

CleanBC Roadmap to 2030 - Local Implications

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Synthesis of CleanBC Roadmap to 2030 and utility long term resource planning for the local government context



Community Energy
Association

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Executive Summary

Introduction

The Province of BC has released the CleanBC Roadmap to 2030. Concurrently both BC Hydro and FortisBC Gas are part way through their respective long term resource planning processes. This report provides an overview of local government perspective of these plans.

As local governments continue to navigate a rapidly evolving landscape of federal and provincial policy and utility plans, we encourage local governments to leverage existing planning resources such as the BC Climate Leaders Playbook and the Community Energy Planning Tool.

Local Government Action Plan

The main action items for local governments include:

1. **Manage 2022 budget and risk:** A replacement for the CARIP grant is expected in the 2022 provincial budget with ‘flexible and predictable’ funding for local governments. Until the program is launched, there is some uncertainty for local governments as they prepare 2022 budgets. Some local governments depend on CARIP funding to support staff positions. Strategies to manage temporary budget and program uncertainty may include delaying local government budget finalization until after the provincial budget or working with funding partners to ‘front load’ the funding partner’s contribution to staffing in 2022.
2. **Stay tuned:** Much of the CleanBC Roadmap will become clearer as regulations and programs are rolled out and the utility long term planning process will continue to develop through 2022. As regulations are implemented, funding programs launched, and utility plans finalized and approved, new opportunities will emerge for local governments to save energy and emissions.
3. **Update Projections:** The future is not what it used to be for ‘business as usual’ scenarios for local government corporate (strategic energy management plans & carbon neutral action plans) or community (community energy and emissions plans) modelling. Local governments should update plans to reflect changes to transportation, buildings, and utility emissions.
4. **Experiment and Be Ready to Scale Quickly:** Local governments have an opportunity to experiment with an existing buildings sector that remains frustratingly challenging and without clear or consistent pathways. The early 2020’s are an opportunity for local governments to prototype, deploy, monitor and rapidly adapt approaches to address the built environment. The goal is to identify approaches to integrate programs that can scale to levels relevant to targets. This can build off of the adaptive or agile management that governments adopted during the pandemic when action had to be taken without perfect information.
5. **Plan for Programs:** The province has indicated that it will be developing strategies, plans, or programs for land use, active transportation and transit, embodied emissions, sequestration, and other areas that would directly involve local governments in implementation.
Grants favor the prepared communities.

Local Government Community Energy Planning Resources

- Climate Leaders Playbook: www.bcclimateleaders.ca
- Community Energy Planning Tool: www.communityenergy.ca/climate-action-planner

CleanBC Roadmap and Local Climate Action Policy Alignment

Focus Area	CleanBC Roadmap Direction	Local Government potential actions and considerations
Cross-cutting		
Funding	New program to support local government climate and resiliency goals with predictable funding	<p>Local uncertainty: Medium to high probability of ‘predictable and flexible’ grant beginning in 2022 that will provide each community with at least as much as they received through CARIP...but until the program is finalized, it is not finalized.</p> <p>Actions: Watch for details as they are announced; participate in future engagement (if applicable). If staff positions were previously funding through CARIP, internally allocate funding for first have of 2022 to hold staff positions. This program, if approved, would replace CARIP as consistent and predictable climate action funding stream.</p>
Inventories	Low Carbon Fuel standard: carbon intensity for mobility fuels reduced by 30% by 2030 from pre-LCFS levels. (further consultation and regulation to follow)	<p>Local uncertainty: Low – there is clear existing regulation with a new target number and established process to model in inventories.</p> <p>Actions: update ‘business as usual’ scenarios for both local government operations emissions and community wide emissions.</p>
	GHG cap for natural gas utilities of 47% lower than 2007 levels by 2030 with a variety of paths to meet the target including supporting efficiency and acquisition of renewable gasses.	<p>Local uncertainty: High – clear target and significant uncertainty on approaches / actions to meet target and/or how these actions would translate to a change in the emissions factor for fossil-based natural gas.</p> <p>Actions: Continue to monitor FortisBC / PNG BCUC filings, announcements and provincial regulation updates as well as emerging guidance on from the Province and others on likely changes in emissions factors over time.</p>
	100% clean electricity delivery standard	<p>Local uncertainty: Medium – the target is for domestic generation. Trading with carbon-intensive grids may continue to impact electricity emissions intensity.</p> <p>Actions: update ‘business as usual’ emissions projections for both local government operations and community wide emissions as further guidance emerges for local government operations and community-wide inventories and projections.</p>

Transportation		
Electrify Transportation	ZEV mandate update; 26% LDV by 2026, 90% by 2030 (LDV v total passenger).	<p>Local uncertainty: South Coast: low – given the majority of BC population and light duty vehicles (vehicles smaller than pickup trucks) are located in the south coast region. Interior and North: medium – local EV adoption may depend on EV charging infrastructure, outreach, and auto dealer engagement.</p> <p>Actions: Consider updating transportation emissions projections; Take care in calculating impact on definition of ‘LDV’ and the portion of current sales / vehicle stock that is. Develop local EV strategies to encourage EV uptake.</p>
	MHDV California	<p>Local uncertainty: High – there is uncertainty of timing and impact on local commercial fleets and turnover of commercial fleet vehicles and motivation of local fleet operators as well as specifics of how California regulations would be applied or adapted for BC.</p> <p>Actions: Continue to monitor regulations and developments. Explore approaches to engage local commercial fleets and provide a local example through local government procurement including ensuring an up to date green fleet procurement policy is in place for local government operations.</p>
	10,000 public EV charging stations by 2030 and “BC’s Electric Highway by 2024”.	<p>Local uncertainty: Low for south coast, Medium for rest of province.</p> <p>Actions: This direction achieves emissions reductions through supporting the adoption of electric vehicles by making charging more convenient. Hence it is tightly linked to EV adoption rates which will depend on local car dealer engagement, public engagement and a local EV strategy to ensure access to charging for all including garage orphans.</p>

Shift Beyond the Car	Reduce distances travelled by vehicle by 25% relative to 2020 supported by a 'Clean Transportation Action Plan' in 2023.	<p>Local uncertainty: High – there is a clear target without plans or strategies to achieve it as well as formidable math to overcome. Consider if the average vehicle kilometers travelled is 10,000 per year, this target implies shifting 2,500 kilometers per year (about 7km every day of the year) for every person to active transportation and transit.</p> <p>Actions: Flag as an opportunity to watch as details solidify</p> <p>Note that climate impact is driven by # KM more than # trips. Communities with clear plans to shift massive #'s of km's will be well positioned for future opportunities</p>
Commercial medium and heavy duty vehicles	Reduce the energy intensity of goods movements by 10% in 2030, 30% by 2040 and 50% by 2050.	<p>Local uncertainty: High – unspecified programs, regulations, incentives or approaches and how they will translate to fleets operating within a community.</p> <p>Actions: Continue to monitor and develop plans to engage with commercial fleet operators locally to ensure they are aware of the decarbonization direction and to initiate dialogue on what commercial operators locally need to be successful in decarbonization. Note that through recent research conducted for NRCAN, CEA expects most large and many small courier companies to begin shifting to electric delivery vehicles as existing vehicles age out (replacement cycle of <10 years).</p>

Buildings		
New Buildings	By 2030, all new buildings will be zero carbon (performance-based carbon performance standard).	<p>Local uncertainty: Low – until 2030 dependent on local government actions.</p> <p>Actions: Adopt <i>opt-in</i> voluntary GHG standards for new buildings that local governments will be able to reference alongside Step Code efficiency requirements as soon as early 2022; Consult with industry to prepare for early adoption or for mandatory carbon standards as the interim steps are introduced; Participate in the Local Government Step Code Peer Network to stay up to date.</p> <p>Not all ‘zero carbon’ is created equal.</p> <ul style="list-style-type: none"> • CEA expects the regulation to address operational emissions from energy use in the building. Emissions embodied in the construction of new buildings can be a similar magnitude to all operational emissions over the life of a building. • Zero carbon may be achieved by using no fossil fuels and relying on 100% renewable electricity or possibly by acquiring offsets for the fossil fuel used such as through sequestration or buying the environmental benefits from projects that produce renewable fuels elsewhere or through supporting industries in reducing emissions.

New and Existing	All new space and water heating equipment will meet the highest standards for efficiency	<p>Local Uncertainty: Medium – there are differing emissions profiles of equipment and fuels.</p> <p>Actions: Consider updating existing buildings projections and develop robust outreach and support programs for buildings trades, realtors, and related sectors</p> <p>Heating appliance standards shift from aspirational 2035 to policy direction for 2030, CoP=>1.</p> <p>Fossil based natural gas heat pumps will have higher emissions than electric heat pumps with the 100% renewable electricity delivery standard. The emissions from fossil-derived natural gas could be offset through renewable gas credit purchases that cause renewable gas to be produced at locations across North America.</p>
Existing Buildings	Energy efficiency standards for existing buildings into the building code by 2024	<p>Local Uncertainty: Moderate</p> <p>Actions: Participate in engagement on the alterations code (retrofit code) in Nov/Dec 2021; participate in Retrofit Peer Network to stay up to date on developments.</p>
	Rebate programs eliminated for gas furnaces and boilers	<p>Local Uncertainty: Low – the current impact of gas equipment incentives is minimal at a community scale.</p> <p>Actions: Consider updating existing buildings projections and develop robust outreach and support programs for buildings trades, realtors, and related sectors to increase awareness of the gradual phase-out of gas furnaces and boilers.</p>
	Carbon tax to a minimum of \$170/tonne by 2030	<p>Local Uncertainty: Low to Moderate</p> <p>Actions: Update ‘business as usual’ emissions scenarios for both local government operations and community emissions</p>
	GHG cap for natural gas utilities of 47% lower than 2007 levels by 2030 with a variety of paths to meet the target including supporting efficiency and acquisition of renewable gasses.	<p>Local Uncertainty: High – uncertainty as to actions, approaches and accounting for emissions reductions and how these will translate to local areas.</p> <p>Actions: Continue to monitor Fortis Long Term Gas Resource Plan and relevant BCUC proceedings to determine approaches and local impacts as</p>

		well as when/if renewable gas rates are blended with fossil-derived gas rates and emissions factors.
	Income Qualified Program	Local Uncertainty: Moderate Actions: Integrate income-qualified program into retrofit strategy and outreach; provide information to residents. This program only covers low income homeowners. More resourcing is needed to support scaled up retrofits of affordable and social housing
Embodied Carbon	Develop a Low Carbon Building Materials Strategy by 2023, embodied carbon targets for public sector buildings by 2030.	Local Uncertainty: High Actions: Local governments can apply principles in the provincial strategy to their own facilities and embodied carbon policies and guidelines for community buildings.
Sequestration		
Sequestration	BC Forest Carbon Offset Protocol	Local Uncertainty: High Actions: Monitor developments as there may be opportunities for community owned forests to participate in offset protocols and partnerships between rural and urban LGs.
	Agricultural carbon sequestration	Local Uncertainty: High Actions: Rural communities/regional districts can work with agricultural sector to support access to research and programs.

CleanBC Roadmap and Local Government Operations

Cleanbc Roadmap:

CleanBC Statement	Operations Implication
By 2030 all new / replacement (residential and commercial) heating appliances sold in BC must have a Coefficient of Performance of at least 1. Efficient gas heating equipment is below 100% efficient, with the exception of natural gas heat pumps which are slightly greater than 100%. Electric heat pumps may be 250% to 400% efficient.	Any commercial building heated by a gas boiler will need to convert to a new heating system at the end of life of the boiler.
Low Carbon Fuel standard: carbon intensity reduction for mobility fuels reduced by 30% by 2030 from pre-LCFS levels. (further consultation and regulation to follow)	Lower emissions factor for gasoline and diesel in the future. Monitor provincial progress and update emissions modelling as regulations are released as to the exact timing and process.
GHG cap for natural gas utilities of 47% lower than 2007 levels by 2030 with a variety of paths to meet the target including supporting efficiency and acquisition of renewable gasses.	Unclear at this point as the actions are dependant on the utility, the BC Utilities Commission, and the regulation. Monitor and update emissions projections accordingly.
100% clean electricity delivery standard	Emissions intensity for electricity will decrease assuming trading volume with other jurisdictions and emissions intensity of other jurisdictions grids remain constant.
ZEV mandate for Medium and Heavy Duty Vehicles by 2023 aligned with California	Expect increased availability of low carbon MHDV options for operations. See CEA NRCAN report for MDV overview.
Zero carbon new construction by 2030 – adding a carbon pollution standard to BC Building Code	Monitor progress local government may need to meet provincial efficiency and emissions specifications for general buildings.

Utility Long Term Plans – An Interim Perspective for Local Governments

In addition to the CleanBC Roadmap to 2030, recently released long-term utility plans from BC Hydro and FortisBC provide further implications for local government climate action.

Electricity

Plan: BC Hydro’s Integrated Resource Plan includes impacts from the Electrification Plan, meaning that BC Hydro has a plan to deliver the electrons needed for the electrification plan. The Electrification Plan is a 5-year plan and does not address actions beyond 5 years. The Electrification Plan aims to reduce 200,000 tonnes of emissions through fuel switching which equates to about 1.62% of stationary natural gas emissions which will likely not be measurable at the community scale. BC Hydro’s IRP does not cost future generation resources required in the 2036 to 2040 timeframe. It remains unclear if BC Hydro will develop a process to answer the question as to investments required if large scale electrification occurred.

Natural Gas

Plan: FortisBC planning currently shows the majority of fuel flowing through the pipes to 2040 being fossil-derived natural gas with up to 40% renewable content, a significant portion of which is likely to be sourced from buying the environmental benefits of projects in other jurisdictions across North America.

The long term resource planning process is continuing and the conclusions in this section may evolve as the planning evolves.

Actions for local governments:

- Continue to monitor and actively participate in utility resource planning, conservation potential planning, and BCUC proceedings to encourage utilities to develop plans that meet local government emissions targets for existing buildings.
- Develop, rapidly prototype and evolve programs for existing building electrification and for large-scale envelope retrofits with an objective of developing programs that can scale to 5% to 15% of total building stock annually.