# Report

October 4, 2022

NORTH Cowichan

File:

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#### PURPOSE

To consider what action should be taken in anticipation of the 'Province's next update to the BC Building Code to introduce a carbon pollution standard. A staff presentation will be provided at the meeting.

#### BACKGROUND

'Council's 2019-2022 Strategic Plan contains actions to "evaluate the merits of adopting the BC Energy Step Code"" and ""implement the Climate Action and Energy Plan""" Council approved the BC Energy Step Code (the Step Code) implementation plan on March 4, 2020, which included a voluntary period of compliance coupled with incentives, and the Climate Action and Energy Plan on January 19, 2022. In addition to the important role the Municipality plays in implementing the <u>Climate Action and Energy</u> Plan (CAEP) goals, success will come from other levels of government showing leadership and technological advances required to hit these aggressive targets.

The Cowichan Climate Hub submitted a letter requesting that North Cowichan remove fossil fuels from the built environment, starting with new construction. Council referred the letter to the Environmental Advisory Committee on April 5, 2022. Following the April 26, 2022 Environmental Advisory Committee meeting, staff were asked to create a report on the legal authority and implications of introducing zero-emissions requirements for new buildings.

This report is intended to provide an update on the BC Energy Step Code program and outline options for North Cowichan to pursue with upcoming changes to the BC Building Code.

The remainder of this report is the same as presented to the Environmental Advisory Committee on September 27, 2022, who concurred with the staff recommendation at the report's conclusion.

#### DISCUSSION

'Council's approval of the CAEP articulated a goal to decrease the potential emissions of new buildings. Modelling for the CAEP demonstrated that in order to reduce North 'Cowichan's GHG emissions to 80% by 2050, all new construction must be zero emission by 2030. This goal is supported by the 'Municipality's adoption of the provincial Step Code and incentives for developers to achieve higher steps. The Municipality also provides incentive top-ups for residents accessing CleanBC Better Homes Program incentives for energy improvements. As of March 31, 2022, the Municipality has supported 103 households in converting to heat pumps. The Province is expected to introduce requirements for zero-carbon new construction by 2030 through carbon pollution and increased equipment efficiency standards, as outlined in the CleanBC Roadmap to 2030. These standards will help the Municipality achieve the zero-emission new building goals in the CAEP.

# Legal Authority:

Municipalities in British Columbia are subject to the *Building Act*, which restricts what local governments can do to establish building standards. A building can be constructed in conformance with the BC Energy Step Code and/or a greenhouse gas reduction standard as defined by the BC Building Code. Currently, the BC Building Code does not define a greenhouse gas reduction standard. Under the *Building Act*, local governments can not require low-carbon energy systems as this would constitute a technical building requirement under the *Building Act*.

The City of Vancouver is exempt from the *Building Act*. The City of Vancouver used their unique abilities to introduce bylaws and policies to help achieve their 'Council's climate emergency goal of zero emissions heating and hot water in new buildings by 2025 for single-family dwellings in a way that is not available to other local governments.

Although the Municipality of North Cowichan does not currently have the legal authority to prohibit fossil-fuel based heating systems, other actions can be taken to promote energy-efficient buildings.

# BC Energy Step Code:

The BC Energy Step Code is a compliance path that local governments can use in new construction to meet the energy efficiency requirements of the BC Building Code. The Province is also expected to update the BC Building Code to mandate higher steps of the Step Code as minimum requirements. Local governments can voluntarily opt-in to require higher steps of the Step Code ahead of mandated provincial requirements.

The Step Code applies to two categories of buildings as defined in the BC Building Code: Part 9 residential buildings (three stories or less with a building area less than 600m<sup>2</sup> such as single-family dwellings, duplexes, townhouses) and Part 3 buildings (four stories or taller with a building area greater than 600 m<sup>2</sup> such as larger apartment/condo buildings, commercial, mixed-use, office). Each of these categories has different levels referred to as "steps' with greater efficiency requirements at each level.

The Step Code takes a performance-based approach by identifying an energy-efficiency target that must be met and lets the building designer and developer decide how to meet it. The Step Code is an effective regulatory tool requiring buildings to greatly improve energy efficiency. Because it does not directly regulate heat and hot water fuel sources, it can result in significant variations in total GHG emissions in new buildings. Buildings with mechanical systems operating on natural gas or oil produce greater emissions than those operating on electricity, even at the higher steps.

	Part 9	Part 3	Energy-efficiency
	Buildings	Buildings	improvement above
			2018 BC Building Code
			requirements
2022	Step 3	Step 2	20%
2027	Step 4	Step 3	40%
2032	Step 5	Step 4	80% (net-zero ready)

Table 1 Province of BC Implementation Schedule for the Energy Step Code

The Municipality of North Cowichan currently requires that all Part 9 residential developments achieve Step 2; there are no requirements for Part 3 developments other than where they have been made requirements of zoning amendments. Once the BC Building Code is amended, the minimum requirements immediately applicable to builders in the Municipality would be Step 3 for Part 9 and Step 2 for Part 3 developments.

The Municipality offers rebates as incentives for projects that voluntarily achieve higher steps, funded through the Climate Action and Energy Reserve Fund and defined by the <u>North Cowichan Energy Step</u> <u>Code Policy</u>. Current rebates offered include: Step 3 \$750, Step 4 \$1,000 and Step 5 \$1,250.

While local governments cannot require low carbon building requirements, several local governments have structured their Energy Step Code bylaw requirements to include options that encourage a low carbon energy system. They have structured their bylaw to require a higher Energy Code step, or if a low-carbon energy system is implemented, the Energy Code step requirement is lower. The Province and the provincial Energy Step Code Council have published documents that acknowledge the appropriateness of this approach.

# **Carbon Pollution Standard:**

The Province of BC is expected to introduce a carbon pollution standard in December 2022 with updates to the BC Building Code. This inclusion will allow local governments to limit emissions from new construction. The standard will be voluntary for municipalities to opt into, similar to the Step Code.

The standard is expected to have four phased-in levels:

- Measure only (2022);
- Medium carbon (2024) -requires decarbonizing one major system (domestic hot water or heat);
- Low carbon (2027) –requires decarbonizing two major systems (domestic hot water and heat); and,
- Zero carbon ready (2030) all systems use low-carbon fuels. In most cases, this will require the full electrification of a building. When utilities fully decarbonize their energy supplies, the zero-carbon-ready buildings will become truly zero-carbon.

Progress against levels will be measured through established greenhouse gas intensity targets, a similar mechanism to the Step Code intensity metrics, scaled by floor area:

Proposed Targets	Medium-	Low-	Zero Carbon
	carbon	carbon	Ready
Multi-unit residential	7	3	1.8
Office	5	3	1.5
Retail	6	3	2
Hotel	9	4	2

Table 2 Province of BC Proposed Targets for the Carbon Pollution Standards, in  $kgCO_2e/m^2/year$ 

Building permits and associated energy models submitted to the City of Victoria, District of Saanich and the District of Central Saanich have been analyzed to determine the relationship between GHG intensities of buildings and the energy systems installed. In all cases, buildings that are fully electric meet or are close to meeting the proposed zero carbon ready standards. Buildings using primarily natural gas are rarely able to achieve the medium carbon standard. (Source: City of Victoria: Technical Review – Step Code and Carbon Pollution Standards)

Complementing the carbon pollution standards will require all new and replacement domestic hot water and space heating equipment systems to be 100% efficient or better by 2030. The Province is currently developing policy options to advance this commitment made in the CleanBC Roadmap to 2030.

Recently, the City of Victoria and District of Saanich announced that they will harmonize Step Code adoption with the Provincial schedule and will advance zero-carbon ready Part 9 and Part 3 buildings in 2025, ahead of the provincial 2030 requirement. If the Province does not move forward with introduction of carbon pollution standards in December 2022 as anticipated, these local governments will proceed with advancing to a higher Step Code requirement with an option to developers to achieve a lower step if a low-carbon energy system is installed.

# OPTIONS

- 1. **(Recommended Option)** THAT Council direct staff to conduct a review of Building Bylaw No. 3172 and the BC Energy Step Code Rebate Policy, once the BC Building Code update is released, to ensure alignment with the updates and the implementation schedule of the Energy Step Code and Carbon Pollution Standard.
  - This option will align with the minimum requirements set out by the Provincial government, provide consistency to the building industry, and help enable the Municipality's adopted CAEP. This option will not require addition resources or financial implications.
- 2. THAT that Council direct staff to:
  - (1) Draft an amendment to Building Bylaw No. 3172 and the BC Energy Step Code Rebate Policy once the BC Building Code updates are released in order to harmonize with updates ahead of the implementation schedule of the Energy Step Code and Carbon Pollution Standard; and,

• This option will help advance more aggressive implementation of the CAEP ahead of the Provincial implementation schedule by initiating engagement with the industry. This option is not currently resourced in the 2023 business plan or budget, and advancing out of alignment with the provincial schedule could be more costly for the Municipality and industry.

# IMPLICATIONS

# Financial

Zero emission building standards have a marginal increase in the incremental cost of construction to accommodate electrification of the building's energy systems (Table 3). Developers would experience this increase regardless of actions taken within North Cowichan as the Province phases in its implementation schedule for the Step Code and Carbon Pollution Standard. The approach taken by Victoria and Saanich has been to align higher Step Code steps to the Provincial schedule and to direct staff to proceed with an implementation plan for the zero-carbon approach ahead of the Provincial schedule.

The Building and Safety Standards Branch of the Provincial Government and the City of Vancouver have completed studies to help understand the potential cost implications of electrifying a building's energy system, which would be the requirement to meet the zero-carbon level of the Carbon Pollution Standard. Incremental capital costs for all building types in Climate zone 4 (Vancouver area and southern Vancouver Island) fell within a range of 0.1% cost savings and 2.2% increased costs. Operating costs varied from savings of 7% to an increase of 2.2%. Incremental costs to achieve higher levels of the Energy Step Code are 1.0% to 8.8% for the more substantial changes in building design, layout, framing techniques, system selection and materials. Advancing a more aggressive implementation approach than the provincial schedule could result in additional expense for the Municipality and industry (through engagement, training, and enforcement), which would be better supported through a Provincial roll-out.

	Incremental Construction Costs			
	Zero Carbon	Step 4	Step 5	
	(at Step 3)	(% from Step 3)	(% from Step 3)	
Small single-family dwelling	0.6%	1.8%-2.8%	7.1%-8.8%	
Medium single-family dwelling	0.6%	1.0%	2.8%	
Large single-family dwelling	0.4%	1.1%	2.9%-3.7%	
Multi-family (6 stories or less)	0%-2.2%	2.6%	n/a	

Table 3 Incremental Construction Costs to Achieve the Zero-Carbon Carbon Pollution Standard and Step Code Steps 4 and 5 (Source: City of Victoria: Technical Review – Step Code and Carbon Pollution Standards)

The Municipality has an agreement with Fortis BC which requires Fortis BC to pay a portion of gross revenues received by Fortis BC for provision and distribution of all gas consumed within the Municipality's boundaries, as well as revenue in lieu of property tax on the pipelines themselves. In 2021, funds received from Fortis BC were \$169,951. By introducing a zero-carbon requirement on new construction, these revenues will not increase nor be impacted unless the new building is removed from the existing building stock. In this case, the revenues would begin to decline annually and could represent an unexpected revenue shortfall.

# Personnel

Advances beyond provincial requirements require consultation with the industry on increased requirements, which would result in additional staff resource requirements and potential budget implications. The alternate option to pursue a more aggressive roll-out is not in the 2022/2023 business plan or budget and will require reallocation of workload and budget. This could also result in administrative and bylaw enforcement costs of regulating heating equipment that is not currently part of the building permitting process.

# Environmental

Transitioning new and existing buildings to low carbon and renewable energy sources is identified in the CAEP as an action item. Both the recommended and alternative approaches will help to achieve the new building goals in the Climate Action and Energy Plan because of the updates expected from the Province, which outline a path to zero-emissions carbon new buildings. The alternative approach will enable a more aggressive approach to CAEP implementation.

# Social

Implementing a zero-emissions building roadmap in North Cowichan continues to demonstrate leadership of Council since the adoption of the CAEP and acknowledgement of the climate emergency. With the local building industry working across municipal boundaries, harmonization to Provincial standards provides industry predictability and consistency. A province-wide approach will enable both the consistency and necessary supporting programs to raise awareness among the building sector and homeowners on technology and training opportunities.

# Communications

Continued communication on the Energy Step Code incentive program would be the foundation of both recommended and alternate options. The alternate option would need to consider an education and program led through the Municipality to build knowledge on zero-carbon ready buildings.

#### RECOMMENDATION

THAT Council direct staff to conduct a review of Building Bylaw No. 3172 and the BC Energy Step Code Rebate Policy once the BC Building Code update is released to ensure alignment with the updates and the implementation schedule of the Energy Step Code and Carbon Pollution Standard.

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