B.C. Sustainable Energy Association

Comments on

“Comprehensive Review of BC Hydro: Phase 2 Interim Report,” Ministry of Energy, Mines and Petroleum Resources

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I. Introduction

1. Summary

This document provides BCSEA's comments and recommendations regarding the Interim Report of the BC Government's Phase 2 Review of BC Hydro.[1] In BCSEA's view, the Interim Report is not an adequate basis for finalizing the Review. BCSEA concludes that the Phase 2 Review has not yet met the stated objective to develop recommendations for how BC Hydro can accomplish the provincial policy objectives laid out in the CleanBC plan. BCSEA urges the Phase 2 Review to honour its commitment to provide an opportunity for BCSEA and other stakeholders to comment on draft recommendations before a final report is issued. In the short term, BCSEA suggests that the Phase 2 Review Committee and Advisory Group hold a virtual workshop for stakeholders, Indigenous groups and the expert advisors.

2. BCSEA's experience and expertise

BC Sustainable Energy Association is a non-profit society and a registered charity that represents individuals and organizations in BC who care about energy sustainability and climate change mitigation, and who want the energy they purchase and use to be sustainably produced and transported. Most members of BCSEA are ratepayers of BC Hydro and residents of British Columbia.

In addition to maintaining a broad program of membership based and community outreach programs, BCSEA regularly intervenes in energy related proceedings of the BC Utilities Commission and contributes to energy policy development in BC. BCSEA has been providing committed, non-partisan, evidence-based advocacy for sustainable energy in BC for more than 15 years.

BCSEA has substantial experience and professional expertise regarding BC Hydro's long-term resource planning, revenue requirements applications, demand-side management planning and expenditure schedules, default and optional rate designs, capital project applications and electricity purchase agreements. BCSEA is an active intervener in all the main current and recently completed BCUC proceedings regarding BC Hydro, including the F2020-F2021 Revenue Requirements Application (RRA) and DSM Expenditure Schedule, the Net Metering Amendments Application, the Transmission Service Market Reference-Price Rates Application, the Fleet Electric Vehicles Rate Application, the BCUC Inquiry into the Regulation of EV Charging Service, and the review of BC Hydro's Performance-Based Ratemaking Report. BCSEA serves on BC Hydro's Technical Advisory Committee for the 2021 Integrated Resource Plan, as it served on the Technical Advisory Committee for the IRP approved in 2013. BCSEA participates actively in the Second Module of BC Hydro's Rate Design initiative, as it did in the First Module that resulted in the 2015 Rate Design Application.

3. Comprehensive Review of BC Hydro, CleanBC Plan

The Minister of Energy, Mines and Petroleum Resources began the BC Government's Comprehensive Review of BC Hydro in June 2018. Phase 1 focused on reducing upward pressure on BC Hydro's rates, realigning financial relationships between the Government and BC Hydro, reducing and deferring BC Hydro's capital expenditure plans, and re-reinstating some aspects of the British Columbia Utilities Commission authority to oversee BC Hydro's

[1] https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/electricity/bc-hydro-review/bc_hydro_cr_ph2_ir_mar06_2020_f.pdf.

costs and activities. Enigmatically, Phase 2 was to "explore global energy sector shifts and provincial strategies that could transform the way BC Hydro does business."[2]

In December 2018, the BC Government released the CleanBC Plan, a combined economic development, energy and climate strategy. The Government summarizes the CleanBC Plan as follows:

> "CleanBC offers a pathway that will enable our province to seize opportunities for innovation and growth. To meet the goals in CleanBC, we must increase our use of cleaner energy, including electricity generated from renewable sources, to shift away from our reliance on fossil fuels for transportation, industry, and buildings. CleanBC's actions will get British Columbia approximately 75% of the way to legislated 2030 greenhouse gas reduction targets. Achieving the remaining 25%, and ultimately the 2040 and 2050 targets, will require additional clean energy."[3]

During the Phase 1 Review, "key decisions were made," and these were explained in the February 14, 2019 Phase 1 Review Report.[4] The Phase 1 Final Report was (and is) a pivotal document in the BCUC's proceeding regarding BC Hydro's F2020-F2021 Revenue Requirements Application, in which BCSEA is an intervener.

4. Phase 2 Review underway in 2019

When the Phase 2 Review was being initiated, BCSEA sent a March 19, 2019 letter to the then-Minister of Energy, Mines and Petroleum Resources. BCSEA urged the Government to allow for effective public engagement at all stages of the Phase 2 Review and expressed the view that this would be the best way to achieve an effective and popularly supported long term energy plan for BC Hydro.[5]

On July 16, 2019, MEMPR issued the Terms of Reference for the Phase 2 Review. The stated objective is as follows:

> "The objective of the Comprehensive Review's second phase is to develop recommendations for how BC Hydro can accomplish the provincial policy objectives laid out in the CleanBC plan, including how BC Hydro can support meeting British Columbia's legislated 2030, 2040, and 2050 greenhouse gas reduction targets in a manner that ensures BC Hydro sustainability in the future for the benefit of British Columbians."[6]

The Terms of Reference confirm an important linkage: "the recommendations from the Phase 2 Review will be used to inform BC Hydro's Integrated Resource Plan that will be filed with the

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[2] Comprehensive Review of BC Hydro, Phase 2 Terms of Reference, p.1. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/electricity/bc-hydro-review/bch_review_phase_ii_tor_190716_public_clean.pdf.

[3] https://blog.gov.bc.ca/app/uploads/sites/436/2019/02/CleanBC_Full_Report_Updated_Mar2019.pdf

[4] Comprehensive Review of BC Hydro, Phase 1 Final Report, p.3 of 50. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/electricity/bc-hydro-review/final_report_desktop_bc_hydro_review_v04_feb12_237pm-r2.pdf.

[5] In contrast, the Phase 1 Review was a 'behind closed-doors' process.

[6] Comprehensive Review of BC Hydro, Phase 2 Terms of Reference, p.1, underline added.

British Columbia Utilities Commission in early 2021."[7] The Terms of Reference also state that "In late fall 2019, stakeholders and Indigenous Peoples will be asked to provide feedback on interim Phase 2 results."[8]

On September 19, 2019, the Phase 2 Review held a stakeholder workshop, in which BCSEA participated. An opportunity for stakeholder comment on interim recommendations was, from BCSEA's perspective, an important process commitment. The stated timeline included an "Interim report and recommendations" in December 2019, "Indigenous engagement on interim recommendations" and "Stakeholder engagement on interim recommendations in "Winter 2019/2020," and "Final report released" in "Early 2020."[9]

By letter of September 26, 2019, BCSEA confirmed its workshop submissions regarding the Phase 2 Review. While BCSEA doesn't expect that all its recommendations will necessarily be adopted, it is disappointed that the Interim Report discloses no indication that BCSEA's input was considered. Most of the topics of BCSEA's recommendations are not even mentioned in the Interim Report. BCSEA's assessment of whether and how the Interim Report addresses BCSEA's points is set out in Table 1 on page 25, below.

5. Interim report with recommendations not released

Contrary to the stated timeline, the Phase 2 Review did not release an interim report with recommendations in December 2019. No public explanation or revised timeline was provided. BCSEA was acutely aware that this created uncertainty about how BC Hydro's 2021 IRP would incorporate measures to achieve low-carbon electrification under the CleanBC Plan.

The absence of the Phase 2 Review's interim report and recommendations came up repeatedly during the BCUC's oral hearing regarding BC Hydro's F2020-F2021 RRA that took place over 10 days in January to early March 2020. Most of hearing time consisted of direct testimony and cross-examination of a series of BC Hydro witness panels. When BC Hydro witnesses were asked about BC Hydro's intentions regarding topics that were closer to 'planning' than 'revenue requirement' they frequently said they were awaiting the BC Government's release of the Phase 2 Review's interim report and recommendations, which they said would, or might, provide direction to BC Hydro on the particular topic at hand. In some cases the witnesses, particularly the senior executives, said they were not at liberty to discuss a topic that would or might be affected by the interim report and recommendations. In other cases, the witnesses indicated that to their knowledge an internal BC Hydro decision had not been made regarding a certain topic pending release of the interim report and recommendations.[10] For context, BCSEA's speculative fear at the time was that the Government was withholding public release of the interim report and recommendations to prevent BC Hydro from having to respond to questions about the Phase 2 Review during the RRA oral hearing.

It is known that the Phase 2 Review's intended recommendations were before the Government for approval during this time period. On January 20, 2020, Mr. Chris O'Riley, BC Hydro's President and Chief Executive Officer, and a member of the Review Committee overseeing the Phase 2 Review, testified as follows in response to a question about the Phase 2 Review:

[7] Comprehensive Review of BC Hydro, Phase 2 Terms of Reference, p.2. BC Hydro has emphasized that the IRP will be filed by February 2021.
[8] Comprehensive Review of BC Hydro, Phase 2 Terms of Reference, p.5.
[9] Comprehensive Review Phase II Overview of Process and Work to Date, September 19, 2019.
[10] For greater certainty, BCSEA is not critical of the BC Hydro witnesses in this respect (or otherwise).

> "MR. O'RILEY: A Well, I think, just to echo what Mr. Ghikas [BC Hydro counsel] said, I think the content -- it's a government review and it's the recommendations of that review are in -- they're before the government and they need to decide what they conclude on that, so I don't think it's appropriate for me to talk to what advice we might have given government or what I think government's thinking at this point and I think, again, they've made a commitment to publish a report and I understand that there's going to be opportunity for consultation and feedback on that. So I think we should accept that. And I don't think it has a lot of bearing on the test period budgets, particularly given we're so far through the test period today and will be even further so by the time we get a decision."[11]

The fact that the Phase 2 Review recommendations were before the Government for approval as of January 2020 is notable because when the Interim Report was later released (discussed below) it contained no recommendations and is described as a discussion document. Another point that is clear from Mr. O'Riley's testimony, quoted above, is that the expectation remained, as it had been earlier in the Phase 2 Review, that the Government had committed to an opportunity for stakeholder consultation and feedback on interim (or draft) recommendations before they were finalized by the Government.

The RRA oral hearing, and the opportunity to publicly question BC Hydro witnesses, ended on March 4, 2020. Two days later, BCSEA became aware that the undated Interim Report had been quietly[12] posted on MEMPR's website on March 6, 2020.

6. Interim Report released with no recommendations

In BCSEA's view, the most significant aspect of the Interim Report is that it contains no recommendations. The Interim Report states, "This interim report is designed as a discussion paper."[13] The Interim Report provides no acknowledgment or explanation of the absence of recommendations. However, the Interim Report is clear that the Phase 2 Review's intention is to develop and issue final recommendations with no opportunity for stakeholder input on the recommendations. The Interim Report states:

> "The Ministry will continue to engage with stakeholders and seek more extensive feedback from Indigenous Nations and organizations to support the development of final recommendations of the Phase 2 Review."[14]

In BCSEA's view, finalizing the Phase 2 Review report without stakeholders having an opportunity for input on draft recommendations would be contrary to the clear commitment stated in the July 2019 Terms of Reference, restated in the September 2019 workshop document, and confirmed in Mr. O'Riley's January 2020 testimony to the BCUC.

7. Interim Report is not an adequate basis for finalizing the Review

Elimination of the opportunity for stakeholders to comment on draft recommendations is particularly significant because, in BCSEA's respectful submission, the content of the Interim Report is not an adequate basis for finalizing the Phase 2 Review. With respect, the Interim Report does not address the most important issue in the Terms of Reference (how BC Hydro

[11] BCUC, BC Hydro F2020-F2021 RRA, Transcript Vol.5, January 20, 2020, p.424, lines 12 to 23, underline added. https://www.bcuc.com/Documents/Transcripts/2020/DOC_56867_2020-01-20-TranscriptVolume5-OralHearing.pdf
[12] BCSEA is not aware of MEMPR having provided an email notification to stakeholders.
[13] Interim Report, p.5, underline added.
[14] Interim Report, p.25, underline added.

can accomplish the provincial policy objectives laid out in the CleanBC plan). The Interim Report dives into areas like optional rate designs that BC Hydro has already advanced well beyond the Interim Report's level of analysis. Topics like BC Hydro's role beyond the customer's meter and BC Hydro's ratepayers investing in out-of-province clean generation are poorly explained, inadequately analyzed, and in some cases simply bad ideas.[15] Most of the ideas discussed in the Interim Report are merely hints about what the Government might be thinking.[16] The "discussion questions" are too vague and open-ended for the Phase 2 Review to obtain meaningful feedback on concrete ideas.[17]

BCSEA wants to help. This is demonstrated by the considerable resources BCSEA has devoted to preparing this document commenting on the Interim Report. However, it is clear to BCSEA that the Phase 2 Review went awry sometime between January 20, 2020 when Mr. O'Riley said the Phase 2 Review's draft recommendations were before Government for approval and March 6, 2020 when the Interim Report was slid out from under the proverbial closed door as a "discussion document" with no recommendations. If Government rejected certain directions proposed by the Phase 2 Review, as appears to be the case, then all parties need to take stock and dig in again. In BCSEA's view, the objective of the Phase 2 Review is too important to be abandoned unachieved.

8. Outline of this document

BCSEA has carefully reviewed the Interim Report, and this document sets out BCSEA's comments. These comments will be provided to the members of the Review's Advisory Group, and to the Minister of Energy, Mines and Petroleum Resources.

Following this introductory Part, Part II summarizes BCSEA's top five recommendations. In Part III, BCSEA provides comments on selected topics in the Interim Report. Part IV is a brief conclusion.

BCSEA wishes to emphasize that while its comments on the Interim Report are critical, this should not be interpreted as a criticism of the authors of the Interim Report.

II. BCSEA's High-Level Points on the Phase 2 Interim Report

1. Restore fair and effective stakeholder consultation

BCSEA recommends that the Phase 2 Review take a pause and reconsider its intention to go directly to a final report without providing stakeholders an opportunity to comment on draft recommendations. In BCSEA's view, the Interim Report is wholly inadequate and does not come close to achieving the Terms of Reference. A final report based substantially on the Interim Report would be, in BCSEA's view, at best a fundamentally wasted opportunity. BCSEA wants to be able to contribute to the Review producing a final report with clear, meaningful

[15] From what BCSEA can determine, given the inadequacy of the explanations.
[16] BCSEA identified only four firm statements in the Interim Report (see Table 2, page 28, below).
[17] For example: "What factors are important to consider when looking at optional rates to support electrification?" [p.17] "How can competitiveness for business and industry be prioritized in an electrified future?" [p.17] "What are important considerations to empower BC Hydro to make the most cost-effective decisions on resource options, under the oversight of the BCUC, with respect to clean electricity?" [p.20] "What emerging issues and trends will BC Hydro need to address in the Phase 2 Review and beyond?" [p.25]

recommendations. BCSEA suggests that the Phase 2 Review Committee and Advisory Group[18] immediately hold a virtual workshop for stakeholders, Indigenous groups[19] and the expert advisors. BCSEA's sense is that to date the information flow has been disproportionately inward bound, with not enough information coming out from behind closed doors, and not enough multi-party exchange of knowledge and perspectives.[20] For its part, to contribute constructively BCSEA needs to hear from the Review Committee and Advisory Group what they are really contemplating and why. What do they think about BCSEA's comments in this document?

2. BC Hydro needs a legal mandate to achieve low-carbon electrification

Contrary to the Phase 2 terms of reference, the Interim Report does not address BC Hydro's governance, or the regulatory framework. In BCSEA's view, the Interim Report provides no insight into the existing legal and practical limitations on BC Hydro's ability to accomplish low-carbon electrification in BC. Nor does the Interim Report address how BC Hydro will simultaneously achieve GHG reductions, low rates, economic development and Reconciliation within the context of the CleanBC Plan.

BCSEA strongly recommends that the Phase 2 Review examine the urgent need to grant BC Hydro a legal mandate to pursue low-carbon electrification in BC. This would be a significant revision of BC Hydro's current mandate simply to provide electricity service to eligible customers. As BCSEA sees it, a mandate for BC Hydro to pursue low-carbon electrification does not imply that all the costs of low-carbon electrification will be borne by BC Hydro's customers through their electricity rates. Governments, the private sector, and citizens must also contribute to the costs of low-carbon electrification, just as they will also benefit from BC meeting its GHG reduction targets and the other CleanBC objectives.

To underline the significance of mandating BC Hydro to implement low-carbon electrification, BCSEA submits that if the Government decides not to assign this role to BC Hydro then the Government should create a new agency charged with achieving low-carbon electrification in BC. The *status quo* is that there is no entity in charge of low-carbon electrification, no clear legal structure, no plan, and no accountability. This must change. The Interim Report fails to address mandate and governance for low-carbon electrification in BC.

3. A BC Hydro comprehensive plan for achieving low-carbon electrification objectives

BCSEA's view is that the Interim Report fails to address the stated objective of the Phase 2 Review:

> "to develop recommendations for how BC Hydro can accomplish the provincial policy objectives laid out in the CleanBC plan, including how BC Hydro can support meeting British Columbia's legislated 2030, 2040, and 2050 greenhouse

[18] The Advisory Group is comprised of Asst. Deputy Minister, Electricity and Alternative Energy Division, MEMPR, (co-chair), Vice President, Projects, BC Hydro (co-chair), Vice President, Trade Policy & IT, Powerex, Asst. Deputy Minister, Climate Action Secretariat, MECC. Comprehensive Review of BC Hydro, Phase 2 Terms of Reference, p.3.
[19] BCSEA does not speak for Indigenous groups, of course.
[20] BCSEA's understanding is that the "expert advisors" are bound by confidentiality requirements.

> gas reduction targets in a manner that ensures BC Hydro sustainability in the future for the benefit of British Columbians."[21]

BCSEA's view is that BC Hydro needs to have a comprehensive plan for achieving low-carbon electrification in BC. A comprehensive plan would set out the quantitative objectives (how much electrification, how much GHG reduction, by what years) as well as the programs and projects by which the objectives will be achieved.

BC Hydro's under-development 2021 Integrated Resource Plan is a plan for BC Hydro's long-term provision of safe, reliable, reasonably priced electricity service to existing and future customers. As it stands, the IRP is not, at its core, a plan for achieving the low-carbon electrification component of meeting BC's GHG reduction targets. In order for BC Hydro to actually achieve what is expected and required of it under the CleanBC Plan, BC Hydro needs both a legal mandate and a comprehensive plan.

BCSEA's sense is that if the 2021 IRP is to be BC Hydro's overarching long-term planning document, as implied by the Review's Terms of Reference, then the scope of the IRP needs to be amended to clearly incorporate a new mandate for BC Hydro to achieve low-carbon electrification in BC. Many of the attributes of the 2021 IRP – stakeholder consultation, analytical rigour, quantitative targets, timelines, and articulated objectives – should be applied to the development of a comprehensive low-carbon electrification plan for BC.

4. Clarify the respective roles of the BC Government, BC Hydro, and the BCUC

In BCSEA's view, the Interim Report does not adequately examine the respective responsibilities of the BC Government, BC Hydro and the BC Utilities Commission regarding decision-making about BC Hydro's role in achieving low-carbon electrification under the CleanBC Plan. BCSEA strongly suggests that the Phase 2 Review should set out the rationale and criteria for determining which issues will be led by the BC Government, which issues will be led by BC Hydro, and which issues will be determined by the BCUC.

BCSEA suggests that the Phase 2 Review should openly acknowledge and address the division of authority between the BC Government (as the shareholder of BC Hydro, as the initiator of legislation and regulations, and as the voice of BC energy policy) and the BC Utilities Commission (as the statutory economic regulator of BC Hydro). The Phase 2 Review should transparently address what decisions will be determined by the BC Government and what decisions will be made by the BCUC. How will this allocation of responsibility be determined and clearly communicated? The *status quo* is that the Government exerts enormous influence over what BC Hydro does and who pays for it (ratepayers or taxpayers) in the realm of electrification, rates, affordability, economic development, and Reconciliation. The Phase 2 Review should resolve how this will jibe with the concept that the BCUC will have responsibility for approving BC Hydro's 2021 Integrated Resource Plan and other regulatory applications.

One example is whether decisions about BC Hydro's implementation of electrification and the other objectives of the CleanBC Plan should be informed by cost-effectiveness analysis[22] or not.

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[21] Comprehensive Review of BC Hydro, Phase 2 Terms of Reference. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/electricity/bc-hydro-review/bch_review_phase_ii_tor_190716_public_clean.pdf.

The Interim Report has a whole section delving into the minutiae of how BC Hydro should determine a shadow price of carbon[23] for producing the rigorous benefit-cost analyses the BCUC scrutinizes in public proceedings when it makes the determinations it is legally allowed and required to make. And yet the Interim Report does not mention that the Government makes decisions with substantial consequences for electrification, rates, affordability and economic development (such as approval of the Peace Region Electricity Supply Project) with no publicly evident benefit-cost analysis whatsoever. BCSEA suggests that the Phase 2 Review should identify the criteria for determining which CleanBC Plan decisions will be made by the BCUC upon application by BC Hydro and which will be made by the BC Government.

5. BC Hydro investing in out-of-province clean generation is a bad idea

BCSEA recommends that the Phase 2 Review drop the idea of BC Hydro (or Powerex) investing in out-of-province clean generation. With respect, this idea makes little sense as presented. When due to successful low-carbon electrification BC Hydro no longer anticipates having surplus energy and capacity for planning purposes, the obvious resources to consider first would be conservation/efficiency, distributed clean generation, and utility-scale clean generation. Requiring BC Hydro's customers to pay for investments in out-of-province clean generation would not reduce GHG emissions in BC, would put upward pressure on rates, would waste the opportunity to support economic development in BC, and would (presumably) be unhelpful for Reconciliation with First Nations.

More broadly, BCSEA has serious reservations about Phase 2 Review's undefined concept that BC Hydro (or Powerex) should try to make profits by selling power at premium prices to buyers in US states who are under legislated renewable portfolio standards. Powerex already actively and successfully pursues opportunities to sell power from the BC system to out-of-province purchasers at premium prices for qualifying "clean" power and at premium prices for capacity-rich products,[24] as well as utilizing BC Hydro's large storage reservoirs to 'buy low and sell high.'

The 2002 Energy Plan called for BC to become a "Clean Energy Powerhouse" by purchasing more power from IPPs than was needed by BC Hydro customers and selling the excess electricity at premium clean-energy prices to purchasers in the US. This turned out to be a complete financial failure. If the Government insists that BC Hydro must move ahead with this initiative then in BCSEA's view the proposal should be thoroughly reviewed by the BCUC in a public hearing and approved as being in the public interest before it is allowed to proceed.

BCSEA provides additional recommendations within the sections below.

[22] To compare and choose between different actions to reduce GHG emissions, a cost-effectiveness analysis estimates the cost of each action on a $/tCO$_2$e basis. In addition to cost-effectiveness, many other factors are relevant to determining the preferred action.
[23] Actually, the Interim Report implies that BC Hydro does not currently use a carbon price in its quantitative analyses, which is clearly incorrect in BCSEA's experience.
[24] Such as firm delivery of power during a daily time window when a utility's solar PV supply drops off and its residential load peaks.

III. BCSEA Comments on Specific Topics

1. Rate design

a. BCSEA key points on rate design

The Interim Report devotes a relatively large amount of space to discussing rate designs, both default rate designs and optional rate designs.

1. BCSEA's main comment is that the Phase 2 Review should (a) be open and transparent about which rate design decisions are going to be directed by the BC Government, and (b) leave all the other rate design topics to BC Hydro.
2. BCSEA's position on whether BC Hydro's Residential Inclining Block (RIB) Rate should be flattened or not is that there has not yet been adequate analysis of the pros and cons for efficiency/conservation, low-carbon electrification, and bill impacts. However, the Phase 2 Review should acknowledge that moving toward flattening the RIB Rate would raise significant political opposition because doing so would raise the bills of the majority of BC Hydro's 1.8 million residential customers. If the BC Government seriously intends to support BC Hydro in the event that technical analysis indicates that flattening the RIB Rate would have net benefits under the CleanBC Plan, then the Phase 2 Review should say so and direct BC Hydro to move the concept through BC Hydro's existing and well–run rate design stakeholder engagement process.
3. BCSEA submits that the Phase 2 Review should not talk about specific rate design possibilities that are squarely within BC Hydro's responsibility and expertise. Much of the text on rate design in the Interim Review constitutes unnecessary duplication. Consideration of particular rate design options requires technical expertise and analysis that is not reflected in the Interim Report.[25]

b. Rate designs

Under the heading "Supporting CleanBC," the Interim Report contains a lengthy discussion of rate design topics. The discussion addresses BC Hydro's existing default RIB Rate, its existing default Transmission Service Rate, and some optional rate designs the Interim Report says BC Hydro is considering. Each item ends up with basically the same conclusion: BC Hydro is looking at it, BC Hydro will consult, BC Hydro will consider the recommendations of the Phase 2 Review, and BC Hydro will choose whether to move ahead. Unstated, but implicit, is that any BC Hydro proposal regarding an existing or new rate design must be reviewed for approval by the BCUC.

The discussion seems oriented toward pitching the potential benefits of the various rate design options, without any attempt to define the options or to acknowledge pros and cons and tradeoffs that are the *bête noire* of rate design. At the same time, however, the Interim Report indicates that BC Hydro is responsible for rate design initiatives, which seems to imply that the Phase 2 Review is not in the business of prioritizing rate design initiatives. What is missing is an

[25] For example, the Interim Report's discussion of optional rate designs doesn't mention the Bonbright principles, freeridership, bill impact, or cost-effectiveness, and the discussion question is: "What factors are important to consider when looking at optional rates to support electrification?" (p.17)

analysis of the respective roles of the BC Government and BC Hydro regarding (in this example) rate design initiatives.

It is important to note that three items in the Rate Design section are actually ones in which the BC Government, not BC Hydro, has had the leadership role, at least historically. Both the default TSR two-tier energy rate and the two-tier default RIB Rate were driven by the Government's BC Energy Plan, and then implemented by BC Hydro, with stakeholder consultation and review and approval by the BCUC. The third Government-directed item is the Government's public position that the Smart Meters (that the Government required BC Hydro to install) would not be used for a default residential time of use rate. The Interim Report silently acknowledges this position by jumping from the default RIB Rate straight to optional rate designs with no mention of the possibility of incentive-oriented modifications to any of the default rates.

Certainly regarding these three items, if not others, it seems clear to BCSEA that Government direction is a regulatory fact of life, despite the Interim Report's *faux-naïf* recitation that these are BC Hydro's responsibility. No one familiar with BC Hydro's regulatory history could reasonably think that BC Hydro could and would take it upon itself to move toward flattening the RIB Rate, flattening the TSR energy rate, or adding a TOU component to the default residential rate, without the direction and support of the BC Government.

To be clear, BCSEA is not in this document expressing a position about whether the RIB Rate or the TSR energy rate should be flattened or not. Rather, BCSEA is saying that the Phase 2 Review should provide an analysis and recommendations regarding how these decisions should be made.

c. The Residential Inclining Block (RIB) Rate

The Interim Report suggests that BC Hydro's default Residential Inclining Block (RIB) rate has out-lived its usefulness. However, the Report does not mention any analysis of whether flattening the RIB Rate would on balance decrease, or increase, GHG emissions in BC.[26] Nor does the Interim Report mention the bill impacts of eliminating the RIB Rate, which would be lower bills for the highest-consumers and higher bills for the medium- and lower-consumers.

The Report states blandly, "If BC Hydro were to make any changes to its default residential rate, it would file a rate design application for review and approval with the BCUC that would be informed by feedback from customers and stakeholders."[27] In effect, the Interim Report puts the continued existence of the RIB Rate 'on the table' without providing either a recommendation or an outline of the pros and cons.

BCSEA considers that the biggest challenge to ending the RIB rate is that flattening the RIB Rate would increase the electricity bills of the majority of BC Hydro's 1.8 million residential account holders,[28] presumably contrary to the Government's "affordability" objective.[29] In the

[26] Flattening the RIB Rate would make incremental use of electricity less expensive for the largest-consuming customers (incenting them to add load, hopefully for charging an EV or using an electric heat pump), but more expensive for the majority of customers (dis-incenting them from adding new electrical load in substitution for fossil fuel usage).

[27] Interim Report, p.11. There is no period at the end of this text, perhaps reflecting recent revision.

[28] When FortisBC (electric) applied in 2017 to phase out its residential inclining block rate (Residential Conservation Rate), FBC estimated that approximately 75% of residential customers would see a bill increase and 25% would see a bill decrease, assuming the same

Phase 1 Report, the government said that to "keep life affordable for British Columbians" it would – "as a matter of public policy" – continue to prohibit the BCUC from rebalancing BC Hydro's rates to equalize the revenue/cost ratios between customer classes which would result in a 2.2% increase in Residential rates (and a decrease in General Service rates).[30] This indicates that the Government has a strong aversion to raising BC Hydro's Residential rates. In this context, does the Interim Report's silence on the bill impacts of ending the RIB rate mean that the Government has decided not to support termination of the RIB Rate? If so, why is the topic raised in the Interim Report? Or, does the silence mean the Government has decided to leave the future of the RIB Rate entirely up to BC Hydro and the BCUC? If so, why doesn't the Phase 2 Review say so?

Historically, BCSEA has strongly supported the BC Hydro RIB Rate because of its price signal and conservation/efficiency impacts. A fairly recent study by BC Hydro questions whether the RIB Rate currently yields conservation and efficiency benefits. BCSEA supports further study, including examination of the effect of eliminating the RIB Rate on (a) conservation and efficiency, (b) GHG emissions reductions, and (c) low-income residential customers.

d. Optional Rate Designs

After mentioning the possibility of eliminating the RIB Rate, which is the default[31] Residential rate, the Interim Report moves to a discussion of optional rates.[32] In doing so, the Phase 2 Review tacitly precludes consideration of innovative designs for the default rate. In BCSEA's view, the options for innovative default rate designs should be examined for their pros and cons, and not rejected out of hand.

In BCSEA's view, optional rates can be very useful tools for changing customers' use of electricity in desired ways. In particular, optional rates can achieve low-carbon electrification, in very specific situations especially where the optional rates can be designed to preclude freeridership. For example, BCSEA supported BC Hydro's recently approved Fleet Electrification optional rates proposal[33] and is engaged supportively in the BCUC proceeding regarding BC Hydro's Transmission Service market-referenced optional rates.[34]

That said, BCSEA is concerned that the Interim Report provides a one-sided description of optional rate designs – "Optional rates can provide customers with more choice, make electricity more affordable and reduce emissions" – with no mention of the freeridership problem associated with optional rates. As BC Hydro knows, it is difficult to design an optional rate that is cost-effective in inducing participants to change their consumption behaviours in ways that in total save the utility more than the amount of the cost-shifting to non-participants. In BCSEA's view, optional rate designs that don't raise provincial-level political issues (like the RIB Rate and the TSR two-tier energy rate) should be left to BC Hydro for analysis, consultation with

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consumption and other things being equal. Exhibit B-8, pdf p.97. https://www.bcuc.com/Documents/Proceedings/2018/DOC_51480_B-8_FBC-Response-to-BCUC-IR1.pdf

[29] This relates to "customer acceptance" in the Bonbright principles of rate design.

[30] Comprehensive Review of BC Hydro, Phase 1 Report, pp.19-20. BCH F2020-F2021 RRA, Exhibit B-1, pdf pp.1259-1260.

[31] A default rate applies to all customers who meet the criteria, unless they are excluded for some reason or have chosen an optional rate if one is available to them.

[32] An optional rate is not a substitute for a default rate.

[33] Decision and Order G-67-20.

[34] https://www.bcuc.com/ApplicationView.aspx?ApplicationId=722.

stakeholders and review by the BCUC. In fact, this is what is already happening, even though the Interim Report doesn't mention it.

e. Residential Optional Time-of-Use Rate

BCSEA doubts that a BC Hydro optional residential TOU rate would help achieve low-carbon electrification, reduced capacity costs, and the other objectives of the CleanBC Plan.

More generally, however, BCSEA suggests that the Phase 2 Review recognize that identifying and evaluating optional rate designs is beyond the scope and expertise of the Phase 2 Review. Instead, BCSEA suggests that the Phase 2 Review's work on rate designs should focus on the Government's stance on the large issues where BC Hydro's rate design is directly impacted by government policy, i.e., the RIB Rate and the TSR two-step energy rate.

In BCSEA's view, the Interim Report provides an inaccurately optimistic view of the potential for a Residential optional TOU rate to produce time-of-day load-shifting, and to incent customers to purchase and operate EVs, without unacceptably high cost-shifting to non-participating customers.

The Interim Report says an optional TOU rate for Residential customers "may appeal to customers who have an electric vehicle that they charge overnight, and also lower electricity usage during peak demand times of the day."[35] However, the Interim Report does not address whether such an optional rate design would actually (a) save money or (b) reduce GHG emissions.

Freeridership is an enormous handicap for a residential optional TOU rate aimed at shifting consumption from on-peak to off-peak times of day.[36] If the design of an optional rate allows it, financially rational customers will choose the optional rate if it gives them a lower bill even without any change in their pattern of consumption. For example, when FortisBC (electric) proposed a new voluntary TOU residential rate in 2017[37] it estimated that 19% of residential customers would be financially better off by participating with no change in consumption pattern. Such a high potential for freeridership severely exacerbates the challenge of making an optional rate a cost-effective method of reducing the utility's costs (or increasing its revenue).

The second limitation is whether an optional TOU rate for BC Hydro's Residential customers would actually motivate customers to buy and use an EV (in place of a fossil-fuel vehicle) more than they would have done without the optional TOU rate. In this respect, many people assume, incorrectly, that an optional TOU residential rate would mean simply a lower price for off-peak consumption. In reality, it would be difficult if not impossible to design a TOU rate that did not include a higher on-peak price in addition to a lower off-peak price.[38] Ironically, this makes a

[35] Interim Report, p.12.
[36] A default TOU rate aimed at shifting daily consumption from on-peak to off-peak periods does not have a freeridership problem because it applies to all customers in the rate class (by definition). Default residential TOU rates exist in some other jurisdictions, such as Ontario and California.
[37] The BCUC rejected FBC's proposed voluntary TOU residential rate. However, in the same proceeding the Commission approved a phase-out of FBC's default Residential Conservation Rate (i.e., inclining block rate) to a flat default residential rate. https://www.bcuc.com/ApplicationView.aspx?ApplicationId=610.
[38] The idea of a lower off-peak price with no increase in the on-peak price is intuitively appealing in terms of customer acceptability. Such a design would be more likely to be feasible as a default rate than in the form of an optional rate.

financially rational EV residential customer who doesn't intend to exclusively charge the EV in the off-peak period less likely to choose the optional TOU rate. This is because any bill savings due to charging at night would be offset by higher electricity costs for the charging the EV during the on-peak period. What this means is that an optional TOU Residential rate would likely be a weak motivator of incremental purchases and use of EVs.

In addition, for BC Hydro the prospects of designing an effective optional Residential TOU rate to incent time of day load shifting is significantly complicated by the existence of the default RIB Rate. Will the RIB Rate remain in place, be flattened over several years, or be flattened abruptly? Is the optional TOU rate to be designed and analyzed as an opt-out from the RIB Rate, or to be offered only if and when the default Residential Rate has a flat energy charge?[39]

It should be noted that BC Hydro canvassed the idea of a voluntary residential TOU rate during its Rate Design Application Module 2. BCSEA participated in BC Hydro's March 3, 2017 workshop and provided extensive written comments dated May 12, 2017 on the voluntary residential TOU rate concept (which comments BCSEA endorses). It is not clear why the Interim Report fails to mention BC Hydro's RDA Module 2 process or the concepts that were explored in that process.

f. Residential Optional Interruptible Rate

The Interim Report says that optional rate designs could include "An interruptible rate that could allow customers to receive a reduction in their bill in exchange for providing BC Hydro the ability to manage non-essential services, such as hot water heat and electric baseboards."[40]

BCSEA strongly supports the current capacity-focused DSM pilot projects that BC Hydro is carrying out. BCSEA understands that these micro pilots are still at the stage of determining the most effective technologies for acceptably reducing a customer's daily peak load, and the amount of peak-load reduction that might be available. The results are not yet available, and measures to implement the technologies have not been designed and tested for cost-effectiveness. BCSEA will support the rebates or future optional rate designs that might be required for these new technologies to be implemented in selected substation areas.[41] The ultimate objective is to develop measures that could be implemented to defer capital expenditures at the level of particular substations and feeders. In BCSEA's view, this is a very desirable concept. If successful, then measures could be used to defer capital expenditures and reduce capacity costs or increase trade revenue.

It should be noted, however, that the objective of capacity-focused DSM is to reduce upward pressure on rates by reducing the utility's costs (or increasing its trade revenue), not to displace the use of fossil fuels. While cost-saving measures help electricity compete on price with fossil fuels, in BCSEA's view it is not clear that capacity-focused DSM and associated optional rate designs belong in the discussion of how BC Hydro can best implement low-carbon electrification measures.

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[39] If customers could switch from the default RIB Rate to an optional TOU rate there would be more freeridership from high-consuming customers and less from medium- and low-consuming customers than there would be if the choice was to leave a (hypothetical) default flat rate structure to an optional TOU rate.

[40] Interim Report, p.12.

[41] Presumably, other incentive mechanisms would be also be considered, in addition to optional rate designs.

g. Discounted Rates for Customers with Heat Pumps

Under the Residential heading, the Interim Report gives "a discounted rate for customers with heat pumps" as an example of an optional rate design that BC Hydro is considering. The Interim Report provides no details. BCSEA understands that the BC Government currently funds rebates for new (electric) heat pumps under a low-carbon electrification program administered by BC Hydro. Presumably a discounted electricity rate for customers with heat pumps would be focused on situations in which a new heat pump is in place of natural gas (or other fossil fuel) heating, in retrofits or new construction. With the rebate addressing the customer's capital cost of a new electric heat pump, presumably the purpose of the discounted electricity rate would be to improve the competitiveness of the customer's cost of electricity for operating the heat pump compared to the cost of operating a fossil-fuel device.

BCSEA strongly supports electric heat pumps. And, BCSEA strongly supports measures by CleanBC or by BC Hydro to incent customers to (a) retrofit electric heat pumps and to (b) install electric heat pumps in new construction. Electric heat pumps are much more energy-efficient than electric baseboard heating units, and they have substantial GHG-reduction benefits when they are installed in place of heating by natural gas (or other fossil fuels).

The normal method of incenting adoption of energy-efficiency equipment, including electric heat pumps, is to offer a rebate to a customer who installs one. The idea of BC Hydro providing a discounted electricity rate for "customers with heat pumps" is novel. The historical trend is away from the utility offering discounted electricity rates to encourage and reward a socially desired "end use" (such as farm use of power). The modern trend is to limit any new end-use rates (rates aimed at fostering the end use) to rates designed to hold other ratepayers harmless.[42] This involves careful attention to preventing freeridership.[43]

As mentioned above, low-carbon electrification measures (such as the heat pump rebates) are currently funded by the BC government, and are merely administered by BC Hydro (and other utilities). Because these LCE measures are not funded by BC Hydro (or BC Hydro's customers) they do not require approval by the BCUC. It should be noted that a discounted rate for electricity for heat pumps would require BCUC approval.[44] This highlights the point made above, that the Phase 2 Review should focus on clarifying the respective responsibilities of the BC Government, BC Hydro, and the BCUC regarding low-carbon electrification.

h. Optional Rates for Commercial Customers

The Interim Report states that for Commercial customers[45] BC Hydro is exploring optional rate designs including those "that encourage workplace electric vehicle charging, that promote the

[42] In approving BC Hydro's two optional rates for power to charge fleet EVs, the Commission reviewed complex financial modeling and concluded that one proposed optional rate was justified on an economic basis and the other was justified on a cost of service basis. Decision and Order G-67-20. Another example is BC Hydro's Shore Power rate schedule for interruptible power to vessels in port, approved by the Commission in 2015. Decision and Order G-111-15.
[43] BC Hydro's recently approved optional rates for power to charge fleet EVs are designed so that only new loads are eligible. A similar approach would be to make a "discounted rate for heat pumps" available only to customers who install a new heat pump.
[44] Or exemption from being disallowed by the BCUC, such as under the Greenhouse Gas Reduction Regulation and section 18 of the *Clean Energy Act*.
[45] Presumably "Commercial customers" means Small, Medium and Large General Service customers.

conversion of district energy systems from natural gas to electricity, and that improve competitiveness of electricity as a fuel choice."[46]

BCSEA has the following comments:

1. Regarding optional rate designs for workplace electric vehicle charging, it is unclear why the Interim Report does not refer to BC Hydro's August 2019 application to the Commission for approval of optional rates for General Service customers to acquire power for charging the customer's own fleet of EVs.[47]
2. It is welcome news to BCSEA that BC Hydro is exploring optional rate designs to promote the conversion of district energy systems from natural gas to electricity.
3. Optional rate designs for General Service customers "to improve competitiveness of electricity as a fuel choice" is a vague description. Perhaps this is a reference to an interruptible market-referenced optional rate for Commercial customers, which BCSEA supports in principle.

i. Transmission Service Rate (TSR)

The Interim Report hints at flattening the default TSR two-tier energy rate to support CleanBC by making increased consumption of clean electricity more competitive.

BCSEA is quite open to consideration of changes to the TSR aimed at fostering the objectives of the CleanBC Plan. That said, changes to the TSR will be complicated and controversial, and it is uncertain whether it would even be possible to make increased consumption of clean electricity more competitive by modifying the TSR two-tier energy rate.

BC Hydro's existing default TSR has a two-step energy rate intended to promote conservation and efficiency. The complexity of the design is multiplied by the fact that each separate TSR customer has its own Customer Baseline and the CBLs are themselves the subject of complex guidelines and negotiations between each customer and BC Hydro. Further, the Interim Report oversimplifies when it equates TSR customers with 'large industrial' customers.[48] There are large industrial customer who take service under the Large General Service rate, and there are many TSR customers that are not industrial operations at all. Any change to any aspect of the TSR is likely to have significantly different impacts, even opposite impacts, on different TSR customers.

To put it bluntly, everyone likes the idea of "making increased consumption of clean electricity more competitive," but flattening the TSR two-tier energy rate would produce both winners and losers within the relatively small number of Transmission Service customers. Flattening the TSR energy rate would cause lower electricity bills for some customers and higher bills for other customers. Some of the customers facing higher electricity bills under a flattened TSR energy rate may be the same energy-intensive trade-exposed customers who say (quite plausibly) they

[46] Interim Report, p.12.
[47] BC Hydro's application for Fleet Electrification Rates was approved by the Commission on March 26, 2020. Decision and Order G-67-20.
[48] For example, the Interim Report refers to the TSR as "the two-tier industrial rate." Page 12.

may cut production or close down if their electricity costs rise.[49] The Interim Report gives no indication that the Phase 2 Review has grappled with these considerations.

As with the RIB Rate, BCSEA's view is that what would be most helpful would be for the Phase 2 Review to start by disclosing whether the BC Government stands behind the devotion of considerable resources by all the parties to try to re-design the TSR two-tier energy rate with a view to fostering the CleanBC objectives.

j. "Economic development rate" for industrial customers

The Interim Report suggests that "BC Hydro could target potential new industrial customers through an economic development rate, including for energy-intensive low-carbon industries."[50] Perhaps this is a reference to the load retention/load attraction rate designs that BC Hydro canvassed at its November 19, 2018 workshop on TSR rate designs.

During that consultation, BCSEA recommended strongly that eligibility for these optional rates should be limited to existing or new loads that contribute to GHG emissions reductions in BC. This would exclude, for example, participation by a new customer that would have substantial GHG emissions from fossil-fuel combustion in parallel to its consumption of electricity. BCSEA re-affirms that recommendation. A new "economic development rate" should be limited to low-carbon industries (or other activities), in addition to the other appropriate criteria and terms and conditions.

2. Low rates and energy-intensive trade-exposed industries

The Interim Report notes that "stakeholders" said low cost electricity should be at the forefront of the Phase 2 Review of BC Hydro. The Interim Report states that competitive (i.e., low cost) electricity rates for energy-intensive trade-exposed industries in BC are important to their success, to investment and economic development, and to electrification of future projects.

BCSEA acknowledges that reducing upward pressure on BC Hydro's rates is an important component of both the low-carbon electrification objective and the affordability objective of the CleanBC Plan. BCSEA supports consideration of the cost-effectiveness of BC Hydro's low-carbon electrification measures ($/t$CO_2$e),[51] in order to maximize the amount of reductions in BC GHG emissions while minimizing any upward pressure on BC Hydro's rates.

In addition, BCSEA emphasizes that the first priority is to achieve BC's GHG reductions targets. BCSEA strongly supports the statement in the Review's Terms of Reference that:

> "Any recommended changes to BC Hydro must achieve the electrification goals set out in CleanBC to meet our legislated 2030 greenhouse gas reduction targets and lay the groundwork for additional greenhouse gas emissions reductions to meet the province's legislated 2040 and 2050 emissions targets."[52]

[49] In general, subject to the intricacies of the TSR and customer-specific CBLs, flattening the two-tier energy would tend to benefit customers whose consumption is increasing and hurt customers whose consumption is decreasing over time.
[50] Interim Report, p.13.
[51] Where estimates of cost-effectiveness are possible.
[52] Comprehensive Review of BC Hydro, Phase 2 Terms of Reference, p.2.

3. Super-large new customers (150 MVA and Tariff Supplement 6)

The Interim Report suggests modification or elimination of the 150 MVA threshold above which a new customer may bear the costs of necessary incremental generation.[53] This should be rejected, in BCSEA's view.

Tariff Supplement 6 says (roughly) that a new customer must pay BC Hydro's costs of incremental transmission to serve the new load but not BC Hydro's costs of incremental generation to serve the new load; except for new customers proposing a load greater than 150 MVA, in which case they might have to pay for BC Hydro's costs of incremental generation required to serve the new load. In this respect, TS 6 represents a compromise regarding new industrial customers' access to embedded-cost power. The proponent of a project up to 150 MVA (which is a very large load) can expect to have access to embedded-cost power, thereby reducing the amount of embedded-cost power available to existing ratepayers. However, under TS 6, the proponent of a project greater than 150 MVA (call it a super-large load) is not guaranteed access to embedded cost power. Proposed projects needing more than 150 MVA of electricity are rare.[54]

This topic was extensively canvassed in the Industrial Electricity Policy Review of 2013. BCSEA's view is that any new project with a load greater than 150 MVA is so large that it would inevitably be handled by the BC government regardless of the wording of Tariff Supplement 6. BCSEA does not agree with the contention that the 150 MVA threshold "sends a signal that new large electric loads are not supported in British Columbia." BCSEA's view is that any sophisticated proponent of a project with a load bigger than 150 MVA would understand that the potential benefits and the potential costs to the Province, and to BC Hydro, would be so large that no BC government would simply defer to, or be bound by, the terms of a tariff supplement drafted without consideration of the specific project. Notably, the Industrial Electricity Policy Review Task Force said, "we also understand the ultimate goal of the threshold is to protect existing ratepayers from unreasonable electricity cost increases."[55]

BCSEA's view is that if in the future there is a proposal for a project with a load greater than 150 MVA then the Government's approach to negotiations about electricity rates with the proponent should depend on the merits of the project under the CleanBC Plan (i.e., GHG reduction, affordable rates, economic development and Reconciliation).

4. New transmission extensions

In BCSEA's view, the Phase 2 Review of BC Hydro should openly acknowledge the decisions that the Government has already made and identify the types of decisions the Government intends to make that define BC Hydro's role in implementing low-carbon electrification and the other objectives of the CleanBC Plan. This is an example of BCSEA's recommendation (above) that the Phase 2 Review should set out the rationale and criteria for determining which issues will be led by the BC Government, which issues will be led by BC Hydro, and which issues will be determined by the BCUC.

In addition, BCSEA wants the Phase 2 Review to acknowledge that BC Hydro's electrification of some energy loads within a growing natural gas sector in BC will only slow the increase in BC GHG emissions from the natural gas sector. An expanding natural gas sector will still be driving

[53] Interim Report, pp.13-14.
[54] BCSEA is not aware of any new project with a load greater than 150 MVA having been served as a new customer of BC Hydro under TS 6, although examples may exist.
[55] Industrial Electricity Policy Review Task Force Final Report, October 31, 2013, p.65.

provincial GHG emissions upward. BCSEA urges the Phase 2 Review to recognize that BC Hydro's electrification activities must be broadly targeted at sectors other than natural gas in order to achieve net reductions while the natural gas sector's emissions are increasing.

The Interim Report states definitively that "A timely build-out of the transmission system will be necessary to support electrification of industry."[56] Presumably this includes the Peace Region Electricity Supply Project (PRES). PRES is one of the capital projects regarding which the Government has barred the Utilities Commission from disallowing recovery of the costs from ratepayers.[57] BCSEA's comment here is not about the merits of PRES, or the merits of the exclusion of PRES and other BC Hydro expenditures from the Commission's review. Rather, BCSEA's point is that the Government's decision that BC Hydro will go ahead with PRES, with the costs to be included in BC Hydro's revenue requirement, is a very significant decision in terms of how, and at whose expense, BC Hydro will implement low-carbon electrification under the CleanBC Plan.

The Interim Report goes on to state, enigmatically:

> "Under an August 2019 Memorandum of Understanding between the Province of British Columbia and the Government of Canada, a number of transmission projects were identified for co-funding that would support the electrification of the natural gas sector. In addition to funding, regulatory changes could help ensure BC Hydro can meet customer timelines, as well as removing the obligation for customers to bear the cost of infrastructure."[58]

BCSEA is concerned that the Interim Report appears to underplay the significance of these high-cost potential transmission projects.[59] BCSEA submits that the Phase 2 Review should openly and transparently disclose the key factors, including:

- Which transmission projects has the BC Government determined BC Hydro will move forward with to foster electrification in the natural gas sector?
- Has the Government barred, or does it intend to bar, the BCUC from reviewing BC Hydro's costs of these transmission projects?
- What "regulatory changes" are contemplated to "help ensure BC Hydro can meet customer timelines" for interconnection with the BC Hydro system? Does the Phase 2 Review disagree with BC Hydro's contention during the F2020-F2021 RRA proceeding that it is already doing everything reasonably possible to accommodate faster and less expensive interconnections with the transmission system?
- What "regulatory changes" does the Phase 2 Review contemplate for removing the obligation for new electricity customers in the natural gas sector to bear BC Hydro's incremental transmission costs of new electricity service to them? Is the suggestion

[56] Interim Report, p.14.
[57] In effect, the BCUC is legally required to allow BC Hydro to recover its costs of PRES from all ratepayers, which would put upward pressure on rates unless incremental gross revenues from new customers served by PRES exceed BC Hydro's costs.
[58] Interim Report, p.14.
[59] Apparently the reference is to: Prince George to Terrace capacitors project; Bear Mountain to Dawson Creek voltage conversion; and North Montney transmission project, northward from GMS. BCSEA does not know if PRES is included in the August 2019 co-funding MOU between BC and Canada.

limited to new electricity customers in the natural gas sector? Would GHG emissions reductions be a criterion for eligibility?

- Who does the Phase 2 Review contemplate would bear the additional costs of these measures? If costs are not borne by the new customers would they be borne by all BC Hydro customers, or by one or more levels of Government?
- If BC Hydro's ratepayers would cover the incremental costs of large new customers connecting to the BC Hydro transmission system, then how does the Phase 2 Review see BC Hydro meeting the "affordability" objective in the CleanBC Plan?
- Does "regulatory changes" imply no review by the BCUC for cost-effectiveness?

5. Diesel reduction in BC Hydro's non-integrated areas

BCSEA strongly supports the current Remote Community Clean Energy Strategy that was described in BC Hydro's February 2019 Service Plan for 2019-2020 – 2020-2021.[60] This support is a continuation of BCSEA's longstanding support for BC Hydro to address barriers in non-integrated areas and First Nations communities. BCSEA strongly supported BC Hydro's applications to the BCUC as part of the Remote Communities Electrification Program. BCSEA highlighted the desirability of, and opportunities for, reducing the use of diesel fuel, which causes GHG emissions, air pollution and the risk of spills. While demand-side measures (efficiency and conservation) were immediately available in NIAs and have since been expanded, clean renewable supply-side measures were considered opportunities for the future.

In BCSEA's view, the Phase 2 Review's discussion under the heading "Diesel Reduction" does not say anything new. Missing is the Phase 2 Review's perspective on whether the BC Government should adopt a regulation requiring the BCUC to approve BC Hydro's expenditures under the Remote Community Clean Energy Strategy. This would be similar to the Remote Communities Regulation[61] in relation to the Remote Communities Electrification Program.

The Interim Review refers obliquely to "implementing clean generation resources [in non-integrated areas] that are less costly than BC Hydro's marginal cost of existing operations."[62] Perhaps this is intended as a statement of generic cost-effectiveness principles, made without awareness that this is a live issue. Alternatively, it may signal that the Phase 2 Review supports an avoided cost cap on NIA clean renewable resource expenditures. If so, this would be starkly contrary to the intention stated by BC Hydro CEO Chris O'Riley during the BCUC oral hearing on the F2020-F2021 RRA.

In response to questions by counsel for the Kwadacha and Tsay Key Dene, Mr. O'Riley readily acknowledged that "a number of northern Indigenous communities, including Kwadacha and Tsay Keh, would like to reduce their reliance on diesel generation."[63] Mr. O'Riley testified that the avoided cost of diesel in the NIAs, which he described as about $300/MWh, is not high enough to meet the needs for clean renewable alternatives to diesel.[64] He said that this was

[60] BC Hydro 2019-2020 – 2020-2021 Service Plan, Appendix E to Exhibit B-1, BC Hydro F2020-F2021 Revenue Requirements Application, pdf p.1361.
[61] B.C. Reg. 240/2007, http://www.bclaws.ca/civix/document/id/complete/statreg/240_2007, under the *BC Hydro Public Power Legacy and Heritage Contract Act, SBC 2003*, c.86.
[62] Interim Review, p.15, underline added.
[63] BCUC, BC Hydro F2020-F2021 RRA, Transcript Vol.6, January 22, 2020, p.642, lines 2 to 11. https://www.bcuc.com/Documents/Transcripts/2020/DOC_56895_2020-01-21-TranscriptVolume6-OralHearing.pdf.
[64] *Ibid.*, p.643, lines 16 to 26.

being looked at in the Phase 2 Review, that this is a "big priority of both the provincial government and the federal government," and that "hopefully ... that will be a source of resources."[65] The discussion gives a clear sense of Mr. O'Riley's awareness and commitment that an avoided cost cap on clean renewable resource expenditures for Indigenous NIAs is not desirable and that he expected the Phase 2 Review to address this issue in a positive way:

> "MR. O'RILEY: ... We are looking at this issue in the phase 2 review, so hoping that some more tools and levers will come through in that, and I know it's a big priority of both the provincial government and the federal government, and hopefully we'll get some more – that will be a source of resources."
>
> MS. McLEAN: Q And when you indicate there needs to be a different financial framework, I just want to make sure I understand what you mean by that. You've referenced measuring the viability I think of substitute sources of energy, using the avoided cost of diesel, correct? And are you suggesting that that may need to be rethought in order to decide to implement substitution?
>
> MR. O'RILEY: A Yeah, to be more successful, more broadly, is going to require more money than $300 a MWh, is my suggestion.
>
> MS. McLEAN: Q And when asked about prioritizing this objective in the north, I think your evidence so far is BC Hydro did prioritize it, and you gave the example of the Kwadacha efforts, but just to be clear, that is an ongoing commitment by Hydro to prioritize this issue?
>
> MR. O'RILEY: A Yeah, it's absolutely a priority. It is one of the -- we are in the process with this phase 2 review, and one of the pillars in that is enhancing the opportunities for Indigenous Nations to participate in, and benefit from the activities of BC Hydro. And one of the noted line items in that is reducing diesel generation in remote communities. So it's absolutely a priority. What we don't have right now is the ready solutions."[66]

BCSEA simply observes that the Interim Report does not seem to reflect the tenor of Mr. O'Riley's expression of BC Hydro's commitment to reducing diesel usage in remote Indigenous communities.

In any event, BCSEA submits that the role of the Phase 2 Review should be to address the high-level issues, such as, in this instance, whether and under what conditions the BC Government should prescribe the capex approval standards for NIA clean renewable generation, rather than leaving it to the BCUC.

6. Demand Side Management and Fuel Switching Investments

The Interim Report defends the large reduction in BC Hydro's DSM spending, down from $120 million in 2014 to $85 million currently.[67] It says this is "in order to manage upward pressure on rates during an energy surplus."

BCSEA does not dismiss rate impacts, or bill impacts, as important factors among others to be considered in the analysis of potential resources, whether supply-side or demand-side. However, BCSEA notes that while the Interim Report frequently recites "keeping rates affordable" it does not discuss the rate or bill impacts of the various potential measures it

[65] *Ibid.*, p.644, lines 1 to 6.
[66] *Ibid.*, p.644, line 1 to p.645, line 6.
[67] Interim Report, p.15. Interim Report's figures; no source cited.

discusses except for DSM. For example, the Interim Report states that electricity generating facilities in other jurisdictions "could be more affordable" than in BC and it contemplates BC Hydro "importing power from clean and renewable resources."[68] However, the Interim Report doesn't mention that buying new clean power, from inside or outside BC, would put upward pressure on rates during BC Hydro's energy and capacity surplus.[69] Nor does the Interim Report mention that expanding BC Hydro's DSM portfolio is likely to be a lower-cost resource than investing in new generation regardless of the location.

BCSEA respectfully maintains its September 2019 recommendations to the Phase 2 Review that: "BC Hydro should pursue all cost-effective conservation and efficiency savings."[70]

The Interim Report devotes only three sentences to BC Hydro's role in achieving low-carbon fuel switching. It states:

> "In addition to demand-side management, new programs to encourage electrification of transportation, buildings and industry will be required to achieve the greenhouse gas reduction goals set out in CleanBC. Some of these types of initiatives are currently enabled by the Greenhouse Gas Reduction (Clean Energy) Regulation under the *Clean Energy Act*. Future proposals for electrification initiatives will be reviewed by the BCUC."

From BCSEA's perspective, important topics are missing:

- The BC Government, not BC Hydro, currently funds low-carbon electrification incentives. What does the Phase 2 Review have to say about whether BC Hydro should take over this role? Does BC Hydro need a stronger, more explicit legal mandate to pursue low-carbon fuel switching and other forms of low-carbon electrification?
- Setting aside expenditures under the GGRR, what cost-effectiveness tests does the Phase 2 Review anticipate will be applied by the BCUC? Will these tests be adequate for BC Hydro to achieve its share of the low-carbon electrification objectives under the CleanBC Plan?
- Does the Phase 2 Review really mean that while certain current measures are enabled under the GGRR, all of BC Hydro's future electrification initiatives will be reviewed by the BCUC? Presumably not. The GGRR has narrow wording (for exemptions from BCUC denial of recovery of costs in rates), but there is no indication in the GGRR itself that its validity and usefulness has come to an end.

7. BC Hydro's role behind the customer's meter

BCSEA recommends that the Phase 2 Review de-emphasize the topic of BC Hydro getting involved behind the customer's meter and raise the priority given to BC Hydro's legal mandate to pursue low-carbon electrification.

The Interim Report talks in abstract terms about "grid modernization," "smart and flexible end-use devices," "community energy management systems," "vast amounts of data," "distributed energy management systems," "automation of switches and other grid assets" and so on.[71] None of this goes beyond optimistic generalities.

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[68] Interim Report, p.19
[69] Except in the unlikely scenario that the cost of the new power was less than its value to BC Hydro on the wholesale market.
[70] Underline added.
[71] Interim Report, p.18.

For example, the Interim Report says that the Phase 2 Review "is looking at different roles that BC Hydro could play behind the [customer's] meter." It says:

> "BC Hydro could act as a platform for behind the meter activities which would enable other organizations to offer additional services. The use of BC Hydro's infrastructure and information technology could facilitate services behind the meter through partnerships."[72]

BCSEA finds it disconcerting that the Phase 2 Review is "looking at" this sweepingly broad topic area and yet has nothing substantive to say about it in the Interim Report. Further, even at a high level of abstraction, the Interim Report is remiss in not acknowledging the widely accepted concept in the regulatory world that a public utility such as BC Hydro has no business providing services to its customers behind the customer's meter except in very limited and defined circumstances.

8. Out-of-Province clean generation investments

BCSEA is concerned about the Phase 2 Review's proposal to change BC Hydro's long-term planning criteria in order to facilitate BC Hydro (or Powerex) making investments[73] in clean generation located in jurisdictions outside of British Columbia.

Unfortunately, the Phase 2 Review does not fully explain its proposal, the perceived problem, the intended benefits, or the potential adverse consequences. The Interim Report is silent on key aspects of the proposal for out-of-province clean generation, including the following.

- The stated reason for eliminating the self-sufficiency provision would be to reduce BC Hydro's cost of acquiring new resources, on the stated premise that new clean renewable resources in other jurisdictions could be "more affordable," presumably compared to new clean renewable resources within BC. However, the Interim Report does not substantiate this premise. Given line losses, wheeling charges, transmission constraints and interdiction risk, would it really be less expensive for BC Hydro to acquire clean generation in Alberta or a US state than in BC?
- On a planning basis (which is where the self-sufficiency requirement applies) BC Hydro has surplus energy and capacity for some 10 to 15 years (shorter with successful electrification) during which time BC Hydro does not have a planning need for new clean generation, whether such generation is located inside or outside of BC. Why is the Phase 2 Review even talking about the location of new clean generation for BC Hydro?
- Eliminating BC Hydro's planning requirement that new generation must be located in BC would directly thwart those in BC who aspire to install clean renewable generation for sale to BC Hydro, such as many First Nations, IPPs in partnership with First Nations or on their own, and BC Hydro customers interested in self-generation or smaller-scale net metering. How would that contribute to the CleanBC Plan's economic development and Reconciliation objectives?
- The delivery of clean power from new BC Hydro generation investments outside of BC to customers within BC would achieve no greater GHG reductions in BC than clean power

[72] Interim Report, p.18.
[73] Apparently the proposal is that these investments could involve ownership by BC Hydro (or Powerex or some new BC government company) or BC Hydro (or Powerex, etc.) holding contractual rights to power from a clean generation facility on a long-term basis.

generated within BC. In what way would BC Hydro investments in out-of-province clean generation contribute to the low-carbon electrification objective of the CleanBC Plan?

- Overall, how would BC Hydro investing in clean generation facilities outside of BC help reduce GHG emissions in BC, reduce BC Hydro's rates, promote economic development in BC, or foster Reconciliation with BC First Nations?
- Given that the BC Government so recently restored the authority of the BCUC to review whether BC Hydro's next Integrated Resource Plan is in the public interest, why would the BC Government deliberately amend the planning criteria in order to influence the outcome of the long-term planning process?

Interestingly, the Interim Report states that "When developing its Integrated Resource Plan, BC Hydro will look at the impact of the elimination of the self-sufficiency provision."[74] BCSEA observes that this appears to be a departure from BC Hydro's approach in the development of previous IRPs during which BC Hydro refused to evaluate suggested alternatives that in BC Hydro's view were inconsistent with current legislative requirements and Government policy.

9. "If both public and private entities could develop small-scale generation..."

The Interim Report makes the following statement:

> "Further, if both public and private entities could develop small-scale generation, BC Hydro would have more choice and flexibility when determining least cost solutions for meeting demand while still pursuing environmental and social benefits, all under the increased oversight of the BCUC."[75]

In BCSEA's view, this statement is inexplicable. Nothing prevents a public entity[76] or a private entity from developing small-scale generation (or large-scale generation for that matter). In fact, entities already do develop small-scale generation, for example biomass generation and very small-scale generation (<100 kW) under BC Hydro's Net Metering Program. Further, BC Hydro does not have a planning need for new generation resources at the present time: the Interim Report itself states that "new IPP opportunities are not available at this time."[77]

10. "Leveraging Our Strengths"

BCSEA has serious reservations about the Phase 2 Review's enthusiasm for some sort of major initiative in which BC Hydro (or Powerex) would apparently make profits by selling power at premium prices to buyers in US states who are under legislated renewable portfolio standards. BCSEA is not against BC Hydro ratepayers benefitting from Trade Income. On the contrary, the point is that Powerex already actively and successfully pursues opportunities to sell power from the BC system to out-of-province purchases at premium prices for qualifying "clean" power and at premium prices for capacity-rich products,[78] as well as utilizing BC Hydro's large storage reservoirs to 'buy low and sell high.'

[74] Interim Report, p.19, underline added.
[75] Interim Report, p.20.
[76] Other than BC Hydro, which is precluded from developing new generation except regarding the Site C project and upgrades of existing BC Hydro facilities.
[77] Interim Report, p.23.
[78] Such as firm delivery of power during a daily time window when a utility's solar PV supply drops off and its residential load peaks.

Notably, the Phase 2 Review cites no examples of any existing current constraints on Powerex's ability to trade electricity profitably in the Western Interconnection, despite being explicitly invited to do so in the Terms of Reference.[79]

Exactly what the Phase 2 Review proposes is not made clear. Instead, vague promotional phrases are used, such as "leveraging our strengths," "new opportunities for BC Hydro to expand its business in markets outside B.C. to the benefit of ratepayers," "pursue new business opportunities," "provincial strategies that could transform the way BC Hydro does business," and "ensuring BC Hydro's sustainability for the benefit of all British Columbians."

The Terms of Reference invite the Phase 2 Review to identify "an opportunity or actions that can be taken that will enable Powerex to expand its business in markets outside of BC, further leveraging BC Hydro's clean generation and/or Powerex's expertise in energy markets."[80] However, the closest the Interim Report comes to identifying a new business opportunity for BC Hydro ratepayers is this statement:

> "Maintaining alignment of clean policy with trade partners in the West would leverage BC Hydro's strength as a clean supplier of energy, capacity and flexibility, thereby maintaining and potentially enhancing opportunities for Powerex to generate income."[81]

BC tried that before, and it didn't work. The 2002 Energy Plan called for BC to become a "Clean Energy Powerhouse" by purchasing more power from IPPs than was needed[82] by BC Hydro customers and selling the excess electricity at premium clean-energy prices to purchasers in the US. This turned out to be a complete financial failure.[83]

If the Government insists that BC Hydro must move ahead with this initiative then in BCSEA's view the proposal should be thoroughly reviewed by the BCUC in a public hearing and approved as being in the public interest before it is allowed to proceed.

The Interim Report states that various US States have or will adopt 100% renewable or clean electricity standards. This may come to pass, optimistically. Renewable electricity portfolio standards for US States have been expanding and evolving over 20 years. Still, it concerns BCSEA that the Phase 2 Review is proposing this initiative in advance of any confirmation that these 100% renewable or clean electricity standards will actually be adopted. Moreover, and more importantly, BCSEA is concerned that the Phase 2 Review ignores the historical fact that, unfortunately, rarely have US states defined their renewable portfolio standards so as to qualify power from BC Hydro to be sold into their states at premium clean power prices. This is a simple but costly lesson that was learned from the failure of the "Clean Energy Powerhouse" investment.

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[79] Comprehensive Review of BC Hydro, Phase 2 Review, Terms of Reference, p.4.
[80] *Ibid.*
[81] Interim Report, p.21.
[82] Technically, the Government changed the definition of 'need' by redefining BC Hydro's supply for planning purposes down to the amount of power the Heritage hydroelectric assets could provide in a "critical low-water year" and adding a requirement for 3,000 GWh/y for "insurance." See: Special Direction 10, B.C. Reg. 245/2006, since repealed.
[83] See *Zapped: A Review of BC Hydro's Purchase of Power from Independent Power Producers conducted for the Minister of Energy, Mines and Petroleum Resources,* by Ken Davidson, February 2019. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/electricity/bc-hydro-review/bch19-158-ipp_report_february_11_2019.pdf.

The Interim Report states that "Maintaining alignment of (BC) clean policy with trade partners in the West" would allow Powerex to generate income. The Interim Report states:

> "Building on the [BC] Clean Energy Act and in line with neighbouring jurisdictions, BC Hydro could become the first jurisdiction to implement a 100% clean electricity standard. Therefore, BC Hydro will assume a 100% clean electricity standard for the integrated grid when developing its Integrated Resource Plan."[84]

This raises red flags for BCSEA.

First, the value proposition seems to be along the lines that: 'If US states come to adopt domestic "100% clean" requirements and also deem BC Hydro's power to meet the "100% clean" criteria, then BC Hydro could sell power to the US states at premium clean prices, and buy "clean" power from non-BC jurisdictions at prices cheaper than made-in-BC clean power.' With respect, this seems more like a lot of "ifs" than a business opportunity.

Second, while a 100% clean electricity standard obviously sounds better than a 93% clean or renewable standard, there would be a cost that would be reflected in BC Hydro's rates. BC Hydro currently achieves approximately 98% clean or renewable generation.[85] The remaining 2% – non-clean or renewable generation – is apparently comprised of natural gas generation from BC Hydro's Prince Rupert and Fort Nelson generation facilities and power purchases from the (Vancouver) Island gas generation facility. These facilities are relied upon for capacity and backup, not for energy. Removing them from BC Hydro's supply stack for planning purposes would presumably require replacement with transmission enhancements or commercial-scale capacity facilities such as pumped storage or batteries. This would be extremely expensive, although exactly how much it would cost presumably remains to be determined. The point is that this would be an extraordinarily expensive way to reduce GHG emissions from these gas-fired generating plants on a $/tCO$_2$e basis. There would have to be a very large revenue upside to justify this cost.

Third, the statement that BC Hydro will assume a 100% clean electricity standard for the integrated grid in developing the 2021 IRP is startling, given that BC Hydro is subject to a statutory 93% clean or renewable standard for planning purposes. Is the Phase 2 Review announcing that the Government intends to amend the legislated BC energy objective[86] to generate at least 93% of the electricity in British Columbia from clean or renewable resources? If not, how would BC Hydro be able to prepare an IRP to a different standard?[87]

Fourth, BC Hydro mentioned nothing in its F2020-F2021 Revenue Requirements Application about consideration of any future capital expenditures that would allow it to eliminate reliance on the three gas-fired generation facilities for planning purposes. During the RRA proceeding, BC Hydro provided a historically unprecedented amount of information about its capital expenditures in all phases of the capital planning and implementation cycle. If BC Hydro is contemplating replacement of its gas-fired resources then BCSEA would have expected some mention of it in the RRA proceeding.

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[84] Interim Report, p.22, underline added.
[85] BC Hydro uses this figure. Presumably, it is on an operational basis, as distinct from a planning basis.
[86] *Clean Energy Act*, s.2(c).
[87] In the development of previous IRPs, BC Hydro has stoutly refused to examine the planning consequences of approaches that are inconsistent with existing legislation and government policy.

Fifth, while it seems churlish to mention it, BCSEA hopes that the Phase 2 Review does not have in a mind a sleight of hand approach in which the clean renewable planning resources criterion is raised to 100% but somehow BC Hydro continues to rely on the three natural gas generation facilities in question.

11. Advancing Reconciliation

The Interim Report states that "The Phase 2 Review is exploring future opportunities or new roles for Indigenous Nations in the development, ownership or operation of electrical infrastructure or services with the goal of enhancing Indigenous Nations' participation in the energy sector."[88] BCSEA commends this initiative.

The Interim Report summarizes input received to date from First Nations and states that "The Phase 2 Review will undertake further engagement with Indigenous Nations and organizations on these topics, which will inform the content of the final report."

The Interim Report asks for input on the question: "What are the key issues and trends for Indigenous and non-Indigenous communities related to electricity and BC Hydro?" BCSEA is not in a position to identify issues or trends for Indigenous communities. However, BCSEA respectfully offers the following two general comments:

- The BC government should recognize that it has responsibilities and opportunities vis-à-vis Indigenous Nations, both in Non-Integrated Areas and in the integrated system, that extend beyond the responsibility and mandate of BC Hydro.
- The BC government and BC Hydro should recognize that BC Hydro has responsibilities and opportunities vis-à-vis Indigenous Nations stemming from a variety of causes, historical and on a going-forward basis, that are independent of BC Hydro's implementation of the CleanBC Plan.

12. Other topics

a. Treatment of BCSEA's March 2019 points in the Interim Report

In Table 1, below, BCSEA briefly sets out its evaluation of how the points it addressed in its September 26, 2019 letter are treated in the March 2020 Interim Report.

[88] Interim Report, p.22.

Table 1. Treatment of BCSEA's March 2019 points in the Interim Report	
BCSEA's March 2019 Points	**Treatment in March 2020 Interim Report**
1. Low-carbon electrification should emphasize transportation, buildings and non-fossil-fuel industrial loads,[89] not just fossil fuel production loads.	General reference to electrification of transportation, buildings and industry. No acknowledgment that the growing natural gas sector pushes up GHG emissions even with electrification of some loads.
2. As BC Hydro's shareholder, the Government should direct BC Hydro to take a proactive leadership role in achieving low carbon electrification in BC.	No discussion of legal mandate for BC Hydro to achieve low-carbon electrification.
3. BC Hydro's in-development Integrated Resource Plan should chart a path for BC Hydro to deliver zero-carbon energy solutions and low-carbon electrification.	No mention of a BC Hydro plan to achieve quantitative low-carbon electrification milestones.
4. BC Hydro should expand net metering to support the distributed generation of the future.	No mention of "net metering," but contradictory hints: self-generation trend causing cost-shifting[90] v. self-generation as a "new energy choice."[91]
5. BC Hydro should pursue all cost-effective conservation and efficiency savings.	Opposite. Defends DSM cutbacks to prevent upward pressure on rates.[92]
6. The Government should address "energy poverty" through policy or enable and require BC's utilities to do so through lifeline rates.	No mention, despite numerous references to "affordability."
7. Government should step in to allow and require BC Hydro and FortisBC to implement and support EV charging infrastructure.	Optimistic talk about passenger EV uptake, but silent on Government's ongoing failure to direct BCUC to allow BC Hydro and FortisBC to recover their costs of public fast-charging stations.
8. The review of Powerex's trading activities should address BC's climate action goals.	The discussion of planning criteria, electricity markets and business opportunities is incoherent in BCSEA's view. Suggestions such as BC Hydro investing in out-of-province clean generation don't mention BC GHG reductions, rate affordability, economic development in BC, or Reconciliation.

[89] This is unclear wording. As explained in the September 26, 2019 letter, the reference is to electrification of industrial energy loads currently met with fossil fuels where the industrial activity is something other than producing natural gas or other fossil fuels.
[90] Interim Report, p.7.
[91] Interim Report, p.8.
[92] Rate and bill impacts are important considerations. Notably, however, the Interim Report does not mention the rate and bill impacts of the measures it discusses positively.

b. The role of the Expert Advisors

BCSEA compliments the Phase 2 Review for assembling a highly qualified and appropriately diverse list of expert advisors.[93] Unfortunately, the Phase 2 Review has kept the contribution of the expert advisors entirely behind closed doors. There is no information about what process occurred, or even whether the expert advisors contributed to or reviewed the Interim Report.

The only information about what the experts recommended, individually or collectively, is three high level points – almost truisms – mentioned in the Interim Report as follows:

> "In the Phase 2 Review, stakeholders and experts have noted the importance of ensuring that rates send the right price signals to the market as well as the fact that load growth can benefit all ratepayers."[94]
>
> "Experts in the Phase 2 Review support a reduction of diesel consumption balanced with maintaining reliability in non-integrated areas, with an emphasis on investment in early engagement with Indigenous Nations to identify opportunities, and implementing clean generation resources that are less costly than BC Hydro's marginal cost of existing operations."[95]
>
> "Experts recommended looking to incentivize and encourage innovative thinking throughout the organization."[96]

BCSEA notes that obtaining confidential advice from experts is not a substitute for stakeholder consultation.

c. The Interim Report makes very few clear statements of Government direction

As stated above, in BCSEA's view, most of the ideas discussed in the Interim Report are merely hints about what the Government might be thinking. BCSEA has identified only four instances in which the Interim Report clearly states the Government's direction. These are listed in Table 2, along with BCSEA's corresponding summary comment.

[93] The names are listed on the website for the Phase 2 Review.
[94] Interim Report, p.11.
[95] Interim Report, p.15.
[96] Interim Report, p.19.

Table 2. Statements of Government direction in the Interim Report	
Interim Report	**BCSEA Summary Comment**
"A timely build-out of the transmission system will be necessary to support electrification of industry."[97]	Restatement of Government position. BCSEA repeats its view that low-carbon electrification must be achieved in all sectors, not just the natural gas industry.
"...new IPP opportunities are not available at this time."[98]	Restatement of Government position. However, this is a clear rejection of requests to un-suspend the Standing Offer Program.
"...BC Hydro will assume a 100% clean electricity standard for the integrated grid when developing its Integrated Resource Plan."[99]	To BCSEA, this sounds like puffery. The cost per tCO_2e would be extremely high to build the transmission and (clean renewable) dispatchable generation necessary to replace BC Hydro's reliance on very small amounts of gas-fired generation in Fort Nelson, Prince Rupert and northern Vancouver Island. BCSEA says: focus on achieving large amounts of cost-effective low-carbon electrification.
"When developing its Integrated Resource Plan, BC Hydro will look at the impact of the elimination of the self-sufficiency provision."[100]	BC Hydro (or Powerex) investing in clean generation outside BC makes no sense to BCSEA. It would not help BC GHG reductions, affordable rates, economic development or Reconciliation.

IV. Conclusion

In BCSEA's view, the Phase 2 Review has not yet met the stated objective to develop recommendations for how BC Hydro can accomplish the provincial policy objectives laid out in the CleanBC plan.[101] BCSEA considers the Interim Report to be an inadequate basis for finalizing the Review.

BCSEA urges the Phase 2 Review to honour its commitment to provide an opportunity for BCSEA and other stakeholders to comment on draft recommendations before a final report is issued.

In the short term, BCSEA suggests that the Phase 2 Review Committee and Advisory Group hold a virtual workshop for stakeholders, Indigenous groups and the expert advisors.

[97] Interim Report, p.14.
[98] Interim Report, p.23.
[99] Interim Report, p.22.
[100] Interim Report, p.19.
[101] Comprehensive Review of BC Hydro, Phase 2 Terms of Reference, p.1.

Appendix A: BCSEA Letter of September 26, 2019 re Comprehensive Review of BC Hydro, Phase 2, comments on the terms of reference and process

BRITISH COLUMBIA Sustainable Energy ASSOCIATION

26 September 2019

To: Diane McSherry and Les MacLaren, Co-Chairs of the Advisory Group for the Comprehensive Review of BC Hydro, Phase 2
By email: bchydroreview@gov.bc.ca

Dear Ms. McSherry and Mr. MacLaren,

Re: Comprehensive Review of BC Hydro, Phase 2, comments on the terms of reference and process

The BC Sustainable Energy Association welcomes this opportunity to comment on the terms of reference and process of the Phase 2 Comprehensive Review of BC Hydro.

BCSEA[1] is a registered charity and a non-profit association of citizens, professionals and practitioners committed to promoting the understanding, development and adoption of sustainable energy, energy efficiency and energy conservation in British Columbia. BCSEA supports the province's transition to a lower-carbon economy.

BCSEA has four chapters across BC and approximately three hundred individual and organizational members (including businesses, NGOs, community organizations, local governments).

The increasing effects of global climate change, the increasing public concern and the increasing urgency of efforts—internationally, nationally, provincially and locally—to address climate change are the most important trends/emerging contextual issues to inform the Phase 2 review. These are also the most important emerging trends for BC Hydro to address because of Hydro's potential role to achieve GHG reductions through low carbon electrification and DSM.

BCSEA believes that BC Hydro has a critically important role to play in implementing the low-carbon electrification strategy of the CleanBC plan.

1. **Low carbon electrification should emphasize transportation, buildings and non-fossil-fuel industrial loads, not just fossil fuel production loads.**

The Phase 2 review should emphasize ways for BC Hydro to electrify energy use in transportation, buildings and non-fossil-fuel industry. Electrifying these loads could achieve the magnitude of GHG reductions called for in the CleanBC plan and the *Climate Change Accountability Act*. They can be understood as fairly complete solutions to the problem of reducing GHG emissions. As well, they address emissions across all major sectors of society. In contrast, while electrifying fossil fuel production loads avoids increased emissions from new developments (and would also reduce emissions where existing loads were electrified), it can never address the end use emissions of the produced fossil fuels and thus can never represent a complete solution. Also, electrifying fossil fuel production only addresses one part of one sector in society. The Phase 2 report should recognize the value of electrification that spans all of BC society and can make very deep cuts in GHG emissions, commensurate with BC's legislated targets.

[1] https://www.bcsea.org/

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1 (604) 332-0025 | info@bcsea.org | www.bcsea.org

2. **As BC Hydro's shareholder, the Government should direct BC Hydro to take a proactive leadership role in achieving low carbon electrification in BC.**

As well as addressing the "areas of interest" in the Terms of Reference, the Phase 2 review should encourage BC Hydro to take a leadership role in developing and communicating how low carbon electrification can move BC toward energy sustainability. FortisBC's gas utility is actively promoting natural gas as being part of the long term energy solution for BC. BC Hydro should present its vision for a future powered by clean, renewable electricity.

3. **BC Hydro's in-development Integrated Resource Plan should chart a path for BC Hydro to deliver zero-carbon energy solutions and low-carbon electrification.**

The Phase 2 review should support an Integrated Resource Plan process that looks broadly and deeply into how BC Hydro can support the CleanBC plan and BC's GHG reduction targets. The Integrated Resource Plan should include scenarios that test a range of possible approaches to low carbon electrification and demand side management.

4. **BC Hydro should expand net metering to support the distributed generation of the future.**

Net metering should enable individuals, communities and First Nations to participate directly in local renewable energy production and consumption. Net metering numbers are small but growing exponentially. Community based clean distributed generation is a huge opportunity for BC to implement the CleanBC Plan. It should be a key element of BC Hydro's upcoming Integrated Resource Plan. Net metering should be available to participants who aspire to produce annual net excess generation, where the price BC Hydro pays reflects the value to ratepayers and applicable program rules are met. Virtual net metering and aggregation of meters and accounts should be consulted on and implemented.

5. **BC Hydro should pursue all cost-effective conservation and efficiency savings**

BC Hydro should end its scaled-back approach to demand side management (DSM). BC Hydro's DSM portfolio should be expanded to achieve all cost-effective energy and capacity savings. Capacity-focused DSM and low income DSM programs should be expanded.

6. **The Government should address "energy poverty" through policy or enable and require BC's utilities to do so through lifeline rates.**

The potential for people to suffer "energy poverty"—the inability to afford enough energy services to meet basic domestic needs—must be addressed if the CleanBC plan is to be successful.[2]

[2] See CleanBC plan, page 5: "Making these changes cannot leave anyone behind. Switching to cleaner energy needs to be affordable for people across B.C."

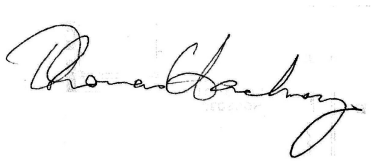
7. **Government should step in to allow and require BC Hydro and FortisBC to implement and support EV charging infrastructure**

The BCUC's June 2019 report on the regulation of EV charging services makes it clear that government intervention is necessary for BC Hydro and FortisBC to be allowed to implement public EV charging services. This is a critical component of kick-starting the EV sector in BC. BCSEA strongly supports a leading role for BC's public electricity utilities in implementing and facilitating the implementation of EV charging infrastructure and championing conducive rate design options. BC Hydro, together with the government, FortisBC, the EV sector, host site parties and other stakeholders should develop a "road-map" for quickly ramping up EV charging infrastructure necessary for low-carbon electrification in the different transportation sectors.[3]

8. **The review of Powerex's trading activities should address BC's climate action goals.**

The Phase 2 review's treatment of Powerex's trading activities should address BC's climate action goals.

Yours truly,



BCSEA Policy Advisor

[3] BCSEA expects to provide detailed comments on possible approaches to a prescriptive approach to regulating EV charging services in response to the government's letter to stakeholders of 25 September 2019.

Appendix B: BCSEA Letter of March 19, 2019 re Comprehensive Review of BC Hydro, Public Input on Phase 2 Terms of Reference

19 March 2019

The Honourable Michelle Mungall,
Minister of Energy, Mines and Petroleum Resources
by email: empr.minister@gov.bc.ca

Dear Minister Mungall,

Re: Comprehensive Review of BC Hydro: Public Input on Phase 2 Terms of Reference

The BC Sustainable Energy Association (BCSEA) commends the government for reinstating the Utilities Commission's responsibility to review BC Hydro's next Integrated Resource Plan (IRP).

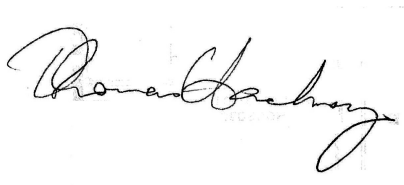
With the successful completion of Phase 1 of the Comprehensive Review of BC Hydro, we understand your ministry is now preparing the Terms of Reference for Phase 2. BCSEA urges you to allow public comment on the draft Terms of Reference for Phase 2 before they are finalized. We see Phase 2 as extremely important because it will guide BC Hydro's upcoming IRP and form a substantial part of the Energy Road Map for BC referenced in your ministerial mandate letter.

BCSEA is a charitable society, representing citizens, professionals and practitioners committed to promoting the understanding, development and adoption of sustainable energy, energy efficiency and energy conservation in British Columbia. Issues of particular concern for BCSEA that the Phase 2 review may address include:

- BC Hydro's long term energy and peak load forecasts, supply stack, load resource balance and resource acquisition plans,
- BC Hydro's strategies for low-carbon electrification, demand-side management, and customer-based distributed generation, and
- a lifeline residential electricity rate or similar means of reducing energy poverty.

BCSEA believes the best way to achieve an effective and popularly supported long term energy plan for BC Hydro is to allow for effective public engagement at all stages of its development.

Sincerely,



Thomas Hackney, Policy Advisor

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c: Dave Nikolejsin, Phase 1 SC Member and Deputy Minister, MEMPR,
Lori Wanamaker, Phase 1 SC Member and Deputy Minister, Ministry of Finance,
Ken Peterson, Phase 1 SC Member and Executive Chair, BC Hydro,
Chris O'Riley, Phase 1 SC Member and President of BC Hydro,
David Wong, Phase 1 SC Member and Chief Financial Officer, BC Hydro,
Les MacLaren, Phase 1 Advisory Group Co-Chair and ADM, Electricity and Alternative Energy Division, MEMPR,
Ryan Layton, Phase 1 Advisory Group Co-Chair and Director of Finance, Business Planning, Forecasting and Risk, BC Hydro.