

DATE OF MEETING MAY 12, 2021

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SUBJECT BC ENERGY STEP CODE ACCELERATION REVIEW

OVERVIEW

Purpose of Report:

To provide the Environment Committee with information and update on the BC Energy Step Code implementation and outline options to reduce GHG emissions from new buildings.

BACKGROUND

As part of the Environment Committee workplan, a check-in on the status of the City's Energy Step Code implementation and an options discussion for Step Code acceleration was planned for May 2021. This report will review the status of Step Code Implementation in Nanaimo and provide insight into where other communities are in their implementation and what potential next steps are for the City of Nanaimo.

The Province has set a long-term goal of all new buildings being net-zero-energy-ready by 2032 through implementation of the BC Energy Step Code. The Step Code, which applies to new construction in buildings under Part 9 (houses and small buildings) and Part 3 (large and complex buildings) of the BC Building Code (BCBC), was created to help local governments incentivize or require a level of building energy efficiency that goes above and beyond the base requirements of the BCBC.

Across the province to date, when reviewing the Step Code website¹, Seventy-five local governments in BC have notified the province they have started to consult with their community on adopting the Step Code. Forty-five local governments have developed and adopted policies, programs, or bylaws to implement the Step Code.

In July 2018 Council adopted the BC Energy Step Code Implementation Strategy. The timeline for Step Code implementation proposed by the Strategy allowed for incremental improvements in building energy efficiency that are achievable with minimal impact on the development industry, while building capacity for implementation of higher steps in the future.

At this time, the following recommended Step Code implementation actions have been completed by the City:

- Regional Step Code education and awareness program completed, (2018-2020);
- Established a Home EnerGuide rebate program to encourage more assessments, (2018);

¹ BC Energy Step Code: Implementation Updates. https://energystepcode.ca/implementation_updates/

- Amended ‘Schedule D’ of the “City of Nanaimo Zoning Bylaw 2011 No. 4500” (amenity requirements for additional density) to provide additional amenity points on development projects that exceed Step 3 and above of the Step Code (2019);
- Amended “Building Bylaw 2016 No. 7224” (2019) to require the Step Code lower steps, beginning with Step 1 in 2020 and gradually increasing to Step 3 in 2022;
- Adopted a “BC Energy Step Code Rezoning Policy No. COU-216” requiring accelerated Step Code for rezoning or installing a Low Carbon Energy System into the building (2021).

The City now requires builders to meet the lower steps (Steps 1 – 3) of the BC Energy Step Code as an alternative to the BCBC minimum prescriptive requirements. The City’s Step Code requirements are set out in the Building Bylaw and increase over time as shown in the table below.

	PART 9 Buildings	PART 3 Buildings
Step 1: (Enhanced Compliance) Perform EnerGuide or Energy Modeling to current BCBC requirements	2020-APR-21	2020-APR-21
Step 2: 20% greater than current BCBC requirements	2021-JAN-01	2022-JAN-01
Step 3: 40% greater than current BCBC requirements	2022-JAN-01	TBD

The City has also used incentives to support increased building energy efficiency, such as through changes to the “City of Nanaimo Zoning Bylaw 2011 No. 4500” to offer density amenity points in exchange for meeting higher Step Code levels than what is currently required. See ATTACHMENT A for BC Energy Step Code Implementation for the City’s current requirements and incentives.

Additionally, the City has adopted a BC Energy Step Code Rezoning Policy, which requires a commitment for rezoning applications that lead to an increase in density or a change of use to develop under one of the following options: 1) exceed the Step Code requirement for Part 9 and Part 3 buildings by one-step; or 2) meet the Step Code requirement and commit to installation of a low-carbon energy system that meets a set standard for greenhouse gas intensity.

While the City was consulting with the development community on the draft BC Energy Step Code Rezoning Policy, several points were raised regarding the need to maintain dialogue with developers and provide incentives to help soften the impact to any regulation and ease cost burdens and keep homes affordable.

Greenhouse Gas Reduction using the Step Code

On 2020-OCT-07, Staff presented a Climate Action Plan update to the Environment Committee as part of the REIMAGINE Nanaimo process. During the presentation, the consultant from C2MP provided a review of the City’s Greenhouse Gas (GHG) emission profile. Using fuel and energy use data released by the Province, an analysis conducted shows Nanaimo’s GHG emissions have increased by 18% between 2010 and 2017, (the latest year where data is available). When comparing population growth during this period at 14%, it shows emissions are growing faster than population growth.

Growth is particularly dramatic in the building sector, which saw large growth in natural gas use (55% increase), and much smaller increases in electricity (5%). While some of the growth is likely from economic growth and expansion of energy-intensive workplaces, a large proportion is likely due to residents and businesses continuing a long-term shift from electricity to natural gas due to the arrival of natural gas on the Island in the 1990s. As natural gas produces 16 times more emissions than BC Hydro electricity for an equivalent unit of energy, this shift has profound implications for Nanaimo's ability to reach its climate targets.

While the Step Code establishes a framework for reducing energy use in new buildings, it does not explicitly address GHG emissions from buildings. A key study² has shown the Step Code does not necessarily achieve low carbon emissions. The choice of energy used to heat and cool the building ultimately dictates the level of GHG emissions. Because of the long life of buildings, priority should be given to phasing in requirements for new construction to be (near) zero carbon emissions.

DISCUSSION

Currently, there are a number of directions Staff are monitoring that will have significant bearing on how the City develops further regulation on new and existing buildings in the City.

Both the Federal and Provincial government have recently made announcements on increasing energy efficiency incentives, rebates and developing new programs targeting both new and existing buildings.

The Federal government has made commitments in its latest budget to fund an interest free loan program for significant home-energy retrofit projects under the Canadian Mortgage and Housing Corporation and has made recent announcements on increasing its national GHG emissions reduction commitments. The Province of BC, through its recent 2021 Budget announcement, has announced additional funding through CleanBC that will be directed toward building new and existing buildings targeting action to lower GHGs and utilize clean energy.

Several communities across BC have been active in advocating for regulatory changes in local government powers to allow for greater monitoring and reporting of GHGs from the community. Help Cities Lead, is an advocacy group of City leaders and climate experts that have been coordinating an education and awareness campaign to build awareness on collaboration between the Province and local government on building climate policy. Their campaign is advocating the Province to give local government the ability to do the following:

- Mandate home energy labeling. (Policy to require EnerGuide assessments and labeling of new homes);
- Mandate building benchmarking and reporting. (Policy to require owners of commercial, institutional, and multi-unit residential to annually measure, report, and disclose their energy usage and GHG emissions);
- Allow Property Assessed Clean Energy (PACE) financing. (Authority to allow property owners to finance building energy efficiency upgrades through a voluntary property tax

² Integral Group. (2019) *Implications of the BC Energy Step Code on GHG Emissions*. Building and Safety Standards Branch, Ministry of Municipal Affairs and Housing.
http://energystepcode.ca/app/uploads/sites/257/2019/11/BC-Step-Code-GHGI-Report_Nov-2019.pdf

assessment. The assessment would be tied to the title of the property and paid back through property tax collection);

- Set GHG requirements for new construction. (Policy to set limits on the quantity of GHG emissions that a new building would be allowed to release), and;
- Set GHG requirements for existing buildings. (Policy to allow local governments to limit GHG emissions from existing buildings).

While there has been discussions about the Province moving forward on some of these measures, nothing has been officially announced. Until the Province makes an announcement, the City can only monitor and continue to voice its support for these measures.

Next Steps

The City's accomplishments with the current mix of Step Code incentives and policy, can be enhanced with additional work on building energy efficiency and augmented with a focus on zero carbon building technology to accelerate efforts to lower GHG emissions from buildings. To support that work, Council approved a new Manager of Sustainability position, which may be partially funded through the BC Hydro Community Energy Management Program (CEMP). The CEMP offers funding to hire community energy managers who can help oversee and drive opportunities around community wide energy efficiency.

Some options that staff are currently reviewing to reduce GHG emissions from buildings are:

1. Including a low carbon building density amenity incentive through Schedule D of the "City of Nanaimo Zoning Bylaw 2011 No. 4500"
2. Including a Low Carbon Energy Intensity option as part of an increased Energy Step Code requirement in the City Building Bylaw ("Building Bylaw 2016 No. 7224").

These options require further exploration and consultation and will be brought forward at a future Committee meeting for consideration and recommendation.

CONCLUSION

While implementing Step Code will help to improve building energy efficiency and accelerating Step Code could further enhance building energy efficiency, Step Code implementation on its own does not necessarily achieve lower carbon emissions. The choice of energy used to heat and cool buildings has profound implications for Nanaimo's ability to reach its climate targets. It will be important to consider options to reduce GHG emissions from buildings in parallel with consideration of accelerating Step Code implementation.

Going forward, Staff will need to work closely with the development and energy advisor community to build strong connections, and opportunities for dialogue, training, and collaboration around applying the BC Energy Step Code and working toward zero carbon buildings in Nanaimo.

SUMMARY POINTS

- Across the province to date, when reviewing the Step Code website³, seventy-five local governments in BC have notified the province they have started to consult with their community on adopting the Step Code. Forty-five local governments have gone onto develop and adopt policies, programs or bylaws to implement the Step Code.
- While the Step Code establishes a framework for reducing energy use in new buildings, it does not explicitly address GHG emissions from buildings.
- The City's accomplishments with the current mix of Step Code incentives and policy, can be enhanced with additional work on building energy efficiency and augmented with a focus on zero carbon building technology to accelerate efforts to lower GHG emissions from buildings.
- It will be important to consider options to reduce GHG emissions from buildings in parallel with consideration of accelerating Step Code implementation.

ATTACHMENTS:

ATTACHMENT A: BC Energy Step Code Implementation

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³ BC Energy Step Code: Implementation Updates. https://energystepcode.ca/implementation_updates/