

# **Comprehensive Review of BC Hydro: Phase 2 Interim Report**

**Submissions from the  
Association of Major Power Customers of BC**

**May 15, 2020**



## **I. Introduction and Overview**

This submission provides the Association of Major Power Customers' (AMPC) response to the Government of BC's Phase 2 Interim Report from its Comprehensive Review of BC Hydro, as part of that initiative's feedback and engagement process.

The Phase 2 Terms of Reference (TOR) describe a broad and "transformational" review, intended to further adapt BC Hydro's services and operations to new technologies, evolving customer needs, and Government's clean energy policy. Phase 2 outcomes are intended to inform and assist the development and completion of BC Hydro's Integrated Resource Plan (IRP) before the British Columbia Utilities Commission (BCUC) over, approximately, the next two years. Relatedly, the Phase 1 Report sets out a return to full regulation of BC Hydro by the BCUC, across a number of significant rate applications over a four to five year period. These proceedings bookend the Phase 2 and IRP initiatives.

Mid-review, however, the COVID-19 pandemic and its global economic shock have disrupted many of the factors that underpin these medium- to long-term processes. Given that uncertainty, AMPC divides its comments in this submission into two sections.

- a) High-level comments on selected Phase 2 themes, recognizing that BC Hydro operations will continue to evolve to respond to some of the trends and objectives identified by the TOR.
- b) Direct responses to some of the questions posed by the Interim Report, focusing on critical near- to medium-term impacts BC Hydro and Government must grapple with. Load survival and economic recovery are necessary pre-conditions to many of the TOR objectives.

Recognizing the continued uncertainty created by COVID-19, and the anticipated length of economic recovery it is important that there be an opportunity to review draft recommendations before finalization.

In the interim, AMPC recommends BC show climate policy leadership by establishing sustainable and competitive rates for clean energy by:

1. Adhering to well-established, core objectives of traditional utility regulation of BC Hydro by allowing the BCUC to exercise independent and efficient oversight;
2. Directing BC Hydro to continue to target least-cost solutions as part of utility operations and planning;
3. Prioritizing competitive electricity rates and attractive optional rates. These mechanisms are key to mitigating COVID-19 related load destruction – which is the single greatest risk BC Hydro and its customers have faced in decades; and
4. Directing BC Hydro to propose rate options that have been tested with, and widely supported by industry, as recovery tools to mitigate the risk of load destruction and economic consequences created by the pandemic. AMPC believes that these rates and programs can be successfully implemented while preserving the existing framework of the stepped rate or, at a minimum, assist in a smooth transition to a new rate design structure.

Potential cross-subsidies or costs from proposals like new research and development funding, new BC Hydro lines of business, and a "100% clean electricity standard" must be avoided. Any exploration of these proposals must avoid relying on customers to shoulder financial risk, lest the post-pandemic recovery be jeopardized. Ideally, these proposals would be deferred until the domestic load is stabilized and the long-term effects of the pandemic on the economy, energy use patterns, and ratepayer behaviour are better understood.

## **II. AMPC Background**



AMPC and its predecessors have been active participants in British Columbia Utilities Commission proceedings, and engaged with BC Hydro matters, for nearly four decades (since 1981). AMPC regularly engages with the BC Government and BC Hydro to provide advice and input on electrical system development needs, rate design and rate options, and customer programs.

AMPC members' electricity consumption represents about 20% of domestic electricity load in BC. Approximately 60% of this consumption is from the pulp & paper and solid wood/other wood products industries, 25% from mining, and 15% from electrochemical and petrochemical operations. Large industrial customers represent approximately 26% of total BC Hydro sales, i.e., approximately 14,000 GWh/year. AMPC members are major employers in all of these sectors and must remain competitive to be able to protect and grow BC jobs.

### **III. Response to Phase 2 Report**

#### **A. Key Themes and Long-Term Issues**

##### **(i) Fuel Switching and Load Attraction**

Some of the proposals in the Phase 2 TOR and Interim Report include rate options to encourage fuel-switching and attract new customers.

In AMPC's view, attracting and growing significant load within BC requires ensuring BC Hydro continues to have competitive industrial rates relative to other jurisdictions. BC Hydro's rates have grown faster than any jurisdiction identified within the widely circulated Hydro Quebec rate survey, and BC Hydro's rates and rate growth continue to outpace those of Canadian "peer" jurisdictions (i.e., Manitoba, Quebec, and Newfoundland and Labrador).

Load attraction initiatives that rely on special rates for new customers imply cross-subsidies. Doing so risks driving up existing customers' rates and may have the unintended effect of discouraging load, at odds with the very purpose of load attraction initiatives.

A straightforward load attraction strategy is to ensure that BC Hydro's electricity rates remain competitive relative to other Canadian and North American jurisdictions. BC Hydro historically had lower cost electricity which attracted investment, but its industrial rates have become increasingly uncompetitive over time, creating cost pressures on existing industry and new, potential industrial customers.

##### **(ii) New Technologies**

The Phase 2 Interim Report also discusses, at a general level, the potential effects of new renewable technologies. There is recognition of the challenges that other jurisdictions have faced from distributed "behind the fence" generation driving down average load while the obligation to maintain service levels remains (e.g., the "duck curve" effect), requiring an increase in the demand component of customer bills. Questions are also raised about the challenges and opportunities associated with demand response technologies. The Interim Report asks how to ensure "new customer demand for access to clean electricity from the grid is achieved in an efficient, cost-effective, and timely manner".

A rebalancing of customer bills between energy and demand components, and between rate classes, to respond to new technologies, or other pressures, should form part of a rate design application to the BCUC. This process needs to review how demand is defined and examine how that will impact customer behavior and investments. Managing demand costs is a focus for energy intensive customers, presently one 30 minute upset in a month will define a customer's demand charge for the month – in other words ~25% of our bill is defined by how we operate 0.1% of the time (roughly 1 out of the 900 thirty minute high load hour periods in an average billing month). This low margin for error drives conservative consumption behavior, which appears to be at odds with the present supply surplus.

In terms of demand response technologies and engagement, AMPC has long supported load curtailment and other industrial demand side management programs that can be shown to be cost effective and



competitive with the cost of new generation. AMPC remains eager to collaborate with BC Hydro in these areas and leverage members' experiences from these types of programs in other jurisdictions.

### **(iii) Rate Design**

The Phase 2 Interim Report also identifies rate design proposals that have been identified by BC Hydro, stakeholders and customers, including a proposal to "flatten" the Transmission Service stepped rate (RS1823) by removing the higher "Tier 2" energy charge. This unique stepped rate structure achieved its conservation goal, and many customers structured their operations around this power consumption signal.

However, the stepped rate has not been fully and fairly implemented over time, for several reasons, including: the retail access component of the original design was suspended and did not put downward pressure on rates; rates have been balanced on the expectation that industrial customers should have a revenue-to-cost ratio of 1 when the rate design pushes towards 0.9; and Tier 1 energy is no longer a below-average price, as marginal pricing for IPP supplies to BC Hydro have increased the average cost of energy.

Currently, the conservation signal that the Tier 2 energy charge is intended to send is no longer needed. Any revisions to industrial rates must avoid adverse competitive impacts. Current circumstances may offer that opportunity, if little Tier 2 volume materializes following the pandemic's effects.

## **B. Phase 2 Report Questions and Near-Term Responses**

In our Phase I Review submission, AMPC highlighted the need to preserve and grow industrial load. In the face of the current pandemic, in the near- and medium-term, it is critical for Government to focus on mechanisms for BC Hydro to retain existing load.

BC Hydro's May 11, 2020 report, entitled, "Demand dilemma: how BC Hydro is responding to declining load and operational challenges resulting from COVID-19"<sup>1</sup>, describes an "unprecedented decline" in electricity demand and lists urgent steps under way to avoid potential safety and environmental risks arising from the need to spill water given unreceptive and depressed export markets.

The decline in electricity demand in BC follows widespread layoffs, slowdowns or shutdowns of major industries, and depressed global market prices for energy and other commodities produced in BC. BC Hydro identified that with "uncertainty around the speed of B.C.'s economic recovery", there may be further decreases in electricity demand.

AMPC also notes that the current BC Hydro revenue requirement structure is such that any revenue losses due to load loss will be deferred, to be recovered later through ratepayers (through the Non-Heritage Deferral Account, or NHDA). These impacts will be reviewed by the BCUC at a later Revenue Requirement Application in the normal course. Government should consider how its return and other revenue streams to government (taxes and water rentals) will interact with an economic recovery and rates that recover the deferred NHDA amounts.

Beyond that caution, this section considers specific measures that can be adopted in the near-term to preserve existing industrial load on BC Hydro's system and hopefully attract new investment as part of economic recovery. AMPC has provided responses to some of the questions posed in the Phase 2 Interim Report. Where AMPC does not address a specific question, its silence should not be taken for endorsement or rejection of the underlying proposal.

### ***1. What factors are important to consider when looking at optional rates to support electrification?***

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<sup>1</sup> [https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/news-and-features/BC%20Hydro%20Report\\_COVID19\\_DemandDilemma.pdf](https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/news-and-features/BC%20Hydro%20Report_COVID19_DemandDilemma.pdf)



- **Avoid cross-subsidies:** Rates should be based on a robust and accepted cost-of service methodology and rebalanced as necessary to both avoid future cross-subsidies between rate classes and level the current playing field. The existing cost-of-service methodology is based on an expired negotiated settlement which was premised on customer groups addressing wide-ranging disagreements in a F2019 application. But BC Hydro has avoided bringing that application forward.
- **Evaluate ratepayer, revenue and cost consequences of electrification:** AMPC supports attracting and increasing load, but not through significant cross-subsidies. The BCUC should assess which groups within a customer class will benefit most from electrification, and the extent to which electrification affects Government and utility revenues. Electric vehicle purchase incentives and electric vehicle charging investments must not come at the expense of ratepayers who do not use electric vehicles, for example.
- **Understand pandemic effects:** It is unclear how the pandemic will affect future transportation and work patterns. The introduction of optional electrification rates should be suspended until the risk and rewards of targeted electrification opportunities can be better understood.

## *2. How can competitiveness for business and industry be prioritized in an electrified future?*

Industrial competitiveness should be a high priority. For industrial competitiveness to be effectively addressed, it must first be acknowledged that BC is no longer in a competitive position for electricity pricing relative to other jurisdictions. "Peer" jurisdictions have also imposed rate freezes or reductions recently (e.g., Quebec).

Industry is facing an uncertain future, with several sectors projecting lower demand. Depressed markets and excess production capacity in various sectors, coupled with a desire for governments to accelerate economic recovery, may lead to aggressive load retention strategies by government-owned utilities in competing jurisdictions as an indirect form of protectionism. The potential of a "rate war" along with the high degree of industrial electrification is a clear threat to preserving load.

The BC Government and BC Hydro must take steps to retain existing load and grow that load, if possible. Industrial load drives export revenues and in turn drives the indirect and induced load in the residential and commercial sector. Retaining and growing industrial load has benefits for all ratepayers. Demand reduction or demand destruction has severe consequences for all ratepayers. Industrial rate competitiveness is a necessary precursor for electrification.

The BC Government should therefore consider several steps:

- **Restore competitive rates:** The best opportunity in the short-term to address uncompetitive rates is the upcoming review by the BCUC on the level of return embedded in BC Hydro's rates (currently approximately 15%). To achieve this, government should support a position that focuses on a return to competitiveness and the lowest level of annual return feasible in order to protect ratepayers, as determined by the BCUC.
- **Focus on least cost power and BC Hydro as a Service Provider:** The focus of any resulting recommendations from this review should not be on the profitability of BC Hydro for Government, or the returns from selling power to BC Hydro customers. Rather, it is more important to establish and protect competitive electricity rates to attract industry and grow the economy. Strategies around BC Hydro should focus on its operations and funding model as an essential service, with service provided at cost and not as a profit center for taxpayers.
- **Use the Integrated Resource Plan (IRP) as intended:** While the Phase 2 Interim Report and Terms of Reference seek comment on new infrastructure investment, potential BC Hydro investments in pursuit of Government policy objectives should be scrutinized as part of the IRP process or other BCUC review. BCUC scrutiny of least cost alternatives in the



IRP is a means to protect ratepayers (including those in business and industry) and focus BC Hydro's mandate.

### ***3. How can BC Hydro reduce barriers to electrification for existing and new customers?***

BC's historically low cost of electricity has resulted in an industrial base that has been largely electrified for decades. Those segments of industry that rely on fossil fuels (e.g., steam generation, heavy transport, kilns, etc.) are limited by technical and economic constraints of electrification for those specific applications. Substitution is not easy, nor is it necessarily appropriate or possible, especially if electrification increases costs beyond the prices that can be demanded in export markets, where many of the most significant industries in BC's economy compete.

Industrial customer experience provides practical operating insight into the opportunities and limits of electrification. The key barriers to electrification are/have been:

- The high cost of electrical energy relative to other fuels.
- The cost and complexity of incremental transmission infrastructure for variable energy loads.
- The demand charge structure for electricity relative to natural gas.
- The challenge in finding proven electrical alternatives to traditional equipment.

Increasing electrification will require:

- Competitive energy pricing relative to the other fuel alternatives.
- Rate structures that recognize the shaping characteristics of the load to be "electrified."
- A quick and efficient interconnection and transmission study process.
- Defined standards for specific applications to facilitate customer evaluations of opportunities.

There are examples of successful, piloted rate mechanisms that can be implemented quickly to increase electrification, namely:

- **Freshet and Incremental Energy Rates, RS1892 & RS1893**, which encourage customers to respond to market price signals by increasing their load. Freshet and incremental energy rates have myriad benefits – they both encourage load growth and shift some of the load/resource balancing risk to the customer. Moreover, by managing the interaction of these optional rates with the existing Stepped Rate, RS1823, the artificial limit on load growth for some customers can be avoided.
- **Biomass Energy Program Rate, RS1828**, while intended to target customer-based generators provides an elegant mechanism to unlock consumption capacity that is constrained by Tier 2 pricing while addressing free ridership concerns by establishing a customer specific rate based on their demonstrated historical performance under the stepped rate. Expanding this rate offering to more customers may increase domestic load by removing the Tier 2 exposure for customers who have demonstrated that they have not, and therefore likely will not, consume energy priced at Tier 2 rates.
- **Average billing demand**, which has been implemented on an interim basis and has allowed industrial customers to be nimbler and more aggressive in pursuing opportunities to fully utilize their capacity by eliminating the risk of setting a punitive 30-minute peak in a month that would make that marginal production uneconomic.
- **Load Curtailment pilots**, which have shown that industrial load can provide reliable demand response resources for BC Hydro's system while also providing an incentive for





customers to install additional consumption capacity for peaking capacity that could potentially evolve into more base load.

AMPC supports the immediate implementation of these rate mechanisms.

***6. How should BC Hydro use a value for greenhouse gas emission reductions (for example, a carbon price) in its evaluation of investments?***

BC Hydro should use the effects of the carbon tax to evaluate investment options in the normal course. A carbon tax is an explicit and transparent tool put in place for reasons like this, i.e., ensuring a level playing field, by making all BC GHG emissions subject to the same rate per tonne. This will help reflect the economics used by BC Hydro customers when making their energy decisions, as well as ensure BC Hydro acts consistently with policy set by Government for all British Columbians.

Valuing investments differently by adding different values attributed to GHG emissions reductions will distort the analysis and constitute a cross-subsidy between rate classes, as well as between ratepayers and taxpayers. This result is untenable and counter to both an intelligible, transparent carbon tax and standard utility regulation principles. Further, industrial customers in BC already pay one of the highest carbon tax rates in the world. Cost competitiveness of goods and services is critical in a small open economy. BC's energy-intensive trade-exposed industries are "price takers" and cannot bear or pass on an additional hidden carbon tax embedded in increased electricity costs.

***7. 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?***

The risk of industrial demand destruction and multiplier effects for the BC economy are foremost considerations currently.

***9. Other jurisdictions, including Ontario and Quebec, invest in research and development in the electricity space to expand their customer offerings. How can BC Hydro best position itself to drive innovation? What is the best way to fund these efforts?***

In AMPC's view, BC already has a healthy innovation community. Broader research and development activity is not BC Hydro's responsibility, except to the extent it is being innovative (i.e., fostering new ideas) by improving efficiency in its operations and reducing costs for its customers. BC Hydro must focus on its mandate — delivering electrical energy safely, reliably and at the lowest cost possible. Indirect connection tariffs, the freshet rate and the incremental energy rate are strong examples of innovative BC Hydro efforts that allow customers to grow businesses through more competitive rate options (e.g., Tariff Supplements 87 and 88, and Rate Schedules 1892 and 1893).

***10. What are important considerations for a 100% clean electricity energy standard for BC Hydro's integrated system?***

A 100% clean electricity energy standard is a laudable goal. BC is already one of a handful of places in the world with clean electricity. We are, without question, an envy of the world. AMPC questions the practicality and the costs of moving from a 97% to 100% clean electricity energy standard. Ensuring BC customers have access to least cost power MUST be a primary consideration. Government should not impose potentially significant additional costs on existing businesses and industries and make BC less attractive to new investment at a time when critical recovery and rebuilding efforts are underway.

Furthermore, the falling cost of renewables and abandonment of the self-sufficiency requirement under the *Clean Energy Act* could result in achieving a 100% clean electricity energy standard over time, without any need for additional policy direction. AMPC's greater concern is that the dogmatic pursuit of an abstract goal (i.e., a "perfect score") may lead to demand destruction instead. Departure of major industry from BC has major economic consequences that harm all British



Columbians and leads to carbon leakage associated with the loss of domestic load to other places in the world with lower environmental standards and heavy reliance on fossil fuels or fossil fuel-powered electricity systems.

***11. What factors should be considered if BC Hydro looks to expand its business interests including considering new opportunities outside of B.C. via Powerex or a new subsidiary?***

AMPC has insufficient information to comment on roles for a new subsidiary other than Powerex in markets outside BC. AMPC would expect that the effects of power transactions between BC Hydro and subsidiaries would avoid cross-subsidies and neither increase ratepayer costs nor materially increase the risk of ratepayer costs.

AMPC supports the elimination of the self sufficiency constraint on supply and understands that this likely implies an increase in energy trading with other jurisdictions. We believe that any expansion of interests outside of BC should be considered in its industrial rate options to ensure that market opportunities can be fully realized by leveraging the unique nature of BC Hydro's supply and industrial load characteristics (e.g., load curtailment programs) for the benefit of all ratepayers.

***12. What emerging issues and trends will BC Hydro need to address in the Phase 2 Review and beyond?***

AMPC welcomes further engagement on new issues and trends once business has normalized following the economic shock of the COVID-19 pandemic and suggests re-engagement in the first quarter of 2021.