

ATTACHMENT E



Local Government Electrification Bulletin – June 2023

INTRODUCTION

BC Hydro is committed to supporting local governments with the adoption of climate and electrification policies in the new and existing buildings and transportation sector. Adopting the tiers of the Zero Carbon Step Code (ZCSC) is an important step to align new construction requirements with climate targets through the electrification of heating and hot water systems.

BC Hydro acknowledges that connecting new customers quickly and efficiently to our supply of low carbon electricity is a critical part of successful implementation of ZCSC in your communities. The intent of this document is to outline many of the initiatives underway at Hydro to support local governments with code adoption and to lay out how to work together more closely to ensure a successful transition away from fossil fuels.

BACKGROUND: OUR ROLE IN MEETING THE PROVINCE'S CLIMATE GOALS

A key driver of climate change is energy use, specifically the burning of fossil fuels. Electricity use currently represents less than 20% of the energy used in the province today, with 10% coming from biomass and the remaining 70% from fossil fuels. To meet climate goals, the electrification of industry, transportation and buildings is critical to enable BC to get off fossil fuels. Electrification means replacing technologies that are powered by fossil fuels like gasoline, diesel, and natural gas with high efficiency alternatives that use electricity.

The electricity BC Hydro generates is 98% clean and renewable, coming largely from hydro, and a small amount of biomass, wind, and solar. Over the past decade, we have been largely self-sufficient in electricity generation as a Province and we are monitoring new load demands so that we can bring new generation on in a timely manner as demand grows.

In fall 2021, Hydro released an Electrification Plan which outlines our intentions to invest over \$260 million to advance electrification in the building, transportation, and industrial sectors to help meet the province's climate targets.

SUFFICIENT ENERGY SUPPLY

BC Hydro is required to regularly produce Integrated Resource Plans that lay out a strategy for how we will meet the demand for electricity over the next 20 years. Our most recent plan details the renewable energy sources that will supply the province given increasing levels of electrification of buildings and transportation in every region and will position BC Hydro to meet the potential electrification load associated with the Government of B.C.'s greenhouse gas emission reduction targets.

Currently BC Hydro operates over 30 hydroelectric plants in the province and in the coming years, we'll be adding another large hydroelectric facility to our system, which when it comes online will add enough supply to power nearly half a million homes or 1.7 million electric vehicles per year.

Today BC Hydro is in a surplus position for energy generation and expects to be until 2028. After 2028 we will need additional resources, that is why we recently announced an upcoming [call for power](#) that would add approximately 3,000 GWh of new clean and renewable energy to the grid as early as 2029. We also plan to expand our existing facilities to generate an additional 700 GWh of new power.

We expect to see more wind and solar added to our resource mix. B.C. has excellent potential for generating more clean electricity through wind and solar and they pair well with hydroelectric facilities that will continue to serve as the backbone of our system.

AFFORDABILITY

BC Hydro is a provincial Crown corporation owned by the government and people of British Columbia. It is both an energy generator and a distributor. Electricity rates are influenced by overall investment needed to meet the energy demand and regulated by the BC Utilities Commission (BCUC) whose mandate is to ensure ratepayers receive safe, reliable energy at fair rates.

We are focused on keeping rates affordable for our customers and we see an electrified future as an affordable future. Currently, BC Hydro's residential electricity rates are the second lowest in North America. These low rates are a result of long-term investments throughout the last century in clean electricity generation facilities and infrastructure. We are very fortunate to have not only a very clean grid but also one with affordable rates.

COST OF HOME HEATING AND COOLING

Newly constructed homes built to the top step of both the zero carbon step code and the energy step code can result in utility cost savings for residents. A provincial government reports demonstrates that as much as 25% in utility savings could be achieved in new homes that install heat pumps for space and hot water heating.¹

COST OF NEW CONNECTIONS – CHANGING THE DISTRIBUTION EXTENSION POLICY

BC Hydro has work underway to improve the process of connecting new projects to the grid and eliminating some of the inequities in cost. Over the years, stakeholders have noted that high costs, cost unpredictability, inequities and free ridership are challenges with our current policy. We are currently in the process of reviewing our policy and plan to submit an application to the BCUC in the fall which includes various options for making connections more efficient and equitable. If approved, Hydro will no longer charge each customer their project specific extension cost and customers are instead assessed and charged a unitized extension fee based on the requested load.

ELECTRICAL DISTRIBUTION SYSTEM & PLANNING FOR THE FUTURE

UPDATES AND UPGRADES

The electrification of industry, buildings and transportation is going to require increased construction of new electrical infrastructure. In most areas Hydro has sufficient capacity to connect new customers in a reasonable timeframe. However, there are certain high growth areas where load is increasing faster than the time required to complete capital projects to add capacity.

¹ [BC-Energy-Step-Code Metrics-Report 2022-09-29-R1-Compressed.pdf \(energystepcode.ca\)](#)

We are committed to addressing this issue to ensure this issue is quickly addressed to prevent connection delays and ensure smooth future connections. This is supported by an increase of \$100 million to our distribution capital budget.

INTEGRATING LOCAL GOVERNMENT PLANS AND STRATEGIES INTO OUR PLANNING PROCESS

BC Hydro currently has a process to integrate growth patterns into our long-term planning for the distribution network. However, we acknowledge that climate leadership among municipalities means there is a need to better incorporate information from local government land use and growth strategies, and climate action and electrification policy, into our distribution capital planning process. We are currently working on a few pilots to develop and test a new approach.

WORKING TOGETHER TO BUILD MORE ELECTRICAL INFRASTRUCTURE

The ongoing electrification of buildings and transportation will require the building of more electrical infrastructure within local government boundaries. New sub-stations, underground feeders and transformers will be needed to accommodate this work. To do this in a timely fashion we have to work closely with the engineering and underground infrastructure teams within municipalities. Hydro looks forward to strengthening these relationships to facilitate the scaling up of electrical infrastructure and meet our collective climate goals.

STRENGTHENING THE GRID'S CLIMATE RESILIENCE

Recognizing the increase in severity and frequency of extreme weather events, we're continuing to work on our Climate Change Adaptation Plan that outlines actions to prevent, detect, manage, and respond to climate change. We know we need to change how we think about our infrastructure to better support communities as you experience the impacts of climate change. There is a lot of redundancy built into our grid; it is very robust. We have plans to ensure core critical infrastructure can continue functioning even after a severe climate event, such as a flood or wildfire, cuts them off from the grid.

CUSTOMER CONNECTION TIMELINES

In the last few years, we have seen a 17% increase in the size and volume of new connections requests – reflecting our customers drive towards electrification. This is putting some short-term pressure on our system and connection processes which we are working hard to address. We're committed to making connection timelines shorter by making changes to our policies and procedures, including hiring and training more staff, improving our end-to-end process and implementing a new customer intake process.

CONCLUSION

BC Hydro is committed to being a partner in the energy transition with local governments. As you are now aware, we have numerous initiatives underway to support local government climate and electrification policy adoption. However, we acknowledge the rapid pace of change needed to address climate changes and the need for ongoing communication with local government staff and elected officials to keep you aware of how our plans and initiatives will change in the future. BC Hydro is committed to finding new ways to collaborate and communicate including publishing more electrification bulletins like this in the future.

If you would like to discuss any of the content in this bulletin further, please reach out to sustainablecommunities@bchydro.com