Improving customer connections for a cleaner future

Presentation to the Energy Step Code Council

February 13, 2023

BC Hydro
Power smart

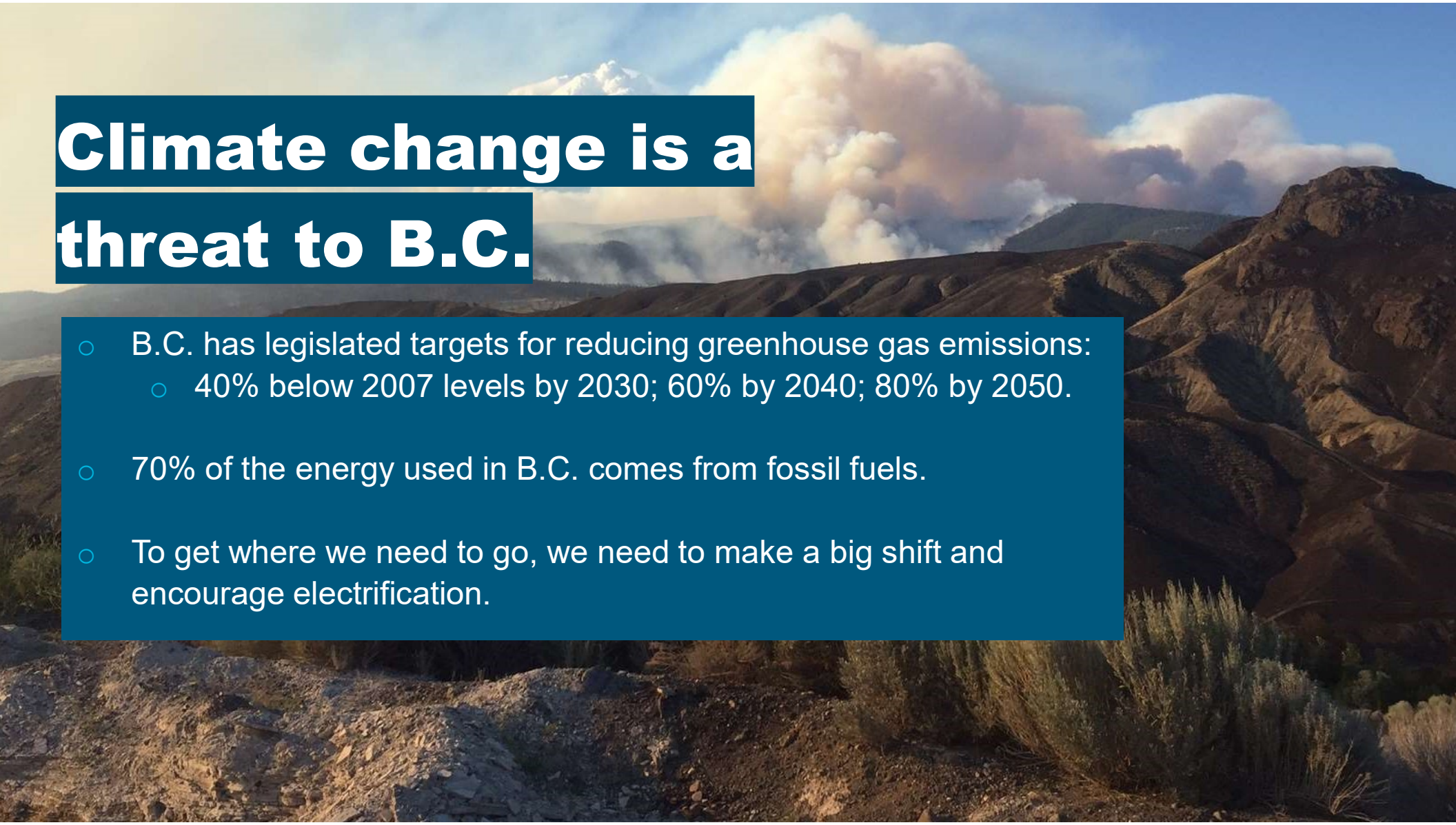
Topics for discussion today

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.

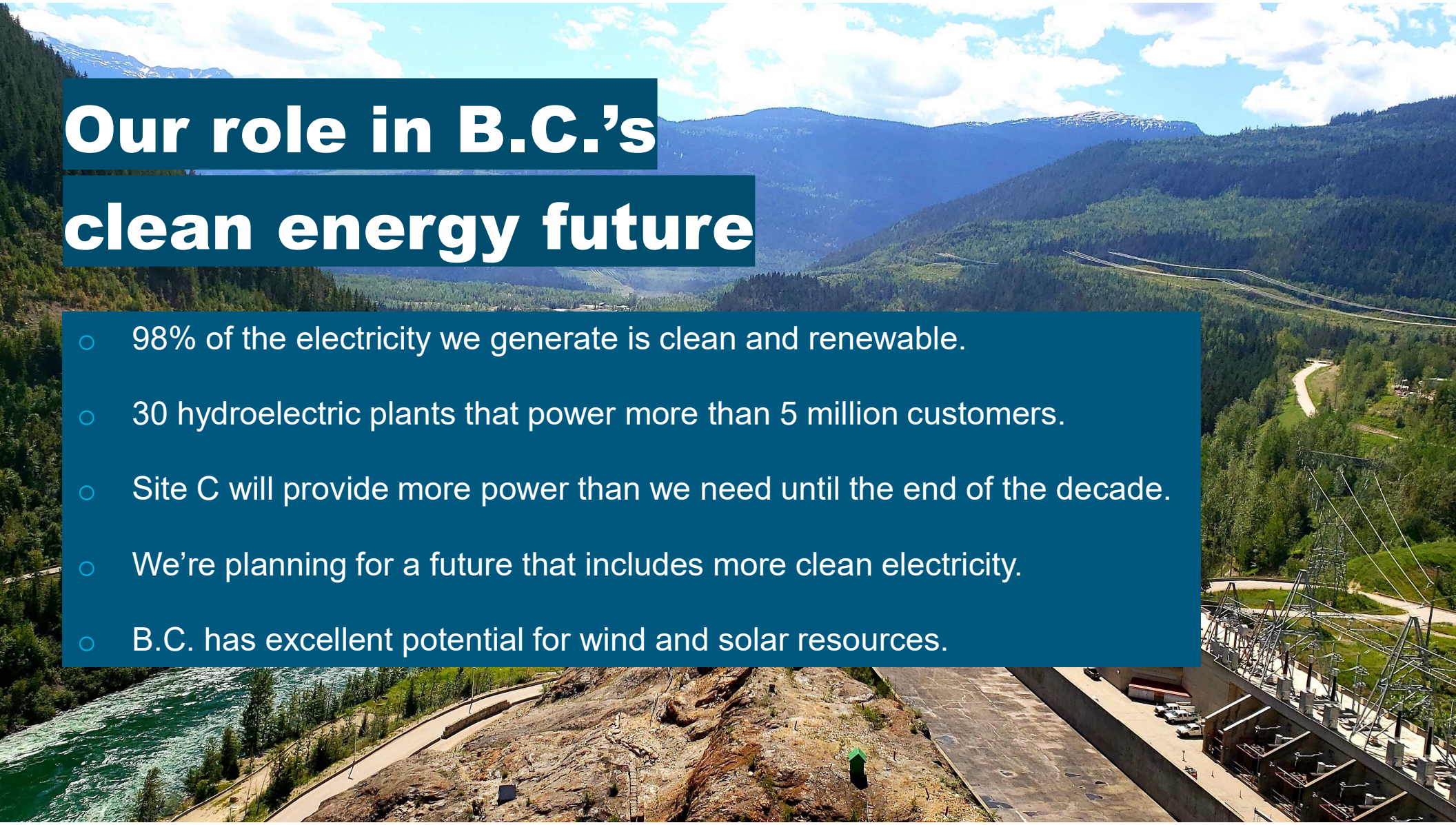
Our Electrification Plan

- 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



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.

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.

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

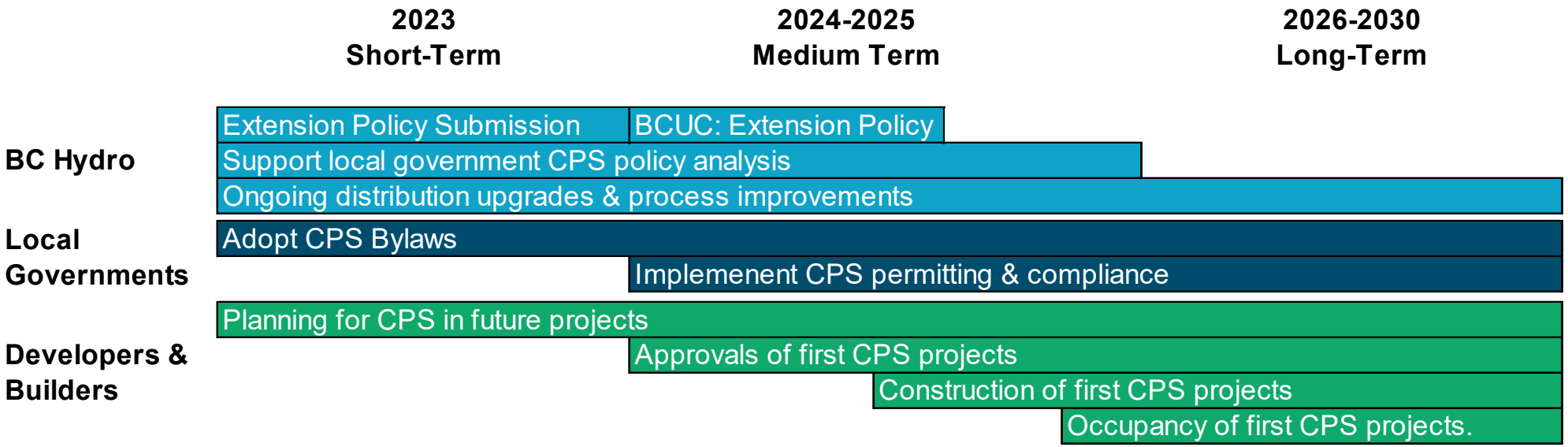
How we'll support CPS rollout

- 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



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

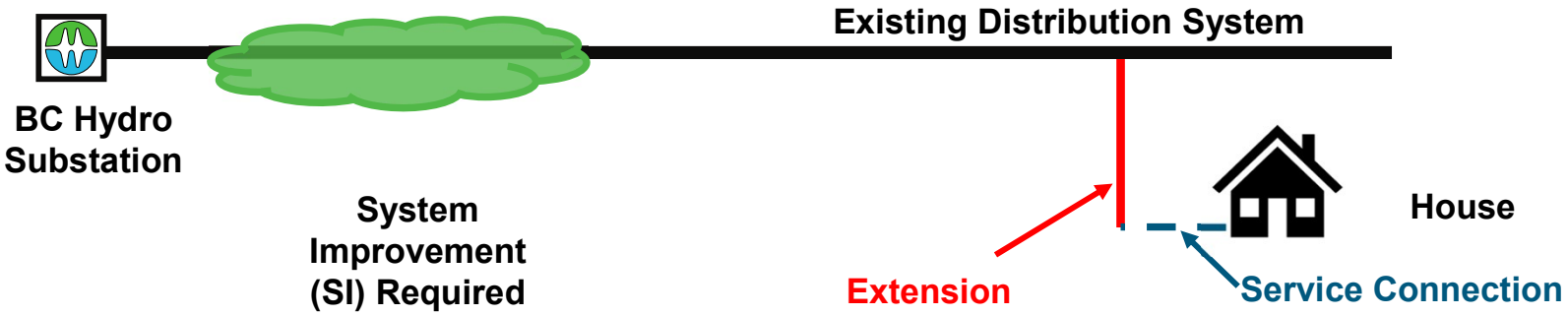
Issues with our current policy

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

Policy update options

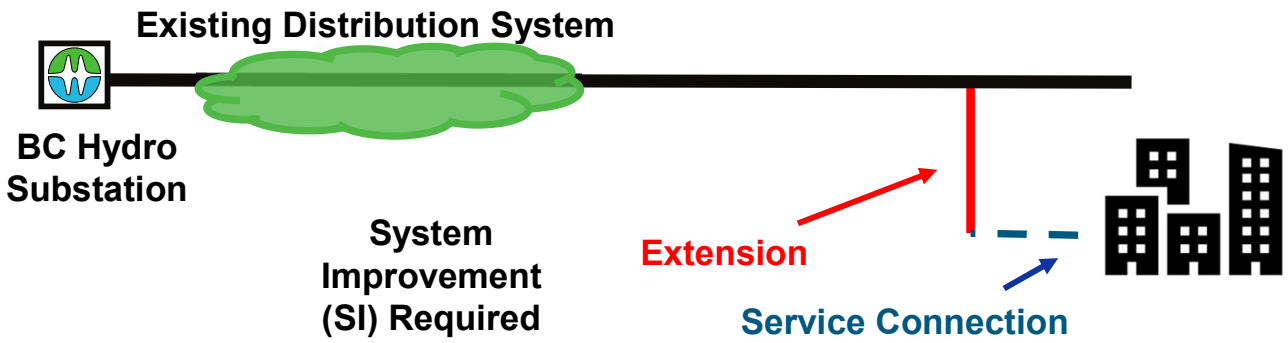
1. Update our maximum contribution towards an extension.
2. Update our contribution and simplify the recovery of system improvement costs
3. Update our contribution and simplify the recovery of all connection costs
4. No connection fees

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



Mixed-Use Development
500 Residential Units
1000 kW General Service Load
> 500 kVA

	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

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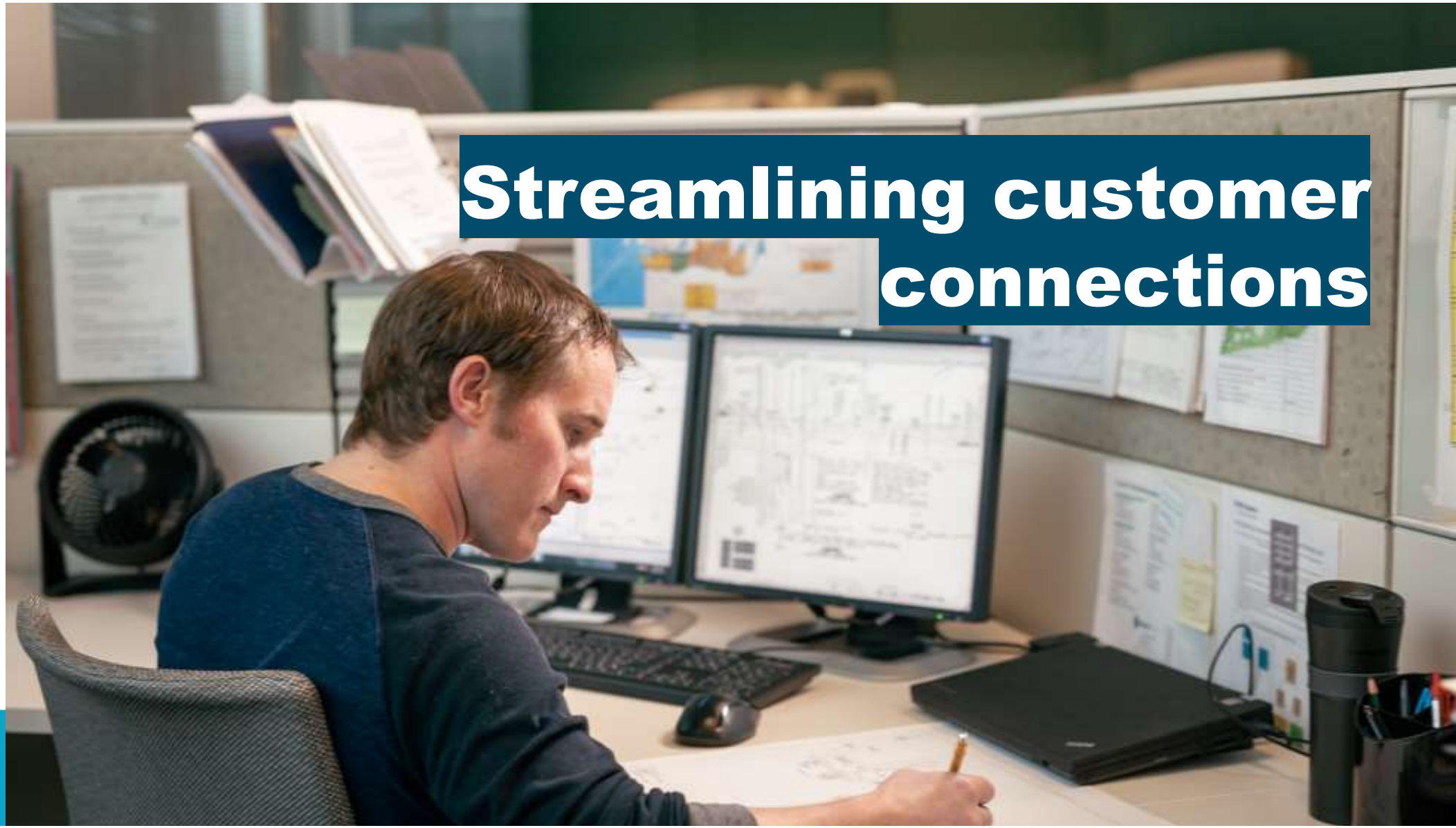
Next Steps for Extension Policy Update

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)


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