City of Burnaby

Meeting 2021 January 21

COMMITTEE REPORT

TO:	CHAIR AND MEMBERS ENVIRONMENT COMMITTEE	**DATE:**	2021 January 13
FROM:	DIRECTOR PLANNING AND BUILDING DIRECTOR CORPORATE SERVICES	**FILE:** *Reference:*	76500 20 *Green Building Policy*

SUBJECT: GREEN BUILDING POLICY UPDATE

PURPOSE: To inform Council on the status of Burnaby's Green Building Policy as it relates to advancing the Climate Action Framework.

RECOMMENDATION:

1. **THAT** Council receive the update on the status of Burnaby's Green Building Policy for information.

REPORT

1.0 INTRODUCTION

On 2019 September 09, the City of Burnaby adopted a resolution declaring a climate emergency and updated the City's carbon pollution reduction targets for the community. The targets are 45% reductions by 2030, 75% by 2040, and to be carbon neutral by 2050. Staff were directed to bring forward a separate report on a Climate Action Framework to ensure climate action progresses across all sectors of the City at a pace that would enable the City to meet its updated targets. The Climate Action Framework, approved by Council 2020 July 06, demonstrated that current policy trends, including the province's commitment to net-zero energy ready buildings in 2032, would be insufficient to meet the City's climate emergency targets. Additional policy, including revisions to Burnaby's Green Building Policy, would be necessary.

The purpose of this report is to update Council on the status of Green Building policy development with regards to meeting the Climate Emergency commitments. Subsequent reports will be advanced with a detailed proposed approach for Part 9 and Part 3 buildings,[1] technical requirements including strengthened greenhouse gas intensity targets, implementation details, and a clear zero-emissions pathway, for Council's consideration.

[1] Part 9 residential buildings include single family homes, duplexes, and multi-family buildings, that are three storeys or less and have a footprint of less than 600m^2. For the purpose of Burnaby's Green Building Policy, Part 3 buildings include buildings over three storeys or 600m^2 in footprint, including those with residential, business, personal services and mercantile occupancies.

2.0 CITY POLICY SECTION

Green Building policy that advances the City's carbon pollution reduction targets aligns with the City of Burnaby's Corporate Strategic Plan by supporting the following goals and sub-goals of the Plan:

A Healthy Community

- Healthy life – Encourages opportunities for healthy living and well-being
- Enhance our environmental health, resilience and sustainability

A Dynamic Community

- Economic Opportunity – Foster an environment that attracts new and supports existing jobs, businesses and industries
- Community Development – Manage change by balancing economic development with environmental protection and maintaining a sense of belonging

2.1 Additional Policy Context

In addition to supporting implementation of the Climate Action Framework, and helping to meet climate targets, Burnaby's Green building policy is aligned with the following strategic plans and Council commitment:

- **Environmental Sustainability Strategy** (ESS) and **Community Energy and Emissions Plan** (CEEP), including the *Breathe, Build* and *Manage* goals and specific strategies and actions to improve the environmental performance of buildings.

- **Social Sustainability Strategy**, including opportunities to improve affordability with reduced energy costs, and improve occupant comfort and health through more efficient building design and heating, ventilation and air conditioning systems.

- **Economic Development Strategy**, including the goal of Striving for a Greener Community with green building technology, and supporting the Environmental Technology and Services sector.

3.0 OBJECTIVES

The Climate Action Framework report of 2020 July 06 stated that "An early commitment to zero-emission new buildings prevents the addition of new emission sources during a time when emissions must be decreasing rapidly: new ZE buildings keep community emissions from rising with population growth" (page 23). Big Move 6, Net Zero New Buildings could account for 9% of community emissions reductions by 2050.

Big Move 6 therefore committed Burnaby to accelerating the roadmap to net zero new buildings by updating the City's Green Building policy, with Part 3 policy updates within 2 years (Big Move 6: Quick Start 1).

Based on the Climate Action Framework, the objectives of the Green Building Policy updates include:

- to decouple community development from growth in greenhouse gas emissions related to the community's building stock.
- to establish a clear and transparent zero emissions pathway for new Part 3 buildings going through rezoning as of 2025, so that the majority of Burnaby's new buildings will be zero-emissions for heating, cooling and hot water at occupancy, by or before 2030.
- to consider pathways to zero emissions for additional Part 3 building types such as institutional and light industrial.
- to achieve zero emissions at occupancy as soon as possible for new Part 9 buildings, within regulatory constraints and considering a regional approach.
- to provide certainty and consistency to the building and development industry in Burnaby, with sufficient time to adapt to updated requirements and options.

3.1 Provincial Commitments

BC's climate plan, Clean BC, commits to net-zero energy ready buildings by 2032, through "ultra-efficient, net-zero design".[2] BC's Energy Step Code (ESC) provides the pathway to achieve this. Local governments currently have the regulatory powers to require Steps 1-5 of the Energy Step Code, for Part 3 and Part 9 buildings.[3] However, the ESC does not specifically address carbon pollution, and higher levels of energy efficiency do not guarantee reduced emissions. To date, local governments have not been given the power to regulate buildings to meet low-carbon or greenhouse gas intensity (GHGI) limits: low-carbon energy systems and greenhouse gas intensity limits may be used as options only, such as through re-zoning and alternate compliance. Local governments are currently waiting on further clarification from the province as to whether and when local governments will be given powers to require low-carbon or zero-carbon building energy systems and/or specify GHGI limits.

4.0 BURNABY'S GREEN BUILDING POLICY

Prior to declaring a climate emergency, Council had advanced a Green Building Policy as implementation measures following from the City's ESS and CEEP. The following summarizes current requirements, rezoning options, monitoring to date, and proposed next steps.

4.1 Part 9 Residential Buildings

The Part 9 residential buildings green building policy, approved in June 2019, took effect September 01, 2019, following considerable stakeholder engagement and an update to the Building Bylaw.[4]

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[2] https://cleanbc.gov.bc.ca/ Accessed January 5, 2021.
[3] The highest step varies by building type: Step 3 for Part 3 commercial, Step 4 for Part 3 residential, and Step 5 for Part 9 residential buildings.
[4] Burnaby Building Bylaw No. 2016, Amendment Bylaw No. 2, 2019.

The policy is as follows:

New Part 9 buildings (3 storeys and under, AND less than 600m^2 footprint)

1. Building Bylaw, effective 2019 September 01, for all new building permit applications, requires Step 1 of Energy Step Code, which requires energy modeling and air tightness testing.

   An energy label displayed on the electrical panel prior to Occupancy is a requirement of this policy.

Step 1 does not include an energy performance requirement. It was taken as an interim step "to allow for familiarization by builders with these new practices, and to improve future compliance levels."[5] Future policy direction was also anticipated: "After approximately one year, Step 3 of the Energy Step Code is anticipated to be required, pending reporting back to Council based on findings and feedback of Step 1 implementation."[6]

As of early December 2020, fewer than 20 buildings have been finalized under the Part 9 Step 1 requirement, with more than 200 buildings in process. Further details on feedback and compliance outcomes will be provided in a subsequent report in 2021, as well as a process and timeline for advancing the ESC for Part 9 buildings. Low-carbon requirements will be considered if the provincial government advances local government regulatory powers to do so or as part of a two-pathway compliance model requiring higher energy steps or low carbon requirements with limits for greenhouse gas emissions or energy use intensity.

4.2 Part 3 Buildings

In November 2018, Council approved green building requirements for new Part 3 buildings, coming into effect as of July 01, 2019. The 2018 November 19 report affirmed that "The green building policy is to focus primarily on energy efficiency and reducing GHG emissions, and to consider secondary environmental objectives." Staff committed to monitor implementation and update the policy to meet future sustainability goals.

The policy is as follows:

New Part 3 buildings (over 3 storeys or 600m^2 footprint)

1. Building Bylaw, effective 2019 February 11 for all new building permit applications:

   a. Step 1 of Energy Step Code, which requires energy modeling and air tightness testing.

[5] Proposed Approach for Part 9 Green Building Requirements (2019.03.28).
[6] Green Building Requirements for New Part 9 Residential Buildings (2019.05.29).

This change was made to Burnaby's Building Bylaw, for Part 3 buildings containing "residential, business and personal services or mercantile occupancies". [7]

2. Rezoning Policy, effective 2019 July 01 for all rezoning applications that have not yet advanced past second reading:

    a. Step 3 of Energy Step Code,

    b. OR Step 2 of Energy Step Code with a low carbon energy system (LCES) and a GHG intensity limit of 6kg/m2/yr. [8]

Energy benchmarking (reporting energy use and emissions after occupancy to the City) is an administrative requirement of rezoning.

The two-pathway compliance approach for rezoning applications uses a '"relaxation clause"[9] to provide flexibility for applicants. Compliance is ensured through reliance on qualified professionals. As of December 2020, no development has completed the Step Code process through to occupancy permit under the Part 3 green building rezoning policy. Staff are currently monitoring uptake of the compliance options and will report out later in 2021, along with a proposed process for stakeholder and industry consultation to develop the net-zero roadmap committed to in the Climate Action Framework.

4.3 Next Steps in 2021

Staff will bring forward detailed proposed approaches for updating the Green Building Policy for Part 9 and Part 3 buildings. The focus will be on revising and updating the ESC requirements for Part 9 buildings with implementation in 2021. Staff will report on regional alignment and options for low and zero-carbon Part 9 compliance, including information, if available, on whether the province will advance local government powers to regulate carbon emissions.

Staff will also report on the current Part 3 policy impact, and propose a longer process to update requirements and flexible compliance for Part 3 buildings, including consideration of separate GHGI limits for commercial and residential buildings. Pending consultation and review over approximately a one-year timeframe, recommendations would be advanced for Council's further consideration, well within the three-year timeframe for the Quick Start actions in the Climate Action Framework. This timing also addresses the need to provide clarity to industry on the path forward. The recommendations will address the Climate Framework's Quick Start commitment to having a pathway to net zero buildings in place by 2025, to achieve net zero occupancy by 2030 at the latest.

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[7] Burnaby Building Bylaw No. 2016, Amendment Bylaw No. 1, 2019.

[8] From 2018.11.14 report: low-carbon energy system (LCES) is defined as *a professionally operated and maintained, highly efficient mechanical system that supplies a building's space heating, cooling and domestic hot water heating demand primarily from renewable energy sources, and meets defined GHG limits.*

[9] BC Government, Building Safety and Standards Branch. BC ESC: A Best Practices Guide for Local Governments. Version 2.0, July 2019.
http://energystepcode.ca/app/uploads/sites/257/2019/08/BCEnergyStepCode_GuideDigital_v02July2019.pdf

4.4 Coordination with Related Quick Starts and other City policy

Work on the green building policy will be coordinated with other Climate Action Framework Quick Start implementation including: planning and policy for resilient Urban Villages (Big Move 3, Quick Start 1), renewable energy district energy (Big Move 3, Quick Start 2), advancement of low carbon construction such as mass timber (Big Move 6, Quick Start 3), and heating system permit updates (Big Move 7, Quick Start 1). The green building policy and associated Quick Start action has been coordinated with Burnaby's draft strategy to addresses housing and homelessness, which supports a number of big moves and quick starts in the Climate Action Framework, including Resilient Neighbourhoods (Big Move 2), Zero Emission Buildings (Big Move 6) and Zero Building Retrofits (Big Move 7).

5.0 CONCLUSION

This report updates Council on the status of Green Building policy development as it relates to Climate Emergency commitments and the Climate Action Framework. Advancing Burnaby's Green Building Policy is a critical component for accelerating Burnaby's action on the climate emergency. Reviewing the impact of the current policy, and proposing a pathway to achieve energy efficient, zero emissions new buildings across the community advances the Climate Action Framework's Big Move 6, Net Zero New Buildings. Such action also supports equity, public health, climate adaptation, and the local green economy. Subsequent reports will be advanced to the Environment Committee and Council with a detailed proposed approach for Part 9 and Part 3 buildings, technical requirements including strengthened greenhouse gas intensity targets, implementation details, and a clear zero-emissions pathway, for consideration.

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