District of Sooke

February 6, 2020

Construction Industry, Designers, Contractors and Suppliers providing services in Sooke

Advisory #10 – BC Energy Step Code

The British Columbia Building Code 2018, (BCBC) which is adopted in Sooke, by the District of Sooke Building Bylaw, contains provisions that apply to the BC Energy Step Code. We are alerting you to the need for building owners, as well as their designers, builders and material suppliers on their behalf, to comply with the requirements of the BC Energy Step Code and the 2018 BCBC.

This enclosed Advisory #10 includes a summary of the significant 2018 BCBC provisions that apply when applying the BC Energy Step Code.

We hope that this advisory will help eliminate confusion regarding the Intent of what is required when applying the BC Energy Step Code and will encourage conformance with the 2018 BCBC requirements. Please feel free to make copies of this advisory available to your customers as you see fit. Your assistance in achieving these goals will be greatly appreciated.

The BC Building, Plumbing and Fire Codes are available to read online at:
https://www.bcpublications.ca/BCPublications/

Stan Dueck CRBO
Chief Building Official
Building Safety
District of Sooke
Phone: (250) 642-1634

District of Sooke

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Advisory #10 – BC Energy Step Code

Compliance with the Building Bylaw are addressed in this advisory.
The British Columbia Building Code 2018, (BCBC) which is adopted in Sooke, by the District of Sooke Building Bylaw.

Words in *italics* are defined in the 2018 BCBC.

Note: This advisory applies to the requirements of the 2018 BCBC regarding the Intent of what is required when applying the BC Energy Step Code:

The BC Energy Step Code provides a clear, long-term pathway to help industry achieve the ambitious energy efficiency goals established in CleanBC, along with specific commitments for future editions of the BC Building Code. With the BC Energy Step Code, builders, Building Officials, and all other trusted partners in the construction sector can prepare ahead of time for a 20% improvement in energy efficiency in the 2022 Building Code, 40% in 2027, and Net Zero Energy Ready by 2032.

Goals of the BC Energy Step Code

The BC Energy Step Code is a part of the BC Building Code (BCBC) that provides a performance-based path to support a market transformation from current energy efficiency requirements to net-zero energy ready buildings by 2032. The Province has committed to taking these incremental steps as a part of its overarching commitments to improving energy efficiency in the built environment.

The path to net-zero energy ready buildings is set out through a series of increasingly stringent requirements for energy use, thermal energy demand, and airtightness. The performance requirements that have been set were the result of a lengthy consensus-building process among a number of key stakeholders from across the province and supported by energy modelling and analysis. The process of establishing the BC Energy Step Code took a period of approximately two years through the efforts of the Energy Efficiency Working Group and the BC Energy Step Code Council and is still ongoing.

Motivations Behind Developing the BC Energy Step Code

Its implementation is intended to allow for the following improvements to building design and construction in BC in regards to energy efficiency.

Unify the energy performance requirements for buildings across the province,
Prompt a shift to modern performance-based Code requirements rather than prescriptive-based compliance that doesn't measure overall building energy usage,
Promote a better design and construction process that encompasses all parts of the building (i.e. "house as a system") which encourages more collaboration across the design and construction team,
Align the BCBC with the energy improvement targets for buildings as set out in the CleanBC provincial program, which aims to achieve net-zero energy ready design as a code minimum by 2032.

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The BC Energy Step Code Applies Across the Province

One of the central purposes of the BC Energy Step Code is to provide province-wide consistency in technical building requirements, including requirements for energy efficiency. As of December 15th, 2017, all authorities having jurisdiction who enforce the BCBC can opt to require or incentivize levels of the BC Energy Step Code. No other energy efficiency program other than those listed in the BCBC may be enforced. The BC Energy Step Code is set to become the mandatory energy compliance pathway starting in 2022 across the province, with Step 5 for Part 9 buildings and Step 4 for Part 3 buildings becoming the code minimum by 2032.

BC Energy Step Code Local Government Implementation

For more resources and information on implementation and the opt-in process, refer to the Resources for Local Governments page on the BC Energy Step Code website, and in particular the Provincial Policy: Local Government Implementation from the Office of Housing and Construction Standards, Province of British Columbia.

The BC Energy Step Code applies to both Part 9 buildings and Part 3 buildings.

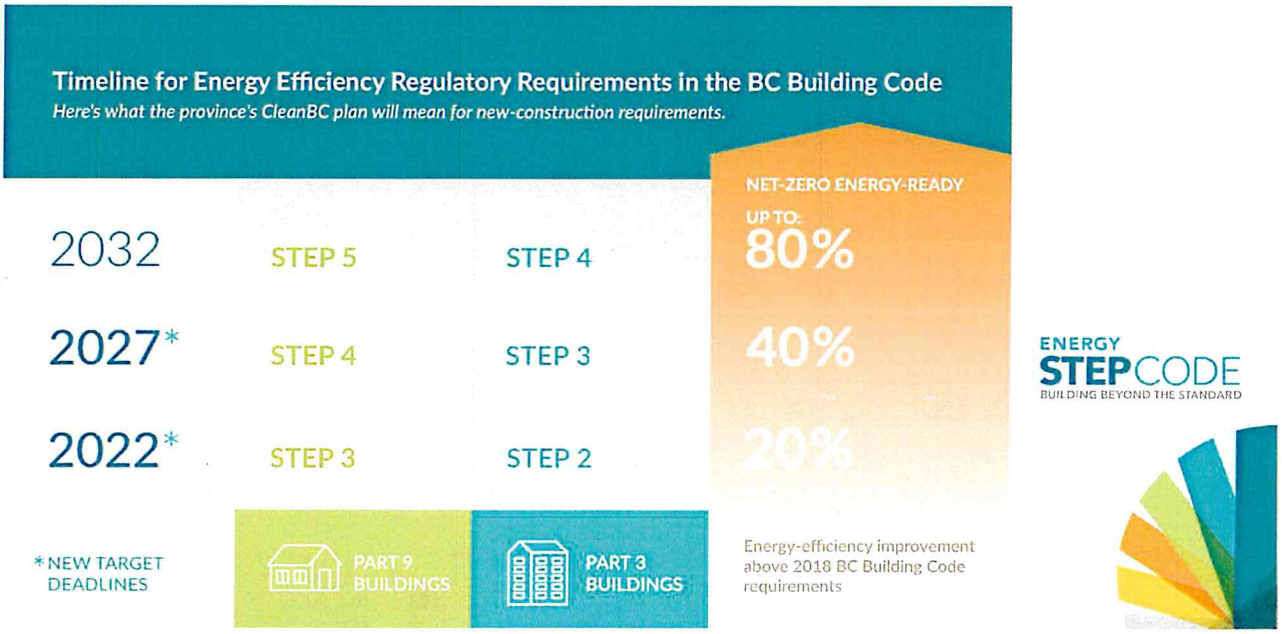

Figure 1. Steps of the BC Energy Step Code for both Part 9 buildings and Part 3 buildings

District of Sooke

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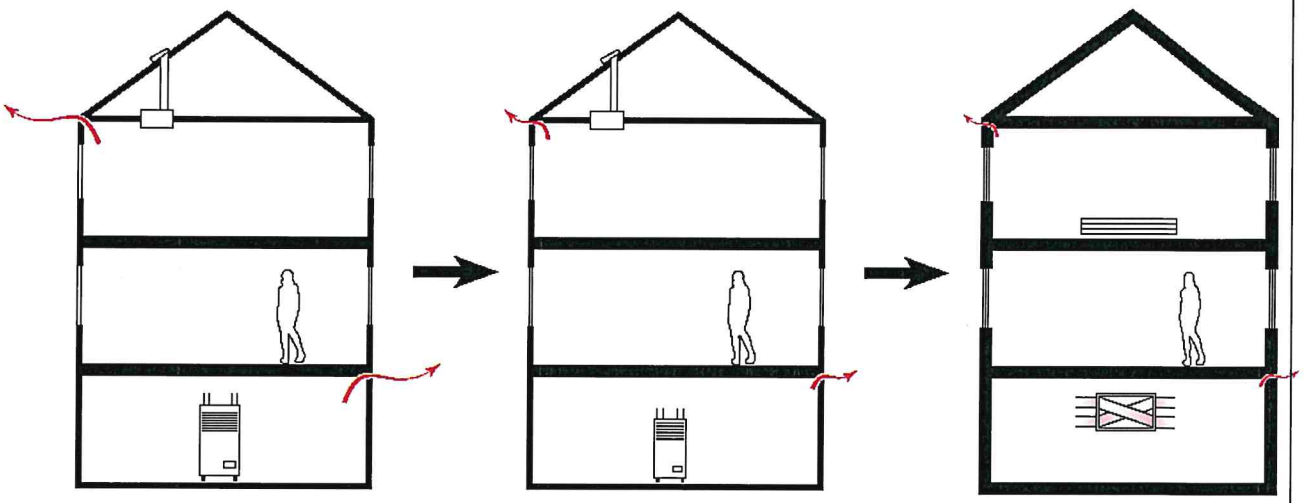
Advisory #10 – BC Energy Step Code

Achieving the Steps of the BC Energy Step Code

The BC Energy Step Code provides a clear path to achieving net-zero energy ready buildings. An enclosure-first approach helps to minimize energy demand and enables the use of lower capacity and highly efficient mechanical equipment. Airtightness testing ensures that a continuous air barrier is considered throughout the design process, which minimizes air leakage and thus heating/cooling demand. Energy modelling is used to assess the building as a whole system to show that the design meets the performance requirements.

Designers and builders learn how to construct energy-efficient buildings through practice, including feedback from energy modelling and airtightness testing. Lower Steps are anticipated to be achieved with little to no market transformation. Mature market pricing and technology availability will develop as demand grows for better products and more efficient design strategies. The capacity for airtightness testing and energy modelling, as well as general knowledge and skills to execute high-performance buildings, will also increase.



Step 1:

Code requirements and compliance promotes a learning process so that the industry can become familiar with energy modelling and airtightness testing.

Steps 2 and 3:

Improvements made to the building systems based on lessons learned from Step 1, including, for example, better enclosures and potentially smaller mechanical systems

Upper Steps:

High-performance buildings successfully constructed based on lessons learned from the Lower Steps, facilitated by a mature Market.

Figure 2 Example progression of homes reaching the requirements of the BC Energy Step Code

Advisory #10 – BC Energy Step Code

Changes to the Design and Construction Processes

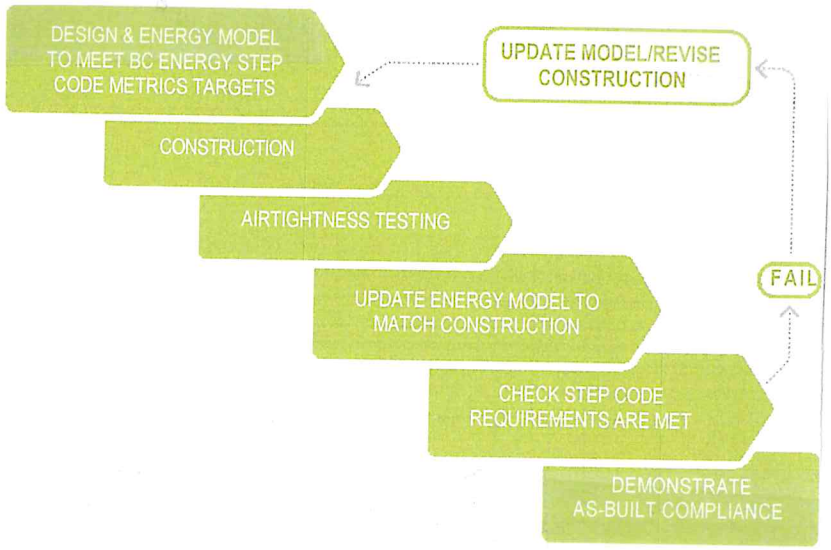


Figure 3 New design and construction process for Steps 2-5: Building to be designed and constructed to comply with the BC Energy Step Code metrics. The requirements include minimum airtightness, maximum energy used by the building equipment and systems, and maximum thermal energy demand intensity. Energy modelling and airtightness testing is required, and the as-built construction must meet the BC Energy Step Code requirements

Houses With a Suite
Houses with secondary suites are considered multi-unit residential buildings (MURBs) and can be modelled as such or as individual dwelling units. See further details on energy modelling for MURBs in the latest version of the EnerGuide Rating System Standard.

See the Illustrated Guide - Achieving Airtight Buildings and the BC Energy Step Code Builder Guide published by BC Housing for more information on whole-building airtightness testing

Division C Subsection 2.2.8. of the BCBC outlines the minimum compliance submission requirements for the BC Energy Step Code. However, as with all code compliance processes, exactly how code compliance is demonstrated to the authority having jurisdiction through submissions, reviews, inspections and approvals is up to each jurisdiction to establish.

Indications of a building's BC Energy Step Code performance metrics are derived from a computer model and, in most cases, the Building Official will rely on the confirmation of compliance given on the compliance reports by Energy Advisors, rather than checking the inputs and outputs of the model directly.

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New Items in the Compliance Review Processes

The new process means that the role and responsibilities of the Building Official has to change compared to the current compliance process. It is important for you and the Building Official to understand the new steps and the roles and responsibilities for showing BC Energy Step Code compliance. The most significant change to the design and construction process is that more information must be determined earlier in the design process.

The energy model results for the building design shall be provided by the Energy Advisor using the **Pre-Construction Compliance Report**, discussed further on this page and the following pages, which is submitted as part of the building permit application. The **As-Built Compliance Report** shall be included in the closeout/occupancy submission.

Local governments are authorized to, by bylaw and in select circumstances, require "qualified professionals" (i.e. professional architects and engineers) to certify that submissions comply with building regulations, including the BC Energy Step Code. The authorization is found in section 55 of the Community Charter and might be employed in a limited number of cases for BC Energy Step Code projects with unusual site conditions, size, or complexity.

Please be advised that you are required to complete a mid-construction whole-building airtightness test to check that the building is on-track to achieve the intended airtightness results, for Steps 2-5 which set minimum airtightness levels. See the **Mid-Construction - BC Standard Verification Report** on the BC Energy Step Code website.

Step 2 to 5 Airtightness Compliance

Buildings constructed to comply with Step 2 to 5 of the BC Energy Step Code must undergo airtightness testing and must meet the minimum building airtightness targets set out in Tables 9.36.6.3.-A to 9.36.6.3.-F (see Appendix B: BCBC - BC Energy Step Code Requirements Based on Climate Zone). For Steps 2 to 5, the proposed building must be **at most** the air leakage listed in the tables, and the as-built building must achieve or surpass these requirements.

Compliance Reports

All projects must submit compliance reports that include information as listed under BCBC, Division C Article 2.2.8.3. **House Performance Compliance Calculation Report**. The compliance report is a summary of the inputs of the building energy model, with the results of the energy performance calculations given for each BC Energy Step Code metric. It gives information on the building enclosure, the mechanical systems, the assumed airtightness, and building size. This compliance report is used to record and track the information required to demonstrate a building meets the energy performance requirements of the BCBC. During construction, it is used to confirm that the building matches the design.

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The BC Energy Step Code website includes three fillable compliance reports that can be used to fulfill the requirements of Article 2.2.8.3. The compliance reports contain all of the information required and present it in the order established in the wording in the BCBC. It also gives supplementary information that can be used as part of your jurisdiction's specific compliance process. When completely and correctly filled out, the reports provide a consistent and convenient approach to gathering the information needed to check for compliance.

Pre-Construction Compliance Report: The **Pre-Construction Compliance Report** is completed during the design phase by an Energy Advisor prior to construction of the building. This report represents the proposed building and shall be submitted with the building permit application.

Mid-Construction Compliance Report: The **Mid-Construction Compliance Report** is completed of the whole-building airtightness to check that the building is on-track to achieve the intended airtightness results, for Steps 2-5 which set minimum airtightness levels. This report shall be submitted prior to requesting the Insulation and Vapour Barrier Inspection.

As-Built Compliance Report: The **As-Built Compliance Report** provides the same information as the pre-construction report, except with the inputs based on the actual constructed building. It shall be submitted as part of final submissions and plays an important role in recording how changes in construction from the approved plans are accounted for the in the energy model and compliance with the BC Energy Step Code.

The supplementary information provided in the reports can also be used to check calculations and assumptions. See Part 9 BC Energy Step Code Compliance Reports starting on page 8 of 15 for more information and for copies of these reports.

The BC Energy Step Code compliance process may benefit from direct contact between Building Safety and the design/ construction team prior to building permit application submission. Design changes affect the energy model, which takes considerable time and effort, and so it may be beneficial to hold a pre-permit meeting to allow discussion between all parties, to avoid repeated formal submissions.

Site Inspections

While site inspections are not a new part of the compliance review process, the requirements of the BC Energy Step Code mean that the inspections of the work relating to the building energy performance (i.e. enclosure insulation, window U-values, etc.) do not reference prescriptive requirements. Instead, the site inspections reference the pre-construction compliance report, and all the building information it includes.

Variations on site need to be accounted for in the energy model or fixed on site to match the design. Discrepancies between what is designed/reported pre-construction (e.g. noted in the filled-out Pre-Construction Compliance Report) and what is built can be considered to fail an inspection until either the modelling or the site work is modified to match. The **Mid-Construction - BC Standard Verification Report** shall be used as part of the compliance review process.

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Review

There are many roles and responsibilities as part of the BC Energy Step Code compliance review process, and the Building Official, the Energy Advisor, and the builder must coordinate to align the submissions, reviews, site inspections and any other steps deemed necessary. Most compliance items can be covered in a thorough design approach that includes feedback and input from all parties before construction begins. The pre-construction planning, design and energy modelling should account for the skills and experience of the builder, especially with regard to whole-building airtightness. Additional compliance tools to increase confidence in achieving the BC Energy Step Code requirements, such as requiring the submission of the mid-construction airtightness testing and a third-party review may be required by the Authority Having Jurisdiction.

Unlike the strictly prescriptive Part 9 Code energy performance requirements, the performance-based approach uses compliance reports to outline the inputs and calculations based on the energy model, which form the basis for code compliance review and tracking. Through this process you should have a moderate understanding of each of the items required in the compliance report, and good knowledge of the basics of energy efficient design and construction principles to meet the BC Energy Step Code.

See Section 03 Principles of High-Performance Buildings on page 22 in the **BC Energy Step Code Handbook for Building Officials** and the Additional Resources listed below for more guidance on energy efficient design, BC Energy Step Code metrics, and compliance reports/reviews

Additional Resources

BC Energy Step Code website http://www.energystepcode.ca/
BC Energy Step Code Resources for Local Governments
https://energystepcode.ca/for-local-governments/
BC Energy Step Code: A Best Practices Guide for Local Governments
http://energystepcode.ca/app/uploads/sites/257/2019/08/BCEnergyStepCode_GuideDigital_v02July2019.pdf
Published by BC Housing https://www.bchousing.org/research-centre/library
Building and Safety Standards Branch Information Bulletins
https://www2.gov.bc.ca/gov/content/industry/construction-industry/building-codes-standards/forms-resources/technical-bulletins
Canadian Home Builders' Association Builders' Manual published by the Canadian Home Builders' Association https://www.chba.ca/
Compliance Tools for Part 9 Buildings (Compliance & Verification Reports)
https://energystepcode.ca/compliance-tools-part9/
Guide for Designing Energy-Efficient Building Enclosures for Wood-Frame Multi-Unit Residential Buildings published by FPInnovations, BC Housing, and the Canadian Wood Council and Pathways to High-Performance Housing in British Columbia published by FPInnovations https://web.fpinnovations.ca/
Information on the EnerGuide Rating System https://www.nrcan.gc.ca/energy-efficiency/energuide-canada/energuide-rating-system-version-15/18392

Advisory #10 – BC Energy Step Code

Pre-Construction

BC ENERGY COMPLIANCE REPORT - PERFORMANCE PATHS FOR PART 9 BUILDINGS

For Buildings Complying with Subsection 9.36.5. or 9.36.6. of the 2018 BC Building Code (see BCBC Article 2.2.8.3. of Division C)

A: PROJECT INFORMATION

Building Permit #: _____ Building Type: Select One

Builder: _____ If Other, Please Specify: _____

Project Address: _____ Number of Dwelling Units: _____

Municipality / District: _____ Climate Zone: 0

Postal Code: _____ Floor Area of Conditioned Space (m^2): -

PID or Legal Description: _____

BC Building Code Performance Compliance Path (select one):

☐ 9.36.6. ⟹ *Complete Sections A, B, D, & E*

☐ 9.36.5., NOT complying with Step Code ⟹ *Complete Sections A, B, C, & E*

☐ 9.36.5., complying with Step Code ⟹ *Complete Sections A, B, C, D & E*

Software Name: _____ Version: _____ Climatic Data (Location): _____

B: BUILDING CHARACTERISTICS SUMMARY (see BCBC Clause 2.2.8.3.(2)(b) of Division C)

	Details (Assembly / System Type / Fuel Type / Etc.)	Effective RSI-Value /
Exterior Walls & Floor Headers		
Roof / Ceilings		
Foundation Walls, Headers, & Slabs	**Slab Is:** ☐ Below **OR** ☐ Above Frost Line ☐ Heated **OR** ☐ Unheated	
Floors Over Unheated Spaces		
Fenestration & Doors	FDWR: _____ %	
Air Barrier System & Location		
Space Conditioning (Heating & Cooling)		
Service Water Heating		
Ventilation		
Other Energy Impacting Features		

Based on information provided by the builder and drawings prepared by _____

Dated (YYYY/MM/DD)

BCBC 2018 REVISION - EFFECTIVE 2018-12-10

Advisory #10 – BC Energy Step Code

C: 9.36.5. ENERGY PERFORMANCE COMPLIANCE (see BCBC Clause 2.2.8.3.(2)(c) of Division C)

Complete this section if using the Energy Performance Compliance Path in Subsection 9.36.5.

Proposed House Energy Consumption (GJ/year)	
HVAC	
Hot Water Heating	
SUM	-

Reference House Rated Energy Target (GJ/year)	
HVAC	
Hot Water Heating	
SUM	-

The airtightness value used in the energy model calculations for the Proposed house is:

☐ 4.5 ACH @ 50Pa ☐ 3.5 ACH @ 50Pa **OR** ☐ Tested At ____ ACH @ 50Pa

The above calculation was performed in compliance with Subsection 9.36.5. of Division B: ☐ Yes ☐ No

D: 9.36.6. ENERGY STEP CODE COMPLIANCE (see BCBC Sentence 2.2.8.3.(3) of Division C)

Complete this section if using the Energy Step Code Compliance Path in Subsection 9.36.6.

If using 9.36.5 to comply with 9.36.6, print and manually fill in the table below. The table below auto-fills from the calculator worksheets and the fields cannot be overwritten.

Proposed House Rated Energy Consumption (GJ/year): - Reference House Rated Energy Target (GJ/year): -

Metric	Units	Required	Proposed
Step Code Level	Step 1, 2, 3, 4, or 5		
Mechanical Energy Use Intensity (MEUI)	kWh/(m²·year)	- *(max)*	
ERS Rating % Lower Than EnerGuide Reference House, *where applicable*	%	- *(min)*	
Thermal Energy Demand Intensity (TEDI)	kWh/(m²·year)	- *(max)*	
Airtightness in Air Changes per Hour at 50 Pa differential	ACH @ 50 Pa	- *(max)*	
		Step Code Design Requirements Met:	Yes

The above calculation was performed in compliance with (see BCBC Clause 2.2.8.3.(2)(e) of Division C)

Select one:

☐ Subsection 9.36.5.,

☐ The Passive House Planning Package (PHPP), version 9 or newer, and the energy model was prepared by a Certified Passive House Designer or Certified Passive House Consultant,

☐ The EnerGuide Rating System (ERS), version 15 or newer, or

☐ The applicable requirements of NECB Part 8 and the City of Vancouver Energy Modelling Guidelines.

☐ The "Instructions for Modelling Attached Ground Oriented Part 9 Resdiential Buildings" (found in Section 6 of the BC Energy Compliance Reports Instruction Manual)

E: COMPLETED BY

Full Name (Print): _____ Advisor ID Number: _____

Company Name: _____ Service Organization #: _____

Phone: _____ **EnerGuide P-file #'s:** 0

Address: _____

Email: _____

Date (dd/mm/yyyy) _____

BCBC 2018 REVISION - EFFECTIVE 2018-12-10

Advisory #10 – BC Energy Step Code

SUPPLEMENTARY INFORMATION

Supplementary information is not required for Code Compliance but may be requested by the local municipality/district. Where applicable, all metrics within Section F are calculated with baseloads included. If required, complete the applicable sections below.

F: OTHER ENERGY MODELLING METRICS

#	Metric	Units	Reference House	Proposed House
1	Airtightness NLA@10Pa	cm^2/m^2		
2	Rated Greenhouse Gas Emissions	kg/year		
3	Rated Greenhouse Gas Intensity	kg/m^2/year	-	-
4	Rated Energy Use Intensity	GJ/m^2/year	-	-
5	Peak Thermal Load (PTL)	W/m^2	-	-
6	% of the Building's Conditioned Space Served by Space-Cooling Equipment	%	N/A	-
7	% Lower Than Reference House With Baseloads Included	%	N/A	-

#	Energy Source	Reference House Energy Consumption (GJ/year)	Proposed House Energy Consumption (GJ/year)
8	Electricity	-	-
	Natural Gas	-	-
	Propane	-	-
	District Energy	N/A	-
	On-Site Renewables	N/A	-
	Other:	-	-
	Total	-	-

G: OPTIONAL CERTIFICATIONS

PENDING

- ☐ BUILTGREEN®, Level: _____
- ☐ Certified Passive House
- ☐ CHBA Net Zero House

PENDING

- ☐ ENERGY STAR® for New Homes
- ☐ LEED® for Homes
- ☐ R2000
- ☐ Other: _____

BCBC 2018 REVISION - EFFECTIVE 2018-12-10

Advisory #10 – BC Energy Step Code

MID-CONSTRUCTION

BC STANDARD VERIFICATION REPORT – PERFORMANCE PATHS FOR PART 9 BUILDINGS

For Buildings Complying with Subsection 9.36.5. or 9.36.6. of the 2018 BC Building Code (see BCBC Article 2.2.8.3. of Division C)

A: PROJECT INFORMATION

Building Permit #: _____ **Building Type:** _____ **Step Required:** _____

Project Address: _____ **Building #:** _____ **ERS File:** _____ *(if applicable)*

Builder: _____ **Company:** _____

Builder E-Mail: _____ **Phone #:** _____

Energy Advisor (EA): _____ **Company:** _____

EA ID Number: _____ **Service Organization:** _____

EA E-Mail: _____ **Phone #:** _____

B: AIR TIGHTNESS

INTERIOR VOLUME OF BUILDING	REQUIRED ACH_{50}	DESIGN HOUSE ACH_{50}
☐ m^3 ☐ ft^3		

AIR BARRIER SYSTEM & LOCATION:

Above-grade Walls:

Interior:	☐ N / A	☐ Sealed polyethylene	☐ Airtight drywall	☐ Spray foam	☐ Other (describe below)
Exterior:	☐ N / A	☐ Sealed membrane	☐ Taped sheathing	☐ Sealed insulation	☐ Other (describe below)
Other: _____					

Attic:

Interior:	☐ N / A	☐ Sealed polyethylene	☐ Sealed interior sheathing	☐ Spray foam	☐ Other (describe below)
Exterior:	☐ N / A	☐ Sealed sheathing membrane			☐ Other (describe below)
Other: _____					

Date of Test:	Measured Air Leakage	Method used to calculate ACH_{50} score	ACH_{50} Score
_____ *(dd:mm/yyyy)*	☐ l / s _____ Pa _____ ☐ CFM *(document maximum pressure differential)* ☐ Pressurized ☐ Depressurized	☐ Measured Air Leakage data extrapolated by HOT2000. ☐ ACH @ 50Pa (flow at 50Pa result from manometer) ☐ Other (describe on attached sheet)	_____ ACH_{50} Score

6148709 v12.5 / August 14, 2019

Advisory #10 – BC Energy Step Code

C: BUILDING ENVELOPE CHARACTERISTICS SUMMARY

no changes from Pre-Construction Report ☐

	DETAILS (ASSEMBLY / SYSTEM TYPE / FUEL TYPE / ETC.)	EFFECTIVE RSI-VALUE / EFFICIENCY	UPGRADE HAS BEEN INSTALLED	CANNOT VERIFY INSTALLLATION OF UPGRADE
*Include all energy **upgrades** relative to minimum BCBC 9.36. prescriptive pathway requirements. Include all items that **would not achieve** BCBC 9.36 prescriptive pathway requirements. Strike out ~~(like this)~~ upgrades and/or specifications that will not be installed. Underline revised or new upgrades and/or specifications.*				
EXTERIOR WALLS & FLOOR HEADERS			☐ As specified ☐ Not as specified * _____ (dd/mm/yyyy)	☐ No upgrade ☐ Not yet installed ☐ Unable to verify* ☐ Other *
ROOF / CEILINGS			☐ As specified ☐ Not as specified * _____ (dd/mm/yyyy)	☐ No upgrade ☐ Not yet installed ☐ Unable to verify* ☐ Other *
FOUNDATION WALLS, HEADERS & SLABS	**Slab is:** ☐ Below ☐ Above Frost Line **and:** ☐ Heated ☐ Unheated		☐ As specified ☐ Not as specified * _____ (dd/mm/yyyy)	☐ No upgrade ☐ Not yet installed ☐ Unable to verify* ☐ Other *
FLOORS OVER UNHEATED SPACES			☐ As specified ☐ Not as specified * _____ (dd/mm/yyyy)	☐ No upgrade ☐ Not yet installed ☐ Unable to verify* ☐ Other *
FENESTRATION & DOORS			☐ As specified ☐ Not as specified * _____ (dd/mm/yyyy)	☐ No upgrade ☐ Not yet installed ☐ Unable to verify* ☐ Other *

** describe on attached sheet*

D: BUILDING EQUIPMENT CHARACTERISTICS SUMMARY

no changes from Pre-Construction Report ☐

	DETAILS (ASSEMBLY / SYSTEM TYPE / FUEL TYPE / ETC.)	EFFECTIVE RSI-VALUE / EFFICIENCY	UPGRADE HAS BEEN INSTALLED	CANNOT VERIFY INSTALLLATION OF UPGRADE
*Include all energy **upgrades** relative to minimum BCBC 9.36. prescriptive pathway requirements. Include all items that **would not achieve** BCBC 9.36 prescriptive pathway requirements. Strike out ~~(like this)~~ upgrades and/or specifications that will not be installed. Underline revised or new upgrades and/or specifications.*				
SPACE CONDITIONING (HEATING & COOLING)			☐ As specified ☐ Not as specified * _____ (dd/mm/yyyy)	☐ No upgrade ☐ Not yet installed ☐ Unable to verify * ☐ Other *
SERVICE WATER HEATING			☐ As specified ☐ Not as specified * _____ (dd/mm/yyyy)	☐ No upgrade ☐ Not yet installed ☐ Unable to verify * ☐ Other *
VENTILATION			☐ As specified ☐ Not as specified * _____ (dd/mm/yyyy)	☐ No upgrade ☐ Not yet installed ☐ Unable to verify * ☐ Other *
OTHER ENERGY IMPACTING FEATURES			☐ As specified ☐ Not as specified * _____ (dd/mm/yyyy)	☐ No upgrade ☐ Not yet installed ☐ Unable to verify * ☐ Other *

** describe on attached sheet*

The building as built to date conforms to the energy model submitted for the Building Permit: ☐ Yes ☐ No

The building as built to date is likely on track to achieve the required Energy Step Code performance: ☐ Yes ☐ No

I hereby certify that:

- The measured air leakage result represents the actual result obtained during the test;
- The extrapolated ACH score was derived using the method (extrapolated, real test, or other) as noted above;
- I personally conducted an on-site check to verify correct installation of the upgrades outlined in the summaries C and D above.

_____, Full Name: _____ dated _____.
Signed by Energy Advisor / energy modeller (print) (dd/mm/yyyy)

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Advisory #10 – BC Energy Step Code

AS-BUILT

BC ENERGY COMPLIANCE REPORT - PERFORMANCE PATHS FOR PART 9 BUILDINGS

For Buildings Complying with Subsection 9.36.5. or 9.36.6. of the 2018 BC Building Code (see BCBC Article 2.2.8.3. of Division C)

A: PROJECT INFORMATION

Building Permit #: _____
Builder: _____
Project Address: _____
Municipality / District: _____
Postal Code: _____
PID or Legal Description: _____

Building Type: Select One
If Other, Please Specify: _____
Number of Dwelling Units: _____
Climate Zone: 0
Floor Area of Conditioned Space (m^2): -

BC Building Code Performance Compliance Path (select one):

☐ 9.36.6. ⟹ *Complete Sections A, B, D, & E*
☐ 9.36.5., NOT complying with Step Code ⟹ *Complete Sections A, B, C, & E*
☐ 9.36.5., complying with Step Code ⟹ *Complete Sections A, B, C, D & E*

Software Name: _____ Version: _____ Climatic Data (Location): _____

B: BUILDING CHARACTERISTICS SUMMARY (see BCBC Clause 2.2.8.3.(2)(b) of Division C)

	Details (Assembly / System Type / Fuel Type / Etc.)	Effective RSI-Value /
Exterior Walls & Floor Headers		
Roof / Ceilings		
Foundation Walls, Headers, & Slabs	**Slab Is:** ☐ Below **OR** ☐ Above Frost Line ☐ Heated **OR** ☐ Unheated	
Floors Over Unheated Spaces		
Fenestration & Doors	FDWR: _____ %	
Air Barrier System & Location		
Space Conditioning (Heating & Cooling)		
Service Water Heating		
Ventilation		
Other Energy Impacting Features		

Based on information provided by the builder and drawings prepared by _____

Dated (YYYY/MM/DD)

BCBC 2018 REVISION - EFFECTIVE 2018-12-10

Advisory #10 – BC Energy Step Code

C: 9.36.5. ENERGY PERFORMANCE COMPLIANCE (see BCBC Clause 2.2.8.3.(2)(c) of Division C)

Complete this section if using the Energy Performance Compliance Path in Subsection 9.36.5.

Proposed House Energy Consumption (GJ/year)	
HVAC	
Hot Water Heating	
SUM	-

Reference House Rated Energy Target (GJ/year)	
HVAC	
Hot Water Heating	
SUM	-

The airtightness value used in the energy model calculations for the Proposed house is:

☐ 4.5 ACH @ 50Pa ☐ 3.5 ACH @ 50Pa **OR** ☐ Tested At ____ ACH @ 50Pa

The above calculation was performed in compliance with Subsection 9.36.5. of Division B: ☐ Yes ☐ No

D: 9.36.6. ENERGY STEP CODE COMPLIANCE (see BCBC Sentence 2.2.8.3.(3) of Division C)

Complete this section if using the Energy Step Code Compliance Path in Subsection 9.36.6.

If using 9.36.5 to comply with 9.36.6, print and manually fill in the table below. The table below auto-fills from the calculator worksheets and the fields cannot be overwritten.

Proposed House Rated Energy Consumption (GJ/year): - Reference House Rated Energy Target (GJ/year): -

Metric	Units	Required	Proposed
Step Code Level	Step 1, 2, 3, 4, or 5		
Mechanical Energy Use Intensity (MEUI)	kWh/(m²·year)	- *(max)*	
ERS Rating % Lower Than EnerGuide Reference House, *where applicable*	%	- *(min)*	
Thermal Energy Demand Intensity (TEDI)	kWh/(m²·year)	- *(max)*	
Airtightness in Air Changes per Hour at 50 Pa differential	ACH @ 50 Pa	- *(max)*	
		Step Code Design Requirements Met:	Yes

The above calculation was performed in compliance with (see BCBC Clause 2.2.8.3.(2)(e) of Division C)

Select one:

☐ Subsection 9.36.5.,
☐ The Passive House Planning Package (PHPP), version 9 or newer, and the energy model was prepared by a Certified Passive House Designer or Certified Passive House Consultant,
☐ The EnerGuide Rating System (ERS), version 15 or newer, or
☐ The applicable requirements of NECB Part 8 and the City of Vancouver Energy Modelling Guidelines.
☐ The "Instructions for Modelling Attached Ground Oriented Part 9 Resdiential Buildings" (found in Section 6 of the BC Energy Compliance Reports Instruction Manual)

E: COMPLETED BY

Full Name (Print): _____ Advisor ID Number: _____

Company Name: _____ Service Organization #: _____

Phone: _____ **EnerGuide P-file #'s:** 0

Address: _____

Email: _____

Date (dd/mm/yyyy): _____

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SUPPLEMENTARY INFORMATION

Supplementary information is not required for Code Compliance but may be requested by the local municipality/district. Where applicable, all metrics within Section F are calculated with baseloads included. If required, complete the applicable sections below.

F: OTHER ENERGY MODELLING METRICS

#	Metric	Units	Reference House	Proposed House
1	Airtightness NLA@10Pa	cm^2/m^2		
2	Rated Greenhouse Gas Emissions	kg/year		
3	Rated Greenhouse Gas Intensity	kg/m^2/year	-	-
4	Rated Energy Use Intensity	GJ/m^2/year	-	-
5	Peak Thermal Load (PTL)	W/m^2	-	-
6	% of the Building's Conditioned Space Served by Space-Cooling Equipment	%	N/A	-
7	% Lower Than Reference House With Baseloads Included	%	N/A	-

#	Energy Source	Reference House Energy Consumption (GJ/year)	Proposed House Energy Consumption (GJ/year)
8	Electricity	-	-
	Natural Gas	-	-
	Propane	-	-
	District Energy	N/A	-
	On-Site Renewables	N/A	-
	Other:	-	-
	Total	-	-

G: OPTIONAL CERTIFICATIONS

PENDING

- ☐ BUILTGREEN®, Level: _____
- ☐ Certified Passive House
- ☐ CHBA Net Zero House

PENDING

- ☐ ENERGY STAR® for New Homes
- ☐ LEED® for Homes
- ☐ R2000
- ☐ Other: _____

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