



BC Energy Step Code in New Westminister

*Compliance requirements for BC Energy Step Code
New Part 3 Multi-Unit Residential and Commercial Buildings*

Purpose & Background

New Westminister City Council endorsed local implementation of the BC Energy Step Code on April 9 and December 10, 2018, with Building Bylaw requirements for the Step Code effective January 1, 2020 for Part 3 multi-unit residential and commercial buildings¹.

The purpose of this bulletin is to inform applicants and designers of **new Part 3 multi-unit residential and commercial buildings, including hotels**, regarding Step Code energy performance and building energy benchmarking requirements. New Part 3 buildings² require design review by City staff prior to issuance of a Building Permit. This bulletin describes how Step Code requirements are integrated within the design stage review process, at Building Permit and at building completion, prior to occupancy.

Please refer to the **Additional Information** section at the bottom of this bulletin for further details on the BC Energy Step Code, including links to related bulletins on the City’s Low Carbon Energy System relaxation (forthcoming) and Part 3 Energy Design Report (Modeling Checklist) below:

Design Stage Review (incl. DP / rezoning)	Building Permit to Occupancy Application
<p>Part 3 Energy Design Report – An Excel-based checklist used to verify energy modeling inputs and Step Code compliance at design stage and at project completion</p>	
<ul style="list-style-type: none"> Bulletin 7 Low Carbon Energy System Pathway and Requirements (forthcoming) 	<ul style="list-style-type: none"> Energy Benchmarking Refer to Appendix 1 in this bulletin for details on the City’s building energy benchmarking requirements

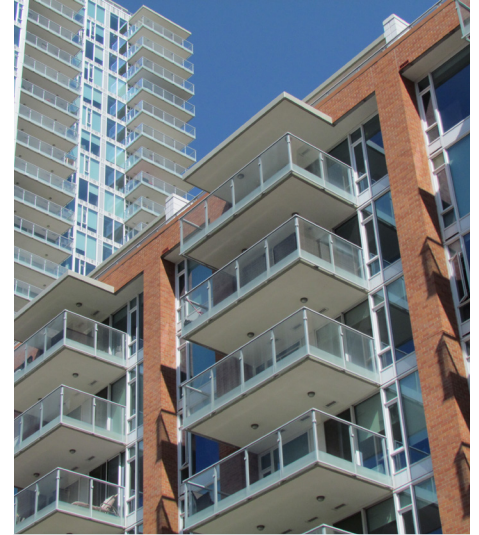


Image 1: A typical Part 3 mid-rise (foreground) and high-rise (background) multi-unit residential building

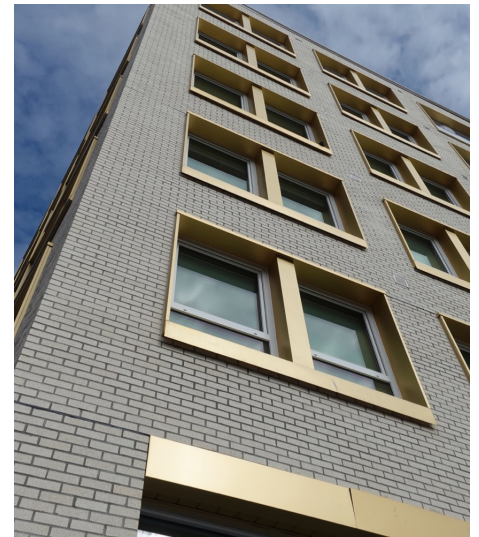


Image 2: A Passive House (Step 5) mid-rise rental residential building in Vancouver, with low window-to-wall ratio

About the BC Energy Step Code

The BC Energy Step Code requires new buildings to meet higher energy efficiency standards than the minimum prescriptive requirements in the BC Building Code.

The Step Code is a province-wide performance standard requiring new buildings to attain higher energy performance by meeting set targets for the building envelope, mechanical system efficiency and airtightness. Energy modeling software and on-site air tightness testing is used to demonstrate Step Code compliance, indicating that the building meets the required performance level at the pre-construction stage as well as project completion.

The Step Code provides the design and construction industry an indication of future minimum energy performance requirements in the BC Building Code. The Province has signaled that the base Building Code will increment over the next three update cycles, to reach a “net-zero energy ready” performance level by 2032. Over time, and supported by ongoing industry engagement, the City of New Westminister intends to incrementally raise minimum energy performance to the highest levels of the Energy Step Code in advance of 2032 (see Potential Future Requirements section of this bulletin).

More information about the BC Energy Step Code is available at energystepcode.ca

¹ The Council Report is available online at bit.ly/NewWestCouncilReport (see item #22)

² As per BC Building Code, Part 3 buildings are defined as buildings over 600 m² (6,340 ft²) in footprint area.

Implementation

Effective January 1, 2020, the BC Energy Step Code has applied to all new Building Permit applications for Part 3 multi-residential and commercial buildings. To comply with the BC Energy Step Code, development applicants must work with a Professional Energy Modeler and/or a Registered Professional to ensure building designs meet all applicable energy performance and administrative requirements.

All Registered Professionals are encouraged to follow the *Joint Architectural Institute of BC and Engineers and Geoscientists of BC, Professional Practice Guidelines for Whole Building Energy Modelling Services*³.

Additionally, a Provincial standard Energy Design Report has been developed as a tool to show compliance with Part 3 Step Code performance requirements, both at design stage and at project completion. The Part 3 Energy Design Report is an Excel-based checklist and calculator, and it can be accessed at [this link](#).

Current BC Energy Step Code Performance Requirements

The table below outlines City of New Westminster’s BC Energy Step Code current Building Bylaw requirements for new Part 3 buildings.

Building Type	Building Permit applications filed on or after January 1, 2020
Group C: Residential – greater than 6 stories or non-combustible construction (e.g., concrete, high-rise multi-unit residential)	<p style="text-align: center;">Step 3 OR Step 2 with an approved low carbon building energy system [See description below]</p>
Group C: Residential – 6 stories or less with combustible construction (e.g., wood-frame, mid-rise multi-unit residential)	
Hotels / Motels	
Group D: Offices (Business and personal services)	<p style="text-align: center;">Step 2</p>
Group D and E: Mercantile occupancies (e.g., retail buildings)	

Low Carbon Energy System

Under the City of New Westminster’s current Building Bylaw, Part 3 buildings with Group C occupancies may be constructed to Step 2 if they implement a “low carbon building energy system”. For purposes of Step Code compliance, **a 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.

LCES systems include, but are not limited to, [air-source and water-source electric heat pump systems](#), [waste heat recovery systems](#), [variable refrigerant flow systems](#), [biomass heating and solar energy systems](#). These systems can be within the building or external to the building from a larger low-carbon energy system serving several buildings or a neighbourhood.

In general, to be considered an LCES, the proposed system should supply a minimum of 70% of the buildings thermal energy demand from renewable (low-emission) sources, and have greenhouse gas intensities (kg of CO₂e / m² / annually) less than 6 kg CO₂e per square meter of floor area. **Please note that at this time, the City is not accepting applications under the LCES option until additional policy development is complete.**

² Download AIBC and EGBC’s Joint Professional Practice Guidelines for Whole Building Energy Modelling Services here: www.egbc.ca/Practice-Resources/Professional-Practice-Guidelines

Potential Future Requirements

The City has signaled estimated timing of future higher Step Code performance requirements in New Westminster in 2024 and 2027. Development applicants are encouraged to consider these potential future requirements in advance of Provincial requirements for Net Zero Energy Ready performance for all new buildings in 2032.

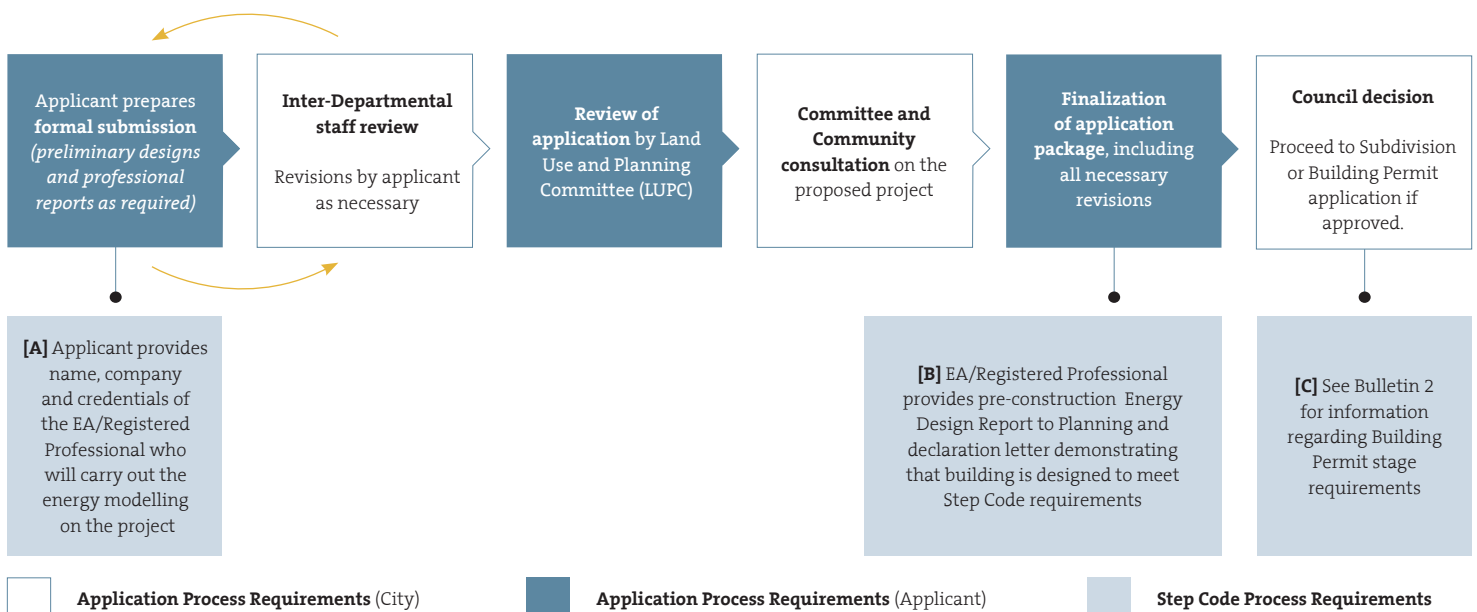
	Current Building Bylaw Requirements	Timetable for Future Council Consideration	
		2024	2027
Part 3 Multi-Unit Residential			
Wood-Frame	Step 3 OR Step 2 with a low carbon building energy system	Step 4 OR Step 3 with a low carbon building energy system	Step 4
Concrete			
Hotels/Motels			
Part 3 Commercial			
Office	Step 2	Step 3 OR Step 2 with a low carbon building energy system	Step 3
Retail/Mercantile (Group D and E Occupancies)			

Note: There are four Step Code performance levels for Part 3 multi-unit residential buildings, and three performance levels for Part 3 commercial buildings. Subject to future Council approval, the LCES relaxation may also be available for Part 3 commercial buildings in 2024.

Rezoning and Development Permit Applications – Design Stage Review

As part of Development Permit (DP) Applications (including Special Development Permits), applicants are expected to provide:

1. A signed written letter to the City, stating that the proposed design will be able to meet the requirements of BC Energy Step Code that will be in place at the time of their Building Permit application. This statement will be captured in the Development Permit application and must be submitted along with submission of the Part 3 [Energy Design Report](#).
2. A paper or electronic copy of the Part 3 Energy Design Report showing that the proposed building will meet the modeled Step Code energy efficiency requirements. The Part 3 Energy Design Report is also used to verify if the application qualifies for a Step Code relaxation, as per the City’s Low Carbon Energy System pathway.



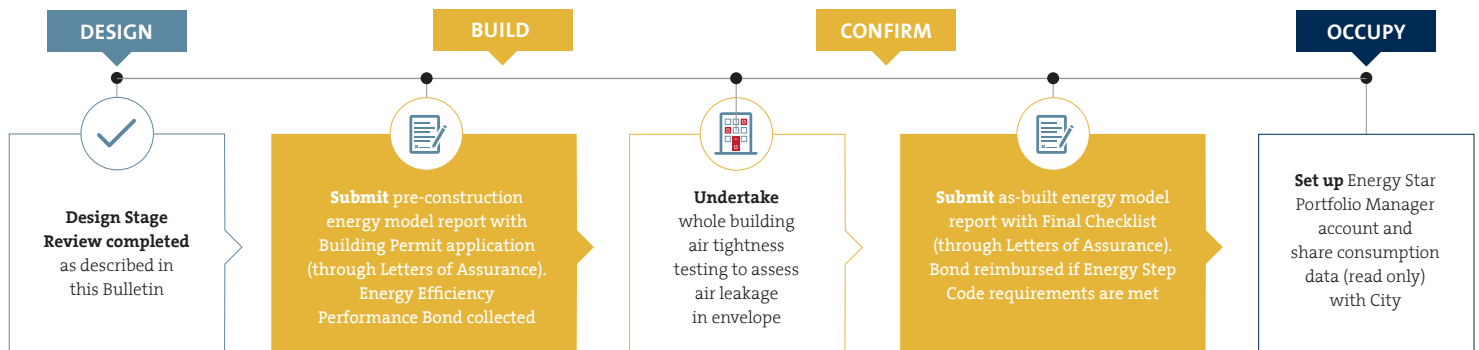
Applicants must ensure their proposed design can meet the City’s Step Code requirements, and revisions to building design may require applicants to reapply for updated rezoning and/or Development Permit approvals. Note that City of Vancouver’s [Energy Modelling Guidelines V. 2.0](#) provides guidance for modeled air tightness in buildings at the pre-construction stage.

Building Permit and Occupancy Approvals – Construction Stage Review

Applicants must submit Letters of Assurance as part of the Building Permit application, and prior to occupancy, assuring that the project substantially complies with the City’s Step Code requirements. To verify project compliance, applicants will use the Provincial standard **Part 3 Energy Design Report** (an Excel-based checklist summary of whole building energy modeling results). Note that at project completion, and prior to building occupancy, the Energy Design Report should be updated with final air tightness results, and submitted prior to an application for occupancy or Coordinated Final Review.

Application and review process for new Part 3 projects

(e.g. larger multi-unit residential and commercial buildings)



Additional Information

BC Energy Step Code

- Receive up-to-date information by signing up for the Province of BC’s Energy Step Code Stakeholder Update newsletter bit.ly/EnergyStepCodeNewsletter
- To learn more about the BC Energy Step Code, including performance requirements, resources for industry, and upcoming events, visit energystepcode.ca
- For the latest technical bulletins related to the BC Energy Step Code and BC Building Code, please visit bit.ly/ESCTechnicalBulletins
- If you have additional questions regarding the BC Energy Step Code, visit energystepcode.ca/contact-us/ or email building.safety@gov.bc.ca.

City of New Westminister’s Implementation of the BC Energy Step Code

- Sign-up for email notifications from the City’s Energy Save New West program whenever new information is available, including bulletin updates, education and engagement opportunities, and incentives and capacity building opportunities energysavenewwest.ca/sign-up-for-e-news/
- For information about the City of New Westminister’s implementation of the BC Energy Step Code, visit newwestcity.ca/energy-step-code
- If you have additional questions regarding the City’s implementation of the Step Code, you can reach us at StepCodeInfo@newwestcity.ca



Additional Guidance for Applicants

The City of New Westminster has created a series of bulletins that describe how new Step Code requirements are addressed and captured through the development application process for various building typologies. These bulletins are summarized and linked below.

- 1** **Bulletin 1** – General Information for Applicants - **Planning or Development Applications and Building Permits**
- 2** **Bulletin 2** – Building Permit compliance requirements for BC Energy Step Code, New **Part 9 Single Family, Duplex, and Laneway and Carriage Houses**
- 3** **Bulletin 3** – Design Stage and Building Permit compliance requirements for BC Energy Step Code, New **Part 3 Multi-Unit Residential and Commercial Buildings**
- 4** **Bulletin 4** – Design Stage compliance requirements for BC Energy Step Code, **New Part 9 and Part 3 Buildings on Sites with Protected Heritage Buildings**
- 5** **Bulletin 5** – Design Stage compliance requirements for BC Energy Step Code, New **Laneway and Carriage Houses**
- 6** **Bulletin 6** – Part 9 Multi-Unit Residential Buildings **Townhouses and Small Multi-Unit Residential Buildings**

Rebates & Incentives

The City has developed educational materials and incentive programs to help the transition toward higher levels of energy performance in new construction.

For more information, visit:
energysavenewwest.ca/energy-step-code

Need more info?

For more information and resources on the BC Energy Step Code, including the implementation and design guides, costing study, technical resources, and FAQs, visit energystepcode.ca

Does your project include the protection of a heritage building?

Protected heritage buildings are currently exempt from the Step Code requirements while we research and develop best practice guides for heritage retrofits. The Step Code requirements outlined in this guide only apply to the new build. [Contact the Planning Department](#) if you have questions about HRA specific projects and requirements.



Additional questions about BC Energy Step Code in New Westminster?

Contact us at StepCodeInfo@newwestcity.ca or call **604.515.3818**

Appendix 1: Requirements for Building Energy Benchmarking

Prior to building occupancy, the City of New Westminster requires applicants to create an Energy Star Portfolio Manager profile for the completed building. See the following for guidance:

www.bchydro.com/powersmart/business/resources/energy-efficiency-benchmarking.html

To support implementation of future benchmarking reporting requirements, applicants will be requested to share the Portfolio Manager property profile with the City of New Westminster as a “Read Only” permission level.

Further detail on the City’s energy benchmarking reporting requirements (and related Energy Star Portfolio Manager set-up procedures) will be available in early 2020.