



Improving customer connections for a cleaner future

Presentation to the Energy Step Code Council

February 13, 2023

 **BC Hydro**
Power smart

Topics for discussion today

1. Electrification

- Our role in electrifying B.C. to help combat climate change
- How we'll continue to meet B.C.'s growing electricity needs
- The Carbon Pollution Standard

2. Customer connections

- Capacity of our distribution system
- Overview of our Distribution Extension Policy
- Potential options to update the policy
- Improvements we're making to improve customer connections



Climate change is a threat to B.C.

- B.C. has legislated targets for reducing greenhouse gas emissions:
 - 40% below 2007 levels by 2030; 60% by 2040; 80% by 2050.
- 70% of the energy used in B.C. comes from fossil fuels.
- To get where we need to go, we need to make a big shift and encourage electrification.

A nighttime photograph of a city skyline with numerous high-rise buildings. Many windows are illuminated with warm yellow light, while some have cooler blue or white lights. The sky is dark, and the overall scene conveys a sense of a bustling urban environment at night.

Our Electrification Plan

- Introduced in September 2021
- \$260 million investment
- Goal is to reduce GHG emissions by 930,000 tonnes per year

Electrifying new buildings

- The Carbon Pollution Standard (CPS) is a critical tool for decarbonizing the operations of B.C.'s new building sector.
- Our broader electrification activities directly support building electrification.
- We're ready to work with municipalities and developers to ensure the successful implementation of the CPS.



Supply resources

6

Sub section | Description

The background image is a composite of two nature scenes. The upper portion shows a wide, deep valley with rolling green hills and distant mountains under a bright blue sky with scattered white clouds. The lower portion shows a close-up of a concrete dam structure with a turbulent, white-water river flowing through a rocky channel to its left. A paved road runs along the top of the dam, and some electrical infrastructure is visible on the right side.

Our role in B.C.'s clean energy future

- 98% of the electricity we generate is clean and renewable.
- 30 hydroelectric plants that power more than 5 million customers.
- Site C will provide more power than we need until the end of the decade.
- We're planning for a future that includes more clean electricity.
- B.C. has excellent potential for wind and solar resources.

A woman and a young girl are looking at a digital thermostat on a wall. The woman is pointing at the thermostat. The thermostat is white and has a digital display showing '55' and '30'.

Conservation is still important

- Continue to encourage energy efficiency
- Annual savings = 5,400 gigawatt hours
 - Equivalent of powering 540,000 homes per year



Distribution capacity

Current state

- ~1,500 distribution feeders and 230 substations serving our distribution customers.
- Most areas have sufficient capacity to connect new customers in a reasonable timeframe.

Measures to support rapid electrification

- Increased our distribution capital budget by \$100 million in 2023-24.
- Updating planning criteria to advance the construction of new feeders.
 - 35 new feeders in the past 5 years and 18 new feeders under construction.
- Advancing major underground egress corridors projects.
 - ~130 km of new major underground distribution under construction.
- Implementing feeder level Demand Side Management.
- Advancing voltage conversion work to 25 kV in 12 kV areas.
- Offering capacity feasibility reviews for major customers.

An aerial photograph of the Vancouver skyline. The prominent CN Tower is visible on the left side of the frame. The city is densely packed with various high-rise buildings. In the background, the city gives way to green hills under a sky filled with large, white clouds. A dark blue rectangular banner with white text is positioned across the middle of the image.

Carbon Pollution Standard

Demand from the building sector

- Quick uptake of the Carbon Pollution Standard (CPS) is expected
 - More than 50 Local Governments have adopted the Energy Step Code
 - 9 Local Governments have adopted a “Low Carbon Energy System” incentive
 - 2 Local Governments have proposed to adopt a LCES incentive
 - City of Vancouver, BC Housing have long experience with GHGi
- Expect most new buildings will electrify space and water heating

How we'll support CPS rollout

- Our planning teams will work with local governments to identify high growth areas and potential grid impacts and solutions.
 - Municipal, regional, sub-regional
- Include building electrification learnings and approaches in a Local Government Best Practice Guide.
- Make it easier for customers to plan connections.

Working with early adopters

- Local governments should contact Key Account Manager or Sustainable Communities
 - They'll arrange meetings with our planning teams
- Within three months (for “prioritized” municipalities), we'll:
 - Establish a shared understanding of new development timeline and grid impacts.
 - Identify zones with potential capacity constraints and our infrastructure upgrade schedule.
 - Review proposed Carbon Pollution Standard (CPS) roll-out and timing.
- Priority will be given to local governments that are:
 - a) Actively reviewing the adoption of a community wide “low” or “zero-carbon ready” CPS.
 - b) In known high growth areas with potential capacity constraint issues.

Aligning CPS roll-out with BC Hydro distribution upgrades

2023
Short-Term

2024-2025
Medium Term

2026-2030
Long-Term

BC Hydro

Extension Policy Submission

BCUC: Extension Policy

Support local government CPS policy analysis

Ongoing distribution upgrades & process improvements

**Local
Governments**

Adopt CPS Bylaws

Implement CPS permitting & compliance

**Developers &
Builders**

Planning for CPS in future projects

Approvals of first CPS projects

Construction of first CPS projects

Occupancy of first CPS projects.

Updating our Distribution Extension Policy



Current state

- Last updated in 2008
- Based on the principle of cost causation
- Cost Categories:
 - Service connection
 - Extension
 - System improvement charges
- Financial contribution from BC Hydro

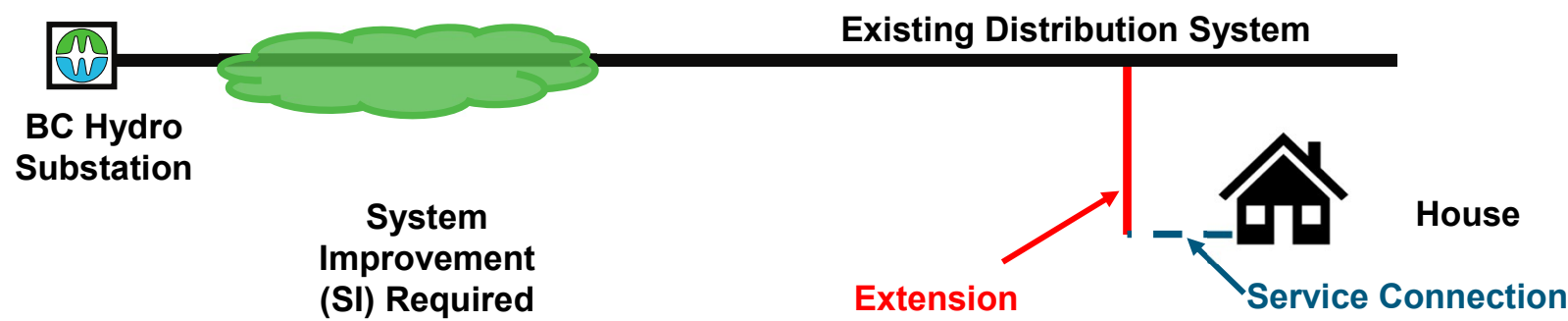
Issues with our current policy

- “Free riders”
- Cost unpredictability
 - Unpredictable extension costs
 - Unpredictable system improvement costs
 - Non-connection costs (non-BC Hydro requirements)

Policy update options

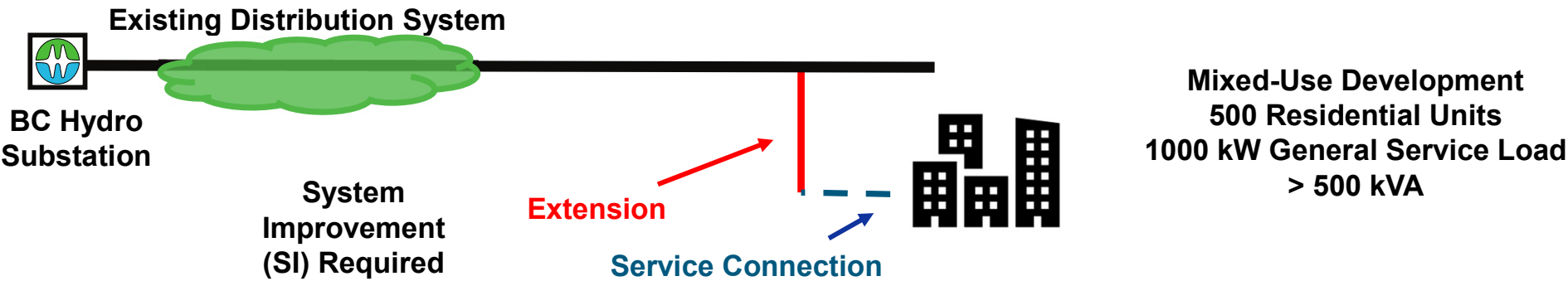
1. Update our maximum contribution towards an extension.
2. Update our contribution and simplify the recovery of system improvement costs
3. Update our contribution and simplify the recovery of all connection costs
4. No connection fees

Illustrative Distribution Extension



	Option 1 Update Contribution	Option 2 Simplified SI Fee	Option 3 Simplified Connection Fee
Extension Fee	Project Specific	Project Specific	Unitized \$/dwelling x 1
SI Fee	No	Unitized \$/dwelling x 1	
Service Connection	Yes	Yes	Yes
Contribution	Yes	Yes	No

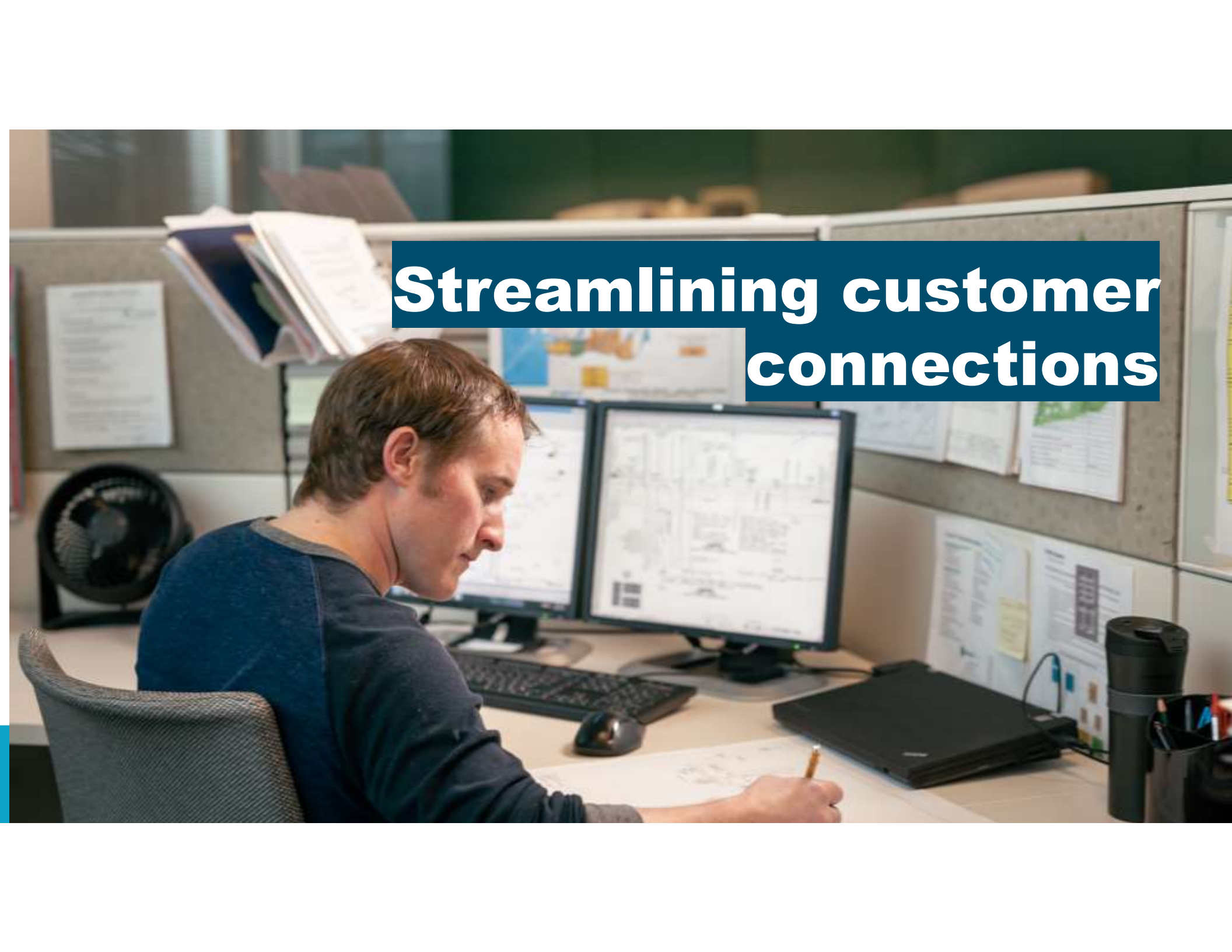
Illustrative Distribution Extension



	Option 1 Update Contribution	Option 2 Simplified SI Fee	Option 3 Simplified Connection Fee
Extension Fee	Project Specific	Project Specific	Unitized \$/dwelling x 500 \$/kW x 1000
SI Fee	Project Specific	Unitized \$/dwelling x 500 \$/kW x 1000	
Service Connection	Yes	Yes	Yes
Contribution	Yes	Yes	No

Next Steps for Extension Policy Update

1. Engage on high level concept (Feb - Mar)
2. Develop detailed recommended approach (April)
3. Engage on detailed recommended approach (May-June)
4. BCUC submission (Summer/Fall 2023)

A man with brown hair, wearing a dark blue long-sleeved shirt, is seated in a grey office chair at a desk in a cubicle. He is looking at two computer monitors. The monitor on the right displays a complex flowchart or organizational chart. On the desk, there is a black keyboard, a black mouse, a closed black laptop, a black thermal mug, and a pen holder with several pens. The cubicle walls are covered with various papers, including a large map or diagram on the right wall and a fan on the left wall. A dark blue banner with white text is overlaid on the right side of the image.

Streamlining customer connections

Our goals

- Improve our communication with customers
- Reduce timelines for connecting customers
- Increase the number of connections each year
- Improve the end-to-end customer experience

Improvements we're making

1. Added 50 new positions to our customer connections group
2. Introducing a simplified process for less complex projects
3. Improving our intake process to make information gathering more efficient
4. Creating specialized teams to focus on specific types of connections
5. Implementing scheduled communications with customers

BC Hydro's Commitment to the Carbon Pollution Standard

- We're a trusted partner to local governments, builders, and developers seeking to build low-carbon projects.
- We'll continue to make the distribution system upgrades and process improvements needed to enable building electrification.
- We're working to help all British Columbians achieve our shared climate goals

