of consultation

1 The final consultation round in summer/early fall 2013 focused on seeking written
2 comments on the IRP submitted to the B.C. Government on August 2, 2013. On
3 August 29, 2013 BC Hydro sent a letter to First Nations seeking written comment on
4 BC Hydro's IRP during the period from September 3 to October 18, 2013. The letter
5 was faxed, mailed and emailed to those First Nations for which BC Hydro had an
6 organizational email address. While the consultation covered the IRP in its entirety,
7 BC Hydro indicated that of particular interest to the Minister was feedback on
8 aspects of the IRP that have changed since the May 2012 draft IRP and on
9 BC Hydro's contingency plans to deal with uncertainty over the 20-year planning
10 horizon. In the letter BC Hydro directed First Nations to the BC Hydro website where
11 the IRP was posted. Enclosed with the mail-out was a First Nations Comment Form,
12 a summary of the IRP and [Table 7-2](#) of the IRP which provides a description of the
13 changes in the recommended actions from those contained in the May 2012 Draft
14 IRP, a summary of input from each of the two previous rounds of consultation and
15 BC Hydro's response to the input received to date.

16 In addition, BC Hydro provided capacity funding for the BCFNEMC to participate in
17 all three rounds of consultation and to participate in the TAC, which is part of the
18 technical consultation stream. The BCFNEMC submitted two reports as a result of
19 its participation in the regional workshops and a further report during the final round
20 of consultation containing comments on process and policy related to the IRP. The
21 BCFNEMC also submitted three reports as a result of its participation in the TAC
22 during each round of consultation.

23 The technical consultation stream, which involved a 2010 Resource Options Report
24 (**ROR**) Update process, also involved three of 10 First Nations invitees, who
25 attended the launch workshop for the ROR Update on September 14, 2010, and
26 three who attended the workshop presentation of the draft results from the ROR
27 Update on December 8, 2010. A representative from the BCFNEMC attended both
28 the September and December workshops. Participant funding and reimbursement of
29 travel expenses were offered to those involved in the ROR Update process.

1 **7.2.3 Technical Consultation Process Design and Description**

2 The technical stream focused on seeking input of a technical nature to improve the
3 overall quality of the plan. Participants were required to have specific technical
4 knowledge and information. The technical stream consisted of two parts:

- 5 · Detailed engagement on the technical aspects of British Columbia's resource
6 options (section [7.2.3.1](#))
- 7 · The formation of an IRP TAC to assist in preparing a thorough and well
8 considered plan (section [7.2.3.2](#))

9 **7.2.3.1 Resource Options Update (ROU) Consultation Process**

10 The 2010 ROU consultation process invited people with technical expertise and
11 information on the supply-side and demand-side resource options in B.C to
12 participate. The objectives of the 2010 ROU consultation process were to:

- 13 · Promote mutual understanding of the resource options data and continue to
14 foster constructive working relationships
- 15 · Seek input on the methodology used to update the resource options data and
16 attributes, where appropriate
- 17 · Seek input to accurately reflect resource option potential in the B.C. provincial
18 context

19 Engagement on individual resource options was launched at a workshop on
20 September 14, 2010, at which the scope and timing of the 2010 ROU was
21 described, amongst other topics. During the workshop, resource-specific break-out
22 sessions were held to introduce the proposed scope of updates. Participants then
23 had the opportunity to sign up and further participate in resource-specific
24 discussions. Resource-specific engagement sessions were scheduled by
25 BC Hydro's resource options task leads to review technical studies with interested
26 participants and BC Hydro consultants. A report-out session was held on

1 December 8, 2010, during which participants were presented with the preliminary
2 results on the draft Resource Options Report and written comments were requested
3 by December 31, 2010. A detailed 2010 ROU consultation report is included in
4 Appendix 3A-2 and is also found at www.bchydro.com/irp.

5 **7.2.3.2 IRP Technical Advisory Committee (TAC) Design**

6 The IRP TAC was created to seek ongoing, detailed, technical advice and feedback
7 from a group of knowledgeable stakeholders with significant interest, stake and
8 experience in BC Hydro's resource planning to ensure a thorough and well
9 considered plan. The Terms of Reference for the IRP TAC is included in
10 Appendix 8B.

11 The TAC, which was struck in December 2010, had a mandate to:

- 12 · Build a common understanding of the inputs, methodologies and analysis
13 associated with the IRP planning process
- 14 · Provide advice on how the IRP could respond to the 16 *Clean Energy Act*
15 (**CEA**) energy objectives
- 16 · Identify potential information gaps
- 17 · Identify potential process and policy gaps and constraints

18 Members were chosen based on:

- 19 · Their representation of an organization with a significant, province-wide, and
20 policy-focused interest and stake in the IRP
- 21 · Their broad (rather than specific) interest and stake in the IRP
- 22 · The individuals, and the organization(s) they represent, having an in-depth
23 understanding of BC Hydro's resource and electricity planning process, usually
24 demonstrated by their involvement in British Columbia Utilities Commission
25 (**BCUC**) regulatory processes

1 The organizations represented on the TAC are listed below:

- 2 · Association of Major Power Consumers (**AMPC**), representing BC Hydro's
3 industrial ratepayers
- 4 · BCUC staff
- 5 · BC Hydro (chair)
- 6 · BC Hydro (moderator)
- 7 · BC Sustainable Energy Association (**BCSEA**), representing BC Hydro's
8 environmentally-minded ratepayers
- 9 · Canadian Office & Professional Employees Union 378 (**COPE**), which
10 represents some BC Hydro employees
- 11 · Clean Energy Association of B.C. (**CEBC**), advocates for Independent Power
12 Producers (**IPPs**)
- 13 · Commercial Energy Consumers Association (**CECBC**), representing
14 BC Hydro's commercial ratepayers
- 15 · First Nations representative
- 16 · BC First Nations Energy and Mining Council (**BCFNEMC**)
- 17 · B.C. Ministry of Energy and Mines staff
- 18 · Pembina Institute, an organization which among other things advances clean
19 energy solutions
- 20 · FortisBC Inc.
- 21 · BC Pensioners' and Seniors' Organization (**BCPSO**), representing low and
22 fixed income residential ratepayers. BCPSO joined for the review of the
23 August 2013 IRP

1 The TAC met seven times in developing the IRP:

- 2 · **December 14, 2010:** Primary topics included the TAC terms of reference, the
3 load forecast, and the energy and capacity LRBs
- 4 · **January 27 and 28, 2011:** Primary topics included the risk framework, market
5 forecasts (greenhouse gases (**GHG**)), electricity spot market, renewable energy
6 credits (**RECs**) and natural gas price forecasts), DSM options, environmental
7 and economic development attributes and portfolio analysis
- 8 · **February 14, 2011:** Primary topics included the portfolio analysis and portfolio
9 comparisons, Horn River Basin and Fort Nelson planning issues, and further
10 feedback from the January 27 and 28 meetings
- 11 · **April 5 and 6, 2011:** Primary topics focused on preliminary portfolio analysis
12 results regarding DSM, the role of natural gas-fired generation, capacity
13 analysis and resource acquisition analysis
- 14 · **February 28 and 29, 2012:** Primary topics focused on portfolio analysis results
15 for the following – the appropriate DSM and IPP mix, Site C, acquisitions,
16 grown in northeastern B.C., LNG, electrification, export, transmission/clusters
17 and short and long-term capacity needs
- 18 · **June 18, 2012:** Primary focus was an introduction to the draft IRP
- 19 · **September 23, 2013:** Primary focus was an introduction to the IRP

20 During the development of the IRP, the TAC provided ongoing feedback to
21 BC Hydro regarding IRP planning assumptions and analysis. This input was
22 considered on an ongoing basis by BC Hydro's planning team, and a summary of
23 this input and consideration, along with presentation materials for all meetings, can
24 be found at www.bchydro.com/irp.

25 At three junctures during the consultation process, TAC members were asked to
26 provide attributed, written comments in parallel with First Nations, the public and

1 stakeholders. In March/April 2011, TAC members were asked for written input on the
2 consultation topics, so that it could be considered along with input gathered from
3 First Nations and the public and stakeholders. In spring/summer 2012, TAC
4 members were asked for written feedback on the draft IRP, again to be considered
5 along with the feedback received from First Nations, the public and stakeholders.
6 Finally, in summer/fall 2013, TAC members were asked for written feedback on the
7 IRP, to be considered along with feedback received from First Nations, the public
8 and stakeholders.

9 **7.3 Summary of Input Into Development of the IRP:** 10 **Spring 2011**

11 The consultation that occurred in spring 2011 was designed to seek input into the
12 development of the IRP before it was first drafted, with a focus on the consultation
13 topics: conservation and efficiency, electricity generation options, electrification,
14 transmission planning and export market potential.

15 Note that the views represented in this chapter reflect the priorities and concerns of
16 the public, stakeholders and First Nations who participated in consultation at that
17 time. They may not be representative of the views of others, because participants
18 self-selected into the process.

19 **7.3.1 Summary of Public and Stakeholder Input into Development of the** 20 **IRP**

21 During the spring 2011 public and stakeholder consultation process, more than
22 700 people attended 14 stakeholder meetings, 12 open houses or participated in a
23 webinar. Participants completed 400 feedback forms and 51 written submissions
24 from which these highlights are taken. The complete BC Hydro Integrated Resource
25 Plan Public and Stakeholder Consultation Summary Report, May 2011, can be
26 found in Appendix 7C and also at <http://www.bchydro.com/irp>.

27 **Conservation and Efficiency:** BC Hydro asked participants to provide input
28 regarding the current commitment to conservation and a more-ambitious approach

1 that would require expanding BC Hydro's DSM programs, setting aggressive
2 conservation rates, and requesting that the provincial and federal governments bring
3 in new conservation codes and standards. A strong majority (75 per cent) of
4 participants agreed with the "Greater Conservation and Efficiency" approach to
5 meeting future demand for electricity in B.C. Support for the approach was mainly
6 attributed to BC Hydro's focus on conservation, energy efficiency, and alternative
7 forms of power generation. Some stakeholder meeting participants suggested that
8 more education and greater incentives are required to encourage energy
9 conservation. A few stakeholders cautioned BC Hydro against encouraging too
10 many codes and standards, preferring that BC Hydro provide greater incentives. A
11 few stakeholders expressed concerns about greater conservation and efficiency, as
12 they believe it puts a disproportionately higher burden on rural communities.

13 **Electricity Generation Options:** To seek feedback on the future generation
14 resource mix, BC Hydro offered participants three example portfolios that could meet
15 the anticipated increase in demand:

- 16 · **Example Portfolio 1:** Renewable Mix - This portfolio included clean or
17 renewable resources such as wind, run-of-river and biomass from IPPs, but
18 specifically excluded Site C
- 19 · **Example Portfolio 2:** Renewable Mix with Site C - This portfolio included
20 renewable resources as described in Portfolio 1 plus Site C
- 21 · **Example Portfolio 3:** Renewable Mix with Site C and Natural Gas-Fired
22 Generation - This portfolio included renewable resources as described in
23 Portfolio 1 and Site C, plus the natural gas-fired generation allowable within the
24 93 per cent clean or renewable electricity objective provided in the *CEA*

25 Portfolio 1, the example electricity generation portfolio which included all clean or
26 renewable power but excluded Site C, received the strongest public agreement via
27 feedback forms. Fifty-eight per cent agreed with this approach, while 30 per cent

1 disagreed. Respondents who supported the approach referenced alternative energy
2 sources, the perceived smaller environmental impact and the exclusion of Site C as
3 reasons. Those that opposed Portfolio 1, the renewable portfolio, referenced
4 concerns over run-of-river projects and IPPs more generally, the exclusion of Site C
5 and rate implications.

6 Portfolio 2, which was a mix of renewables, including Site C, received support from
7 50 per cent of participants, and was opposed by 40 per cent. Some stakeholders in
8 Fort St. John strongly opposed inclusion of Site C in any resource portfolio and
9 suggested that natural gas fired-generation could be a superior alternative, given its
10 abundance in the Peace River region and its perceived low cost relative to other
11 resources.

12 Portfolio 3, the example electricity generation portfolio which included natural
13 gas-fired generation, had the strongest public opposition on the feedback forms
14 (opposed by 66 per cent and supported by 25 per cent of respondents). The most
15 prevalent concern was natural gas-fired generation and its higher GHG emissions.

16 **Electrification:** BC Hydro presented participants with two approaches to
17 electrification: the current Responsive Approach and a Proactive Approach, which
18 would require BC Hydro to work with government and other partners to encourage
19 electrification (such as by converting gasoline powered automobiles to electrical).

20 Fifty eight per cent of consultation respondents agreed with the approach to actively
21 pursue electrification, compared to 29 per cent who disagreed. Those who agreed
22 indicated they did so because it would decrease GHG emissions, because they
23 supported a switch to electrification, and because they supported a proactive
24 approach. Those who did not support the approach expressed a range of reasons,
25 including the increased demand for electricity, the need for improvements to electric
26 car technology, and the need for government and industry responsibility for
27 electrification (not BC Hydro). Many stakeholder meeting participants had concerns
28 that a proactive approach to electrification could significantly increase demand for

1 energy, which would require a significant new supply of energy, such as large hydro,
2 wind, run-of-river, etc. Several stakeholders voiced concerns about the limitations of
3 electric cars in rural communities.

4 **Transmission Planning:** BC Hydro offered two transmission planning options: (1) a
5 Responsive Approach, in which BC Hydro develops transmission plans on a shorter
6 time horizon in response to need; or (2) a Proactive Approach, in which BC Hydro
7 develops 30-year transmission plans in anticipation of need.

8 About half of participants agreed with the proactive approach to planning
9 transmission, while just over one-quarter disagreed with it and about one-fifth neither
10 agreed nor disagreed. Support for the proactive approach stemmed from
11 opportunities to realize long-term savings, reduce environmental impacts and
12 promote economic development through proactive thinking. Concerns were raised
13 around the risks of investing based on uncertain forecasts. It was thought there is a
14 need to encourage more regional power generation, and that ratepayers should not
15 bear transmission costs for private enterprise. Some stakeholder meeting
16 participants expressed a desire for BC Hydro to consider offsetting transmission
17 costs by locating electricity generation closer to demand. A few participants
18 encouraged BC Hydro to consider increasing opportunities for communities to
19 partner in the ownership of electricity generation and transmission projects.

20 **Export Market Potential:** BC Hydro presented two export options: (1) the
21 Traditional Approach, in which BC Hydro exports surplus energy when the system
22 has excess water; and (2) a Clean Generation for the Purpose of Export Approach,
23 in which BC Hydro would aggregate renewable energy from IPPs for the sole
24 purpose of finding and filling long-term export contracts.

25 Opinion was divided between participants who agreed with the enhanced export
26 approach (44 per cent) and those who disagreed with it (48 per cent). Those who
27 agreed with this approach stated the value of economic benefits, although caution
28 was also expressed that economic benefits may not be enough to justify the

1 environmental and social impacts of new generation. Supporters of exports also
2 appreciated the ability to sell green electricity, and B.C.'s abundant supply of natural
3 resources. Those that opposed it expressed concern over the environmental impact,
4 the need to ensure electrical sustainability and opposition to IPP development. Many
5 stakeholder meeting participants supported clean electricity generation for the
6 purpose of export, provided BC Hydro is first able to meet domestic electricity
7 requirements.

8 **7.3.2 Summary of First Nations Consultation Input into Development of** 9 **the IRP**

10 BC Hydro held nine First Nations regional workshops in March 2011, involving
11 BC Hydro presentations on the IRP followed by discussions facilitated by a neutral
12 facilitator. The workshops were attended by 121 participants representing 78 First
13 Nations, Tribal Councils and First Nations organizations, including the BCFNEMC.
14 BC Hydro also received written comments from participants in the First Nations
15 workshops, as well as two reports from the BCFNEMC containing key comments
16 and recommendations arising from their participation in the regional workshops and
17 the TAC.

18 Presented below are summaries of the input received in 2011 on the five planning
19 topics: conservation and efficiency, electricity generation options, electrification,
20 transmission planning, and export market potential, and one First Nations-specific
21 topic, clean or renewable energy development in First Nations communities. A
22 summary of input received via the consultation process has also been included. For
23 further details on input received, see Appendix 7D.

24 **Conservation and Efficiency:** There was widespread support among First Nations
25 participants for greater conservation and efficiency. However, a concern over the
26 cost of conservation was a recurring theme. There was a concern that First Nations,
27 many of whom are economically disadvantaged and live in homes that are not
28 energy efficient, would be burdened with higher electricity rates and unaffordable

1 energy efficiency upgrades. There was also a perception among some participants
2 that business and industry are not doing their part to conserve, as well as a
3 perceived conflict between economic growth and conservation. Many participants
4 expressed concern about the environmental impact of certain conservation and
5 efficiency measures, such as the potential impact of hazardous waste disposal (e.g.,
6 batteries and compact fluorescent light bulbs).

7 Recommendations included more funding for energy efficient upgrades and financial
8 incentives for conservation and efficiency through programs such as Net Metering.
9 There was also significant interest in education and engagement with First Nations
10 communities, especially with First Nations youth, to build capacity to participate in
11 greater conservation and efficiency. The BCFNEMC recommended that there be
12 funding for First Nations community energy managers to support energy
13 conservation in First Nations communities.

14 **Electricity Generation Options:** In the first round of regional workshops, BC Hydro
15 presented three example portfolios to participants. The purpose of the example
16 portfolios was to illustrate in a non-technical fashion, the key trade-offs that arise
17 between broad electricity generation options and to seek First Nations' input in order
18 to understand their general perspectives on these types of portfolios. The level of
19 discussion on portfolios and specific resource options varied between workshops. At
20 some sessions First Nations participants provided comments on the specific
21 example portfolios, but in most cases the input received was directed to the topic of
22 electricity generation options in general. None of the example portfolios received
23 significant support from First Nations and there were many requests for more
24 information on portfolios before expressing a preference. Many participants were
25 reluctant to provide input on preferences relating to portfolios without more
26 information on how the IRP might affect their communities. There was interest in
27 taking a First Nations territory view of planning rather than a province-wide view and
28 more involvement in the planning process.

1 There was a significant concern about increasing electricity rates and the cumulative
2 environmental impacts of developing electricity generation. On the other hand, there
3 was significant interest in economic development opportunities for First Nations in
4 relation to energy development and the associated jobs and revenue.

5 The BCFNEMC commented that First Nations strongly support clean or renewable
6 energy development in part because of climate change. However, the BCFNEMC
7 stated that the cost of future development projects must be taken into account in
8 long-term planning and that a focus on conservation and sustainability can help
9 ensure that rising electricity prices do not become a burden on residents or a barrier
10 to other types of economic development.

11 There was an interest in seeing more resource options included in the portfolios,
12 including solar, geothermal, biomass, wave and tidal, and there was significant
13 interest in community-based energy projects. There was a general preference for
14 developing clean or renewable resources with the exception of Site C, which many
15 participants did not consider “clean”. The recurring themes from the input on Site C
16 were either opposition, or that the consent of the impacted First Nations is required
17 for the project to proceed.

18 **Electrification:** The input of First Nations participants regarding electrification
19 varied. There was both support and opposition to taking a proactive approach to
20 electrification while others commented that there was a “disconnect” between the
21 benefits of electrification and the concerns of First Nations communities, many of
22 which are economically disadvantaged, in rural areas and not connected to the
23 electricity grid. There was a perception among many participants that electrification
24 will benefit urban areas at the expense of rural First Nations communities. The
25 BCFNEMC recommended that extending BC Hydro grid service to remote
26 communities should be a priority of electrification.

27 Opposition to electrification was primarily due to a concern that it may lead to higher
28 electricity rates and greater environmental impact on land through more generation

1 and transmission projects. While supportive of actions that reduce GHG emissions,
2 the BCFNEMC stated that the potential benefits of GHG emission reductions need to
3 be weighed against the environmental impacts of electricity generation and
4 transmission projects.

5 **Transmission Planning:** With some exceptions, there was a general preference for
6 a proactive approach to transmission planning provided that it is done with early
7 involvement and accommodation of the affected First Nations. Although the topic of
8 transmission planning involves potential future transmission infrastructure, many
9 participants were focused on compensation for the historical impacts of existing
10 transmission infrastructure on asserted First Nations rights and title.

11 Many participants indicated that transmission benefits urban communities at the
12 expense of rural First Nations communities. It was recommended that economic
13 development opportunities for First Nations be a consideration in transmission
14 planning. The BCFNEMC recommended that isolated communities currently served
15 by diesel generation should be a priority for new transmission access.

16 There was a concern about the cumulative environmental impacts of transmission
17 infrastructure. Recommendations included maximizing the use of existing
18 transmission lines and corridors and planning where not to build transmission lines.

19 **Export Market Potential:** Many participants expressed support for electricity
20 exports provided that First Nations share in the benefits, which were identified as
21 including revenue sharing, ownership interest in the export projects, and reduced
22 electricity rates. The BCFNEMC stated that the concept that economic benefits
23 would flow primarily to the B.C. Government is unacceptable.

24 Some participants opposed the acquisition of renewable energy from IPPs for the
25 purpose of export. They expressed several concerns, including that export of
26 electricity will put a greater strain on the environment and create economic risks.
27 The BCFNEMC noted that BC Hydro will have a substantial amount of clean and

1 renewable electricity available for export in most years, and stated that it is difficult to
2 understand how acquiring additional electricity resources to serve the export market
3 could result in economic benefits to B.C.

4 Whether exporting electricity or not, several participants indicated that domestic
5 need for electricity should not be subordinated to the electricity needs in other
6 jurisdictions.

7 **Clean or Renewable Energy Development in First Nations Communities:** There
8 was significant interest in creating revenue and jobs for First Nations communities
9 through participation in clean or renewable energy development. There was also
10 significant interest in connecting remote communities to the electricity grid or
11 alternatively having remote communities become energy self-sufficient through clean
12 or renewable generation projects that replace diesel generation. Apart from clean or
13 renewable energy developments, participants were also interested in employment
14 and business opportunities with BC Hydro.

15 There was a substantial amount of input on BC Hydro's power acquisition
16 processes. The input was directed at ensuring First Nations would benefit from clean
17 or renewable energy projects and that their asserted rights and title would be
18 respected and accommodated. There was frustration with BC Hydro's previous
19 power acquisition processes because of, among other things, the lack of success of
20 some First Nations proponents and the cost and complexity of the process for First
21 Nations proponents. In addition, there is a concern that First Nations will spend
22 limited resources participating in consultation with proponents in a power acquisition
23 process without any assurance of a corresponding benefit, because many
24 proponents seeking to consult with First Nations may not be awarded an Electricity
25 Purchase Agreement (**EPA**).

26 Recommendations included capacity building and incentives for First Nations, so
27 they could effectively participate in clean or renewable energy development and
28 changes to BC Hydro's power acquisitions processes to support First Nations

1 projects, such as a First Nations only power call. There was also a recommendation
2 to undertake a feasibility study (involving key First Nations participants) on how First
3 Nations can participate in clean or renewable energy development.

4 **Consultation Process:** At several of the regional workshops participants expressed
5 significant concern about the First Nations consultation process for the IRP. Almost
6 every participant who provided input on this issue did not consider the process
7 “consultation”.

8 There was a concern about the legal implications of the word consultation and the
9 implications to First Nations resulting from their participation in the process. This
10 issue was compounded by the fact that the future implications of the IRP on
11 individual First Nations communities was unclear to participants and there was a
12 concern that it may be used to justify later decisions that First Nations might oppose.

13 There were a wide range of views regarding what was required for consultation to
14 occur. These included the following:

- 15 · Revenue sharing
- 16 · Compensation for past grievances
- 17 · Partnership between First Nations and BC Hydro in the decision-making
18 process for the IRP and earlier involvement from First Nations than is presently
19 the case
- 20 · An understanding of the impacts of the IRP from a First Nations territory
21 perspective
- 22 · Sufficient capacity funding available to individual First Nations, so they
23 understand the technical aspects of the IRP, in particular the portfolios being
24 developed by BC Hydro’s energy planners
- 25 · Involvement of senior leaders from BC Hydro and government in the process
- 26 · Meetings with BC Hydro in individual First Nations communities

7.3.3 Summary of TAC Input on Development of the IRP

BC Hydro sought written input from the TAC on the planning topics, so it could be considered with the input BC Hydro received through the First Nations and public and stakeholder consultation streams.

As part of TAC Meeting No. 4 held on April 5 and 6, 2011, TAC members were requested to respond to the same five consultation questions provided in the feedback form of the IRP Consultation Workbook. Submissions, which can be found in Appendix 7E, were received from:

- AMPC
- BCSEA
- CEBC
- CECBC
- BCFNEMC
- FortisBC
- The Pembina Institute

Note that the BCFNEMC submitted written comments both under the TAC and the First Nations consultation stream, hence their written input is included within the First Nations input summary above and is not duplicated in this section.

Conservation and Efficiency: Five of the six TAC members who provided submissions expressed support for DSM. Three of the TAC members expressed support for cost-effective DSM, with two of those wanting all possible cost-effective DSM to be implemented. In general, there was interest in how BC Hydro defines cost-effectiveness and a desire to look at how cost-effectiveness is measured. Two members were in support of more aggressive DSM, and were willing to embrace a greater degree of uncertainty. One TAC member did not support BC Hydro pursuing

1 specially-designed conservation rates and thought BC Hydro was taking on a role
2 that was not appropriate.

3 **Electricity Generation Options:** Many TAC members were not ready to state
4 preferences on example portfolios until more detailed data was available. One TAC
5 member indicated that it is not the role of BC Hydro to foster regional development,
6 clean or renewable energy resource development, reduced GHGs, or any other
7 social objective through the purchase of new electricity supply. Two other TAC
8 members noted that more is needed from BC Hydro and the B.C. Government to
9 help identify potentially feasible geothermal generation resource locations while
10 another member stated that the most cost-effective option for procuring additional
11 electricity should be the one that is pursued. Another TAC member disagreed with
12 BC Hydro's comment that a portfolio of clean or renewable generation from IPPs
13 would be higher cost than one involving Site C and/or natural gas-fired generation.
14 Another member drew attention to the consideration of other environmental impacts,
15 such as the impact of transmission connections to these widespread generation
16 sites.

17 Several TAC members acknowledged the value of Site C energy and capacity;
18 however, they would like to see more information, stating it is premature to express
19 or imply acceptance of Site C pending the results of the environmental assessment,
20 First Nations consultation, updated cost estimates, the Minister's June 2011 review
21 of BC Hydro and the portfolio modelling.

22 Several TAC members supported continued examination of the role of natural
23 gas-fired generation under certain circumstances; however, they were unwilling to
24 weigh in with a definitive preference until more information was available. While
25 many TAC members noted that natural gas-fired generation may play a role under
26 certain circumstances in the IRP, TAC members were also concerned about GHG
27 emissions and recognized the need for a comprehensive approach to meeting GHG
28 reduction targets. Two TAC members commented that other jurisdictions regard

1 natural gas-fired generation as a relatively clean fuel, and B.C. exports natural gas
2 to these jurisdictions. In addition, siting natural gas-fired generation closer to the
3 load would reduce transmission requirements and provide voltage support in
4 demand centres.

5 **Electrification:** Three TAC members supported taking a proactive role with
6 electrification with caveats, two members were neutral expressing a need for more
7 information, and one member disagreed with electrification stating the opinion that
8 BC Hydro should be responding to customer demand.

9 All TAC members, with the exception of one, emphasized the need for a more
10 comprehensive look at electrification options including cost assessments and/or
11 impacts on taxpayers.

12 One TAC member expressed a concern over electrification in the natural gas sector;
13 citing the need for the B.C. Government to take a more proactive approach to
14 planning in the regions and assessing the pace of development.

15 **Transmission Planning:** TAC members stated that a proactive approach to
16 transmission planning is complex and should balance BC Hydro's ability to serve
17 potential customer loads with the potential economic consequences of overbuilding
18 transmission. Some members stated that proactive transmission planning is key due
19 to the longer lead time, expense, permitting and consultation required. However,
20 TAC members clearly stated they support proactive planning and not necessarily
21 proactive building. Others stated that they needed more analysis.

22 **Export Market Potential:** TAC members were sceptical of the business case for
23 exports in the current climate. If exports proceed, concern was expressed that
24 cheaper supply alternatives would be used for exports and longer-term domestic
25 electricity needs would be met by more expensive options. Caution was also
26 expressed that all costs incurred by BC Hydro, including administrative and use of
27 existing transmission, must be taken into account, and BC Hydro should not enter

1 into EPAs until a profitable export agreement of matching length is executed.
2 Another member raised concern over the environmental impacts of building for
3 exports. One TAC member stated that the export of cost-effective and competitive
4 electricity affords B.C. tremendous opportunities for economic development,
5 employment and an opportunity to play a leadership role in reducing GHG emissions
6 throughout North America.

7 **7.4 Summary of Feedback on May 2012 Draft IRP:** 8 **Spring/Summer 2012**

9 BC Hydro during spring/summer 2012 sought feedback on the recommended
10 actions contained in the draft IRP released in May 2012. Participants in all the three
11 consultation streams were provided with a copy of the discussion guide and
12 accompanying feedback form either on line or in hard copy. The full draft plan was
13 also made available online. For discussion purposes, the 11 draft recommended
14 actions were grouped as follows under: Conserving More, Building More and
15 Reinvesting More, Buying More, and Preparing for Greater Demand, with questions
16 asked on the 11 recommended actions.

17 Note that the views represented in this chapter reflect the priorities and concerns of
18 the public, stakeholders and First Nations who participated in consultation at that
19 time. They may not be representative the views of the public and other stakeholders
20 more broadly because participants self-selected into the process.

21 **7.4.1 Public and Stakeholder Feedback on the May 2012 Draft IRP**

22 During the consultation period from May 28 to July 6, 2012, 366 participants
23 attended consultation events, 438 filled out feedback forms and 28 provided written
24 submissions. Consultation methods included 13 regional multi-stakeholder meetings,
25 five public open houses, two webinars and a print and online discussion guide and
26 feedback form. Notice of opportunities to participate in consultation was provided
27 through a news release, newspaper advertising, BC Hydro bill insert, customer

1 e-newsletter, phone calls, emails, the BC Hydro website, social media (Twitter) and
2 the BC Hydro employee intranet.

3 The complete BC Hydro IRP Public and Stakeholder Consultation Summary Report
4 is found in Appendix 7F and at <http://www.bchydro.com/irp>.

5 **Conserve More:** Consultation participants were asked to indicate their agreement
6 with the following recommended actions to conserve more by:

- 7 · Increasing BC Hydro's DSM energy savings target to 9,800 GWh/year by 2020
8 (1,000 GWh/year more than the existing DSM target) through conservation and
9 efficiency programs, incentives and regulations
- 10 · Exploring more codes, standards and rate options for savings beyond
11 9,800 GWh/year
- 12 · Encouraging less consumption during peak demand periods by pursuing
13 voluntary conservation programs that encourage residential commercial and
14 industrial customers to reduce energy consumption during peak periods

15 A large majority of participants strongly agreed with all three recommended actions
16 related to conservation (80 per cent, 72 per cent and 82 per cent agreement
17 respectively). Reasons for support included that conservation is the best choice
18 overall, we are wasteful with our resources, new building codes and regulations will
19 help conserve, there is a need to consider all options, and incentives to conserve will
20 help.

21 While many participants expressed a desire to maximize conservation by creating
22 more initiatives and programs, including more municipal programs, some questioned
23 whether BC Hydro's goals are achievable. Some participants suggested the use of
24 time-of-use rates as a means of encouraging conservation, and encouraged
25 BC Hydro to recommend them to the B.C. Government. However, some participants
26 had reservations and suggested that BC Hydro be transparent if it was considering

1 time-of-use rates. BC Hydro was urged to consider programs that did not place an
2 undue burden on those who may not be able to participate for economic reasons.

3 **Site C:** Consultation participants were asked to indicate their agreement with the
4 following recommended actions to build and reinvest more:

- 5 · BC Hydro recommended building Site C to add 5,100 GWh of average annual
6 energy and 1,100 MW of dependable capacity to the system for the earliest
7 in-service date, subject to environmental certification and fulfilling the Crown's
8 duty to consult and, where appropriate, accommodate Aboriginal groups.

9 Fifty-one per cent of public consultation participants agreed with the
10 recommendation to build Site C, while 40 per cent disagreed. Reasons given for
11 support included that this is the best option, it is a clean energy option, it makes
12 economic sense, and they agree but have concerns about the environmental impact.
13 Reasons given for opposing the building of Site C included that there are
14 other/better options available, conservation is better, and concerns about the
15 environmental impacts.

16 **Revelstoke Unit 6 and Other Resource Smart Projects:** Consultation participants
17 were asked to indicate their agreement with the following two separate statements:

- 18 · Begin work to allow the sixth generating unit at Revelstoke Generating Station
19 (**Revelstoke Unit 6**) to be built by 2018, which would add about 500 MW of
20 peak capacity to the BC Hydro system
- 21 · Continue to investigate and advance cost-effective Resource Smart projects to
22 utilize the remaining untapped capacity in BC Hydro's existing hydroelectric
23 system

24 A majority of public participants (80 per cent) agreed with BC Hydro's
25 recommendation to begin work to build Revelstoke Unit 6. Those that disagreed with
26 this action felt that there were better options, including conservation.

1 The majority of public participants (83 per cent) agreed with the recommendation
2 that BC Hydro should continue to investigate cost-effective Resource Smart projects
3 to utilize untapped capacity within BC Hydro's existing system. Those that agreed
4 with the draft recommendation stated that Resource Smart projects are a good use
5 of existing infrastructure and they make sense.

6 **Short-Term Capacity Measures:** Consultation participants were asked to indicate
7 their agreement with combining readily available resources to meet a short-term
8 capacity gap by:

- 9 · Filling the short-term peak capacity gap from 2015 to 2020 with a combination
10 of market purchases first, power from the Columbia River Treaty second, and
11 extending the existing backup use of Burrard Thermal Generating Station
12 (**Burrard**), if required and as authorized by regulation

13 Fifty-seven per cent of respondents agreed with the recommendation to fill the
14 short-term peak capacity gap with a combination of market purchases first, power
15 from the Columbia River Treaty second, and extending the existing backup use of
16 Burrard, if required and authorized by regulation. However, they cautioned about the
17 cost-effectiveness of this plan and expressed concerns about buying power from the
18 market rather than being self-sufficient. Of those that disagreed, some opposed the
19 use of Burrard and thought that other options should be explored. Some public
20 participants felt that conservation is a better option.

21 **Buy More:** Consultation participants were asked to indicate their agreement with the
22 recommended action to develop energy procurement options to acquire up to
23 2,000 GWh/year from clean or renewable energy producers for projects that would
24 come into service in the 2016 to 2018 time period. It was noted that final decisions
25 on the timing and the volume of energy would be made once there was more
26 certainty regarding new electricity loads.

1 The majority (64 per cent) of public participants agreed with the recommendation to
2 develop energy procurement options to acquire up to 2,000 GWh/year of clean or
3 renewable energy from energy producers for projects that would come into service
4 between 2016 and 2018. Stated reasons for agreement included: clean/renewable
5 energy is best; it is wise to develop multiple energy sources; this is logical/makes
6 sense. Reasons for disagreement included concerns about cost and opposition to
7 power being purchased from IPPs, with some individuals specifically opposing
8 run-of-river power projects. A key theme at stakeholder meetings was general
9 interest in the role IPPs play in relation to the BC Hydro system. In particular, they
10 were interested in the cost of buying power from IPPs compared to the cost of
11 BC Hydro hydroelectricity, the procurement process to obtain more energy, and the
12 future reliance on IPPs. In addition some stakeholder meeting participants were
13 interested in the use of more clean or renewable energy resources, and had
14 questions and suggestions regarding geothermal, run-of-river, solar, tidal and
15 wave-generated power. Some public participants expressed a desire for greater
16 regional and local generation utilizing energy sources closer to users, partly to offset
17 any electricity losses through long transmission routes.

18 **Prepare for Potentially Greater Demand:** Consultation participants were asked to
19 indicate their agreement with reinforcing the existing 500 kV line from Prince George
20 to Terrace to meet new demand on the North Coast.

21 They were also asked to indicate their agreement with BC Hydro continuing to work
22 with LNG developers to understand their electricity requirements and keeping
23 options open until further certainty on future requirements can be established by:

- 24 · Undertaking work to maintain the earliest in-service date for a new 500 kV
25 transmission line from Prince George to Terrace and Kitimat and from the
26 Peace River region to Prince George
- 27 · Developing procurement options for additional clean or renewable energy
28 resources, backed up by natural gas-fired generation (located only on the North

1 Coast, or both on the North Coast and across the province) for electricity that
2 could be delivered in the 2019 to 2020 timeframe, should it be needed

3 The majority of public participants agreed with the recommendation to reinforce the
4 existing 500 kV transmission line from Prince George to Terrace to meet the
5 demand on the North Coast. The most common reasons for agreement were that
6 reinforcing this existing line was logical and necessary. Some participants who
7 disagreed with this option noted a preference for the use of alternative energy
8 sources, opposing LNG development or stating that local generating facilities should
9 be built instead. Concern was also expressed that industry pay for the transmission.
10 About 17 per cent of public respondents held a neutral position.

11 Forty-eight per cent of public participants agreed with the procurement option
12 recommendation. These participants noted such support was on the condition that
13 BC Hydro explores other options, and that the procurement is cost efficient.

14 Thirty-five per cent disagreed with the procurement option. Reasons for
15 disagreement included lack of support for natural gas, opposition to LNG, and the
16 belief that industry should provide their own electricity/pay for it themselves.

17 Seventeen per cent of participants neither agreed nor disagreed.

18 A key theme at the stakeholder meetings was that participants wanted BC Hydro to
19 proceed cautiously in its approach to supplying the proposed LNG plants with
20 energy in case the demand for electricity does not emerge. As well participants did
21 not want residential rates to subsidize the cost of new energy for large industrial
22 users, including the proposed LNG plants. Participants indicated that they did not
23 want residential rates to be affected due to increased industrial demand. Some
24 participants at the stakeholder meetings also recommended that the proposed LNG
25 plants use natural gas for compression purposes rather than obtaining their energy
26 supply from BC Hydro and increasing demand on the BC Hydro system.

7.4.2 First Nations Consultation Feedback on the May 2012 Draft IRP

Between June 26 and July 13, 2012, BC Hydro hosted eight one-day workshops in the same regional locations as in 2011 (except Castlegar). These workshops included BC Hydro presentations on the IRP followed by discussions facilitated by a neutral facilitator. Attendance at the 2012 regional workshops totalled 117 participants, representing 69 First Nations, Tribal Councils, and First Nations organizations. A representative from the BCFNEMC attended seven of the eight regional workshops in 2012.

In addition to verbal feedback received during the workshops, BC Hydro also received written comments from participants in the First Nations workshops (First Nations Feedback Form), as well as two reports from the BCFNEMC containing key comments and recommendations arising from their participation in the regional workshops and the TAC.

A high-level overview of the verbal feedback expressed by participants in the 2012 workshops and the level of agreement indicated in First Nations Feedback Forms¹ on the draft recommended actions is presented below. The overview is organized according to the four broad sets of actions: conserve more, build and reinvest more in existing assets, buy more made-in-B.C. power, and prepare for potentially greater demand. Additional feedback not specific to the draft actions is also included. For further details on feedback received in 2012, including the two reports of the BCFNEMC, see the First Nations Consultation Report in Appendix 7G and at <http://www.bchydro.com/irp>.

Conserve More: The First Nations Feedback Forms mostly indicated some level or a strong level of agreement with Recommended Actions 1a, 1b, and 2 comprising the “Conserve More” set of actions. Workshop feedback on the recommended actions relating to conservation was also largely supportive, with many participants

¹ Of the 117 First Nation participants in the 2012 workshops, 26 provided a First Nations Feedback Form indicating their level of agreement with the recommended actions in the draft IRP.

1 expressing an interest in learning more about how to effectively monitor and modify
2 consumption and about the programs that BC Hydro has in place to help First
3 Nations offset some of the costs of these efforts.

4 There was concern among some participants that BC Hydro was not going far
5 enough with conservation from a sustainability perspective.

6 Recommendations included more education to support informed conservation
7 efforts, as well as specific suggestions to help reduce demand and electricity costs,
8 such as time-of-use rates, “peer-pressure” tactics, free in-home consumption
9 tracking devices, and outreach to homeowners of inefficient rental properties.

10 **Build and Reinvest More in Existing Assets:** The First Nations Feedback Forms
11 indicated that for those that expressed a clear opinion, there was more
12 disagreement than agreement with Recommended Action 3 on Site C. However,
13 many respondents did not provide an opinion for this recommended action – it
14 received the highest number of “neither agree nor disagree” responses of all of the
15 recommended actions.

16 Similar feedback was received during the workshops. First Nations in most regions
17 were reluctant to express their own views in relation to Site C, and generally stated
18 that they supported whatever position First Nations that were local to the proposed
19 Site C area took in relation to Site C. First Nations workshop participants’ local to the
20 proposed Site C area expressed significant opposition to Site C. There was also a
21 perception among some participants that BC Hydro considered Site C a “done deal”.
22 It was suggested that there was a bias in favour of developing Site C, because of
23 what was viewed as a long-standing B.C. Government policy of maximizing the
24 hydroelectric potential of the Peace and Columbia rivers, and the prioritization of
25 economic values over other values. There was a view that these drivers have now
26 left BC Hydro with a lack of alternatives to Site C, and that the recommended action
27 to proceed with Site C makes no effort to address, or is even dismissive of, values
28 that cannot be measured using only economic indicators.

1 Among the First Nations Feedback Form respondents providing a clear opinion,
2 more agreed than disagreed with Recommended Action 4 pertaining to
3 Revelstoke Unit 6. However, taken together, the number of respondents who neither
4 agreed nor disagreed, somewhat disagreed, or provided no answer was equal to the
5 number that indicated agreement. Some workshop participants expressed
6 disagreement that the installation of Revelstoke Unit 6 would have no or minimal
7 environmental impact, and indicated that they were reluctant to provide feedback
8 without more information on the potential impacts of Revelstoke Unit 6. There was
9 also concern regarding the exemption of Revelstoke Unit 6 from the BCUC process.

10 Several workshop participants expressed that although they were being told that
11 Site C and Revelstoke Unit 6 were not yet confirmed and that their views on the
12 associated recommended actions were being sought, there was a perception that
13 the IRP had an undue reliance on Site C and Revelstoke Unit 6. This made these
14 projects appear inevitable, irrespective of feedback.

15 While no specific comments were received during the workshops on draft
16 Recommended Action 5 relating to additional Resource Smart opportunities, First
17 Nations Feedback Forms indicated a high level of agreement with this
18 recommended action, although it also received the highest number of
19 non-responses (no answer) among the “Build and Reinvest More” set of
20 recommended actions.

21 For Recommended Action 6 on market purchases, the Columbia River Entitlement
22 and Burrard, the First Nations Feedback Forms indicated that there were the same
23 number of respondents that agreed with this recommended action as there were
24 respondents that neither agreed nor disagreed, somewhat disagreed, or provided no
25 answer. Limited feedback was received during the workshops on this recommended
26 action and the feedback that was received was mixed. One workshop participant
27 expressed support for using the Columbia Treaty Entitlement as a short-term
28 solution given the lack of available short-term capacity options, while another

1 participant expressed concern about relying on the treaty when the United States
2 was decommissioning dams on the Columbia River, and that such reliance might
3 expose BC Hydro to potentially higher global market prices.

4 First Nations Feedback Forms indicated that the number of respondents who;
5 neither agreed nor disagreed, somewhat or strongly disagreed, or provided no
6 answer outnumbered those that agreed with draft Recommended Action 7 pertaining
7 to transmission upgrades. Similar to concerns expressed in relation to Site C and
8 Revelstoke Unit 6, some workshop participants voiced the view that the transmission
9 upgrades appeared to be fully committed projects, even though participants were
10 being told that the IRP did not commit BC Hydro to any specific capital project.
11 Several workshop participants also stated that industrial customers should bear the
12 costs of the transmission upgrades, given that they appeared to be specifically for
13 the purpose of industrial development in northern B.C. and that rates for consumers
14 were already high enough.

15 **Buy More Made-in-B.C. Power:** A significant number of First Nations Feedback
16 Forms indicated agreement with draft Recommended Action 8 relating to developing
17 energy procurement options to acquire up to 2,000 GWh/year from clean or
18 renewable energy producers. A small but equal number either somewhat disagreed
19 or neither disagreed nor agreed.

20 Workshop participants expressed substantial interest in greater First Nations
21 involvement in clean or renewable energy production, but identified significant
22 barriers to greater involvement. Among these barriers was a lack of technical and/or
23 financial capacity to effectively participate or compete in power calls. There was also
24 significant concern on the part of some participants that there was a lack of
25 transmission system capacity on northern Vancouver Island to take on more
26 interconnections from IPP projects.

27 Participants felt strongly that BC Hydro should be doing more to help First Nations
28 overcome these barriers. Recommendations included involving First Nations earlier

1 in a power acquisition process, providing more information on how BC Hydro's
2 procurement process works, finding ways to help First Nations finance projects and
3 establishing First Nations procurement targets or rights of first refusal on
4 procurement opportunities in their region.

5 Workshop feedback also identified a preference for the generation of power close to
6 the consumption of that power, rather than its transmission to or from other regions.
7 It was suggested that IPP projects that are designed to supply power locally should
8 be evaluated differently than those that are designed to export power to other
9 regions of the province, such as the Lower Mainland. There was also interest in the
10 types of resource options BC Hydro would consider in an energy procurement
11 process.

12 **Prepare for Potentially Greater Demand:** On the whole, for this set of
13 recommended actions on "Prepare for Potentially Greater Demand," the First
14 Nations Feedback Forms indicated higher levels of agreement than disagreement,
15 where a clear opinion was provided. However, the levels of disagreement within this
16 set were relatively high compared to other sets of recommended actions, and taken
17 together with the number of "neither agree nor disagree" responses or
18 non-responses (no answer), clear agreement was limited.

19 Workshop feedback provided on this set of draft recommended actions was also
20 mixed. Several workshop participants expressed concern about the uncertainty
21 associated with this set of draft recommended actions, and the inability of First
22 Nations to consider and comment on what might affect them in the future without
23 what they felt was enough information on, or understanding of, the recommended
24 actions and their potential impacts. Several workshop participants indicated that
25 silence from First Nations did not mean consent.

26 With regard to Recommended Action 9a relating to a new transmission line from
27 Prince George to Terrace and Kitimat, there were specific concerns raised in the
28 workshops about the environmental and health impacts of a new high voltage line

1 and about BC Hydro subsidizing the extension of the grid to serve the LNG industry.
2 Some participants favoured the LNG industry producing its own electricity with
3 natural gas. Other participants were opposed to the use of natural gas for this
4 purpose. There were also several expressions of both concern with and interest in
5 the B.C. Government's 2012 announcement to exempt natural gas-fired generation
6 from the *CEA* 93 per cent clean or renewable energy objective² when it is used by
7 the LNG industry to self-supply. First Nations Feedback Forms indicated more
8 agreement than disagreement among those providing a clear opinion, but the
9 number of those who agreed was equal to the total number of those who; neither
10 agreed nor disagreed, disagreed, or provided no answer.

11 With regard to draft Recommended Action 9b relating to the additional procurement
12 of clean or renewable energy backed up by natural gas-fired generation, there was
13 an interest in future BC Hydro energy procurement, as well as in how BC Hydro
14 planned to approach procurement with First Nations specifically. Some participants
15 expressed significant concern about a perceived lack of opportunities for First
16 Nations in clean or renewable energy development among the recommended
17 actions, and it was suggested that BC Hydro and First Nations should look at a "new
18 relationship" in the acquisition of power. There was also a concern that the power
19 acquisition process identified among this set of recommended actions would only be
20 needed to serve prospective LNG development, as there was a desire among some
21 First Nations to develop clean or renewable energy for the Province in general, not
22 just for LNG. The First Nations Feedback Forms indicated that among respondents
23 providing a clear opinion on this recommended action, most are in agreement.
24 However, the total number of respondents neither agreeing nor disagreeing,
25 disagreeing, or providing no answer outnumbered those who agreed.

² Enshrined in the British Columbia's Energy Objectives Regulation, B.C. Reg. 234/2012, deposited July 25, 2012.

1 For draft Recommended Action 10 relating to continued monitoring of the northeast
2 B.C. natural gas industry, workshop participants expressed the view that it would
3 make more sense for this industry to self-supply the gas for power rather than be
4 provided electricity. However, gas extraction by fracking was characterized as a big
5 environmental issue by some participants, and those participants did not consider
6 natural gas sustainable or renewable. First Nations Feedback Forms indicated that
7 the number of responses showing some level of agreement with this recommended
8 action was the highest among response categories, but the total number of
9 respondents; neither agreeing nor disagreeing, disagreeing, or providing no answer
10 was higher than those showing some level of agreement.

11 The views of workshop participants on draft Recommended Action 11a, to work with
12 industry to explore pumped storage capacity options, ranged from unfavourable to
13 favourable. While one participant described the technology as “frightening” and
14 another viewed it as high cost with a low return, there was also the suggestion that
15 BC Hydro work with First Nations to establish pumped storage as a new First
16 Nations industry. Among the First Nations Feedback Form respondents, this
17 recommended action received the highest level of agreement among those for this
18 set of recommended actions, with a third of respondents neither agreeing,
19 disagreeing, or providing no answer.

20 A range of views were offered on draft Recommended Action 11b, to work with
21 industry to explore natural gas-fired generation options. Opposition to natural
22 gas-fired generation heard during the workshops stemmed from the view that it was
23 not sustainable or as cheap as some clean or renewable resources, once the cost of
24 cleaning up emissions was taken into account. There was also a concern about the
25 health effects of these emissions. On the other hand, support for natural gas-fired
26 generation was tied to the expectation that the costs would be borne by industry and
27 that the facilities could be situated close to where the electricity is consumed. There
28 was also the view that it was inconsistent to try to minimize the domestic use of
29 natural gas as a power source, while at the same time exporting it for non-domestic

1 use, as the emissions were all going into the same atmosphere. First Nations
2 Feedback Forms showed that the level of agreement with this recommended action,
3 while outnumbering other response categories, was slightly outnumbered by the
4 total number of responses that; neither agreed nor disagreed, disagreed, or provided
5 no answer. In addition, this recommended action received the highest level of
6 disagreement among the recommended actions in the “Prepare for Potentially
7 Greater Demand” set.

8 **Additional Feedback:** In addition to feedback on the draft recommended actions,
9 participants at the workshops also provided feedback that was not specific to those
10 actions, but related in a more general way to the IRP, particularly in terms of
11 approach and assumptions. The additional feedback revolved around concerns with
12 the following key themes:

- 13 · The IRP consultation process, with the majority of this feedback indicating that
14 participants did not feel as though BC Hydro’s methods and timelines for
15 gathering feedback were adequate
- 16 · A lack of internal capacity within First Nations to review, understand, and
17 provide informed comment on a voluminous and technical draft IRP
- 18 · The perceived issues arising from using a province-wide planning approach,
19 which is considered a top-down approach, rather than planning that uses a
20 regional perspective or is based on First Nations territories (e.g., First Nations
21 have no ability to comment on draft actions that may adversely affect other First
22 Nations territories, and BC Hydro has no ability to consider Aboriginal and
23 treaty rights, past grievances or revenue sharing)
- 24 · Increased opportunities/benefits to First Nations
- 25 · Inadequate and/or out-dated electricity service to many remote First Nations
26 communities, even those connected to the electricity grid

-
- 1 · Recommendations to BC Hydro to consider in its planning the
2 interconnectedness of everything, that what First Nations say to BC Hydro is
3 important to First Nations' survival, and how BC Hydro can improve its
4 relationship with First Nations, both in the big picture and day-to-day

5 **7.4.3 TAC Feedback on the May 2012 Draft IRP**

6 BC Hydro sought written input from the TAC on the planning topics, so it could be
7 considered along with input BC Hydro received through the First Nations and public
8 and stakeholder consultation streams.

9 At TAC Meeting No. 6 held on June 18, 2012, TAC members were introduced to the
10 draft IRP and provided with an opportunity to ask questions and seek clarification on
11 the draft plan. At that meeting, TAC members were requested to submit individual,
12 written comments on the draft IRP. They were also advised that the feedback would
13 be considered along with the feedback collected from First Nations and public and
14 stakeholder consultation, in BC Hydro's finalization of the plan for submission to
15 government by December 3, 2012.

16 Submissions, which can be found in Appendix 7H, were received from:

- 17 · AMPC
- 18 · BCFNEMC
- 19 · FortisBC
- 20 · CEBC
- 21 · CECBC
- 22 · The Pembina Institute
- 23 · BCSEA

24 **Conserve More:** TAC members generally supported the conservation
25 recommendations; however, one member was sceptical that the DSM target level

1 would be achievable, and one member (FortisBC) thought BC Hydro should be
2 pursuing “electric load avoidance” (which is fuel switching from electricity to natural
3 gas) as a DSM measure.

4 Of the supporting members, three suggested that BC Hydro should pursue even
5 more conservation and efficiency with accelerated timelines. It was observed that
6 BC Hydro should pursue additional savings even if additional load does not
7 materialize, as the current plan does not meet the test of pursuing all cost-effective
8 and achievable conservation and efficiency levels. It was suggested that BC Hydro
9 should adjust the DSM plan to comply with the *CEA* 66 per cent conservation target
10 in the event that LNG load materializes.

11 TAC members expressed differing views on the risks BC Hydro places on potential
12 conservation and efficiency shortfalls, with some members stating that these risks
13 are overstated, and another questioning the certainty of the existing targets.

14 **Site C:** TAC members generally questioned the prudence (for different reasons) of
15 BC Hydro’s recommendation to build Site C for its earliest in-service date (**ISD**).

16 Two members questioned the need for Site C for its earliest ISD given future load
17 uncertainties, while others thought that more analysis on Site C was required to
18 establish its cost-effectiveness (e.g., compared to other options, such as natural gas,
19 increased DSM, and wind). Two members stated that a decision on Site C is
20 premature until First Nations concerns are adequately addressed.

21 **Revelstoke Unit 6 and Other Resource Smart Projects:** The TAC members who
22 provided comments on the Resource Smart topic (four of seven submissions) were
23 in support of the recommended actions, because of the relative cost-effectiveness
24 and low environmental impact.

25 **Short-Term Capacity Measures:** TAC members generally supported the actions to
26 meet the short-term capacity gap, with a few caveats:

-
- 1 · Two members wanted to see Burrard's future more clearly articulated, albeit
 - 2 with divergent views on what the future role should be
 - 3 · One member wanted the cost of additional transmission to repatriate the
 - 4 downstream benefits to be examined
 - 5 · One member supported increasing the use of bridging options in light of the
 - 6 large uncertainties with the load forecast and therefore the potential risk of
 - 7 stranded assets

8 **Buy More:** TAC members had a range of views on this action. Two members did not
9 support the action based on the view that energy was not needed (or greatly
10 diminished) and/or was not cost-effective. Other members generally supported clean
11 or renewable energy development, but wanted to see further analysis on:

- 12 · The volume and timing requirements
- 13 · Deliverability and cost of new supply risks
- 14 · Cluster analysis
- 15 · Additional resource portfolios (all gas and electric load avoidance)

16 Another member supporting clean or renewable energy development suggested that
17 it was important to consider the findings of the Merrimack report³ to ensure better
18 accessibility of procurement processes for First Nations.

19 **Prepare for Potentially Greater Demand:** Regarding the transmission line
20 reinforcement and work to maintain the earliest in-service date of a new
21 transmission line, TAC members generally expressed support, however with a
22 number of strong caveats including:

³ BC Hydro retained Merrimack Energy Group, Inc. (**Merrimack**) in September 2010 to conduct a review of BC Hydro's power procurement practices. Merrimack's February 2011 report can be found at www.bchydro.com/energy-in-bc/acquiring_power/meeting_energy_needs/how_power_is_acquired.html. Refer also to section 8.4.4.

-
- 1 · Ratepayers should not be subsidizing costs for new infrastructure caused by
2 LNG plants
 - 3 · Public policy questions around these major developments still need to be
4 addressed (including the need for new transmission given a recent change in
5 government policy)
 - 6 · A new strategy is needed to protect against any potentially undesirable
7 consequences of this major LNG development

8 TAC members' views on developing procurement options for additional clean or
9 renewable energy resources, backed up by natural gas-fired generation to power
10 North Coast industrial development, ranged from support to concerns about the
11 potential rate impacts and environmental impacts associated with natural gas-fired
12 generation.

13 TAC members generally supported the Fort Nelson action to continue to monitor the
14 activity and keep options alive. Two TAC members expressed concern about the
15 environmental and rate impacts associated with serving large new natural gas
16 industrial loads in the northeast, asserting that ratepayers should not be subsidizing
17 this activity; others suggested that significant public policy questions need to be
18 addressed with these large developments, prior to determining appropriate actions
19 for BC Hydro.

20 TAC members generally supported pumped storage investigations with a few
21 qualifiers, namely:

- 22 · BC Hydro should also continue to explore other storage options
- 23 · Pumped storage would likely not be cost-effective
- 24 · Collaboration with First Nations on this activity was recommended

25 TAC members' views on exploring natural gas-fired generation were split. Some
26 supported the action as a cost-effective resource; others were concerned about the

1 environmental and/or cost risk associated with a natural gas strategy. One member
2 urged BC Hydro to reconcile the draft IRP and the new natural gas-fired generation
3 policy for LNG from the B.C. Government, as reflected in the July 2012 British
4 Columbia's Energy Objectives Regulation.

5 **7.5 Summary of Written Feedback on the** 6 **August 2013 IRP: Summer/Fall 2013**

7 From September 3 to October 18, 2013, BC Hydro sought written comments on the
8 Recommended Actions contained in the August 2013 IRP. Participants in all the
9 three consultation streams were provided with a copy of a comment form either on
10 line or in hard copy (in the case of First Nations). The full draft plan, along with a
11 summary document, was also made available online. For discussion purposes, the
12 Recommended Actions were grouped in the following topic areas: Supporting LNG,
13 Conserving First, Managing Resources, Powering Tomorrow, and Preparing for the
14 Unexpected.

15 Note that the views represented in this chapter reflect the priorities and concerns of
16 the public, stakeholders and First Nations who participated in consultation at that
17 time. They may not be representative the views of the public and other stakeholders
18 more broadly because participants self-selected into the consultation process.

19 **7.5.1 Public and Stakeholder Feedback on the August 2013 IRP**

20 During the written comment period, BC Hydro received 425 completed online written
21 comment forms from members of the public and stakeholders. These responses are
22 contained in the Public and Stakeholder Consultation - Summary Report in
23 Appendix 7-I.

24 The following is a summary of written comments received through the online
25 feedback forms between September 3 and October 18, 2013. The large majority of
26 respondents took the time to provide written comments under each topic area to
27 explain their broad level of agreement or disagreement with the Recommended

1 Actions, and these written comments have been used in developing the summary
2 below.

3 *Supporting LNG*

4 Participants were asked to provide their level of support for BC Hydro's
5 recommended actions to: "support the LNG industry" by reinforcing an existing
6 500 kilovolt transmission line from Prince George to Terrace; working with industry
7 to explore natural gas supply options on the north coast to enhance transmission
8 reliability to help meet the expected load; and being prepared to acquire clean
9 energy supply in the future if LNG needs exceed existing, contracted supply.
10 Participants were asked to indicate the reasons for their level of agreement and/or
11 provide additional comments on the complete set of recommended actions on
12 supporting LNG.

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

24 Those respondents who agreed with the recommendations did so because of
25 support for the LNG industry rather than specific support for BC Hydro's
26 Recommended Actions designed to ensure electricity is available to serve the LNG
27 industry should it be needed. The primary reasons given for supporting the LNG
28 industry were jobs and economic prosperity for B.C.

1 *Conserving First*

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

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

21 Many of those who voiced disagreement with these Recommended Actions provided
22 comments that were generally aligned with those that agreed with the
23 recommendations. In essence, they support conservation and would like to see
24 more done. Other reasons given for disagreement included: lack of confidence
25 conservation goals could be achieved, the lack of affordability of energy efficiency
26 technologies, and a preference for clean energy technologies over conservation.
27 There was also concern that if electricity prices were increased as a way to

1 encourage customers to conserve, this would have a negative effect on low/fixed
2 income customers.

3 *Powering Tomorrow*

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

10 The large majority of respondents who completed the comment form responded with
11 strong disagreement with the recommended action to advance Site C. Reasons
12 given included lack of demonstrated need; the flooding of agricultural land, wildlife
13 habitat and First Nations heritage sites in the Peace River Valley; lack of
14 affordability; and lack of First Nations support. Many respondents believed that
15 Site C is being built to serve projected LNG load, which they had expressed
16 opposition to in the first question. Some respondents encouraged BC Hydro to look
17 to alternative energy options such as wind, tidal, geothermal and solar instead of
18 building Site C. With regard to those who voiced support for Site C, reasons
19 included: it's the best source of clean, economical energy and it is smart economics
20 because it uses a developed river system. Amongst those that neither agreed nor
21 disagreed, it was remarked that they lack a full understanding of the cost to build
22 Site C.

23 *Managing Resources*

24 Participants were asked to provide their level of support for BC Hydro's
25 recommended action: to 'manage resources' by managing the costs associated with
26 BC Hydro's current energy portfolio of EPAs and selecting the most-cost effective
27 plan to meet customers' needs within the context of the Clean Energy Act. In the

1 background it was explained that IPPs currently supply about 20 per cent of
2 BC Hydro customers' electricity requirements. Participants were asked to indicate
3 the reasons for their level of agreement and/or provide additional comments on the
4 complete set of recommended actions on managing resources.

5 The majority of respondents who completed the comment form responded with
6 strong disagreement. It is apparent from the responses that this disagreement
7 largely stemmed from opposition to IPP energy outright. They remarked that
8 BC Hydro should cancel all IPP contracts because of negative impacts of run-of-river
9 developments on fish and wildlife habitat and the price BC Hydro pays for the energy
10 being too high. Other reasons for disagreement included that cost-effectiveness
11 should not be at the expense of environmental impacts and that protecting the
12 environment is a higher priority than electricity being low cost. A number of
13 respondents noted that BC Hydro should move away from IPP contracts and invest
14 in its own development of renewable resources such as wind, solar, geothermal and
15 ocean energy, with particular emphasis on wind and solar energy.

16 Amongst those that agreed with this recommended action, the primary reasons
17 given were support for the development of the renewable energy sector in B.C.,
18 economic development, and benefits to First Nations.

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

21 *Planning for the Unexpected*

22 Participants were asked to provide their level of support for BC Hydro's contingency
23 plans that: continue to advance capacity resource options, including advancing the
24 Revelstoke Generating Station Unit 6 Resource Smart Project; the GM Shrum
25 Station Resource Smart Project; and working with industry to explore natural gas
26 supply options. Participants were asked to indicate the reasons for their level of

1 agreement and/or provide additional comments on the complete set of
2 recommended actions on planning for the unexpected.

3 Respondents were largely supportive of upgrading existing infrastructure and using
4 existing dams to their full potential. From the written comments, it is evident there is
5 greater concern with the proposed contingency plans to work with industry to explore
6 natural gas generation because of climate change concerns, while the proposed
7 contingency actions to advance the Revelstoke Unit 6 and the GM Shrum
8 Generating Station Resource Smart Project are supported. These split views are
9 reflected in both the “somewhat agree” and “disagree” response sets. A number of
10 respondents indicated that they did not have enough knowledge to respond to this
11 question or that there was a lack of information to allow them to respond. It is also
12 evident from the responses that there is frequently a lack of understanding of the
13 differences between electrical energy and capacity.

14 *Summary of Other Written Responses*

15 Beyond submissions received through the online feedback form, BC Hydro received
16 343 additional written responses. Of these responses, 308 were submitted by
17 individuals, and 36 were from various associations. These responses can be found
18 in Appendix 7-I.

19 BC Hydro received 308 written submissions from individuals of which 270 contained
20 identical responses opposed to Site C, with another 34 submissions containing
21 similar responses but with additional comments included. These 304 individuals
22 expressed opposition to plans to build Site C in the Peace River Valley and stated
23 their belief that Site C is not needed for domestic consumption but rather for
24 powering the LNG industry. They expressed concern for the rate impacts of building
25 Site C and for the environmental and social impacts that Site C would have,
26 including the flooding of agricultural land, wildlife habitat and First Nations heritage
27 sites. They also encouraged the provincial government to return Site C and other

1 exempted projects to BCUC oversight; and suggested that BC Hydro should
2 consider other renewable sources of energy over Site C.

3 The other four written submissions from individuals included comments expressing
4 opposition to the development and electrification of the LNG industry, preferences
5 for further DSM options and fewer IPP contracts, opposition to Site C, and support
6 for the renewable energy industry.

7 Of the 36 letters received from organizations, 31 were from the clean energy sector.
8 The prevailing concern was that the IRP provided limited opportunities for IPPs and
9 limited economic development opportunities related to IPP projects for First Nations.
10 Some expressed concern that DSM deliverability risks are too high and that the
11 electricity savings from DSM measures were overstated. Several organizations
12 recommended that BC Hydro should revisit its load forecast as they believed that the
13 amount of required energy forecast was too low, particularly the amount of estimated
14 energy to serve the LNG industry. The *CEA* and the commitment to GHG reductions
15 were cited as driving factors for BC Hydro to consider when considering the benefits
16 of IPPs. Many expressed concern that IPP alternatives to Site C were not accurately
17 portrayed or assessed and that BC Hydro should consider underutilized renewable
18 sources, such as wind, ocean energy, geothermal, and pumped storage to diversify
19 supply. Many expressed the view that BC Hydro should do more to advance the
20 interests of specific technologies, advance the opportunities for clean energy
21 projects to serve new northern industrial loads, and consider providing all-electric
22 solutions for LNG facilities using IPP energy.

23 BC Hydro also received six letters from environmental organizations, large
24 customers and local governments. These letters covered issues such as opposition
25 to building Site C and plans for the LNG industry, while encouraging further
26 emphasis on DSM options and renewable energy. In addition, concern was raised
27 that rate uncertainty and potential rate increases negatively impact business

1 competitiveness with other jurisdictions. One organization provided a detailed
2 critique of BC Hydro's DSM plans and encouraged further study.

3 **7.5.2 First Nations Feedback on the August 2013 IRP**

4 *Supporting LNG*

5 First Nations were divided on the recommended action to support LNG and to the
6 extent there was support it was conditional on First Nations benefitting from the
7 developments. In particular many First Nations that commented sought clean or
8 renewable energy opportunities to supply electricity to LNG plants. There was also
9 opposition to this recommended action because of concerns about upstream
10 impacts of LNG development in the northeast area of the province where natural gas
11 production is located and because of GHG emissions.

12 *Conserving First*

13 Although First Nations comments were generally supportive of conservation efforts,
14 there is a concern that these will disproportionately burden lower income members
15 of First Nations communities who may not have the ability to take advantage of
16 conservation measures. This is consistent with comments from previous rounds of
17 consultation on the IRP. The BCFNEMC identified a concern among First Nations
18 with a reduced emphasis on DSM programs compared to the last draft IRP.

19 *Powering Tomorrow*

20 Most comments opposed the recommended action relating to Site C or deferred to
21 the First Nations' that are impacted by the Site C project. The First Nations from the
22 Site C project area that provided comments were critical of the approach to Site C
23 taken in the IRP which was thought to unduly favour Site C compared to other
24 resources. First Nations opposed Site C on several grounds including the
25 environmental impacts of large-scale flooding and the project impacts on the
26 exercise of treaty and aboriginal rights; the concern that the development of Site C

1 will displace demand for small-scale IPP projects which benefit First Nations and are
2 viewed as more sustainable; the risk of cost overruns and the risk associated with
3 uncertainty about future need for the Site C project; and questions about the
4 implications of Site C for natural gas development in the northeast of the Province.

5 *Managing Resources*

6 This recommendation is of particular concern for First Nations and many provided
7 comments that were opposed to it. Some commented on the need for First Nations
8 consultation and accommodation regarding these decisions as they would cause
9 significant economic impacts on First Nations. There was a view that BC Hydro must
10 prioritize the retention and renewal of EPAs where First Nations are a partner or the
11 main developer. There were also several comments about the lack of First Nations
12 opportunities for clean energy development in the IRP; this is addressed more under
13 General Comments below.

14 *Planning for the Unexpected*

15 The BCFNEMC supports the investigation of natural gas generation as a
16 contingency measure; however, they stated that priority should be given to existing
17 assets, such as the Resource Smart projects, conservation initiatives and renewable
18 supply options before pursuing natural gas generation. One First Nation in the
19 northeast of the province commented that most of the contingency plan is tied to
20 LNG development and infrastructure investments should not be made without
21 consultation with First Nations in the northeast that will experience the upstream
22 effects of LNG. In the case of specific projects identified in the contingency plan,
23 some First Nations explicitly deferred to the First Nations in the project area.

1 **General Comments**

2 *Clean Energy Development*

3 Many First Nations commented that they were concerned about the lack of
4 opportunities for clean or renewable energy development in the IRP and that this is
5 at odds with provincial commitments to enhance First Nations opportunities in this
6 sector. These concerns were raised in relation to many aspects of the IRP. There
7 were several suggestions on how to create opportunities for First Nations, including
8 an expanded Standing Offer Program (**SOP**) and Net Metering program, new calls
9 for power, and priority for projects that involve First Nations participation and
10 support.

11 *First Nations Consultation*

12 The BCFNEMC was of the view that before the IRP is finalized, BC Hydro needs to
13 do more to reach out to First Nations to adequately explain the latest draft of the IRP
14 and respond to First Nations concerns. Some First Nations objected to the
15 consultation on the IRP because it does not address their concerns, including project
16 impacts, consultation and accommodation and other issues which are of importance
17 to First Nations communities. Another First Nation pointed out that commenting on
18 the IRP is not a substitute for meaningful engagement regarding BC Hydro
19 operations in their territory. Some First Nations sought a separate process for
20 individual First Nations (or groups of First Nations bands). There were also
21 comments that meaningful consultation on the IRP has not occurred because of the
22 lack of capacity funding for First Nations and the timelines for consultation.

23 *First Nations Concerns Identified by BCFNEMC*

24 The BCFNEMC identified the following changes that were made to the
25 August 2013 IRP when compared to the May 2012 Draft IRP that are of particular
26 importance to First Nations and the BCFNEMC:

-
- 1 · Reducing emphasis on DSM and conservation efforts
 - 2 · Reducing spending on EPAs by deferring, downsizing, or terminating pre-COD
 - 3 EPAs, re-evaluating spending on EPA renewals and minimizing acquisition of
 - 4 new EPAs
 - 5 · No longer recommending developing energy procurement options to acquire up
 - 6 to 2,000 GWh per year from clean energy producer in the F2017 to F2019 time
 - 7 frame
 - 8 · The continued inclusion and inherent promotion of Site C

9 **7.5.3 TAC Feedback on the August 2013 IRP**

10 BC Hydro sought written input from the TAC on the planning topic areas so it could
11 be considered along with input BC Hydro received through the First Nations and
12 public and stakeholder consultation streams.

13 At TAC Meeting No. 7 held on September 23, 2013, TAC members were introduced
14 to the August 2013 IRP and provided with an opportunity to ask questions and seek
15 clarification on the draft plan. At that meeting, TAC members were requested to
16 submit individual, written comments on the draft IRP. They were also advised that
17 the feedback would be considered along with the feedback collected from First
18 Nations and public and stakeholder consultation, in BC Hydro's finalization of the
19 IRP for submission to government by November 15, 2013.

20 Submissions, which can be found in Appendix 7K, were received from:

- 21 · AMPC
- 22 · BCFNEMC
- 23 · FortisBC
- 24 · CEBC
- 25 · CECBC

-
- 1 · The Pembina Institute
 - 2 · BCSEA
 - 3 · BCPSO

4 **General Comments:** A majority of TAC members provided general comments in
5 addition to specific comments on the IRP recommended actions, and in particular,
6 comments were received with respect to policy direction governing the IRP. General
7 comments were grouped within topic areas and are summarized below.

8 *Need better understanding of Energy Policy Implications, revisit Energy Plan, and*
9 *include BCUC oversight*

- 10 · Four members recommended that the IRP assess a broader set of options so
11 as to better understand the implications of policy choices. In particular, all
12 customer groups wanted to understand the cost of policy choices and the
13 impacts to ratepayers, and analysis on unconstrained (by CEA) scenarios.
14 Three members advocated for government to develop a new energy plan or
15 revisit energy policies.
- 16 · A few members have highlighted the importance of BCUC oversight for the plan
- 17 · Concern that IRP approval by the B.C. Government will lead to a shutdown of
18 the IPP industry for two decades

19 *Include Rate Impacts and Disclose Long-Term Rate Forecasts*

- 20 · Three customer groups expressed strongly the need for a full rate impact
21 assessment of the IRP. As well, they advised disclosure of the long term rate
22 forecasts used in the long term load forecasting methodology. Given expected
23 near term rate increases, there is a high degree of concern that industrial
24 customers will either be forced to leave, or new loads will not materialize. The
25 current elasticity rate which predicts the effects of increased rates on loads
26 needs to be reviewed.

1 *Need Improved Consultation*

- 2 · Three members commented on the need for improved consultation for the IRP.
3 Concerns were raised that the consultation was limited in scope, as well as
4 dated. This was underscored by the fact that there were no meetings for a year
5 while material changes were made to the IRP, which culminated in a one-day
6 workshop.
- 7 · Further suggestions for future IRPs included: forming an ongoing advisory
8 resource planning committee, develop better tools for understanding; BC Hydro
9 and FortisBC to integrate planning; and BC Hydro to develop ongoing First
10 Nations engagement.

11 *Improvements to the IRP and Analysis:*

- 12 · Update the Conservation Potential Review
- 13 · Improve understanding and analysis of value of flexibility
- 14 · Provide more information on B.C. GHG reductions targets and the assessment
15 of the plan in meeting these targets

16 ***Supporting LNG***

17 *Natural Gas and Clean Energy for Extra LNG Load*

- 18 · Customer groups generally supported cost-effective natural gas generation, but
19 not the more expensive clean or renewable projects. There was a concern that
20 cost impacts driven from LNG would land on ratepayers. Concern was raised
21 also that if BC Hydro supplied high-priced electricity, the industry may find more
22 cost-effective solutions in the long run.
- 23 · Two members voiced concerns about relying too much on natural gas stating
24 environmental, health and economic development reasons and would like see
25 the IRP include a plan for electrification of the LNG liquefaction process.

1 Specific recommendations included reassessing needs of LNG industry and
2 revising the load forecast, proposing a blend of gas-fired generation and
3 renewables, and proposing a blend of public, private and First Nations
4 partnerships in keeping with the Premier's vision of the LNG industry as the
5 'cleanest in the world'.

- 6 · BCFNEMC support both recommended actions as long as sufficient FN
7 consultation and accommodation and environmental permitting is met, and
8 have a number of suggestions regarding the power acquisition process,
9 including: implementing recommendations from previous review (more
10 transparent and smaller calls); as well as (a) prioritizing projects with First
11 Nations partnerships or owners, (b) reversion of unused water licenses back to
12 local First Nations; and (c) paying attention to facilitation of Net Metering.

13 *Advance Reinforcement of Transmission Line to Terrace*

- 14 · Of the three members providing feedback on this specific recommended action,
15 two were supportive and one held no position. Specific comments included:
16 BCUC should review the project, and costs should be borne by developers.

17 *Horn River Basin – Discussions with Industry*

- 18 · Of the three members providing specific feedback on this recommendation, all
19 were supportive with the following suggestions: include option of local natural
20 gas generation as it is likely the most cost-effective resource, and BC Hydro
21 must ensure that First Nations are engaged early.
- 22 · One member advised IRP to include electrification of northern industrial
23 development

1 ***Conserving First***

2 *Moderate Current Spending and Maintain Long-term Target*

- 3 · Five TAC members supported a continued strong DSM focus. They indicated
4 concerns about reducing efforts of DSM activities and/or supported
5 strengthening DSM efforts further than currently targeted.
- 6 · Some expressed concerns about elimination of “Option 3” in the long term
7 and/or expressed disappointment that BC Hydro did not consider Option 4 or 5
8 to a greater extent. Opposition to cutting technology innovation was also
9 expressed.
- 10 · Regarding short-term spending reductions, opposition was expressed to
11 reducing spending to low income residential ratepayers and First Nations
12 communities citing the difficulties of re-engaging with this group, and the
13 importance of providing this group with cost saving-benefits. Further First
14 Nations recommendations were provided in terms of requesting capacity
15 funding for First Nations energy managers and the engagement of First Nations
16 in program development.
- 17 · Two members were skeptical of DSM’s savings potential; suggestions included
18 BC Hydro revisit DSM using an external review of technical experts to ensure
19 most cost-effective programs are kept; and not to place a high reliance on
20 achieving the DSM target
- 21 · FortisBC advises pursuing the inclusion of ‘Electric Load Avoidance’ as a DSM
22 measure which promotes the switching from electric-based heating to gas
23 heating. FortisBC cites the use of gas for LNG being excluded from the clean
24 requirement and suggests the same rationale could be used for DSM-related
25 fuel switching activities. No explanation was provided as to how using
26 BC Hydro DSM programs to encourage fuel switching from electricity to natural
27 gas usage would impact the B.C. GHG reduction targets.

1 *Voluntary Industrial Load Curtailment and Exploring More Codes and Standards*

- 2 · The two members commenting directly on these actions supported the
3 recommendations, with the caveat that it should not unduly impact First Nations
4 and residential customer rates

5 ***Powering Tomorrow***

6 *Continue to Advance Site C*

- 7 · All eight TAC members expressed concerns with pursuing Site C for its
8 identified earliest ISD of F2024. Specific advice included revisiting the timing
9 and need for Site C; delaying the project; providing an independent review of
10 BC Hydro's in-house cost estimate; submitting it for BCUC oversight; and
11 finding more cost effective ways to meet load. It was suggested that the
12 analysis required strengthening through cost overrun sensitivities and a deferral
13 analysis, and it was asserted better alternatives are likely available that would
14 provide greater flexibility and reduced risk.
- 15 · TAC members also expressed concerns with respect to Site C risks associated
16 with cost overruns and uncertainty that the anticipated loads will materialize
17 given commitment to the project need to be made well in advance of loads
18 coming on line. It was asserted with a cost of approximately \$8 billion, the
19 project with the associated cost risks in combination with uncertain load
20 becomes less attractive. Other concerns noted included incompleteness of
21 environmental analysis comparisons and lack of BCUC oversight were also
22 noted as concerns.

23 *Bridging Options*

- 24 · The four members commenting on this recommendation expressed support
25 with the following additional comments: support power from Columbia River

1 Treaty prior to market purchases, look for ways to go further with these options,
2 and use Burrard

3 *Advance Reinforcement of Transmission Line for GMS to Kelly Lake*

- 4 · Two members commenting directly to this action supported the
5 recommendation with the following qualifiers: they achieve environmental and
6 regulatory approvals and FN consultation and accommodation, and are subject
7 to broader analysis of requirements to ensure most cost effective timing to
8 match new load

9 *Reinforce South Peace Transmission*

- 10 · Two members commenting directly on this action supported the
11 recommendation provided appropriate permits and consultation requirements
12 are met, and BC Hydro should be able to look at natural gas options with
13 carbon tax included

14 ***Managing Resources***

15 *Optimize Current Portfolio of Existing IPP Resources*

- 16 · Four TAC members responded in support of the recommendation action with
17 customer groups wanting a more aggressive approach to reductions to IPP
18 purchases. Examples include cancelling all IPP contracts where IPPs have
19 failed to meet, or will not meet, obligations; supporting case-by-case evaluation
20 of EPAs with renewal only occurring for capacity or reliability reasons. Another
21 approach supported the action with considerations to employment, community
22 development, and maintaining good relations with developers and First Nations.
- 23 · One member was concerned with this action as it applies to First Nations.
24 Supports the development of mutually beneficial agreements to delay or
25 downsize projects, key will be that it is mutually beneficial. BC Hydro should

1 prioritize retaining and renewing EPAs where First Nations are a main
2 developer or major project partner.

- 3 · One member was opposed to this action, stating BC Hydro should continue
4 these projects under existing terms, and IPPs should have fair and reasonable
5 opportunity to recover both variable cost and capital invested in projects
- 6 · Two members supported trimming back the SOP, with one suggesting that the
7 changes do not go far enough. One member suggested there is a lack of
8 information regarding SOP changes, and as well the IRP takes a short-term
9 view and it needs to look longer term to address long-term benefits, and
10 perhaps using SOP as a contingency plan. One member asserted that the
11 reduction of the SOP program will contribute to the loss of the IPP industry.
- 12 · It was also suggested that the Voltage and Var Optimization reductions may not
13 be warranted given the value of these initiatives

14 *Investigate Customer Incentive Programs*

15 Two members were skeptical that this action would produce the desired results, with
16 concern that these new temporary incentive prices would become permanent. If
17 BC Hydro does adopt this action, then the benefits back to BC Hydro ratepayers
18 need to be significant and clearly defined.

19 ***Planning for the Unexpected***

20 *Advance Resource Smart Projects (Revelstoke Unit 6 and GM Shrum)*

- 21 · All three members who provided direct feedback on these actions supported
22 the recommendation. One member advised advancing the projects to their
23 earliest in service date, while another suggests BC Hydro ensure cost
24 competitiveness with natural gas-fired generation prior to committing to the
25 project.

1 *Investigate Natural Gas for Capacity*

- 2 • Three of the four members who provided direct feedback on these actions
3 supported this recommendation
- 4 • One member who commented directly on this action believes BC Hydro is
5 relying too much on natural gas-fired generation for capacity resources, and
6 suggested alternatives, such as Mica pumped storage, and ramping up DSM in
7 high load contingencies, as options.

8 *Investigate Fort Nelson area supply options*

- 9 • The one member providing feedback on this action supported the
10 recommendation, with the condition of First Nations consultations and
11 accommodations as appropriate

12 **7.6 BC Hydro Response to Consultation Input**

13 As described in this chapter, BC Hydro gathered extensive input on the IRP, first
14 through gathering input into the development of the IRP in spring 2011, then
15 feedback on its May 2012 Draft IRP, and finally seeking written comment on its
16 August 2013 IRP.

17 [Table 7-2](#), included in the August 2013 IRP, summarizes BC Hydro's response to
18 the consultation input that was received during spring 2011 (development of the IRP)
19 and spring/summer 2012 (feedback on the May 2012 Draft IRP).

20 [Table 7-3](#) summarizes BC Hydro's response to final written feedback collected
21 between September 3 and October 18, 2013, on the August 2013 IRP.

22 While this chapter and associated appendices summarize the input received under
23 each stream of consultation to the date of this IRP submission, it does not, and
24 cannot, fully capture the many less formal, but nevertheless valuable, conversations
25 that BC Hydro staff had with members of the public, stakeholders and First Nations
26 at the consultation events and the many points that BC Hydro's planners reflected

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- 1 upon as they undertook the development and preparation of the IRP. BC Hydro
 - 2 wishes to thank everyone who took the time to participate in the consultation
 - 3 process for this plan and contributed their input.

Table 7-2 BC Hydro Response to Consultation Input from Spring 2011 and Spring/Summer 2012

TOPIC: CONSERVE - REDUCE ENERGY CONSUMPTION & ENCOURAGE LESS CONSUMPTION DURING PEAK DEMAND PERIODS (Table 7-2)			
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	COMPARISON May 2012 Draft Recommended Action Vs. Current Recommended Action
	<p>Consultation participants were asked to indicate their level of agreement with a greater conservation and efficiency approach.</p>	<p>Consultation participants were asked to indicate their agreement with the following recommended actions to conserve more by:</p> <ul style="list-style-type: none"> · Increasing our energy savings target to 9,800 gigawatt hours per year by 2020 (1,000 gigawatt hours more than the current plan) through conservation and efficiency programs, incentives and regulations; · Exploring more codes, standards and rate options for savings beyond the annual target of 9,800 GWh/year · Encouraging less consumption during peak demand periods by pursuing voluntary conservation programs that encourage residential commercial and industrial customers to reduce energy consumption during peak periods 	<ul style="list-style-type: none"> · BC Hydro changed the DSM target Recommended Action from pursuit of Option 3 (defined as 9,800 GWh/year by F2021 in May 2012) to Option 2 (7,800 GWh/year of energy savings, with 1,400 MW of associated capacity savings, by F2021). BC Hydro also recommends targeting expenditures during F2014, F2015 and F2016 of approximately \$175 million, \$145 million and \$125 million respectively. · BC Hydro amended the second DSM Recommended Action by removing the reference to rate options, but would continue to explore more codes and standards for savings beyond Option 2 levels · The third Recommended Action remains unchanged
Public Input	<ul style="list-style-type: none"> · A strong majority (75 per cent) of participants agreed with the Greater Conservation and Efficiency approach to meeting future demand for electricity in B.C · Support for the approach was mainly attributed to BC Hydro's focus on conservation, energy efficiency, and alternative forms of power generation · Some stakeholder meeting participants suggested that more education and greater incentives are required to encourage energy conservation · A few stakeholders cautioned BC Hydro against encouraging too many codes and standards, preferring that BC Hydro provide greater incentives · A few stakeholders expressed concern about greater conservation and efficiency as they believe it puts a disproportionately higher burden on rural communities 	<ul style="list-style-type: none"> · A large majority of participants strongly agreed with all three recommended actions related to conservation (80 per cent, 72 per cent and 82 per cent agreement, respectively). · Reasons for support included that conservation is the best choice overall as we are wasteful with resources, new building codes and regulations will help conservation, there is a need to consider all options, and incentives to conserve will help · While many participants expressed a desire to maximize conservation by creating more initiatives and programs, including more municipal programs, some questioned whether BC Hydro's goals are achievable · Some participants suggested time-of-use rates as a means of encouraging conservation, and encouraged BC Hydro to recommend them to the Government. However, some participants had reservations and suggested that BC Hydro should be transparent if it was considering time-of-use rates · BC Hydro was urged to consider programs that did not place an undue burden on those who may not be able to participate for economic reasons. 	<p style="text-align: center;">RESPONSE TO CONSULTATION INPUT</p> <ul style="list-style-type: none"> · BC Hydro acknowledges consultation participants' strong preference for conservation and efficiency to address future growth in electricity demand · Consistent with this preference, conservation remains BC Hydro's first strategy to address growing demand for electricity. Given BC Hydro has sufficient energy in the near term to meet customers' requirements, BC Hydro recommends targeting conservation expenditures of \$445 million in the F2014 to F2016 period, while maintaining the ability to ramp up conservation initiatives, and associated energy savings when needed. This approach minimizes short term costs, while preserving the flexibility to ramp-up programs and continuing to maintain customer and industry partner commitments to conservation over the long term

TOPIC: CONSERVE - REDUCE ENERGY CONSUMPTION & ENCOURAGE LESS CONSUMPTION DURING PEAK DEMAND PERIODS			(Table 7-2)
First Nations Input	<ul style="list-style-type: none"> There was widespread support among First Nations participants for greater conservation and efficiency, however, a concern over the cost of conservation was a recurring theme Many First Nations expressed concern over the rate impact of conservation and efficiency initiatives, and were concerned that rates structures may not account for the unique circumstances that affect electricity consumption in First Nation communities Many First Nations identified a need for significant energy efficient upgrades to First Nations homes and buildings, but were concerned that these upgrades would be unaffordable The BCFNEMC indicated that Remote Community Electrification must be a first priority before efficiency and conservation can be considered in these off-grid communities The BCFNEMC indicated that First Nations should be involved in DSM program design to ensure they are relevant to local conditions and First Nations can access them and take advantage of possible savings. The FNEMC had specific recommendations on addressing housing issues as well as coordination with other government goals and objectives. 	<ul style="list-style-type: none"> First Nations were largely supportive of the recommended actions to conserve more provided that conservation programs are accessible to First Nations The BCFNEMC indicated support for conservation provided that: programs are based on incentives rather than penalties; program design takes into account the circumstances of rural and off-grid communities; the need for business and economic development on First Nations lands is recognized; and accessibility for lower or fixed income people is ensured. In addition, it was recommended that First Nations should be directly involved in program design and delivery. There was a concern among some First Nations workshop participants that, from a sustainability perspective, BC Hydro was not going far enough with conservation 	<ul style="list-style-type: none"> In response to consultation feedback regarding customers' ability to respond to conservation signals, any support that BC Hydro may consider for mandatory conservation methods (e.g., conservation rates/ codes and standards) would be approached cautiously Consistent with feedback from the public and TAC, BC Hydro will pursue conservation programs aimed at capacity savings. Voluntary conservation programs are an important, proactive response to the need for more clean capacity. BC Hydro will seek to confirm that these customer-oriented programs reliably achieve desired results. BC Hydro acknowledges that First Nations have unique needs and challenges when it comes to taking advantage of conservation rates. The exploration of rate options beyond Option 3 levels has been removed from the recommendation.
TAC Input	<ul style="list-style-type: none"> Five of the six members expressed support for DSM. Three of the TAC members expressed support for cost effective DSM, with two of those further wanting all possible cost effective DSM to be implemented. In general, there was interest in how BC Hydro defines cost effectiveness and a desire to look at how cost effectiveness is measured. Two members were in support of more aggressive DSM, and were willing to embrace a greater degree of uncertainty One TAC member did not support BC Hydro assuming a role of pursuing specially designed conservation rates and thought BC Hydro was taking on a role that was not appropriate 	<ul style="list-style-type: none"> TAC members generally supported the conservation recommendations. One member was sceptical that the DSM target level would be achievable and one member thought BC Hydro should pursue electric load avoidance as a DSM measure Of the supporting members, three suggested that BC Hydro should pursue even more conservation and efficiency with accelerated timelines. It was observed that BC Hydro should pursue additional savings even if additional load does not materialize, as the current plan does not meet the test of pursuing all cost-effective and achievable conservation and efficiency levels. It was suggested BC Hydro adjust the plan to comply with the 66 per cent target. TAC members expressed differing views on the risks BC Hydro places on potential conservation and efficiency shortfalls, with some members stating that these risks are overstated and another questioning the certainty of the existing targets 	

TOPIC: BUILD THE SITE C CLEAN ENERGY PROJECT			(Table 7-2)
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	COMPARISON May 2012 Draft Recommended Action Vs. Current Recommended Action
	<p>Consultation participants were asked to indicate their level of agreement with three example portfolios:</p> <ul style="list-style-type: none"> One portfolio was comprised of all renewable energy sources, excluding Site C The second portfolio was comprised of all renewables, including Site C The third portfolio was comprised of renewables, Site C and gas-fired generation <p>From this input, views on the role of Site C in serving B.C.'s electricity needs were gathered. Please see the Buy section for a summary of comments received on Portfolio 1 and the Natural Gas section for comments received on Portfolio 3.</p>	<p>Consultation participants were asked to indicate their agreement with the following recommended actions to build and reinvest more:</p> <ul style="list-style-type: none"> BC Hydro recommended building Site C to add 5,100 GWh/year of average energy and 1,100 MW of dependable capacity to the system for the earliest in-service date, subject to environmental certification and fulfilling the Crown's duty to consult and, where appropriate, accommodate Aboriginal groups 	<p>Recommended action is unchanged except for an adjustment of the in-service date of Site C from fiscal 2022 to 2024.</p>
Public Input	<ul style="list-style-type: none"> Portfolio 2, which was a mix of renewables, including Site C, received support from 50 per cent of participants, and was opposed by 40 per cent Some stakeholders in Fort St. John strongly opposed inclusion of Site C in any resource portfolio and suggested that natural gas could be a superior alternative, given its abundance in the Peace River region and its low cost relative to other resources 	<ul style="list-style-type: none"> 51 per cent of public consultation participants agreed with the recommendation to build Site C, while 40 per cent disagreed Reasons given for support included that it is the best option, it is a clean energy option, it makes economic sense, and they agree but have concerns about the environmental impact Reasons given for opposition to building Site C included that there are other/better options available, they are concerned about the environmental impacts, and that conservation is better 	RESPONSE TO CONSULTATION INPUT
First Nations Input	<ul style="list-style-type: none"> Among First Nations workshop participants, there was substantial opposition to Site C. Many First Nations that were not from the area of the proposed Site C project expressed solidarity with the affected First Nations and indicated that the First Nations affected by the Site C dam should be meaningfully consulted and accommodated 	<ul style="list-style-type: none"> First Nations in most regions were reluctant to express their own views in relation to Site C, and generally stated that they supported whatever position First Nations local to the proposed Site C area took in relation to the project. First Nations workshop participants local to the proposed Site C area expressed significant opposition to Site C There was a perception among some First Nation workshop participants that BC Hydro considered Site C a "done deal". It was suggested that there was a bias in favour of developing Site C, because of what was viewed as a long-standing B.C. Government policy of maximizing the hydroelectric potential of the Peace and Columbia rivers, and the prioritization of economic values over other values. There was a view that these drivers have now left BC Hydro with a lack of alternatives to Site C, and that the recommended action to proceed with Site C makes no effort to address, or is even dismissive of, values that cannot be measured using only economic indicators. The BCFNEMC reported that it does not support the inclusion of Site C in the IRP at this time, as its inclusion is inconsistent with the concept that the IRP is to provide overall direction, but not determine individual projects. The BCFNEMC said it is concerned that an approved IRP will be subsequently used by BC Hydro or Government to justify particular projects and reduce or eliminate the rigorous scrutiny that is normally required. 	<ul style="list-style-type: none"> BC Hydro acknowledges the mixed views on Site C held by participants in the IRP consultation. BC Hydro understood that most First Nations participating in the consultation on the IRP were reluctant to express views on Site C, and instead deferred to the First Nations communities located in the area of the proposed Site C project. BC Hydro also acknowledges that First Nations participants in the consultation on the IRP that are local to the proposed Site C project area expressed significant opposition to Site C. BC Hydro is continuing consultation with Aboriginal groups whose interests may be affected by Site C and in some cases is currently negotiating Impact Benefit Agreements. BC Hydro continues to recommend building Site C to add 5,100 GWh/year of average energy and 1,100 MW of dependable capacity to the system for the earliest in-service date of F2024, subject to: environment certification; fulfilling the Crown's duty to consult and where appropriate accommodate Aboriginal groups; and Provincial Government approval to proceed with construction. BC Hydro recommends building Site C because analysis of alternative portfolios 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 need for energy and dependable capacity in the following decade. Site C would benefit from storage and regulation provided by upstream facilities; for example, it would generate approximately 35 per cent of the annual energy produced at the W.A.C. Bennett Dam, with five percent of the reservoir surface area.

TOPIC: BUILD THE SITE C CLEAN ENERGY PROJECT			(Table 7-2)
TAC Input	<ul style="list-style-type: none"> · Several TAC members acknowledged the value of the energy and capacity Site C offers however they would like to see more information before providing input, stating it is premature to express or imply acceptance of Site C, pending the results of environmental assessment, First Nations consultation, updated cost estimates, the Minister's review of BC Hydro and the portfolio modelling. 	<ul style="list-style-type: none"> · TAC members generally questioned the prudence (for different reasons) of BC Hydro's recommendation to build Site C for its earliest in-service date. Two members questioned the need for Site C at its earliest in-service date given future load uncertainties, while others thought that more analysis on Site C was required to establish its cost-effectiveness (e.g., against other options such as natural gas-fired generation, increased DSM, and wind). · Two members stated that a decision on Site C is premature until First Nations concerns are adequately addressed. 	<ul style="list-style-type: none"> · Although included as a recommended action in the IRP, Site C continues to be subject to approval and consultation requirements. BC Hydro is continuing consultation with Aboriginal groups, stakeholders and the public on Site C. Site C is currently in the environmental and regulatory review stage, which includes a harmonized federal and provincial environmental assessment process, including a joint review panel process.

TOPIC: BUILD AND REINVEST - RESOURCE SMART OPPORTUNITIES			(Table 7-2)
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	COMPARISON May 2012 Draft Recommended Action Vs. Current Recommended Action
	No questions about the topic were asked in 2011.	<p>Consultation participants were asked to indicate their agreement with the following Resource Smart Opportunities:</p> <ul style="list-style-type: none"> Begin work to allow the sixth generating unit at Revelstoke Generating Station to be built by 2018, adding 500 megawatts of peak capacity to the BC Hydro system Continue to investigate and advance cost-effective Resource Smart projects to utilize the remaining untapped capacity in BC Hydro's existing hydroelectric system 	<ul style="list-style-type: none"> Revelstoke Unit 6 would continue to be advanced for its earliest in-service date, but as a contingency resource. BC Hydro also recommends advancing GM Shrum Generating Station upgrade project Units 1-5 Capacity Increase, which is a Resource Smart project with the potential to gradually add up to 220 MW of peak capacity starting in F2021, as a contingency resource
Public Input		<ul style="list-style-type: none"> A majority of public participants (80 per cent) agreed with BC Hydro's recommendation to begin work to build the sixth generating unit at Revelstoke Generating Station. Those that disagreed with this action felt that there were better options, including conservation. The majority of public participants (83 per cent) agreed with the recommendation that BC Hydro should continue to investigate cost-effective Resource Smart projects to utilize untapped capacity within BC Hydro's existing system Those that agreed with the draft recommendation stated that Resource Smart is a good use of existing infrastructure and it makes sense 	RESPONSE TO CONSULTATION INPUT
First Nations Input		<ul style="list-style-type: none"> First Nations workshop participants provided limited feedback on the recommended actions relating to Resource Smart. Some First Nations participants indicated that they were reluctant to provide feedback without more information. Some First Nations disagreed with BC Hydro's characterization of the Revelstoke Unit 6 project as having no or minimal impact There was a perception that BC Hydro's IRP places undue reliance on projects such as Revelstoke Unit 6 that are not yet approved The BCFNEMC supports the focus on Resource Smart options, including the addition to the Revelstoke plant. To the extent such options increase efficiency and are cost-effective, they consider them a preferred approach to new construction, minimizing new land and environmental impacts, and maximizing overall system efficiency. 	<ul style="list-style-type: none"> In line with strong support from consultation participants, BC Hydro is recommending advancing two Resource Smart projects through planning to preserve their earliest in-service-dates for contingency purposes The key Resource Smart projects identified include a proposed GM Shrum Generating Station upgrade project, which would add up to 220 megawatts of peak capacity (called GMS Units 1-5 Capacity Increase), and Revelstoke Generating Unit 6, which has the potential of adding about 500 megawatts of peak capacity Both Resource Smart projects add capacity with limited energy gains to the system. BC Hydro's capacity Load Resource Balance has changed since May 2012. BC Hydro compared Site C to portfolios that included Revelstoke Unit 6 and GMS Units 1-5 Capacity Increase and was found to be cost-effective. Given Site C is able to provide both cost-effective energy and capacity when it will be needed in the 2024 timeframe, these two Resource Smart projects are currently being advanced from a contingency planning perspective and also continue to be available to provide additional capacity in the future beyond Site C. Resource Smart solutions, such as GMS Units 1-5 Capacity Increase and Revelstoke Unit 6, provide cost-effective capacity in a manner that has fewer impacts than other capacity alternatives that aren't able to take advantage of existing infrastructure in this way
TAC Input		<ul style="list-style-type: none"> The TAC members who provided comments on the Resource Smart topic (four of seven submissions) were in support of the recommended actions, because of the relative cost-effectiveness and low environmental impact 	

TOPIC: COMBINE READILY AVAILABLE RESOURCES TO MEET THE SHORT-TERM CAPACITY GAP			(Table 7-2)
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	COMPARISON May 2012 Draft Recommended Action Vs. Current Recommended Action
	No questions about the topic were asked in 2011.	<p>Consultation participants were asked to indicate their agreement with combining readily available resources to meet a short-term capacity gap by:</p> <ul style="list-style-type: none"> Filling the short-term peak capacity gap from 2015 to 2020 with a combination of market purchases first, power from the Columbia River Treaty second, and extending the existing backup use of Burrard Thermal Generating Station, if required and as authorized by regulation. 	<ul style="list-style-type: none"> Recommended Action is unchanged, except BC Hydro is forecasting a reduced two-year reliance (F2022 to F2023) for about 200 MW
Public Input		<ul style="list-style-type: none"> 57 per cent of feedback from respondents agreed with the recommendation to fill the short-term peak capacity gap with a combination of market purchases first, power from the Columbia River Treaty second and extending the existing backup use of Burrard, if required and authorized by regulation Some of those that agreed encouraged the use of the Columbia River Treaty, and Burrard Thermal Generating Station. They also cautioned about the cost-effectiveness of this plan and expressed concerns about buying power from the market rather than being self-sufficient. Of those that disagreed, some opposed the use of Burrard and thought that other options should be explored Some public participants felt that conservation is a better option 	<p>RESPONSE TO CONSULTATION INPUT</p> <ul style="list-style-type: none"> Because of the short-term need for capacity, BC Hydro recommends meeting the short-term peak capacity gap with cost-effective market purchases first, and power from the Columbia River Treaty second. Burrard continues to be available in accordance with the CEA for emergency backup purposes. Given the expected gap in peak demand is lower than originally forecast, BC Hydro is no longer including Burrard as a third option to fill this short term gap. Removal of this third option also reflects consultation participants' mixed views on the use of Burrard. BC Hydro recommends these short-term bridging options because they are more cost-effective than constructing alternatives that are initially required for only a short period. Reflecting some consultation participants' concerns that other options should be explored, BC Hydro is also recommending pursuing capacity savings from conservation initiatives that could see results in the near or mid-term.
First Nations Input		<ul style="list-style-type: none"> There was limited First Nations feedback on the recommended actions to fill the short term capacity gap In general, the BCFNEMC reported it supports these options, agreeing with use of available power from the Columbia River Treaty, and with back-up use of the Burrard as needed. The BCFNEMC also reported that the purchase of additional power on an interim basis is supportable, recognizing that it is likely unavoidable under current demand projections. The BCFNEMC reported that it questions, in light of overall commitments to green energy, why additional market purchases would be made ahead of using power from the Columbia River Treaty. The BCFNEMC noted that the purchases would most likely come from thermal, emission-generating sources, which would result in the displacement of GHG emissions to neighbouring jurisdictions rather than result in real reductions. 	
TAC Input		<ul style="list-style-type: none"> TAC members generally supported the actions to meet the short-term capacity gap, with a few caveats: <ul style="list-style-type: none"> Two members would like to see Burrard's future more clearly articulated, albeit with divergent views on what the future role should be One member wanted the cost of additional transmission to repatriate the Columbia River Treaty downstream benefits to be examined One member supported increasing the use of bridging options in light of the large uncertainties with the load forecast and therefore the potential risk of stranded assets 	

TOPIC: TRANSMISSION PLANNING			(Table 7-2)
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	
	<p>Consultation participants were asked to indicate their level of agreement with a proactive approach to transmission planning which plans the transmission system in anticipation of future need.</p>		
Public Input	<ul style="list-style-type: none"> · About half of participants agreed with the proactive approach to planning transmission, while just over one quarter disagreed with it and about one-fifth neither agreed nor disagreed · Support for the proactive approach stemmed from opportunities to realize long term savings, reduce environmental impacts and promote economic development through proactive thinking · Concerns were raised around the risks of investing based on uncertain forecasts, they thought there was a need to encourage more regional power generation, and that ratepayers should not bear transmission costs for private enterprise · Some stakeholder meeting participants expressed a desire for BC Hydro to consider offsetting transmission costs by locating electricity generation closer to demand · A few participants encouraged BC Hydro to consider increasing opportunities for communities to partner in the ownership of electricity generation and transmission projects 	<p>No questions were asked about transmission planning in this context in 2012. Questions about specific transmission projects to serve the North Coast were asked and are addressed under the "Transmission and Supply to LNG Industry" section.</p>	<p style="text-align: center;">RESPONSE TO CONSULTATION INPUT</p> <ul style="list-style-type: none"> · For generation-driven transmission, the IRP analysis showed only marginal economic and environmental benefits associated with prebuilding in areas with high generation potential. However, the assessment entails significant uncertainty with regards to the assumptions on generation potential. Therefore BC Hydro may undertake more detailed assessments as part of future acquisitions processes where the development potential in a specific region is better understood. This is consistent with cautions expressed by consultation participants around risking investments based on uncertain forecasts. · BC Hydro acknowledges the importance of early consultation with First Nations on transmission infrastructure.
First Nations Input	<ul style="list-style-type: none"> · While generally supportive of a proactive approach to transmission planning, First Nations emphasized that this must be combined with early First Nations consultation and accommodation · The BCFNEMC was very supportive of a proactive approach to transmission planning, noting that it is possible to do so without fully committing to or actually constructing ahead of established triggers or thresholds, which reduces the risks of stranded asset investments · The BCFNEMC noted that transmission disproportionately affects First Nations and rural lands, while serving the needs or interests of large demand centres elsewhere in the province, highlighting the need to involve First Nations at all levels of transmission planning · The BCFNEMC indicated it favoured local First Nations involvement in smaller scale and distributed generation facilities, which may require proportionately less transmission than large scale facilities. (see related input and feedback under the Buy-Energy from B.C.-based Clean Energy Producers) 		
TAC Input	<ul style="list-style-type: none"> · TAC members stated that a proactive approach to transmission planning is complex and should balance BC Hydro's ability to serve potential customer loads with the potential economic consequences of overbuilding transmission · Some members stated that proactive transmission planning is key due to the longer lead time, expense, permitting and consultation required. However, TAC members were clear to state that they support proactive planning and not necessarily proactive building · Others stated that they needed more analysis 		

TOPIC: BUY – ENERGY FROM B.C.-BASED CLEAN ENERGY PRODUCERS			(Table 7-2)
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	COMPARISON May 2012 Draft Recommended Action Vs. Current Recommended Action
	<p>Consultation participants were asked to indicate their level of agreement with three example portfolios:</p> <ul style="list-style-type: none"> one was comprised of all renewable energy sources, excluding Site C; the second was comprised of all renewables, including Site C the third portfolio was comprised of renewables, Site C and gas-fired generation <p>From this question, views on buying energy from B.C.-based producers were gathered.</p> <p>Please see the Site C section for a summary of comments received on Portfolio 2 and the Natural Gas section for comments received on Portfolio 3.</p>	<p>Consultation participants were asked to indicate their agreement with the recommended action to develop energy procurement options to acquire up to 2,000 gigawatt hours from clean energy producers for projects that would come into service in the 2016 to 2018 time period.</p> <p>It was noted that final decisions on the timing and the volume of energy would be made once there was more certainty regarding new electricity loads.</p>	<ul style="list-style-type: none"> BC Hydro is no longer intending to acquire 2,000 GWh/year of clean or renewable energy resources that would come into service in the 2016 to 2018 time period BC Hydro would explore clean or renewable energy supply options and be prepared to advance a procurement process to acquire energy as required to meet LNG needs that exceed existing and contracted energy supply
Public Input	<ul style="list-style-type: none"> Portfolio 1, the example electricity generation portfolio which included all renewable power but excluding Site C, received the strongest public agreement via feedback forms. 58 per cent agreed with this approach, while 30 per cent disagreed. Respondents who supported the approach referenced alternative energy sources, the perceived smaller environmental impact and the exclusion of Site C as reasons. Those that opposed the renewable portfolio (Portfolio 1) referenced concerns over run-of-river projects, IPPs more generally, the exclusion of Site C and rate implications 	<ul style="list-style-type: none"> The majority (64 per cent) of public participants agreed with the recommendation to develop energy procurement options to acquire up to 2,000 gigawatt hours of clean energy from clean energy producers for projects that would come into service between 2016 and 2018 Stated reasons for agreement included clean/renewable energy is best, it is wise to develop multiple energy sources, and this is logical/makes sense Reasons for disagreement included concerns about cost and opposition to power being purchased from Independent Power Producers. Some individuals specifically opposed run-of-river power projects A key theme at stakeholder meetings was general interest in the role that IPPs play in relation to the BC Hydro system. In particular, they were interested in the cost of buying power from IPPs compared to the cost of hydroelectricity, the procurement process for obtaining more energy, and the future reliance on IPPs In addition some stakeholder meeting participants were interested in the use of more clean energy resources, and had questions and suggestions regarding geothermal, run-of-river, solar, tidal and wave-generated power Some public participants expressed a desire for greater regional and local generation utilizing energy sources closer to users, partly to offset any electricity losses through long transmission routes 	RESPONSE TO CONSULTATION INPUT
First Nations Input	<ul style="list-style-type: none"> Many First Nations were reluctant to comment on portfolio preferences without knowing how the IRP would ultimately affect their individual communities. Although not expressing support for any particular example portfolio, in general First Nations participants preferred the development of clean and renewable resources with the exception of Site C. <i>(More specific input from Round 1 on Site C is set out in the Site C section above.)</i> Like some stakeholders and TAC members some First Nations indicated a preference for certain types of resources that appeared excluded from the example portfolio, including geothermal, solar, wave and tidal In addition to procurement and employment opportunities associated with independent power projects, many First Nations are seeking revenue sharing or ownership interests in proposed projects Many First Nations expressed interest in community based electricity generation. There was also interest expressed in a regional approach to portfolio planning 	<ul style="list-style-type: none"> Most First Nations workshop participants that expressed an opinion on the recommended action to buy more energy were supportive. There was substantial interest in greater First Nations involvement in clean or renewable energy development, but participants identified significant barriers to greater involvement. First Nations felt strongly that BC Hydro should be doing more to help First Nations overcome these barriers and become full participants in clean or renewable energy development. Several First Nation workshop participants expressed a preference for local generation rather than transmission to/from other regions Some First Nation participants were of the view that IPPs should be evaluated differently depending on the intended destination of power The BCFNEMC was also supportive of clean energy and privately owned and developed generation. The BCFNEMC identified important conditions that are essential to First Nations support for specific projects and a successful call for more IPP generation, specifically: (1) there should be First Nations opportunities for participation, including a possible 	<ul style="list-style-type: none"> BC Hydro acknowledges consultation participants' support for clean or renewable energy from B.C.-based energy producers, and many participants' interest in more local generation solutions. BC Hydro also acknowledges many First Nations interest in greater involvement in clean or renewable energy development. (For further details on First Nations participation in clean or renewable energy, please see Table 1-1 in Chapter 1, which describes the IRP response to British Columbia's CEA energy objective to foster development in First Nations and rural communities through the use and development of clean or renewable resources). Based on the updated load forecast and energy load resource balance, BC Hydro has adequate supplies of energy in the near and mid-term Since BC Hydro has sufficient clean or renewable energy to meet domestic requirements, additional acquisition processes are not being recommended at this time. Further, BC Hydro recommends optimizing the current portfolio of IPP resources according to the key principle of reducing near-term costs while maintaining cost effective options for long-term need. BC Hydro is committed to honouring IBAs with First Nations, and some of the IBAs involve negotiation of EPAs for energy generation projects. Note that should LNG industry's future energy needs emerge in a different way than currently envisioned or should load growth be higher than forecast, BC Hydro could need additional resources. BC Hydro recommends exploring clean or renewable energy supply options and being prepared to advance a procurement process to acquire energy from clean or renewable power projects as required to meet LNG needs that exceed existing and contracted supply. With regard to interest in local generation solutions, BC Hydro focuses on local generation through

TOPIC: BUY – ENERGY FROM B.C.-BASED CLEAN ENERGY PRODUCERS			(Table 7-2)
TAC Input	<ul style="list-style-type: none"> · Many TAC members were not ready to state preferences on example portfolios until more detailed data was available. · One TAC member observed that it is not the role of BC Hydro to foster regional development, green development, reduced GHGs, or any other social objective through the purchase of new electricity supply · Another two noted that more is needed from BC Hydro and the provincial government to help identify potentially feasible geothermal generation resource locations while another member stated that the most cost effective option for procuring additional electricity should be the one that is pursued · Another disagreed with BC Hydro's comment that a portfolio of renewable generation from IPP's would be higher cost than one involving Site C and/or natural gas · Another member drew attention to the consideration of other environmental impacts such as the impact of transmission connections to these widespread generation sites 	<p>preferential call for First Nations projects; (2) First Nations rights and title must be fully respected and mini-staking rushes for micro-hydro sites must be avoided, and unused water licenses should revert back to the Province or to local First Nations; and (3) the call process should be designed to encourage rather than discourage First Nations participation.</p> <ul style="list-style-type: none"> · TAC members had a range of views on this action. Two members did not support the action based on the view that energy was not needed (or greatly diminished) and/or was not cost-effective. Other members generally supported clean energy development but wanted to see further analysis on: <ul style="list-style-type: none"> - Volume and timing requirements; - Deliverability and cost of new supply risks - Cluster analysis - Additional resource portfolios (all gas and electric load avoidance) · Another member supporting clean energy development suggested that it was important to consider the findings of the Merrimack Report to ensure better accessibility of procurement processes for First Nations 	<p>acquisitions processes and is committed to local solutions in a number of ways including electrifying remote communities, maintaining the SOP for small projects and the Net Metering program, which encourages residential and small business customers to offset their own electricity consumption</p>

TOPIC: TRANSMISSION AND SUPPLY TO LIQUEFIED NATURAL GAS (LNG) INDUSTRY			(Table 7-2)
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	COMPARISON May 2012 Draft Recommended Action Vs. Current Recommended Action
	No questions about the topic were asked in 2011.	<p>Consultation participants were asked to indicate their agreement with reinforcing the existing 500-kilovolt line from Prince George to Terrace, including installation of new capacitors, to meet new demand on the North Coast. They were also asked to indicate their agreement with continuing to work with Liquefied Natural Gas (LNG) developers to understand their electricity requirements and keeping options open until further certainty on future requirements can be established by:</p> <ul style="list-style-type: none"> Undertaking work to maintain the earliest in-service date for a new 500 kilovolt transmission line from Prince George to Terrace and Kitimat and from the Peace River region to Prince George; Developing procurement options for additional clean energy resources, backed up by gas-fired generation (located only in the North Coast, or in both the North Coast and across the province) for electricity that could be delivered in the 2019 to 2020 timeframe, should it be needed 	<ul style="list-style-type: none"> The Recommended Action concerning reinforcing the existing 500-kilovolt line from Prince George to Terrace, including installation of new capacitors (referred to as Prince George to Terrace Capacitors or PGTC), to meet new demand on the North Coast remains unchanged Based on updated LNG requirements, BC Hydro is no longer undertaking work to maintain the earliest in-service date for a new 500 kilovolt transmission line from Prince George to Terrace and Kitimat and from the Peace River region to Prince George As described above, BC Hydro is no longer intending to acquire 2,000 GWh/year of clean or renewable energy resources that would come into service in the 2016 to 2018 time period. BC Hydro would explore clean or renewable energy supply options and is to and be prepared to advance a procurement process to acquire energy as required to meet LNG needs that exceed existing and contracted energy supply.
Public Input		<ul style="list-style-type: none"> The majority of public participants agreed with the recommendation to reinforce the existing 500 kV transmission line from Prince George to Terrace to meet the demand on the North Coast. The most popular reasons given for agreement were that reinforcing this existing line was logical and necessary. Some participants who disagreed with this option noted preferred the use of alternative energy sources, opposed LNG development, or preferred that local generating facilities should be built instead. Concern was also expressed that industry should pay for the required transmission. 48 per cent of public participants agreed with the recommendation to undertake work to maintain the earliest in-service date for a new transmission line. 17 per cent neither agreed nor disagreed. When participants did agree, they noted that it was on the condition that BC Hydro explores other options, and that it is cost efficient. 35 per cent disagreed with the recommendation regarding a new transmission line. Reasons for disagreement included lack of support for natural gas, opposition to LNG, and the belief that industry should provide their own electricity/pay for it themselves. A key theme at the stakeholder meetings was that participants wanted BC Hydro to proceed cautiously in its approach to supplying the proposed LNG plants with energy, in case the demand for electricity does not emerge. As well participants did not want residential rates to subsidize the cost of new energy for large industrial users, including the proposed LNG plants. Participants indicated that they did not want residential rates to be affected due to increased industrial demand. Some participants at the stakeholder meetings also recommended that the proposed LNG plants self-generate electricity using natural gas, rather than obtain their energy supply from BC Hydro and increase demand on the system 	<p style="text-align: center;">RESPONSE TO CONSULTATION INPUT</p> <ul style="list-style-type: none"> BC Hydro has continued work to understand the future requirements of the LNG industry. While the potential for additional LNG facilities to locate in B.C. has strengthened, it appears that most LNG facilities will use direct-drive natural gas turbines to run the cooling process to convert natural gas to liquid form, but may require electricity from BC Hydro for ancillary activities. At this time, BC Hydro is moving forward with the recommended action to advance PGTC, which entails the reinforcement of the existing 500 kV transmission line from Prince George to Terrace through new series capacitors and upgrades to substations, but is not moving forward with work on a new 500 kV transmission line from Prince George to Terrace. With regard to the LNG industry's future energy requirements, BC Hydro has adequate supply to meet 3,000 GWh/year of LNG load and is committed to meeting the future requirements of this industry. BC Hydro continues to explore clean or renewable energy supply

TOPIC: TRANSMISSION AND SUPPLY TO LIQUEFIED NATURAL GAS (LNG) INDUSTRY		(Table 7-2)
First Nations Input	<ul style="list-style-type: none"> · Similar to Site C and Revelstoke Unit 6, several First Nations workshop participants expressed concern that transmission upgrades appeared to be fully committed projects even though BC Hydro indicated that the IRP did not commit BC Hydro to any specific capital project · Some First Nations workshop participants indicated that industrial customers (not residential customers) should bear the cost of these upgrades · The BCFNEMC indicated it was supportive in principle of the proposed transmission upgrades; however, it also said the large amount of uncertainty regarding LNG facilities raised serious questions and highlighted the need for very timely and effective contingency planning · First Nations feedback on supplying electricity to power North Coast industrial development was mixed with some favouring it and others not. Factors influencing participants' positions were concern about increased rates, interest in greater opportunities for participation in energy development and concern about environmental impacts. Several First Nations expressed concern about the level of uncertainty associated with the "prepare for potentially greater demand" recommended actions. Some participants expressed significant concern about a perceived lack of opportunities for First Nations in clean/renewable energy development among the recommended actions. · The BCFNEMC reported that it takes no position on the LNG facilities, and is not opposed in principle to supplying them with electricity. However, it also stated that there is some degree of inconsistency in Government policies on clean energy and the energy supplied for the LNG Plants. · The BCFNEMC stated that transmission costs should be carried by the developers not customers (<i>see also feedback on Transmission Planning topic above</i>) · In regards to procurement, the BCFNEMC stated that generation located near demand is preferable and First Nations should be given first or full opportunity to develop generation projects 	<p>options and is prepared to acquire additional energy from clean power projects as required to meet the LNG industry's needs in excess of existing and contracted supply. It also recommends working with industry to explore natural gas supply options on the North Coast to enhance transmission reliability and to meet the LNG industry's requirements for dependable supply.</p> <p>The approach described above is consistent with participants' concerns expressed during consultation regarding the potential for stranded investments. It will ensure BC Hydro is ready and able to serve new LNG customer load, while not unduly risking investment before commitments are made.</p> <ul style="list-style-type: none"> · BC Hydro acknowledges consultation participants' concerns regarding the potential rate pressures caused by serving the LNG industry. The B.C. Government's direction has enabled greater use of natural gas to reduce the cost of providing service to LNG, to ensure BC Hydro electricity supply can be competitive with the option of LNG producers self-supplying, and to support LNG producers in being competitive in the world market. · In addition, the government's LNG strategy committed to offsetting the increased expense of supplying new LNG facilities by ensuring that LNG developers contribute capital to infrastructure development and to the electricity supply required to serve each operation. · BC Hydro acknowledges that First Nations had diverse perspectives on electricity supply to North Coast LNG. Since the spring of 2012 BC Hydro has been engaged in consultation with First Nations in the area regarding the potential supply of electricity to LNG proponents. · BC Hydro is no longer consulting on a new 500 kV line from Prince George to Terrace and Kitimat and from the Peace River region to Prince George (as it is no longer recommended), but consultation continues with potentially impacted First Nations regarding reinforcement of the existing 500 kV line (PGTC)
TAC Input	<ul style="list-style-type: none"> · Regarding the transmission line reinforcement and work to maintain the earliest in-service date of a new transmission line; TAC members generally expressed support, however with a number of strong caveats including: <ul style="list-style-type: none"> - Ratepayers should not be subsidizing costs for new infrastructure caused by LNG plants - Public policy questions around these major developments still need to be addressed (including the need for new transmission given a recent change in Government policy) - A new <i>Insulate More</i> strategy is needed to protect against any potential undesirable consequences of this major LNG development. · TAC members' views on developing procurement options for additional clean energy resources, backed up by gas to power North Coast industrial development ranged from support to concerns about the potential rate impacts and environmental impacts associated with gas-fired generation. 	

TOPIC: POTENTIAL LARGE INDUSTRIAL DEMAND IN THE NORTHEAST FORT NELSON AND HORN RIVER BASIN			Table 7-2
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	COMPARISON May 2012 Draft Recommended Action Vs. Current Recommended Action
	No questions about the topic were asked in 2011.	Consultation participants were asked to indicate their agreement with continuing to monitor the northeast natural gas industry and undertake studies to keep electricity supply options open, including transmission connection to the integrated system, and local gas-fired generation.	<ul style="list-style-type: none"> Recommended Action is unchanged
Public Input		<ul style="list-style-type: none"> Public participants expressed varied opinions on the recommendation to monitor the natural gas industry and undertake studies to keep electricity supply options open. 51 per cent of respondents agreed with this recommendation. Agreement came with conditions that: BC Hydro should explore other options; it is cost efficient; and BC Hydro should support conservation/cleaner options Those individuals that disagreed with this option stated that BC Hydro should consider other alternatives, or that industry should pay for their own power, as well as expressing opposition to gas-fired generation and the environmental impacts 	<p>RESPONSE TO CONSULTATION INPUT</p> <ul style="list-style-type: none"> The Fort Nelson and Horn River Basin regions are presently not part of BC Hydro's integrated electricity system, however these regions may experience significant future growth in electricity demand as a result of growth in the oil and gas sector BC Hydro acknowledges TAC and First Nations concerns surrounding increased rate-payer costs and the use of natural gas as a fuel. At this time Hydro is continuing to monitor development of the natural gas industry in the northeast and recommends continuing discussions with industry and undertaking studies to keep electricity supply options open.
First Nations Input		<ul style="list-style-type: none"> Several First Nations workshop participants expressed the view that it would make sense for the northeast natural gas industry to self-supply. The practice of "fracking" was considered a big environmental issue by some participants and those participants did not view natural gas as sustainable. The BCFNEMC reported that it is supportive of electrification of the natural gas industry provided First Nations and BC Hydro customers do not face tighter supply, higher costs, or more non-clean generation requirements. The BCFNEMC noted again that it perceives inconsistencies in government policies relating to clean energy and natural gas development. 	
TAC Input		<ul style="list-style-type: none"> TAC members generally supported the Fort Nelson action to continue to monitor the activity and keep options alive. Two TAC members expressed concern about the environmental and rate impacts associated with serving large new gas industrial loads in the northeast, asserting that rate payers should not be subsidizing this activity. Others suggested that significant public policy questions need to be addressed with these large developments prior to determining appropriate actions for BC Hydro. 	

TOPIC: PREPARE FOR POTENTIALLY GREATER DEMAND - PEAK CAPACITY RESOURCES – PUMPED STORAGE			Table 7-2
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	COMPARISON May 2012 Draft Recommended Action Vs. Current Recommended Action
	No questions about the topic were asked in 2011.	Consultation participants were asked to indicate their agreement with exploring peak capacity resources by working with industry to explore pumped storage capacity options to reduce the lead time to in-service dates and to develop an understanding of where and how to site such future resources in the province should they be needed.	<ul style="list-style-type: none"> BC Hydro is no longer undertaking work to explore pumped storage capacity options
Public Input		<ul style="list-style-type: none"> 61 per cent of consultation participants agreed with this recommendation, while 15 per cent disagreed. Those that agreed often agreed strongly that this is an area that requires more exploration and is a good management of resources. Those that disagreed indicated they did so because pumped storage is inefficient. 	<p>RESPONSE TO CONSULTATION INPUT</p> <ul style="list-style-type: none"> As part of good utility practice, BC Hydro continues to have a contingency plan in case electricity demand grows faster than forecast or if planned resources don't come online when expected Because Revelstoke Unit 6 is no longer needed as part of the base plan without LNG load, it is being brought forward as one of the additional capacity options for contingency purposes, along with the GMS Units 1-5 Capacity Increase The recommended action to work with industry to advance pumped storage as a contingency option is no longer included at this time, because of its high cost. Pumped storage remains within BC Hydro's inventory of long term resource options for future IRPs. BC Hydro notes that a large number of consultation participants, understandably, had little familiarity with pumped storage, given such a project has not been located in B.C. to date. Should such a recommended action move forward in the future, it should involve sharing the growing understanding about the potential of pumped storage with others, including First Nations.
First Nations Input		<ul style="list-style-type: none"> First Nations workshop participants viewed pumped storage both favourably and unfavourably. On the one hand there was concern about what was perceived as a high cost/low return resource and on the other hand there was interest in establishing pumped storage as a new industry for First Nations. The BCFNEMC would be supportive of pumped storage as a vehicle for First Nations investment, provided that facilities can be developed in an environmentally responsible manner, and with assurance of long-term need and appropriate rate design to ensure financial viability 	
TAC Input		<ul style="list-style-type: none"> TAC members generally supported pumped storage investigations with a few qualifiers, namely: <ul style="list-style-type: none"> BC Hydro should also continue to explore other storage options Pumped storage would likely not be cost effective BC Hydro should collaborate with First Nations on this activity 	

PREPARE FOR POTENTIALLY GREATER DEMAND - PEAK CAPACITY RESOURCES – NATURAL GAS			Table 7-2
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	COMPARISON May 2012 Draft Recommended Action Vs. Current Recommended Action
	<p>Consultation participants were asked to indicate their level of agreement with three example portfolios:</p> <ul style="list-style-type: none"> One was comprised of all renewable energy sources, excluding Site C The second was comprised of all renewables, including Site C The third was comprised of renewables, Site C and gas-fired generation <p>From this input, views on the role of natural gas in serving B.C.'s electricity needs were gathered.</p> <p>Please see the Buy section for a summary of comments received on Portfolio 1 and the Site C section for comments received on Portfolio 2.</p>	<p>Consultation participants were asked to indicate their agreement with exploring peak capacity resources by:</p> <ul style="list-style-type: none"> Working with industry to explore natural gas-fired generation options to reduce the lead time to in-service dates and to develop an understanding of where and how to site such future resources in the Province, should they be needed. 	<ul style="list-style-type: none"> Recommended Action is unchanged
Public Input	<ul style="list-style-type: none"> The example electricity generation portfolio which included gas (Portfolio 3) had the strongest public disagreement on the feedback forms (opposed by 66 per cent and supported by 25 per cent of respondents). The most prevalent reason for disagreement was gas-fired generation and its higher greenhouse gas emissions. 	<ul style="list-style-type: none"> 50 per cent of participants agreed and 35 per cent disagreed with this recommended action. Those that agreed indicated that gas-fired generation is a good alternative, is logical and makes sense Those that disagreed indicated opposition to gas fired generation, and concerns about environmental impacts 	<p>RESPONSE TO CONSULTATION INPUT</p> <ul style="list-style-type: none"> As mentioned above, as part of good utility practice, BC Hydro continues to have a contingency plan in case electricity demand grows faster than forecast or if planned resources don't come online when expected BC Hydro notes that while the province has a wealth of clean or renewable energy resources, cost effective options for meeting growth in peak demand with clean capacity are more limited. BC Hydro recommends continuing to investigate natural gas-fired generation supply options to reduce their potential lead time to in-service and to develop an understanding of where and how to site such resources, should they be needed, given that this resource is cost-effective, flexible and proven Any use of natural gas-fired generation will be planned in such a way to achieve the 93 per cent 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 per cent 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.
First Nations Input	<ul style="list-style-type: none"> First Nations feedback on the example portfolio containing natural gas did not express either support or opposition to natural gas. However, several participants expressed concern about the impact of climate change. A small number of First Nation participants expressed interest in natural gas fired generation. One participant said this should be an interim measure provided that the generation facilities are located close to the consumers of the electricity thereby reducing transmission requirements and related impacts. The BCFNEMC suggested that natural gas generation may still have a role to play in long-term energy planning; to be used during infrequent low-water years, as gas may provide cost-benefits, and improve reliability, and energy security. The BCFNEMC also submitted that natural gas may also have a role in helping to displace electricity that is currently imported from other jurisdictions that primarily use coal for generation. 	<ul style="list-style-type: none"> First Nations workshop participants expressed a range of views on natural gas-fired generation options. Opposition to natural gas stemmed from the view that it was not sustainable, nor as cheap as some clean renewable resources once the cost of emissions are taken into account. There was also a concern about the health effects of natural gas. On the other hand, support for natural gas was tied to the expectation that the costs would be borne by industry and that the facilities could be situated close to where the electricity is consumed. The BCFNEMC stated that extensive consultation will be required before any new natural gas projects could be brought on stream 	
TAC Input	<ul style="list-style-type: none"> Several TAC members supported continued examination of the role of gas under certain circumstances, however they were unwilling to weigh in with a definitive preference until more information was available While many TAC members noted a role that gas may play under certain circumstances in the long term plan, TAC members were also concerned about GHG emissions and recognized the need for a comprehensive approach to meeting GHG reduction targets Two TAC members commented that other jurisdictions regard gas as a relatively clean fuel, and B.C. exports gas to them. In addition, siting gas fired generation closer to the load allows for less transmission requirements and provides voltage support in demand centres. 	<ul style="list-style-type: none"> TAC members' views on exploring natural gas were split. Some supported the action as a cost-effective resource; others were concerned about the environmental and/or cost risk associated with a gas strategy One member urged BC Hydro to reconcile the draft IRP and new gas-fired generation policy from the provincial government 	

TOPIC: ELECTRIFICATION			Table 7-2
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	
	<ul style="list-style-type: none"> Consultation participants were asked to indicate their level of agreement with a proactive approach to electrification, in which BC Hydro would work with government and other partners to facilitate and encourage increased electrification where it can reduce greenhouse gas emissions and benefits to customers 	No questions about the topic were asked in 2012.	
Public Input	<ul style="list-style-type: none"> 58 per cent of consultation respondents agreed with the approach to actively pursue electrification, compared to 29 per cent who disagreed Those who agreed indicated they did so because it would decrease GHG emissions, because they supported a switch to electrification, and because they supported a proactive approach Those who did not support the approach expressed a range of reasons, including the increased demand for electricity, the need for the technology of the cars to improve, and the need for government and industry to be responsible for electrification, not BC Hydro. Many stakeholder meeting participants had concerns that a proactive approach to electrification could significantly increase demand for energy, which would require a significant new supply of energy such as large hydro, wind, run-of-river, etc. Several stakeholders voiced concerns about the limitations of electric cars in rural communities 		RESPONSE TO CONSULTATION INPUT <ul style="list-style-type: none"> Within the IRP, BC Hydro examined the drivers of electrification, the potential impact of electrification on the system, and when electrification might occur. Analysis concluded that electrification will take time to gain momentum and that the potential costs and impacts of general electrification would be significant. Further, it is uncertain where and when electrification should be undertaken relative to other carbon mitigation measures. BC Hydro will continue to work with the B.C. Government on the Province's Climate Action Plan
First Nations Input	<ul style="list-style-type: none"> First Nations both supported and opposed electrification. Amongst their concerns were the rate impact of electrification and the environmental impacts of electricity generation and transmission infrastructure There was a perception among several First Nations that there are conflicting policy objectives particularly with respect to reducing greenhouse gas (GHG) emissions and at the same time providing electricity to operations that extract carbon emitting natural gas for domestic sale or export Some First Nations questioned the relevance of electrification to their communities, many of which are located in rural areas where electric cars are not viewed as practical and in some cases electricity service is unreliable. There was a perception among some First Nations that electrification will benefit urban areas at the expense of rural First Nations communities. There was a concern that First Nations will be impacted by the development of further generation and transmission infrastructure and will pay increased electricity rates notwithstanding their communities do not enjoy the same levels of electricity service as urban areas. The BCFNEMC recommended that extension of reliable electricity service to all First Nations communities in the province should be a first priority The BCFNEMC indicated that decisions on electrification should not impose pressure for unwanted developments, impacts, or costs on First Nations The BCFNEMC stated that electrification should not become an industry incentive program at the expense of existing electricity consumers. New customers should pay full costs, including any marginal cost increases accruing to existing consumers 		
TAC Input	<ul style="list-style-type: none"> Three TAC members supported taking a proactive role with electrification with caveats, two were neutral expressing a need for more information, and one disagreed with electrification stating the opinion that BC Hydro should be responding to customer demand All members, with the exception of one, emphasized the need for a more comprehensive look at electrification options including cost assessments and/or impacts on taxpayers One member expressed a concern over electrification in the natural gas sector; siting the need for the province to take a more proactive approach to planning in the regions and assessing the pace of development 		

TOPIC: EXPORT MARKET POTENTIAL			Table 7-2
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	
	<p>Consultation participants were asked to indicate their level of agreement with BC Hydro undertaking an assessment of the export market demand for clean or renewable energy</p>	<p>An update was provided in the 2012 consultation Discussion Guide. No questions about the topic were asked in 2012.</p>	
Public Input	<ul style="list-style-type: none"> · Opinion was divided between participants who agreed with the enhanced export approach (44 per cent) and those who disagreed with it (48 per cent) · Those who agreed with this approach stated the value of economic benefits although caution was also expressed that economic benefits may not be enough to justify the environmental and social impacts of new generation. Supporters of exports also appreciated the ability to sell green electricity, and B.C.'s abundant supply of natural resources. · Those that opposed it expressed concern over the environmental impact, the need to ensure electrical sustainability and opposition to IPP development · Many stakeholder meeting participants supported clean electricity generation for the purpose of export, provided BC Hydro is first able to meet domestic electricity requirements 		<p style="text-align: center;">RESPONSE TO CONSULTATION INPUT</p> <ul style="list-style-type: none"> · Market conditions do not justify the development of new, additional clean or renewable resources for the export market. Refer to section 5.8 of Chapter 5 for detailed analysis. · BC Hydro will continue to monitor export market conditions for potential export opportunities going forward as market conditions could change · As per long-standing practice, BC Hydro will continue to optimize the revenue generated by the sale of any electricity that is surplus to domestic requirements
First Nations Input	<ul style="list-style-type: none"> · Similar to feedback from stakeholders and the public, First Nations were divided on the issue of BC Hydro acquiring additional renewable energy produced in B.C. for the sole purpose of export · First Nations workshop participants that were open to supporting electricity exports indicated that their support was dependent on First Nations becoming full participants in export, including revenue sharing and jobs · First Nations that opposed electricity exports were concerned about the impact of electricity export on the environment and on First Nations rights and title. They were also concerned that electricity export will undermine domestic electricity supply at competitive rates. · The BCFNEMC offered the following considerations in relation to electricity export: (1) the priority must be domestic requirements; (2) that there be financial protection from rate increases; (3) First Nations must be protected from unwanted development; and (4) First Nations participation as beneficiaries of export development is essential. · The BCFNEMC indicated that they did not see an economic benefit to B.C. acquiring additional electricity for export at this time 		
TAC Input	<ul style="list-style-type: none"> · TAC members were skeptical of the business case for exports in the current climate. If exports proceed, concern was expressed that cheaper supply alternatives would be used for exports and longer term domestic electricity needs would be met by more expensive options · Caution was also expressed that all costs incurred by BC Hydro, including administrative and use of existing transmission are taken into account, and BC Hydro does not enter into an IPP purchase agreement until a profitable export agreement of matching length is executed. Another member raised concern over the environmental impacts of building for exports. · One TAC member stated that the export of cost effective and competitive electricity affords B.C. tremendous opportunities for economic development, employment and an opportunity to play a leadership role in reducing greenhouse gases throughout North America 		

TOPIC: FOSTER DEVELOPMENT IN FIRST NATION AND RURAL COMMUNITIES THROUGH THE USE AND DEVELOPMENT OF CLEAN OR RENEWABLE RESOURCES			(Table 7-2)
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	
	First Nations participants were asked for their input on the BC energy objective to foster development in First Nation and rural communities through the use and development of clear or renewable resources	This consultation topic was part of the 2011 First Nations consultation only.	
First Nations Input	<ul style="list-style-type: none"> There was substantial interest in greater First Nations involvement in clean or renewable energy development in order to create revenue and jobs in First Nations communities, but First Nations workshop participants identified significant barriers to greater involvement. First Nation participants underlined that BC Hydro should be doing more to help First Nations overcome these barriers and become full participants in clean or renewable energy development. There was also significant interest in connecting remote communities to the electricity grid or alternatively having remote communities become energy self-sufficient through clean or renewable generation projects that replace diesel generation Apart from clean or renewable energy development, First Nation workshop participants were also interested in employment and business opportunities with BC Hydro The FMEC recommends that BC Hydro review procurement and energy purchase related policies to facilitate First Nations developments and reduce financial or other barriers that currently discourage First Nations participation The FNEC also states that projects must be suitable for local conditions and be supported by the community 	<ul style="list-style-type: none"> There were similar views expressed by First Nations in the second round workshops concerning their interest in benefiting and directly participating in economic development opportunities, including clean or renewable energy projects It was stated that First Nations should be viewed as partners and receive something back from BC Hydro for the development of First Nations resources There was an interest in receiving clean and reliable energy in First Nations communities. Many noted that electricity infrastructure upgrades were needed to support reliable power in their communities so as to support development and attract new investment. Outages were a particular concern, especially in remote communities 	<p>RESPONSE TO CONSULTATION INPUT</p> <p>The following are some of the initiatives BC Hydro has undertaken to advance this CEA objective.</p> <ul style="list-style-type: none"> BC Hydro is continuing with the Standing Offer Program (SOP). BC Hydro is required to establish and maintain the SOP pursuant to the CEA. In response to specific requests from a number of First Nation workshop participants, BC Hydro has made resource options data for the province available in a downloadable GIS database posted on the BC Hydro website at: http://www.bchydro.com/energy-in-bc/meeting_demand_growth/irp/document_centre/reports/final_ror.html <p>BC Hydro programs outside the IRP.</p> <ul style="list-style-type: none"> Apart from the IRP, and more broadly than the specific objective relating to clean or renewable energy development, BC Hydro has a number of initiatives that respond to Aboriginal interests, including: <ul style="list-style-type: none"> Remote Community Electrification (RCE) BC Hydro's Aboriginal Education and Employment Strategy (AEES) Aboriginal Procurement Distributed Generation self-assessment toolkit for First Nations Net Metering program

TOPIC: CONSULTATION PROCESS			(Table 7-2)
	2011 CONSULTATION QUESTION (March to April 2011)	2012 CONSULTATION QUESTION (May to July 2012)	
	Although the consultation process was not a topic on the agenda, First Nations participants voiced concerns respecting the consultation process and these were subsequently reflected in the Interim First Nations Consultation Report	This consultation topic was part of the 2011 First Nations consultation only.	
First Nations Input	<ul style="list-style-type: none"> • First Nations objected to the use of the term “consultation” to describe BC Hydro’s process to seek their input and feedback on the IRP • There was a concern about the legal implications of the word consultation and the implications to First Nations from their participation in the process. Some First Nation participants expressed concern that the IRP would be used to justify later decisions when, in their view, consultation had not occurred. • There was a wide range of views regarding what was required for consultation to occur. These included: <ul style="list-style-type: none"> - Revenue sharing - Compensation for past grievances - Partnership between First Nations and BC Hydro in decision-making - An understanding of the impacts of the IRP from a First Nations territory perspective - Sufficient capacity funding to individual First Nations so they could fully understand the technical elements of the IRP - Involvement of senior leaders from BC Hydro and government in the process - Meetings with BC Hydro and individual First Nations communities. 	<ul style="list-style-type: none"> • There were similar views expressed by First Nations in the second round workshops concerning consultation. There were additional concerns expressed about the limited window for providing written comments. • There was also appreciation expressed for the information presented in the workshop although it was clarified by some participants that the workshops were discussion and did not involve decision-making • There were requests that BC Hydro advise First Nations how their input and feedback had been considered in the development of the IRP • There were concerns about the capacity of different First Nations to digest and develop an informed understanding about the IRP and to engage in a meaningful dialogue on it • There was disappointment that the planning process did not proceed from a First Nations territorial view. The non-territorial approach was seen by some as producing a plan based on economic imperatives. 	<p style="text-align: center;">RESPONSE TO CONSULTATION INPUT</p> <ul style="list-style-type: none"> • BC Hydro is committed to consulting with First Nations on projects or programs that could impact their Treaty or asserted rights and title • The IRP does not, by itself, commit BC Hydro to any specific capital projects. Recommended action items will be subject to subsequent approval and consultation requirements. • In a consultation with a First Nation on a specific capital project BC Hydro will consider requests for capacity funding • BC Hydro did not undertake separate consultation processes with individual First Nations on the development of the IRP because the IRP addresses planning considerations for BC Hydro’s entire service area

Table 7-3 BC Hydro Response to Consultation Input from Summer/Fall 2013

TOPIC: SUPPORTING LNG (Table 7-3)	
	<p style="text-align: center;">2013 CONSULTATION QUESTION (September 3 to October 18, 2013)</p> <p>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.</p>
Public Input	<p style="text-align: center;">RESPONSE TO CONSULTATION INPUT</p> <p>BC Hydro acknowledges the comments received from the public and stakeholders expressing their lack of support for the LNG industry as a whole. BC Hydro is conveying these concerns to government and these responses are contained in the 2013 Public and Stakeholder Consultation Report that is included in the final IRP.</p> <p>BC Hydro acknowledges mixed views regarding the use of natural gas for supply across the streams of consultation (public and stakeholder, TAC and First Nations), noting that the most supportive of the use of gas for cost reasons were groups representing BC Hydro rate payers.</p> <p>Because LNG plants need a 24/7 supply of electricity, BC Hydro would need to supply LNG with electricity resources that provide sufficient capacity to meet demand at all points in time. Therefore, intermittent sources of supply, like wind and run-of-river hydro, must be supplemented by capacity rich resources. Further, to ensure highly reliable electricity generation, a source close to the expected load will have less chance of outages than electricity brought in from one long transmission line. Therefore, BC Hydro continues to recommend exploring cost effective natural gas options on the north coast to enhance transmission reliability and to help meet expected load.</p> <p>BC Hydro acknowledges continued interest from IPPs, First Nations and others in seeing additional clean energy resources brought online to serve LNG load. As per IRP recommended action Number 12, BC Hydro is committed to exploring clean or renewable energy supply options to acquire energy from clean power projects to meet LNG needs that exceed BC Hydro resources (LNG demand greater than 3,000 GWh/year). In response to First Nations comments in particular, a new recommended action (# 10) includes a focus on promoting clean energy opportunities for First Nations’ communities within a broader Clean Energy Strategy. Further details on the Clean Energy Strategy, are included in the Powering Tomorrow section of this table and in Chapter 8 of the IRP.</p>
First Nations Input	<ul style="list-style-type: none"> First Nations were divided on the recommended action to support LNG and to the extent there was support it was conditional on First Nations benefitting from the developments. In particular many First Nations that commented sought clean or renewable energy opportunities to supply electricity to LNG plants. There was also opposition to this recommended action because of concerns about upstream impacts of LNG development in the northeast area of the province where natural gas production is located and because of greenhouse gas emissions.
TAC Input	<p>Natural Gas and Clean Energy to Supply Extra LNG Load</p> <ul style="list-style-type: none"> A number of members supported cost effective gas, but generally not the more expensive clean and renewable projects. There was a concern that cost impacts driven from LNG will land on rate payers. Concern was also raised that, if BC Hydro’s price of electricity rose too high, industry would find more cost effective power solutions in the long run. Two members were against relying too heavily on natural gas stating environmental, health and economic development reasons and would like to see the IRP include consideration of electrification of liquefaction. One member recommended reassessing the needs of the LNG industry and revising the load forecast, proposing a blend of gas and renewables, and proposing a blend of public, private and First Nations partnerships to keep the Premier’s vision of the LNG industry as the ‘cleanest in the world’. BC FNEMC supported both recommended actions as long as First Nations consultation, accommodation and environmental permitting requirements are met. FNEMC had a number of suggestions related to acquisitions processes, including implementing recommendations from a previous review (more transparent processes and smaller calls); prioritizing projects with First Nations partnerships or ownership structure; reverting any unused water licenses back to local First Nations; and paying attention to facilitating net metering. <p>Advance Reinforcement of Transmission Line to Terrace</p> <ul style="list-style-type: none"> Of the few who provided feedback on this specific action, two were supportive and one held no position. Specific comments included: BCUC should review the project, and costs should be borne by developers. <p>Horn River Basin – Discussions With Industry</p> <ul style="list-style-type: none"> Of the few members providing specific feedback to this recommendation, all supported, with the conditions that BC Hydro include the option of local gas as it is likely the most cost effective, and ensure First Nations are engaged early.

TOPIC: CONSERVING FIRST		(Table 7-3)
	2013 CONSULTATION QUESTION (September 3 to October 18, 2013)	
	<p>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 (DSM) 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.</p>	
Public Input	<ul style="list-style-type: none"> 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, 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 action. 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 (conservation target is too aggressive and not achievable, hence the risk of being able to deliver expected DSM savings is understated in the plan), 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. 	RESPONSE TO CONSULTATION INPUT
First Nations Input	<ul style="list-style-type: none"> Although First Nations comments were generally supportive of conservation efforts, there is a concern that these will disproportionately burden lower income members of First Nations communities who may not have the ability to take advantage of conservation measures. This is consistent with comments from previous rounds of consultation on the IRP. The FNEMC identified a concern among First Nations with a reduced emphasis on DSM programs compared to the last draft IRP. 	<p>BC Hydro acknowledges the support expressed through all consultation streams for a continued, strong focus on conservation and efficiency measures. In an effort to balance a strong focus on conservation and efficiency, combined with the need to manage costs, particularly over the short-term when additional resources are not required, BC Hydro recommends maintaining expenditure levels at previous levels over the next three years while preparing to accelerate spending to meet the long-term target of 7,800 GWh/year of savings by F2021. This exceeds the Clean Energy Act objective to reduce the expected increase in demand by at least two thirds through conservation and efficiency measures. BC Hydro also notes that many public, stakeholders and TAC members expressed a desire for the IRP to go further with DSM savings. BC Hydro is committed to significant spending (\$445 million) on DSM between fiscal 2014 and 2016, with savings expected from all three customer segments: industrial, commercial and resident customers. In response to this feedback, additional items that BC Hydro will undertake include:</p> <ul style="list-style-type: none"> Looking for opportunities to accelerate the timeline to explore capacity-focused DSM savings (see amended IRP section 9.2). <p>BC Hydro notes that the potentially feasible elements of the more aggressive "DSM Planning Options 4 & 5" can be addressed via the IRP action "explore more codes and standards" (see amended IRP section 9.1.3.1 and section 3.7.3 for a discussion of why other elements of DSM Options 4 and 5 are not technically feasible).</p> <p>In response to TAC members wanting the IRP to advance Option 3, BC Hydro notes this option did not compare favourably in the portfolio analysis due to its cost, however it can be re-assessed in two years when BC Hydro reviews its IRP using the latest information inputs.</p> <p>In response to those who expressed the view that the IRP overestimates delivery of DSM savings, BC Hydro has added information in the IRP that shows BC Hydro has achieved targeted DSM savings since 2009.</p> <p>In response to concerns that maintaining current spending levels will lead to reductions in programs for the low/ fixed income residential ratepayers and First Nations, BC Hydro confirms that the offer under the Low Income Program will remain in market as it has been over the last several years. First Nations continue to be a key target market for the program and have accounted for 40% of participation in the Energy Conservation Assistance Program (ECAP) with over 70 First Nations bands and 3000 community members participating to date. The benefits extend beyond energy savings to funding for First Nations community members to promote ECAP and work as ECAP assistants installing energy savings products.</p>
TAC Input	<p>Moderate Current Spending and Maintain Long-Term Target</p> <ul style="list-style-type: none"> The majority of TAC members support a continued strong DSM focus. They indicated concerns about reducing efforts of DSM activities and/or supported strengthening DSM efforts further than currently targeted. Some expressed concern regarding the elimination of "DSM Planning Option 3" in the long term and/or expressed disappointment that BC Hydro did not consider Options 4 and 5 to a greater extent. Opposition was also expressed to cutting technology innovation initiatives. Regarding short-term spending reductions, opposition was expressed to reducing spending to low income residential ratepayers and First Nations communities, citing difficulties of re-engaging with this group, and the importance of providing them with cost saving benefits. FNEMC also requested capacity funding for First Nations energy managers, and engagement of First Nations in program development. Two members were skeptical of DSM's savings potential; one felt BC Hydro was relying too heavily on DSM to fill the load resource gap while another supported additional external review of BC Hydro's methods to reduce costs over the short to mid-term <p>Voluntary Industrial Load Curtailment and Explore More Codes and Standards</p> <ul style="list-style-type: none"> The few who commented directly on these actions supported the recommendations, with the caveat that it doesn't unduly impact First Nations and residential customer rates. 	

TOPIC: POWERING TOMORROW		(Table 7-3)
	2013 CONSULTATION QUESTION (September 3 to October 18, 2013)	
	<p>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.</p>	
Public Input	<ul style="list-style-type: none"> • The large majority of participants responded with strong disagreement with the recommended action to advance Site C. Key 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 had 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. • Concerns expressed by many IPPs and energy related companies about advancing Site C included the overstating of wind costs; alternatives are needed that provide more opportunities for First Nations economic development; it needs independent third-party review; natural gas should be considered as an alternative; and capital cost risks are understated. Some expressed the view that other renewable power projects should be advanced at the same time and some pointed to the need to advance specific technology types. • 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. 	<p style="text-align: center;">RESPONSE TO CONSULTATION INPUT</p> <p>BC Hydro acknowledges the strong opposition to the Site C Project voiced by the majority of the members of the public, stakeholders, First Nations and TAC who chose to participate in this final round of consultation. BC Hydro also reflects that the feedback from the public and stakeholders stands in contrast to the mixed response received in the previous two rounds of consultation.</p> <p>Because Site C is the most cost-effective, clean resource available to meet the need for both energy and dependable capacity in the following decade (after forecast energy demand is cut by over two-thirds through conservation), BC Hydro continues to recommend advancing Site C 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. In consideration of feedback received, BC Hydro has undertaken additional analysis of Site C compared to alternative resource options. This additional analysis, which can be found in section 6.4, continues to support the identification of Site C as the preferred option to meet the forecast need for energy and capacity after expected conservation and efficiency savings.</p> <p>Regarding concerns expressed about the environmental impacts of the Site C project, BC Hydro notes the project is currently undergoing an extensive environmental impact assessment under a provincial-federal Joint Review Panel process that is examining the environmental impacts of the project in detail. BC Hydro has provided some additional analysis on life-cycle greenhouse gas emissions in section 6.4.6 in response to specific questions raised by TAC members.</p> <p>BC Hydro also received feedback from the IPP sector, the public, stakeholders and First Nations regarding the lack of sufficient consideration given to other resource alternatives (e.g. wind, geothermal, etc.). A wide range of resource options were considered in this IRP, and this list of options and their detailed characteristics can be found in section 3.4.1. Different combinations of these supply side resources and energy conservation options were compared against portfolios that included Site C as a way of meeting provincial electricity needs. The results of these comparisons, in both financial and non-financial terms, can be found in section 6.4.</p> <p>First Nations and TAC members expressed a number of concerns related to the methodology used to confirm Site C as the preferred alternative. BC Hydro has considered these concerns and has provided further clarification and additional analysis within the final IRP. Due to their length and technical detail, a summary of these responses can be found at the end of this table, under the section titled “Addendum to the Powering Tomorrow Topic: Responding to Concerns of BC Hydro’s Planning Methodology”</p> <p>Consistent with support received by the few who commented on them, the recommended actions related to bridging options, reinforcement of the transmission line from GMS to Kelly Lake, and reinforcement of the South Peace transmission remain unchanged.</p> <p>BC Hydro also received extensive feedback from IPPs and First Nations regarding the lack of opportunities for the clean energy sector. Coupled with this feedback was a request from the Minister of Energy and Mines for a strategy to support a healthy and diverse clean energy sector. In response, BC Hydro is proposing recommended action (Number 10) that will advance a set of actions with the objective of maintaining a healthy, diverse clean energy sector and promoting clean energy opportunities for First Nations’ communities. This will include, among other actions, broadening opportunities through the Standing Offer Program and the Net Metering Program, and highlighting potential need for energy acquisitions as part of the IRP contingency resource plans. Further details on the Clean Energy Strategy can be found in Chapter 8 of the IRP.</p>

TOPIC: POWERING TOMORROW		(Table 7-3)
First Nations Input	<ul style="list-style-type: none"> Most comments opposed the recommended action relating to Site C or deferred to the First Nations' that are impacted by Site C. The First Nations from the Site C project area were critical of the approach to Site C taken in the IRP which was thought to unduly favour Site C compared to other resources. First Nations opposed Site C on several grounds including the environmental impacts of large scale flooding and the project impacts on the exercise of treaty and aboriginal rights; the concern that the development of Site C will displace demand for small scale independent power projects which benefit First Nations and are viewed as more sustainable; the risk of cost overruns and the risk associated with uncertainty about future need for the project; and questions about the implications of Site C for gas development in the northeast of the Province. Many First Nations commented that they were concerned about the lack of opportunities for clean or renewable energy development in the IRP and that this is at odds with provincial commitments to enhance First Nation opportunities in this sector. These concerns were raised in relation to many aspects of the IRP. There were several suggestions on how to create opportunities for First Nations, including an expanded Standing Offer Program and Net Metering Program, new calls for power, and priority to projects that involve First Nations participation and support. 	
TAC Input	<p>Continue to Advance Site C</p> <ul style="list-style-type: none"> All eight TAC members expressed concerns with pursuing Site C for its identified earliest in-service date. Specific advice included: revisiting the timing and need for Site C; delaying the project; providing an independent review of BC Hydro's in-house cost estimate; submitting it for BC Utilities Commission (BCUC) oversight; and finding more cost effective ways to meet load. It was suggested that the analysis required strengthening through cost overrun sensitivities and a deferral analysis, and it was asserted that better alternatives are likely available that would provide greater flexibility and reduced risk. TAC members also expressed concerns with respect to Site C risks associated with cost overruns and uncertainty that the anticipated loads will materialize given commitment to the project need to be made well in advance of loads coming on line. It was asserted with a cost of approximately \$8 billion, the project with the associated cost risks in combination with uncertain load becomes less attractive. Other concerns included incompleteness of environmental analysis comparisons and lack of BCUC. <p>Bridging Options</p> <ul style="list-style-type: none"> Members who commented on this recommended action expressed support with the following additions: use power from Columbia River Treaty prior to market purchases, look for ways to go further with these options, and use Burrard. <p>Advance Reinforcement of Transmission Line from GMS to Kelly Lake</p> <ul style="list-style-type: none"> The few who commented on this recommended action supported it with the following qualifiers: regulatory approvals and First Nations consultation and accommodation are achieved, and analysis undertaken to ensure most cost effective timing <p>Reinforce South Peace Transmission</p> <ul style="list-style-type: none"> The few who commented on this recommended action supported it provided appropriate permits and consultation requirements are met, and consideration is given to gas options with carbon tax included 	

TOPIC: MANAGING RESOURCES		(Table 7-3)
	<p style="text-align: center;">2013 CONSULTATION QUESTION (September 3 to October 18, 2013)</p> <p>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 (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.</p>	
Public Input	<ul style="list-style-type: none"> · A large majority of participants responded with strong disagreement to this consultation question, remarking that BC Hydro should cancel all IPP contracts because of the negative impacts of run-of-river developments on fish and wildlife habitat and the high price paid by BC Hydro for the energy. A number said BC Hydro should move away from IPP contracts and invest in its own development of renewable resources. · 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. · IPPs and energy related companies responded with a wide range of concerns related to this recommended action and the lack of focus on IPP development more broadly. These comments can be grouped under three themes: not enough in the IRP that supports IPP development, alternatives to Site C have not been accurately assessed, and more should be done to advance the interests of specific technologies (e.g. wind, pumped storage, ocean etc.) or specific proposals (e.g. SeaBreeze Transmission). Specific comments also included: <ul style="list-style-type: none"> - BC Hydro should focus more effort on facilitating First Nations and regional economic development - BC Hydro is not recognizing the value of a diverse portfolio of clean resources - BC Hydro should conduct regular calls for power - The cost of wind has been misstated - An independent third party review should be commissioned (some reference load forecast as something that should be reviewed) - Wait-and-see attitude to IPPs won’t work because of lead times and risks - BC Hydro should do more to promote electrification 	<p style="text-align: center;">RESPONSE TO CONSULTATION INPUT</p> <p>BC Hydro acknowledges the mixed response to the recommended action to optimize the existing portfolio of IPP resources according to the key principle of reducing near-term costs while maintaining cost-effective options for long-term need. Some were concerned about reductions in terms of the impact it would have on the clean energy sector in B.C. and associated First Nations development opportunities. Others wanted more to be done to reduce EPAs with IPPs for cost and environmental impact reasons.</p> <p>BC Hydro recognizes a balance must be struck between the objectives of maintaining competitive electricity prices while also continuing to advance clean energy and First Nations related energy objectives. In response to the need to support a clean energy sector and promote opportunities for First Nations in clean energy, and in response to a request from the Minister of Energy and Mines, BC Hydro has added Recommended Action Number 10, “Advance a set of actions that will support a healthy, diverse clean energy sector and promote clean energy opportunities for First Nations’ communities” (see Chapter 8.) As part of this strategy, BC Hydro is focused on ensuring future acquisitions align with the future electricity needs of BC Hydro customers and there is continual focus on finding the most cost-effective clean or renewal resources available.</p> <p>With regard to feedback received on the recommendation to investigate customer incentive programs, BC Hydro will advance this recommended action with caution, ensuring these concerns are reflected in the approach.</p>
First Nations Input	<ul style="list-style-type: none"> · This recommendation is of particular concern for First Nations and many provided comments that were opposed to it. Some commented on the need for First Nations consultation and accommodation regarding these decisions as they would cause significant economic impacts on First Nations. There was a view that BC Hydro must prioritize the retention and renewal of EPAs where First Nations are a partner or the main developer. There were also several comments about the lack of First Nations opportunities for clean energy development in the IRP. This is addressed more under the Powering Tomorrow section of this document. 	<p>As part of the final consultation, Sea Breeze Power Corp. brought forward its proposed Juan de Fuca High Voltage Direct Current Transmission Project which would connect BC Hydro’s grid at Victoria, with Bonneville Power Administration’s substation in Port Angeles, Washington State, and would involve a proposed transaction whereby the Province or BC Hydro would purchase power from the U.S. market at a price of \$69/MWh. BC Hydro has not considered resource options such as this in its portfolio analysis that involve long term reliance on the purchase of electricity from outside B.C., as it goes against the Clean Energy Act’s electricity self-sufficiency requirement. BC Hydro also notes that the Juan de Fuca project was extensively reviewed by the British Columbia Utilities Commission in 2006 and was rejected in favour of another transmission solution for Vancouver Island.</p>
TAC Input	<p>Optimize Current Portfolio of Existing IPP Resources</p> <ul style="list-style-type: none"> · Most members responding were in support of this recommendation action, with customer groups wanting a more aggressive approach to reducing IPP purchases for cost reasons. · Concern was raised with this action as it applies to First Nations, and it was suggested that for projects that would be delayed or downsized which involved First Nations, mutually beneficial agreements be developed. · Two members supported trimming back the Standing Offer Program (SOP), with one suggesting changes do not go far enough. Alternatively, it was expressed that reduction of the SOP will contribute to the loss of the industry. · It was also suggested that the voltage and var optimization (VVO) reductions suggested may not be warranted given the value of these initiatives. <p>Investigate Customer Incentive Programs</p> <ul style="list-style-type: none"> · The few members that commented on this recommended action were skeptical it would produce the desired results, and were concerned that these new temporary incentive prices would become permanent. 	

TOPIC: PLANNING FOR THE UNEXPECTED		(Table 7-3)
	<p align="center">2013 CONSULTATION QUESTION (September 3 to October 18, 2013)</p> <p>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.</p>	
Public Input	<ul style="list-style-type: none"> 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 for climate change reasons, while the proposed contingency actions to advance the Revelstoke Generating Station Unit 6 and the GM Shrum Generating Station Resource Smart projects were supported. These split views are reflected in both the "somewhat agree" and "disagree" response sets. 	<p align="center">RESPONSE TO CONSULTATION INPUT</p> <p>BC Hydro acknowledges the mixed feedback regarding the investigation of natural gas supply options for contingency purposes.</p> <p>Natural gas is being considered here because of limited resource options to meet future capacity requirements over the long-term, once all the resource potential in BC Hydro's existing facilities is deployed (Resource Smart projects). While B.C. has a wealth of clean or renewable resources that can provide additional energy, the vast majority of these resources are intermittent and do not offer dependable capacity—dependable capacity is what utilities need to keep the lights through winter peak periods when the water is frozen on mountains and the electricity demands are highest.</p> <p>BC Hydro is pursuing additional capacity savings from conservation measures (Recommended Action Number 2) and has examined the potential of pumped storage, a clean or renewable resource that offers capacity, but pumped storage has higher unit capacity costs than natural gas. BC Hydro continues to recommend exploring natural gas as a capacity resource for contingency planning purposes.</p> <p>Consistent with strong positive support received regarding the resource smart recommended actions, these actions remain unchanged.</p>
First Nations Input	<ul style="list-style-type: none"> The FNEMC supports the investigation of natural gas generation as a contingency measure, however, priority should be given to existing assets, such as the Resource Smart Projects, conservation initiatives and renewable supply options before pursuing natural gas generation. One First Nation in the northeast of the province commented that most of the contingency plan is tied to LNG development and infrastructure investments should not be made without consultation with First Nations in the northeast that will experience the upstream effects of LNG. In the case of specific projects identified in the contingency plan, some First Nations explicitly deferred to the First Nations in the project area. 	
TAC Input	<p>Advance Resource Smart Projects (Revelstoke 6 and GM Shrum)</p> <ul style="list-style-type: none"> The members who provided feedback on these recommended actions indicated support <p>Investigate Natural Gas for Capacity</p> <ul style="list-style-type: none"> Three of the four members who provided feedback on this action supported it for various reasons. Alternatively, it was expressed that BC Hydro is relying too much on natural gas-fired generation for capacity resources, and suggested alternatives, such as pumped storage at BC Hydro's existing Mica Facility. <p>Investigate Fort Nelson Area Supply Options</p> <ul style="list-style-type: none"> The one member providing feedback on this recommended action supported it, provided there is First Nations consultation and accommodation as appropriate 	

TOPIC: OTHER		(Table 7-3)
	2013 CONSULTATION (September 3 to October 18, 2013)	
	This section captures feedback that did not fall within the Recommended Action topic areas, but emerged as general themes through the consultation feedback review.	
Public Input	<ul style="list-style-type: none"> Some members of the public had questions regarding the release and timing of release of consultation reports and about the process once the IRP is submitted to government 	<p style="text-align: center;">RESPONSE TO CONSULTATION INPUT</p> <p>Consultation</p> <p>BC Hydro notes the IRP will be made public upon government's decision to either approve or reject the IRP, and will include the consultation reports and this consideration table.</p> <p>BC Hydro acknowledges feedback received from participants regarding concerns about the scope of consultation undertaken. BC Hydro notes that it undertook extensive consultation on the IRP over a three-year period. BC Hydro appreciates the value of the feedback received and the many thoughtful comments, and considered this feedback as the IRP was revised for re-submission to government for approval on November 15, 2013. BC Hydro commits to considering this input when planning future processes.</p> <p>BC Hydro notes that the IRP does not, by itself, directly implement any specific capital projects. Recommended action items will be subject to subsequent approval and consultation requirements.</p> <p>In implementing the actions outlined in chapter 8 on BC Hydro's Clean Energy Strategy, a major focus will be on undertaking further engagement with First Nations and stakeholders.</p> <p>Policy</p> <p>BC Hydro noted a number of concerns raised regarding the implications of current and future B.C. energy policies, particularly from a cost perspective. The IRP is underpinned by policy direction set by government, and BC Hydro cannot analyze scenarios that go beyond legislated constraints. BC Hydro is conveying policy concerns and consultation reports by inclusion in the IRP.</p> <p>BC Hydro acknowledges concerns raised by TAC members regarding the absence of rate impact information in the IRP analysis. The analysis of cost effectiveness in the IRP is based on the present value (PV) differential between portfolios, which accords with the BCUC's decision concerning BC Hydro's 2006 Integrated Electricity Plan/Long-Term Acquisition Plan where the BCUC reasoned that the PV economic test should be reasonably correlated with the incremental rate impact attributable to a portfolio or project. In response to this feedback, BC Hydro has amended the IRP to provide comparative rate impact analysis in section 6.10.</p>
First Nations Input	<p>First Nations Consultation</p> <ul style="list-style-type: none"> The First Nations Energy and Mining Council was of the view that before the IRP is finalized, BC Hydro needs to do more to reach out to First Nations to adequately explain the latest draft of the IRP and respond to First Nations concerns. Some First Nations objected to the consultation on the IRP because it does not address their concerns, including project impacts, consultation and accommodation and other issues which are of importance to First Nations communities. Another First Nation pointed out that commenting on the IRP is not a substitute for meaningful engagement on BC Hydro operations in their territory. Some First Nations sought a separate process for individual First Nations (or groups of First Nations bands). There were also comments that meaningful consultation on the IRP has not occurred because of the lack of capacity funding for First Nations and the timelines for consultation. 	
TAC Input	<p>Need Improved Consultation</p> <ul style="list-style-type: none"> A number of members commented on the need for improved consultation on the IRP. Concerns were raised that the consultation was limited in scope, as well as dated. They noted that there were no meetings for a year while material changes were made to the IRP, which culminated in a one day workshop. Suggestions for future IRPs included: forming an ongoing advisory resource planning committee, and developing better tools for understanding; BC Hydro and Fortis integrate planning; and BC Hydro develop ongoing First Nations engagement. <p>Need Better Understanding of Energy Policy Implications, Revisit Energy Plan, and Include BCUC Oversight</p> <ul style="list-style-type: none"> About half of the members recommended the IRP assess a broader set of options so as to better understand the implications of policy choices. In particular, all customer groups wanted to understand the cost of policy choices and the impacts to rate payers, and analysis on unconstrained (by Clean Energy Act) scenarios. A number of members advocated for government to develop a new energy plan or revisit energy policies. A few members highlighted the importance of BCUC oversight for the plan. There was also concern that IRP approval by government will lead to a shutdown of the IPP industry in the long term. Provide more information on B.C. greenhouse gas reductions targets and the assessment of the plan in meeting these targets. It was suggested to pursue the inclusion of 'Electric Load Avoidance' as a DSM measure which promotes the switching from electric-based heating to gas heating. <p>Include Rate Impacts and Disclose Long Term Rate Forecasts</p> <ul style="list-style-type: none"> A number of customer groups expressed strongly the need for full cost assessment of the plan (i.e. rate impacts). As well, they advised disclosure of the long-term rate forecasts used in the long-term load forecasting methodology. Given expected near-term rate increases, there is a high degree of concern that industrial customers will either be forced to leave, or new loads not materialize. The current elasticity rate which predicts the effects of increased rates on loads needs to be reviewed. 	

ADDENDUM TO THE POWERING TOMORROW TOPIC: RESPONSES TO SPECIFIC CONCERNS REGARDING BC HYDRO'S PLANNING METHODOLOGY

Table 7-3

The following are responses to specific concerns about BC Hydro's planning methodology:

Feedback: The IRP ignores the implications for its proposed resource plans where load growth and/or power markets prices are lower than forecast, or that DSM results are better than planned.

Response: BC Hydro examined sensitivities including low gap and low market price, and has expanded the analysis to include a combination of the two sensitivities. For further details see Chapter 6.4. The low to high gap analysis captures DSM over-delivery and DSM under-delivery.

Feedback: The absence of quantitative rate impacts under various scenarios explored by the IRP makes it impossible to assess the risk of such an outcome.

Response: Refer to the discussion of the rate impact analysis in the 'Topic: Other' section above. In particular, the analysis of cost effectiveness in the IRP is based on the PV differential between portfolios, which accords with the BCUC's finding that the PV economic test should be reasonably correlated with the incremental rate impact attributable to a portfolio or project. BC Hydro provides comparative rate impact analysis in response to feedback in section 6.10.

Feedback: DSM options are examined in the context of Site C rather than letting the System Optimizer determine the inclusion of Site C.

Response: Site C portfolios take as a given that the DSM target will be achieved. Site C with the DSM target was compared to a portfolio without Site C but with DSM Option 3, low cost Resource Smart projects (Revelstoke Unit 6 and GMS Units 1-5 Capacity Increase) and natural gas-fired generation within the Clean Energy Act clean or renewable target. BC Hydro has not compared any resource to DSM Options 4 and 5 through portfolio analysis because DSM Options 4 and 5 are not technically feasible for the reasons set out in section 3.7.3 of the IRP.

Feedback: The treatment of DSM costs is not consistent with good utility practice

Response: The treatment of DSM costs and benefits is consistent with good utility practice. The reduction in electrical capacity costs, which represent the majority of the DSM participant benefits, are captured in the PV analysis for the portfolios as follows: (1) generation and bulk transmission capacity benefits are reflected in the System Optimizer output which selects the required capacity and bulk transmission resources based on the reduced need for capacity after DSM; and (2) associated regional transmission and distribution capacity benefits are included in the DSM Total Resource Cost (TRC) that is used to calculate the portfolio PV. After considering consultation feedback received through the IRP process, BC Hydro is revising the treatment of TRC in the DSM Target and DSM Option 3 to account for additional non-energy benefits and natural gas savings benefits. This change in the treatment of TRC amounts to a reduction of about \$4/MWh for the TRC for DSM elements that provide non-energy benefits and/or natural gas savings benefits. This change in TRC does not change the analysis of Site C cost-effectiveness for the reasons set out in section 6.4.

Feedback: The costs of Site C are presented in energy when they should be provided in terms of capacity and compared to the cost of other capacity resources.

Response: The portfolio PV modelling analysis considers both the energy and capacity provided by a resource option such as Site C, and is a more thorough analysis of the cost-effectiveness of Site C than a unit cost assessment for the reasons set out in section 6.4.1 of the IRP (Site C portfolio analysis is provided in section 6.4.3 of the IRP).

Unit capacity costs (UCCs) are generally presented for resources that are relied upon to serve winter peak requirements, and unit energy costs (UECs) are presented for resources that are relied upon to serve annual energy requirements. To compare a resource such as Site C which provides both energy and capacity to a resource that only provides capacity, BC Hydro would need to adjust a Site C UCC to take into account the large energy benefits of avoiding clean or renewable energy resources in B.C., which would likely result in a negative UCC. Given Site C's significant contributions to both energy and capacity, BC Hydro is of the view that an equivalent block of 5,100 GWh/year of energy and 1,100 MW of dependable capacity is a better comparison, as in Table 6-5.

Feedback: The Resource Options Report omits specific alternatives on the Peace River from consideration

Response: One component of the IRP is the analysis portfolios of resource options that meet BC Hydro customers' demand for energy and capacity. The Resource Options Report identifies potential resource options, including small run-of-river hydroelectric development in the Peace region. The run-of-river potential in the Peace region is at a higher cost than the resource options selected in the portfolios of alternative resources to Site C.

Feedback: Site C should not be considered for its earliest in-service date

In response to TAC member views regarding the concern of advancing Site C to the earliest-in-service date, the most current information shows the project provides benefits at the earliest in-service date. In addition, should Site C be successful in environmental certification, an investment decision by the BC Hydro Board of Directors and the B.C. Government would be required prior to commencing construction. This future investment decision will consider relevant business factors related to the decision to begin construction on Site C. Refer to section 6.4.

Feedback: The cost risk assessment of the Site C project (concern with cost overruns)

Response: BC Hydro has undertaken additional work to give background and context to the Site C cost estimation processes and levels of confidence around the cost estimates. Moreover, additional sensitivity analyses were undertaken to explore more extreme cost overruns to explore the conditions under which the Project experiences positive versus negative PV results. This additional background and the modeling results can all be found in section 6.4.4.4.

Feedback: The failure to account for flexibility when comparing Site C with other resources

A concern was raised regarding the way in which the IRP analysis failed to address Site C's flexibility compared to other resource options. In response, BC Hydro expanded its discussion in the IRP regarding the way in which its portfolio modeling captures the value of different levels of flexibility inherent in the different resource options. Section 6.4.4.1 discusses how the PV numbers presented reflect the financial regret of scheduling a large resource in a scenario of prolonged low demand.