

May 14, 2020

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Diane McSherry
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Dear Les and Diane,

RE: BC Hydro Phase 2 Review Interim Report

Thank you for the opportunity for allowing the City of Vancouver to share our perspectives on the Interim Report for the BC Hydro Phase 2 Review. We recognize the challenge of advancing important policy issues in the midst of the COVID-19 pandemic, and believe it is important that this work continue due to the urgent need for accelerated climate action.

We support the Review's high-level objective to better align BC Hydro's role with CleanBC and agree that it is critical for BC Hydro to take a more proactive role in supporting electrification. The suggestions in the Interim Report currently fall short of that objective and need to be strengthened to adequately support the Province and local governments in protecting the climate. Without BC Hydro making electrification a top organizational objective, the Province and the City of Vancouver will fall short of meeting our climate targets.

Regarding the ideas included in the Interim Report, we offer three summary comments:

- We support moving ahead with an internal carbon price as a tool that would help strengthen BC Hydro's role in electrification if well designed. Metro Vancouver and the City of Vancouver both use carbon pricing policies to inform options analyses.¹
- We support moving forward with the optional electrification rate ideas because they would help make it more affordable for residents and businesses to transition off of fossil

¹ The City of Vancouver's carbon price is available here: <https://policy.vancouver.ca/ADMIN019.pdf>. The price is \$150 per tonne of CO₂e in 2019 and it is scheduled to escalate to \$270 per tonne by 2030.

fuels. We also offer several additional recommendations for optional rates not discussed in the Interim Report.

- We are concerned that the discussion on the time and cost of connections is limited to industrial customers and would like to see similar ideas extended to support customers that want to electrify their buildings, vehicles and other distributed loads such as film generators and food trucks. These customers continue to encounter significant barriers to connecting new loads to the BC Hydro grid.

The remainder of this letter offers further comment in five areas: internal carbon pricing, rate structures, service connections and time, the 100% clean supply requirement, and the electrification of other distributed loads.

Internal carbon pricing and electrification

In our experience, BC Hydro needs to more robustly embrace a proactive role in support of BC's electrification efforts. This view was reinforced through our involvement in the first meeting of the Technical Advisory Committee for BC Hydro's Integrated Resource Plan earlier this year, where electrification was predominantly presented as a scenario for BC Hydro to plan for. This approach differs significantly from energy conservation, which is framed as an opportunity that BC Hydro is able to pursue with programs, rates, and complementary provincial policy. The City of Vancouver believes that the province will be in a much stronger position to pursue its climate targets if BC Hydro's approach to electrification shifts to one more along these lines.

With that in mind, we support the internal carbon pricing option presented in the Interim Report as it could contribute to a shift to a more proactive electrification role. To accomplish this, the internal carbon price should be designed as follows:

- Set at a price high enough to justify the electrification actions that will be needed to achieve BC's climate targets;
- Applied broadly enough to ensure it informs the full spectrum of electrification opportunities BC Hydro could support; and
- Established in a way to ensure it is recognized in the BCUC's review of the resulting BC Hydro electrification initiatives.

A benefit of such an approach is that it would be relatively easy to build into the cost-effectiveness analysis that BC Hydro already performs to test potential programs. In our October 17, 2019 letter to Deputy Minister Nikolejsin, we identified a number of potential electrification programs.² The cost-effectiveness of these types of programs could be systematically evaluated using an internal carbon price, which would help to filter out very high cost options for reducing emissions.

² Examples from the October 17 letter include: electrical panel upgrades to support electrification in older buildings; pad mounted transformers when they are needed to facilitate the electrification of a new multi-family building, or add a heat pump or EV charging to an existing building; load shifting/management technologies to minimize the need for system upgrades; electric vehicles and electric vehicle charging; new buildings that are fully electrified or at least are relying on heat pumps for space and/or water heating; and projects to switch from natural gas fired boilers to electric boilers or heat pumps for customers on large general service rate such as large commercial buildings, district energy systems, and industrial customers.

It is also worth mentioning that effective electrification programs should result in carbon price revenue for BC Hydro. If designed well, programs to help customers transition to electric vehicles could yield additional Low Carbon Fuel Standard credits to BC Hydro. If the Province designs its policy to reduce the carbon intensity of the natural gas grid with similar market principles, BC Hydro may be able to access credits for building electrification programs.

Rate Structures

The optional rate ideas raised in the Interim Report are likely a good approach in the short-term relative to a broader review of BC Hydro rates and have the potential to address the barriers we identified in our October 17 letter. Working with an optional approach would allow BC Hydro to design and implement the rates faster, and potentially set stronger incentives for electrification than through a broader rate change.

Of particular importance will be ensuring that there is a clear path to implementing the optional rates. Assuming there would be some subsequent process with BC Hydro and the BCUC, we encourage it to be framed around ‘how to best design optional electrification rates’ and not ‘if BC Hydro should have optional electrification rates’. The BC Government should also be an active partner in education efforts to help British Columbians understand new optional rates.

We also encourage continued exploration of a broader transition to rates that support electrification in all customer classes, including a consideration of how low-income households could be protected through that transition. If the optional rates are successful and electrification accelerates, there will need to be an eventual adjustment to the base rates, and doing so proactively would be preferable.

In terms of the specific options mentioned in the Interim Report, the City of Vancouver supports the three residential rate options mentioned (optional time of use rate, an interruptible rate, and a heat pump rate), and the commercial options for workplace electric vehicle (EV) charging and the electrification of district energy systems. We would also like to see the following options considered as part of the next steps:

- Time of use, interruptible, and heat pump rates for larger Part 3 buildings, which could further help support electrification and minimize peak loads.
- Rates with reduced reliance on demand charges for EV charging stations (DC fast charging in particular), which are disproportionately impacted by the current demand charge structure because of low load factors.

We encourage the province and BC Hydro to provide clarity as soon as possible on all these optional rates so that we can account for them in future revisions to our building policies. If there are optional interruptible rates for residential customers, we would like to account for those in considering requirements for water heaters that could respond to those types of controls. Similarly, if there are optional rates to encourage workplace EV charging, we would use that information to evaluate the cost-effective level of EV-readiness to require in new commercial buildings.

Service Connection Time and Cost

The Interim Report section on the time and cost of connections focuses exclusively on industrial customers, and while we support seeing industry transition off of fossil fuels, we would like the final report to have more emphasis on similar barriers that apply to residential and commercial customers. The adoption of heat pumps and electric vehicles in new and existing buildings will necessitate service upgrades in some cases, as will investments in public charging infrastructure. The City regularly sees instances where the costs of those upgrades are prohibitive for the customer wanting to electrify, or the time required for the service upgrades are unreasonable.

Below are specific examples where barriers to electrification could be reduced:

- a. Reducing the need for service upgrades in existing buildings when the existing load is well below the building's capacity, but the modelled load shows it being much closer to capacity. Our understanding is that this is a particularly important barrier for residential buildings, whereas actual load data can be recognized in commercial projects.
- b. When upgrades are required, finding ways to reduce the costs of the upgrades. Part of this should include working with local governments to explore physical design solutions that are less expensive to implement than what might currently be required.
- c. Where upgrades are required, look for opportunities to share those more broadly across the rate base, especially when the upgrades benefit the system in some way and are not solely for the benefit of a specific building or property.
- d. The connection times and cost for new electric vehicle charging in the public realm is a significant barrier to further deployment of new charging stations. Service connection fees can account for over twenty per cent of project costs, and can add many months to project timelines.

100% Clean Supply Requirement

The City supports the direction of moving to a 100% clean requirement as discussed in the Interim Report, and we agree that it would be reasonable to evaluate compliance over a multi-year period. The credibility of the commitment would depend on accurately accounting for the emissions intensity of imported and exported electricity, and ensuring that there is no double-counting with other jurisdictions or organizations aiming to meet their own climate commitments.

Electrification of Other Distributed Loads

The City of Vancouver needs BC Hydro's support to: a) install and energize power kiosks with meter bases (for future meter connections); and b) develop and implement energy billing based on estimated loads. Support in these areas will facilitate connecting variable loads to existing infrastructure cost effectively and efficiently. These help to reduce emissions and create economical curbside electrical opportunities. Examples include: public e-bike share stations, additional level 2 EV charging stations, connection points to small power applications such as food trucks, 5G, digital advertising units, and automated public toilets.

Once again, thank you for considering our perspectives regarding these critical opportunities to better align BC Hydro's mandate, programs, and rates with the objectives of CleanBC. The City

of Vancouver appreciated your efforts to continue advancing this work in these unprecedented times. We look forward to continuing to engage with you in the next steps toward implementation.

Yours truly,

A handwritten signature in black ink, reading "Sadhu A. Johnston". The signature is fluid and cursive, with a long horizontal stroke extending from the end of the name.

Sadhu A. Johnston
City Manager

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