

Attachment 2

Council Report Dated July 10, 2023

REPORT

Climate Action, Planning and Development

To: Mayor Johnstone and Members of Council
Date: July 10, 2023

From: Jackie Teed
Acting Director of Climate Action,
Planning and Development
File: 09.1740.20

Item #: 2023-487

Subject: **Proposed timeline to advance requirements of the Energy Step Code and the Zero Carbon Step Code for new buildings**

RECOMMENDATION

THAT Council direct staff bring forward for Council's consideration a bylaw amending Building Bylaw No 8125, 2019 to implement a two-option framework for Part 9 Buildings, requiring Step 5 of the Energy Step Code or Step 4 with Emissions Level 4 (Zero Carbon Ready) of the Zero Carbon Step Code, beginning January 1, 2024.

THAT Council direct staff to require a Measure Only Carbon Performance for Part 3 Buildings beginning January 1, 2024.

THAT Council direct staff to engage with interested parties to secure feedback on the supports needed to implement proposed targets in 2025 and 2027 to reach the highest steps of the Energy Step Code and Zero Carbon Step Code by 2030.

THAT Council direct staff to explore policy, regulatory and/or incentive options to facilitate electric heat pumps, over electric resistive baseboards, in new construction.

PURPOSE

To obtain Council direction to bring forward a bylaw amending Building Bylaw No 8125, 2019 to implement a two-option framework for Part 9 Buildings, requiring Step 5 of the Energy Step Code or Step 4 with Emissions Level 4 (Zero Carbon Ready) of the Zero Carbon Step Code, and Measure Only for Part 3 buildings beginning January 1, 2024. Also, to obtain council direction to engage with interested parties on the implementation

timeline of the Energy Step Code and Zero Carbon Step Code with proposed targets in 2025 and 2027 and to explore options to facilitate installation of electric heat pumps in new construction.

SUMMARY

The Province has included the BC Energy Step Code (ESC) and the BC Zero Carbon Step Code (ZCSC) in the BC Building Code as opt in tools for Local Governments to advance energy efficiency and reduce carbon emissions in their communities ahead of the Provincial timeline for implementation.

Based on previous direction by Council this report recommends a two option framework to advance the ESC and ZCSC for Part 9 small residential buildings beginning January 1, 2024, with a focus on increasing energy efficiency and zero carbon climate resilient new buildings. City staff recommend a phased implementation of ESC and ZCSC to reach the highest steps in advance of the Provincial timeline. City staff propose to engage with interested parties to better understand what supports are needed by the building community to enable implementation of both the ESC and the ZCSC targets proposed for 2025 and 2027.

BACKGROUND

The BC Energy Step Code was introduced in 2017 as an opt-in better than base code energy efficiency standard for new buildings (Attachment 1). Local Governments can choose to adopt levels of the Step Code into their Building Bylaws, in advance of the Provincial timeline, which the City has done.

On February 25, 2019, Council adopted Energy Step Code requirements for new Part 9 and Part 3 buildings through amendments to the Building Bylaw. The current requirement for Part 9 and Part 3 multi-unit residential buildings is Step 3.

At the July 11, 2022 Council meeting (report Attachment 2), Council adopted the following motion which supported developing a two option framework allowing a reduced Step in the Energy Step Code when building using a low carbon energy system (LCES):

That Council direct staff to proceed with work on the acceleration of the Energy Step Code for single detached dwellings in 2023 using a two option framework.

At the August 29, 2022 Council meeting (excerpt Attachment 3), Council supported the use of LCES as a means to advance electrification of new buildings.

Building Bylaw No. 8125, 2019 was amended by Council at the April 3, 2023 meeting (Attachment 4) to align with the requirements of the BC Energy Step Code (ESC) and the introduction of the BC Zero Step Code (ZCSC) which was anticipated to come into effect May 1, 2023. A LCES definition was not included in the bylaw amendment.

On May 1, 2023, the Province included an opt-in Zero Carbon Step Code (ZCSC) into the BC Building Code, in addition to the existing Energy Step Code (ESC). The ESC and the ZCSC are separate but complementary regulations. The ESC addresses the energy-efficiency performance of new buildings, whereas the ZCSC targets the carbon-emissions performance. Similar to the ESC, local governments can choose to adopt into their Building Bylaws a level of carbon performance in the ZCSC, and also eliminates the need for local governments to develop definitions for LCES.

Regional Implementation

At this time, a number of municipalities have Council direction to engage with the building community to establish a timeline to reach the highest steps of each step code:

- Victoria and Saanich have completed engagement and adopted a timeline which will reach the highest Carbon Performance of the ZCSC for Part 9 buildings by November 1, 2023, for Part 3 Multi-unit residential buildings 6 storeys or fewer by November 1, 2024 and for all Part 3 buildings by November 1, 2024, while following the Provincial timeline for the ESC.
- Burnaby Council at their May 8, 2023 meeting directed staff to engage with stakeholders using the timeline adopted by the City of Victoria and Saanich to reach zero carbon performance.
- City of Richmond, District of North Vancouver, District of West Vancouver and the City of North Vancouver have proposed or adopted the ESC and ZCSC in an approach similar to the one proposed in this report. The latter three are currently requiring Step 5 or Step 3 with Emission Level 3 (strong carbon) for Part 9 buildings and Step 4 or Step 3 with Emission Level 3 (strong carbon) for Part 3 residential buildings.

DISCUSSION

BC Zero Carbon Step Code (ZCSC)

The ZCSC establishes carbon emission levels associated with the energy used by the building's systems. The addition of the ZCSC in the Building Code provides a clear definition and compliance pathway for Low Carbon Energy Systems (no longer needing definition by local governments) which supports electrification of new construction and reduction of GHG emissions.

Similar to the Energy Step Code (ESC), the Province has indicated the intent to incrementally increase the required level of the ZCSC (i.e. decreasing levels of greenhouse gas emissions) in future Building Code updates to meet the CleanBC target of Zero Carbon new buildings by 2030. ZCSC requirements are anticipated in the 2024 and 2027 building code updates, but it is unclear what carbon performance levels will be required at those milestones.

The ZCSC establishes Emission Levels, which includes a measure only option. The Emission Levels align with specified modelled performance values for an upper limit of greenhouse gas emissions from a new building. A detailed description of emission limits associated with each Emission Level is presented in Attachment 3. In general the requirements of the Emission Levels are:

- **Emission Level 1 (Measure-only)** – requires measurement of a building's emissions without reductions;
- **Emission Level 2 (Moderate carbon)** – in general requires electrification of either space heating or domestic hot water systems:
Emission Level 3 (Strong carbon) – in general requires electrification of both space heating and domestic hot water systems; and
- **Emission Level 4 (Zero carbon ready)**– in general requires the full electrification of a building

Proposed Implementation

Staff recommends the City choose to adopt into the Building Bylaw an Emission Level (EL) in the ZCSC, to advance concurrently with the ESC ahead of the provincial timeline. This approach will serve two functions: 1) long term reduction of carbon emissions (ZCSC); and, 2) reduction of energy consumption (ESC). Staff recommends implementing the first set of requirements January 1, 2024 and proposes incremental increases in the ESC and ZCSC for 2025 and 2027, as detailed in Attachment 5. The proposed timeline is in alignment with the required action to meet the City's Climate Emergency Declaration targets for emission reductions outlined in the Community Energy and Emissions Plan 2050, and in alignment with the direction set by Council in July 2022.

The proposed requirement beginning January 1, 2024 would use a two option framework for Part 9 Buildings, and Measure Only for Part 3 buildings, as detailed below.

A. Two option framework for Part 9 buildings

Staff proposes permitting Part 9 buildings two options to: 1) build to a higher step in the ESC (i.e. Step 5 with Measure Only); or, 2) build to a lower step with an increased carbon performance tier (i.e. Step 3 with EL4 Zero Carbon Ready). Introducing a two option framework ensures that the building community have the option to incrementally increase their building standards, while having clear indication of what will be required in future adoption years. While the two option framework is in place, capacity building programs (delivered through the Energy Save New West platform) would continue to be available to industry partners in order to support their ability to build homes to the highest standards of the ESC and ZCSC.

Building Permit applications received before Jan 1, 2024 will be processed under existing bylaws. Allowances will be made for in-stream Re-zoning and Development Permit applications.

B. Measure only for Part 3 buildings

Staff proposes adopting the Measure Only requirement for Part 3 buildings in the ZCSC. This can be calculated using data already required to be collected in compliance with the ESC. The addition of the Measure Only requirement would be a simple entry point to support education and capacity building within the construction industry towards using the new metrics to calculate Emissions Levels.

Electric Heating Options and Climate Resilience

The ZCSC does not provide guidance on what technology should be installed in order to meet the specified emission limits associated with each carbon performance level. Consideration should be made for the use of electric heat pumps compared to resistive electric baseboard heating to meet the carbon performance requirements. Electric heat pumps are more energy efficient (reduce load on electric grid) and less expensive to operate (reduce energy bill costs for homeowner) compared to resistive electric baseboard heating. Electric heat pumps also provide cooling which will increase resilience of the home as the City adapts to warmer summers and increasing frequency of extreme heat events. The City's current Heat Response workplans (and proposed accelerated workplans for 2023) are focused on existing buildings. This initiative is focused on new construction, which will reduce the future need to conduct cooling system retrofits on buildings being built today.

The City of Burnaby through the use of regulations has, in some cases, required the use of electric heat pumps instead of resistive electric baseboard heating. Staff recommends exploring further if it is possible for New Westminster to similarly encourage or require the use of heat pumps in new construction allowing for mechanical cooling and reducing the demand on the electrical system.

Currently the Province is exploring options in the next Building Code update to include a temperature limit requirement in one living space in new construction to minimize over-heating during extreme weather events. At this time, there is no clear indication of when new regulations may be released.

CONSULTATION

On June 20th, 2023 staff presented the proposed implementation timeline for the ESC and the intention of the Province to develop an implementation timeline for the ZCSC, to the Utility Commission, which provided unanimous support and the following feedback:

- There is clear rational to skip over EL3 (Strong carbon) and move from EL2 (Medium Carbon) to EL 4 (Zero Carbon ready) as an adoption pathway when an

incremental approach is applied strong carbon may only allow for fossil fuel cooking, which results in high utility connections fees for low fuel delivery.

- Consider accelerating the carbon performance requirements for Part 3 buildings. Identify during the engagement process whether the carbon performance levels of current Part 3 building projects already align with a defined ZCSC Emissions Level.
- Engage with affordable housing providers to ensure requirements do not result in barriers to building affordable housing.

NEXT STEPS

Staff would develop an engagement plan focused on reconnecting with builders/ developers and other interested parties to seek current feedback on the proposed ESC and ZCSC implementation timeline for 2025 and 2027. It is anticipated engagement will begin in late summer and be completed in late Fall 2023.

Research and stakeholder engagement will focus on:

- Identifying the building community needs through each phase of implementation
- Understanding incremental costs to build to higher steps in each code
- Continuing to support industry and staff through training and capacity building
- Identifying other gaps and needs to support implementation

Outcomes from engagement would be used to develop ongoing capacity building programming and training within the building community and with staff to improve compliance and acceptance rates.

FINANCIAL IMPLICATIONS

Implementation of the ESC and ZCSC has been identified in the Climate Action Team 2023 work plan in alignment with the CEEP implementation actions. \$75,000 of the \$515,000 CEEP 2.0 implementation 2023 capital budget has been allocated to advance adoption of the ESC and ZCSC. Up to \$10,000 of those funds will be used to support stakeholder engagement and introductory industry training and education. The Building Department will continue to administer the program within their work plan including enhanced energy training within the 2023 budget. There are additional collateral benefits from ESC implementation along side ZCSC which reduce the energy demand of a building while ensuring long term connection to low-carbon fuel, respectively, which supports balancing electrical demand in our Electrical Utility, as we advance electrification to meet the City's climate emergency targets.

INTERDEPARTMENTAL LIAISON

This report was prepared by the Climate Action Team in consultation with the Building Department and the Electric Utility.

OPTIONS

The following options are provided for council's consideration:

1. That Council direct staff bring forward for Council's consideration a bylaw amending Building Bylaw No 8125, 2019 to require implement a two-option framework for Part 9 Buildings, requiring Step 5 of the Energy Step Code or Step 4 with Emissions Level 4 (Zero Carbon Ready) of the Zero Carbon Step Code, beginning January 1, 2024.
2. That Council direct staff to require a Measure Only Carbon Performance for Part 3 Buildings beginning January 1, 2024.
3. That Council direct staff to engage with interested parties to secure feedback on the supports needed to implement proposed targets in 2025 and 2027 to reach the highest steps of the Energy Step Code and Zero Carbon Step Code by 2030.
4. That Council direct staff to explore policy, regulatory and/or incentive options to facilitate electric heat pumps, over electric resistive baseboards, in new construction.
5. That Council provide alternative direction to staff.

Staff recommends Option 1, 2, 3 and 4.

ATTACHMENTS

Attachment 1 - BC Energy Step Code

Attachment 2 - July 11, 2022 Council Report – Proposed ESC acceleration for single detached dwellings

Attachment 3 - Low Carbon Energy Systems Council Resolution, August 29, 2022

Attachment 4 - April 3, 2023 Council Report – Building Bylaw amendment

Attachment 5 - Proposed ESC and ZCSC implementation timeline

APPROVALS

This report was prepared by:

Penny Page-Brittin, Community Energy and Emissions Specialist

This report was reviewed by:

Leya Behra, P.Eng., Manager of Climate Action

Serena Trachta, Senior Manager, Building Inspection Services

This report was approved by:

Jackie Teed, Action Director, Climate Action, Planning and Development

Lisa Spitale, Chief Administrative Officer

Attachment 1

BC Energy Step Code

BC Energy Step Code

The BC Energy Step Code was introduced in 2017 as an opt-in better than base code energy efficiency standard for new buildings. The Province has an implementation schedule to incrementally align the base building code with steps in the ESC to reach the highest level by 2032. The most recent milestone in the schedule was reached May 1, 2023, as described in the April 3, 2023 council report (Attachment 3). The highest Step for Part 9 (small residential buildings) is Step 5 and for Part 3 (multi-unit residential over three storeys, and most office and commercial buildings) is Step 4. The current requirement for Part 9 and Part 3 multi-unit residential buildings is Step 3.

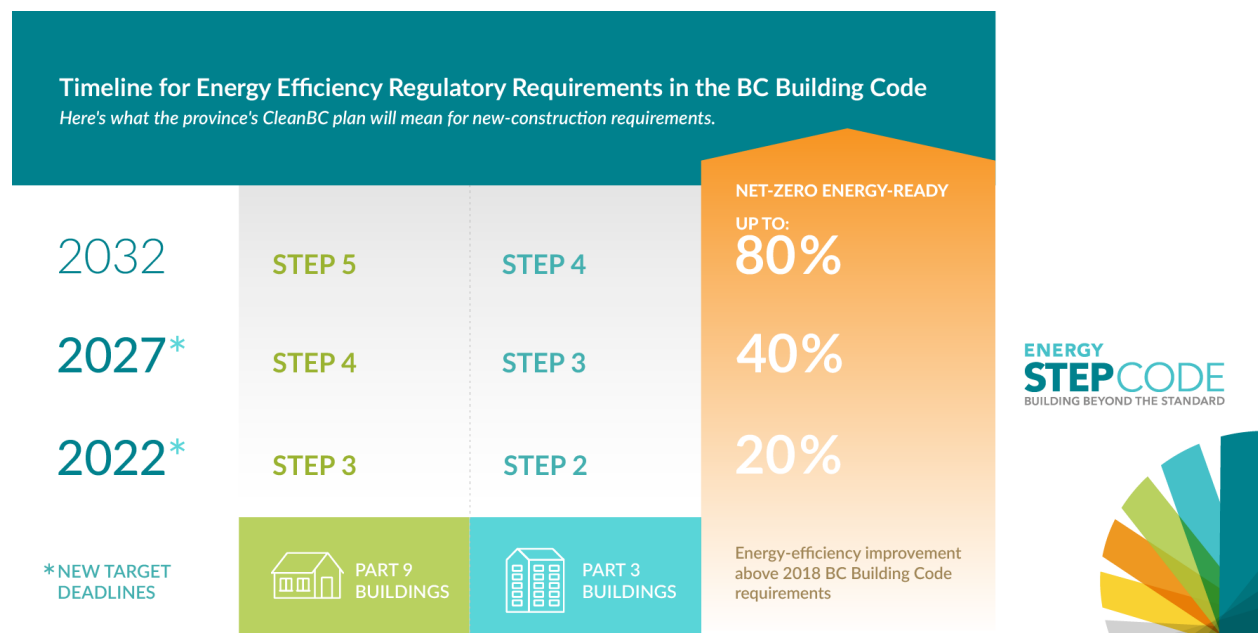


Figure 1 - BC Energy Step Code

Attachment 2

Council Report Dated July 11, 2022

REPORT

Environment and Climate Advisory Committee

To: Mayor Cote and Members of Council **Date:** July 11, 2022

From: Environment and Climate Advisory Committee **File:** 09.1740.02

Item #: 2022-529

Subject: **Proposed Energy Step Code Acceleration for Single Detached Dwellings**

RECOMMENDATION

THAT Council direct staff to proceed with work on the acceleration of the Energy Step Code for single detached dwellings in 2023 using a two option framework.

PURPOSE

To seek Council direction to proceed with work on the acceleration of the Energy Step Code for single detached dwellings in 2023 using the two option framework proposed by the Environment and Climate Advisory Committee. The framework would provide single detached dwellings with the choice to: 1) meet Step 5 of the Energy Step Code, or 2) meet Step 3 with installation of, or connection to, a low carbon energy system (LCES).

SUMMARY

On March 18th, 2022, the Environment and Climate Advisory Committee (EnCAC) proposed a motion to accelerate the City's Energy Step Code timeline and adopt a two option framework that would require builders of single detached dwellings to achieve level 5 of the Step Code, the highest standard for building energy efficiency, or achieve level 3 of the Step Code if the builder uses a low carbon (usually electric) system for heat and hot water.

Staff support the proposed framework as it aligns with the City's climate emergency targets and implementation of the City's Bold Step #3 Carbon Free Homes and Buildings. Staff provided an update on this motion to the Environment and Climate Task Force (ECTF) and received direction to present the motion to Council for consideration.

BACKGROUND

Committee Discussion

At the March 18, 2022 meeting of the Environment and Climate Advisory Committee (EnCAC), it proposed the following motion:

THAT EnCAC encourage New Westminster City Council to adopt a Community Energy and Emissions Plan (CEEP) which includes a plan to create regulations by 2023 in New West for new construction of single family dwellings that require builders to achieve level 5 of the Step Code, the highest standard for building energy efficiency, or if the builder uses a low-carbon (usually electric) system for heat and hot water, the Step Code is relaxed to level 3.

The EnCAC discussed the proposed motion and the tradeoffs between prioritizing building electrification and improved energy efficiency. There was also discussion on upcoming Building Code changes that will incorporate a carbon pollution standard, which would give local municipalities the ability to regulate fuel selection.

At the EnCAC meeting on May 18, 2022, staff presented additional background on the City's implementation of the Energy Step Code, and highlighted key considerations related to the proposed motion. The EnCAC subsequently passed the motion.

The Minute Excerpt from the March 18, 2022 and the draft Minute Excerpt May 18, 2022 EnCAC meeting are included in Attachment 1.

Staff provided an update on this motion to the Environment and Climate Task Force at its June 13, 2022 meeting. The Task Force supported the EnCAC motion to accelerate the City's Energy Step Code timeline and to adopt the two option framework in 2023, and directed staff to present the motion to Council for consideration.

STAFF COMMENT

The BC Energy Step Code is an optional, better-than-Code, energy efficiency compliance path in the BC Building Code. In recent years, many local governments across BC have adopted the BC Energy Step Code into their policies and regulations to support meeting their climate objectives and reduce emissions from buildings.

On February 25, 2019, Council adopted Step Code for new Part 9 (smaller residential buildings) and Part 3 (multi-unit residential over four storeys, and most office and commercial buildings). See Attachment 2 to this report. As per the City's existing requirements, single detached dwellings are required to be built to Step 3 of the Step Code (without any controls or incentives as to fuel source). The City's existing requirements also indicate the intent to offer a two option framework for Part 3 multi-unit residential buildings. However, an approved LCES has yet to be established by the City, which means all projects are being designed to Step 3, instead of Step 2 with a LCES.

If EnCAC's proposal is adopted, the two option framework proposed by EnCAC would provide single detached dwelling applicants with two choices:

1. Meet Step 5 (the highest performance level) of the Energy Step Code; or,
2. Meet Step 3 (the current performance level) of the Energy Step Code with installation of, or connection to, a Low Carbon Energy System (LCES).

The BC Energy Step Code has been effective in reducing the total amount of thermal and mechanical energy used in a new building. Currently, the Energy Step Code is agnostic to fuel source, as its primary intention is to improve energy efficiency through building envelope. Therefore, the proposed framework seeks to incentivize the installation of a low carbon energy system that provides energy efficient heating and cooling services powered by low-carbon BC grid electricity. Builders can avoid the higher investment in the building envelope, as is required to meet Step Code 5, by installing a low carbon energy system.

Staff recommends the proposed framework as it supports the City's climate emergency targets and implementation of the City's Bold Step #3 Carbon Free Homes and Buildings. An inventory based on 2016 data found that residential buildings are responsible for 22% of New Westminster's community-wide emissions. In terms of the city's total emissions by fuel type, natural gas accounts for the largest source of emissions (43%) and is used in all building types.

Prior to the proposed motion, staff collaborated with Energy Save New West to host a series of virtual 'Builder Breakfasts' for local homebuilders and developers of Part 9 residential buildings. Amongst other topics, these sessions gathered feedback on a similar proposal to accelerate Energy Step Code using a two option framework. Participants were in favour of the proposal as it would provide two paths to satisfy the Building Bylaw requirements. Participants identified a desire for training, guidance from Building staff, and incentives.

Other municipalities, such as the District of North Vancouver, West Vancouver, Vancouver, and Richmond have already implemented a similar two option framework. The lessons learned from their implementation can help inform the deployment of New Westminster's two option Step Code framework. Lessons learned from this research and from the implementation of a two option program for single detached dwellings would also inform the City's next steps in applying the two option framework to Part 3 multi-unit residential buildings. With the implementation of a LCES option for Part 3 buildings, the intent is to allow connection to the City's District Energy System as one of the approved low carbon energy systems.

NEXT STEPS

Accelerated Step Code implementation that incentivizes builders to install a Low Carbon Energy System powered by low-carbon BC grid electricity will have implications to the New Westminster electrical grid and on internal processes related to permitting and

inspections. Further consultation with staff, the Utility Commission, and industry is required to gauge impacts, identify potential risks, and explore solutions to successfully implement the proposed accelerated Step Code schedule in 2023.

Staff anticipate undertaking the following steps to implement the proposed accelerated Energy Step Code in 2023:

- Research approach and lessons from other local municipalities that have implemented the same framework.
- Develop procedures to support processing applications using a LCES pathway.
- Consult with the staff, the Utility Commission, and industry representatives.
- Present Building Bylaw Amendment for consideration by Council.
- Distribute notification regarding changes being implemented.
- Implement the accelerated Energy Step Code two option framework.
- Continue to support industry and staff training and capacity building related to LCES and high performance building (e.g. through Energy Save New West).

FINANCIAL IMPLICATIONS

There are no financial implications at this time; however, staff resources will be needed to implement the proposed framework.

OPTIONS

The following options are provided for Council's consideration:

1. That Council direct staff to proceed with work on the acceleration of the Energy Step Code for single detached dwellings in 2023 using a two option framework.
2. That Council provide staff with alternative direction.

Staff recommend Option 1.

ATTACHMENTS

Attachment 1 – Environment and Climate Advisory Committee Minute Extracts

Attachment 2 – New Westminster's Existing Energy Step Code Requirements

APPROVALS

This report was prepared by:

Nayel Halim, Community Energy and Emissions Specialist

This report was reviewed by:

Katie Stobbart, Committee Clerk

Lynn Roxburgh, Supervisor of Land Use Planning and Climate Action

Serena Trachta, Manager Building Inspection Services

Emilie Adin, Director, Climate Action, Planning and Development

This report was approved by:

Serena Trachta, Acting Director, Climate Action, Planning and Development

Lisa Spitale, Chief Administrative Officer

Attachment 1
Environment & Climate Advisory Committee
Meeting Minutes

**MARCH 16, 2022 ENVIRONMENT AND CLIMATE ADVISORY COMMITTEE
MEETING DRAFT MINUTES EXTRACT**

7.2 New Homes and Renewable Energy

Karen Crosby, Community Member, raised the topic of discussing speeding up the requirement for new homes and buildings to only use renewable energy, rather than natural gas hookups.

MOVED and SECONDED

THAT ENCAC encourages New Westminster City Council to adopt a CEEP which includes a plan to create regulations by 2023 in New Westminster for new construction of single family dwellings that require builders to achieve level 5 of the STEP code, the highest standard for building energy efficiency, or if the builder uses a low-carbon (usually electric) system for heat and hot water, the STEP code is relaxed to level 3.

Procedural note: This motion did not go to a vote as the Committee wished for more information on Step Code before continuing the discussion.

The Committee had the following comments arising from discussion:

- Appreciate the intent of the motion, but it may not capture all considerations. Rather than just avoiding natural gas, would like to encourage a holistic approach which encourages builders to consider the building envelope and total efficiency of the system; and
- We need to also work to reduce consumption, and replacing everything with electricity may not be the answer. May want to amend the wording of the motion.

MOVED and SECONDED

THAT the Environment and Climate Advisory Committee postpone New Homes and Renewable Energy to the next meeting so that staff may provide more information to the Committee about STEP code.

Carried.

All members present voted in favour of the motion.

**MAY 18, 2022 ENVIRONMENT AND CLIMATE ADVISORY COMMITTEE MEETING
DRAFT MINUTES EXTRACT**

6. UNFINISHED BUSINESS FROM PREVIOUS MEETINGS

6.1 New Homes and Renewable Energy

With discussion of Energy Step Code - Nayel Halim

Karen Crosby, Community Member, prefaced the conversation by highlighting the slide: The Case for Electrifying from the Energy Step Code presentation that was sent ahead to the committee. She noted the following:

- Electric heating without gas is much better than any step code level at reducing greenhouse gas emissions;
- There are tradeoffs in any policy decision, and some level of energy efficiency will be lost with this proposal, but emissions would be lower overall, which must be our focus if we are to effectively solve the climate crisis;
- The energy step code seems to be designed to reduce energy demand in buildings, not necessarily change from fossil fuels to renewable energy, but the climate crisis demands that we make that change;
- If we continue to build with gas infrastructure, we will lock ourselves into another 20 to 100 years of burning gas in these buildings depending on how long the buildings last and how much (expensive) retrofitting happens; and
- To solve the climate crisis we need to realize there are large forces at play, and we need to be the strongest, most collective voice we can be to change the status quo away from burning gas as quickly as possible.

The Committee noted that one of the big challenges with electric heating is proper insulation, as older home technology is outdated; there are many homes in which it is very expensive to run electric heating.

Nayel Halim, Community Energy and Emissions Specialist, and Lynn Roxburgh, Acting Supervisor, Land Use Planning and Climate Action, provided a presentation entitled “Energy Step Code: An Overview” which included a summary of the committee’s discussion from March 16, and a brief summary of the Climate Action Work Plan and next steps that would be taken following the potential approval of this motion, as well as a high-level overview of Step Code. In response to questions from the Committee, Mr. Halim and Ms. Roxburgh noted:

- Net Zero Energy Ready is defined in the Step Code, just categorized as “future-proofed” to be able to transition to net zero. It does not explicitly state that Step Code would achieve net zero; and
- Currently where the industry is at, steps four and five feels out of reach to the industry, and our current requirement is step three, which is the right step to offer for the incentive to be meaningful.

The Committee noted that one concern with mandating this is affordability, particularly for single-family homes. Serena Trachta, Manager, Inspections, advised that there is no good done by building a building that is not energy efficient.

Procedural Note: Teresa Morton left the meeting at 6:50 p.m.

MOVED and SECONDED

THAT EnCAC encourage New Westminster City Council to adopt a CEEP which includes a plan to create regulations by 2023 in New Westminster for new construction of single family dwellings that require builders to achieve level 5 of the Step code, the highest standard for building energy efficiency, or if the builder uses a low-carbon (usually electric) system for heat and hot water, the Step Code is relaxed to level 3.

Carried.

All members present voted in favour of the motion.

Attachment 2
*New Westminster's Existing Energy Step Code
Requirements*

CITY BUILDING BYLAW REQUIREMENT

	<i>Building Permit applications filed on or after</i>	
Part 9 Residential	March 31, 2019	January 1, 2020
Single Detached and Semi-Detached Homes	Step 1	Step 3
Laneway and Carriage houses	Step 1	Step 2
Triplexes, Townhomes and Stacked Townhomes*	Step 1	Step 3
Part 3 Multi-Unit Residential	March 31, 2019	January 1, 2020
Wood-Frame Residential	N/A	Step 3 [OR] Step 2 with approved Low Carbon Energy System †
Concrete Residential		
Hotels/Motels°		
Part 3 Commercial	March 31, 2019	January 1, 2020
Office	N/A	Step 2
Retail / Mercantile (Group D and E Occupancies)		

Note: The City is not accepting applications under the Low Carbon Energy System (LCES) option until additional policy development is complete.

Attachment 3

Excerpt August 29, 2022 Council Meeting

action to prevent sexualized violence and respond appropriately and with care when incidents occur.

MOVED and SECONDED

THAT Council requests the Mayor write to the Province to advocate for the inclusion of “sexualized violence prevention training” within the Serving It Right curriculum.

Carried.

All members present voted in favour of the motion.

Procedural Note: Council agreed to hear from speakers as the next item of business. The minutes are recorded in numerical order.

7.2 Low Carbon Energy Systems, Councillor Nakagawa

MOVED and SECONDED

WHEREAS the City of New Westminster declared a climate emergency in 2019 with a plan to meet the IPCC targets; and

WHEREAS the City of New Westminster endorsed the Fossil Fuel Non-Proliferation Treaty in 2021; and

WHEREAS it is important to distinguish carefully between various possible ‘low carbon’ gasses that might be employed as pipeline gasses, including renewable natural gas (RNG), biomass, green hydrogen and blue hydrogen, since the carbon emissions from these sources vary significantly;

WHEREAS sources for Renewable Natural Gas (RNG) in BC are very limited, and are at most expected to produce an amount equivalent to 5% of BC’s current gas use (according to a 2022 report prepared for the BC Government and FortisBC);

WHEREAS In order to meet province-wide emissions reduction targets of at least 80% below 2007 levels in the next 30 years, flexible but limited resources such as RNG will likely need to be prioritized for more difficult to decarbonize industries such as steel, concrete, pulp and paper and meeting peak electric loads; and

WHEREAS a typical electric heat pump operates at 300-400% thermal efficiency, more than 3-4 times more efficient than a gas appliance burning RNG or any other fuel (which operates below 100% efficiency);

THEREFORE BE IT RESOLVED THAT the City of New Westminster recognize both the significant difference in the lifecycle emissions

associated with different gaseous fuels including RNG, blue and green hydrogen and biomass, and the limited supply of truly low-carbon RNG; and

THAT the City of New Westminster direct staff to prioritize electrification over gas when proceeding with work on acceleration of the Energy Step Code, and in particular explore ways to exclude RNG from future Low Carbon Energy Systems; and

THAT the City of New Westminster consider electric heat pumps systems the preferred option for space and water heating in buildings and intend to encourage the use of limited RNG resources for their highest and best use and not for residential or commercial heating; and

THAT the City of New Westminster include the above in our Community Energy and Emission Plan (CEEP) and our Corporate Energy and Emissions Reduction Strategy (CEERS); and

THAT the City of New Westminster write a letter to the BC Minister of Environment encouraging that this definition be adopted provincially, and encouraging the Province to evaluate the highest and best use of RNG considering its limited availability.

Carried.

All members present voted in favour of the motion.

8. NEW BUSINESS

8.1. ON TABLE Recruitment 2022: Appointments to the Community Heritage Commission (CHC) and the Economic Development Advisory Committee (EDAC)

MOVED and SECONDED

THAT Council receive the report titled, “Recruitment 2022: Appointments to the Community Heritage Commission (CHC) and the Economic Development Advisory Committee (EDA)” for information.

Carried.

All members present voted in favour of the motion.

9. ANNOUNCEMENTS FROM MEMBERS OF COUNCIL

Councillor McEvoy reported that recreation facilities in New Westminster have been a focus for Council and noted the numerous facilities that have been repaired, modernized and are now energy efficient.

Attachment 4

Amendment to Building Bylaw

Council Report Dated April 3, 2023

REPORT

Climate Action, Planning and Development

To: Mayor Johnstone and Members of Council
Date: April 3, 2023

From: Jackie Teed
Acting Director of Climate Action,
Planning and Development
File: 05.1020.20

Item #: 2023-221

Subject: **Building Amendment Bylaw No. 8388, 2023: BC Energy Step Code Alignment – Bylaw for Three Readings**

RECOMMENDATION

THAT Council give First, Second and Third Reading to Building Amendment Bylaw No. 8388, 2023

PURPOSE

To amend Building Bylaw No.8125, 2019 to align with changes to the BC Building Code.

SUMMARY

The BC Building Code has recently been revised to include increased energy efficiency requirements in the BC Energy Step Code and to include a Zero Carbon Step Code. In order to align with the code changes, the proposed amendments to Building Bylaw include:

- 1) Increasing the Energy Step Code requirements for laneway and carriage houses from Step 2 to Step 3; and
- 2) Removing the two-option framework that allows Part 3 buildings (multi-unit residential over three storeys, and most office and commercial buildings) to be constructed to Step 2 of the Energy Step Code with a low carbon energy system.

Building Amendment Bylaw No. 8388 detailing the proposed changes is included as Attachment 1.

BACKGROUND

The BC Energy Step Code was introduced in 2017 as an opt-in better than base code energy efficiency standard for new buildings. Local Governments can choose to adopt levels of the Step Code into their Building Bylaw, in advance of the Provincial timeline. The Province has indicated they will incrementally increase the required Step over time until the highest levels are required in the base code by 2032. The highest Step for Part 9 (smaller residential buildings) is Step 5 and for Part 3 (multi-unit residential over three storeys, and most office and commercial buildings) is Step 4.

On February 25, 2019, Council adopted Energy Step Code requirements for new Part 9 and Part 3 buildings through amendments to the Building Bylaw. The current requirement for Part 9 buildings is Step 3 with the exception of laneway and carriage houses where the requirement is Step 2. The current requirement for Part 3 buildings is Step 3, with a two option framework for Part 3 multi-unit residential buildings which incentivizes a Low Carbon Energy System (LCES) by allowing a reduction to Step 2.

At the July 11, 2022 Council meeting, Council adopted the following motion:

That Council direct staff to proceed with work on the acceleration of the Energy Step Code for single detached dwellings in 2023 using a two option framework.

The motion supports developing a two option framework which allows a reduced Step in the Energy Step Code when building using a low carbon system. Offering the alternative option was contingent on the City defining the parameters of a LCES, which has proven challenging, and the option has not been implemented to date.

DISCUSSION

Energy Step Code Changes

The BC Building Code has recently been updated with new requirements coming into effect May 1, 2023. The updates include increased energy efficiency requirements in the BC Energy Step Code. The proposed bylaw amendment (Attachment 1) makes two changes to the City's Building Bylaw to bring it into alignment with the new Step Code requirements.

The first amendment would increase Step Code requirements for laneway and carriage houses from Step 2 to Step 3, consistent with the BCBC update. The technical considerations which were initially an issue when the City selected Step 2 as a requirement have since changed, making Step 3 feasible in laneway and carriage houses. City staff has been actively raising awareness of the upcoming increased requirements and do not anticipate any issues with in process applications.

For Part 3 buildings, the City's Building Bylaw currently includes a two-option framework that would allow Step 3 or Step 2 with a Low Carbon Energy System (LCES), once a definition has been created. The second amendment proposed to the Building Bylaw

would remove the option of building to Step 2 with a LCES, which would be consistent with the BCBC update which no longer permits local governments to develop their own definitions. Staff does not anticipate any issues with instream applications since buildings have been required to construct to Step 3 to date.

All other City requirements are meeting or exceeding the new energy efficiency code requirements.

The following table summarizes the proposed changes:

Part 9 Residential	January 1, 2020	May 1, 2023
Single or Two Family Dwellings	Step 3	Step 3
Laneway and Carriage Dwellings	Step 2	Step 3
Townhomes and Apartment Buildings up to three floors	Step 3	Step 3
Part 3 Multi-Family Residential	Step 3 [or] Step 2 with approved <i>Low Carbon Energy System</i>	Step 3

Zero Carbon Step Code

The BC Building Code has also been updated to include a new opt-in Zero Carbon Step Code. The Zero Carbon Step Code, also referred to as the Carbon Pollution Standard, establishes permissible levels for greenhouse gas emissions (i.e. a carbon level) associated with the use of energy utilities consumed by the building's systems. The Province has indicated the intent to require increasing levels of the Zero Carbon Step Code (i.e. decreasing levels of greenhouse gas emissions) in future Building Code updates to meet the CleanBC target of Zero Carbon new buildings by 2030.

At this time, the Zero Carbon Step Code is intended to be a way for local governments to advance electrification in their communities. Similar to the Energy Step Code, a local government can choose to adopt a carbon level into their Building Bylaw, through the Zero Carbon Step Code. The Zero Carbon Step Code establishes four levels of

emissions which includes, measure only (EL-1), moderate carbon (EL-2), low carbon (EL-3) and zero carbon (EL-4) (see Attachment 2). The addition of the Zero Carbon Step Code in the Building Code provides a clear definition and compliance pathway for Low Carbon Energy Systems.

The Province is currently developing implementation guidelines and compliance documents to support early adoption of the Zero Carbon Step Code. A future report will be brought to Council, when such additional information has been developed, to explore how this system could be used to implement Council's previous direction to allow a two-option framework for single detached dwellings. Additional changes may also be brought forward for Council's consideration at that time.

NEXT STEPS

The upcoming changes to the BC Building Code have already been communicated to applicants. The City will also continue to support industry training and capacity building related to the new Zero Carbon Step Code and high performance building through Energy Save New West.

In addition, staff will develop a proposed longer term strategy and timeline to advance the BC Energy Step Code and the Zero Carbon Energy Step Code to align with or exceed the Provincial timeline to reach the highest steps, which will be presented to Council in a future report.

SUSTAINABILITY IMPLICATIONS

The proposed amendments to the Building Bylaw are supported by the Community Energy and Emissions Plan (CEEP 2050) and implementation of the City's bold Step #3 Carbon Free Homes and Buildings.

FINANCIAL IMPLICATIONS

There are no financial implications at this time. Staff resources are required to implement the changes to the Building Bylaw.

OPTIONS

The following options are provided for council's consideration:

1. That Council give First, Second and Third Reading to Building Amendment Bylaw No. 8388, 2023
2. That Council provide staff with alternative direction.

Staff recommend Option 1.

ATTACHMENTS

Attachment 1: Building Amendment Bylaw No.8388, 2023

Attachment 2: Zero Carbon Step Code

APPROVALS

This report was prepared by:

Penny Page-Brittin, Community Energy and Emissions Specialist

This report was reviewed by:

Lynn Roxburgh, Supervisor of Land Use Planning

Leya Behra, P.Eng., Manager of Climate Action

This report was approved by:

Jackie Teed, Acting Director, Climate Action, Planning and Development

Lisa Spitale, Chief Administrative Officer

Attachment 1

Building Bylaw Amendment Bylaw No. 8388, 2023

CORPORATION OF THE CITY OF NEW WESTMINSTER

BUILDING BYLAW AMENDMENT BYLAW NO. 8388, 2023

A Bylaw to Amend Building Bylaw No. 8125, 2019

The Municipal Council of the City of New Westminster, in open meeting assembled,
ENACTS AS FOLLOWS:

1. This Bylaw may be cited for all purposes as “Building Amendment Bylaw No. 8388, 2023”
2. The City of New Westminster Building Bylaw No. 8125, 2019 is hereby amended as follows:
 - a) Remove the “Low Carbon Energy System” definition from Section 2.5.
 - b) Delete the section 14.1 from the section titled “Part 14 Energy Efficiency” and replace with:
 - 14.1. *Buildings and structures* must be designed and *constructed* in compliance with the applicable step of the *BC Energy Step Code and BC* as set out in the schedule below:

	<i>Building Permit</i> applications filed on or after (with exception for in-stream applications)		
Part 9 Residential	March 31, 2019	January 1, 2020	May 1, 2023
Step Code requirements as per <i>Building Code</i> , Article 9.36.6.2 of Division B (as amended from time to time)			
Single or Two Family Dwellings	Step 1	Step 3	Step 3
Laneway and Carriage Dwellings	Step 1	Step 2	Step 3

Townhomes and Apartment Buildings up to three floors	Step 1	Step 3	Step 3
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	<i>Building Permit</i> applications filed on or after (with exception for in-stream applications)		
Part 3 Multi-Family Residential	March 31, 2019	January 1, 2020	May 1, 2023
Step Code requirements as per <i>Building Code</i> , Subsection 10.2.2 of Division B (as amended from time to time)			
Group C Residential Occupancies 6 stories or less and combustible <i>construction</i>	N/A	Step 3 [or] Step 2 with approved <i>Low Carbon Energy System</i>	Step 3
Group C Residential Occupancies over 6 stories or non- combustible <i>construction</i>			
Hotels / Motels			

	<i>Building Permit</i> applications filed on or after (with exception for in-stream applications)
Part 3 Commercial	January 1, 2020
Step Code requirements as per <i>Building Code</i> , Subsection 10.2.2 of Division B (as amended from time to time)	
Offices (Business and Personal Services)	Step 2
Other Group D and E Occupancies (Mercantile)	

- c) The Building Bylaw is further amended by making such consequential changes as are required to give effect to the amendments particularized in this bylaw, including changes to the format and numbering.

READ A FIRST TIME this _____ day of _____, 2023.

READ A SECOND TIME this _____ day of _____, 2023.

READ A THIRD TIME this _____ day of _____, 2023.

ADOPTED this _____ day of _____, 2023.

MAYOR PATRICK JOHNSTONE

LISA SPITALE, ACTING CORPORATE OFFICER

Attachment 2

Zero Carbon Step Code

Part 9 - Small Residential Buildings, excerpt from the BC Building Code

9.37.1.3 Compliance Requirements

1) *Buildings* conforming to the requirements of any GHG Emission Levels EL-1 to EL-4 shall be designed and constructed to conform to one of the GHG emission compliance options in Table 9.37.1.3

Table 9.37.1.3.
Greenhouse Gas Emissions
 Forming part of Sentence 9.37.1.3 (1)

GHG Emission Level	GHG Emission Compliance Options				
	Maximum GHG Emissions by House, Expressed in kg CO _{2e} /year		Maximum GHG Emissions by House ¹		Reduction of GHG Emissions by Energy Source of Building Systems ²
			Maximum GHGI of the House, Expressed in kgCO _{2e} /m ² /year	Maximum GHG Emissions by House Expressed in kgCO _{2e} /year	
EL-1	Measure only	or	Measure only		N/A
EL-2	1050		6.0	2400	Energy sources supplying heating systems have an emissions factor ≤ 0.011 kgCO _{2e} /kWh
EL-3	440		2.5	800	Energy sources supplying heating and service water heating systems have an emissions factor ≤ 0.011 kgCO _{2e} /kWh
EL-4	265		1.5	500	Energy sources supplying all building systems including equipment and appliances, have an emissions factor ≤ 0.011 kgCO _{2e} /kWh

Notes to Table 9.37.1.3:

- (1) Compliance for this option is demonstrated by meeting both the GHGI and the GHG emission requirements for each house
- (2) Reductant or back-up equipment for the systems and equipment listed in Sentence 9.36.5.4.(1) is permitted to be excluded, provided it is equipped with controls and is not required to meet the space-conditioning load of the house
- 2) The emissions factors associated with the use of energy utilities consumed by the *building's* systems shall be
 - a) 0.011 kg CO_{2e}/kWh for electricity, and
 - b) 0.180 kg CO_{2e}/kWh for natural gas

Part 3 - Multi-unit residential over three storeys and most office and commercial buildings

10.3.1.3 Compliance Requirements

- 1) *Buildings* conforming to the requirements of any of the GHG Emissions Levels EL-1 to EL-4 shall be designed and constructed to conform to Table 10.3.1.3 based on *occupancy*.

Table 10.3.1.3
Greenhouse Gas Emissions
 Forming Part of Sentence 10.3.1.3.(1)

GHG Emission Level	Maximum GHGI of the Building, Expressed in kgCO _{2e} /m ² /year			
	Residential Major Occupancy		Business and Personal Service and Mercantile Major Occupancies	
	Hotels and Motels	Other Residential Occupancies	Offices	Other Business and Personal Service and Mercantile Occupancies
EL-1	Measure only			
EL-2	9.0	7.0	5.0	6.0
EL-3	4.0	3.0	3.0	3.0
EL-4	2.0	1.8	1.5	2.0

- 2) The emissions factors associated with the use of energy utilities consumed by the *building's* systems shall be
 - a) 0.011 kg CO_{2e}/kWh for electricity, and
 - b) 0.180 kg CO_{2e}/kWh for natural gas

Attachment 5

New Westminster Proposed Energy Step Code and Zero Carbon Step Code Implementation Timeline

Proposed Energy Step Code and Zero Carbon Step Code Implementation Timeline

<i>Building Type Part 9 Residential</i>	<i>BCBC min Requirement May 1, 2023</i>	<i>New West Requirement May 1st, 2023</i>	<i>Pending Council Approval: Effective Jan 1st, 2024</i>	<i>Proposed Jan 1st, 2025</i>	<i>Proposed Jan 1st, 2027</i>	<i>Proposed Jan1st 2030</i>
<i>Single or Two Family Dwellings</i>	<i>Step 3 Opt in Zero Carbon Step Code</i>	<i>Step 3</i>	<i>Step 5 EL-1 Measure Or Step 3 EL- 4 Zero Carbon Ready</i>	<i>Step 5 EL-2 Moderate Carbon Or Step 4 EL-4 Zero Carbon Ready</i>	<i>Step 5 EL-4 Zero Carbon Ready</i>	<i>Step 5 EL-4 Zero Carbon Ready</i>
<i>Laneway and Carriage Dwellings</i>						
<i>Townhomes and Apartment Buildings up to three storeys</i>						
<i>Part 3 Multi-Family Residential</i>						
<i>Group C Residential Occupancies 6 stories or less and combustible construction</i>	<i>Step 2 Opt in Zero Carbon Step Code</i>	<i>Step 3</i>	<i>Step 3 EL-1 Measure</i>	<i>Step 4 EL-1Measure Or Step 3 EL-4 Zero Carbon Ready</i>	<i>Step 4 EL-4 Zero Carbon Ready</i>	<i>Step 4 EL-4 Zero Carbon Ready</i>
<i>Group C Residential Occupancies over 6 stories or non-construction</i>						
<i>Hotels/Motels</i>						
<i>Part 3 Commercial</i>						
<i>Group D Offices (Business and Personal Services)</i>	<i>Step 2 Opt in Zero Carbon Step Code</i>	<i>Step 2</i>	<i>Step 2 EL-1 Measure</i>	<i>Step 3 EL-2 Moderate</i>	<i>Step 4 EL-1 Measure Or Step 3 EL-4 Zero Carbon Ready</i>	<i>Step 4 EL-4 Zero Carbon Ready</i>
<i>Other Group D and Group E(Mercantile) Occupancies</i>						

Note: Building Types and Occupancies not included in the above table are required to comply with the BC Building Code requirements for energy efficiency and carbon performance