



## Summary of Proposed Changes to BC Energy Step Code Targets Part 3 Hotels and Motels

September 14, 2018

The Energy Step Code Council is considering technical amendments to the BC Energy Step Code. The amendments aim to level the playing field for different Part 3 occupancies and to enable the use of the BC Energy Step Code across the province. Specific proposed changes to the BC Energy Step Code are being considered that would affect hotel and motel construction.

Proposed Change #1: Create separate targets for Hotels and Motels

Proposed Change #2: Extend targets for All Group C (Residential) Occupancies across the province

The proposed changes are based on findings of two studies: the “BC Energy Step Code Metrics Research Report” and “Getting to Zero: A High Performance Energy Policy for New Buildings in the City of Richmond,” as well as on consultation with the Energy Step Code Council and Technical Subcommittee. The proposed changes to the Code are in Appendix A.

This document provides a summary of current issues identified in the BC Step Code, recommendations, and impact of these changes for the hotel and motel industry in BC.

## Proposal 1 – Separate Targets for Hotels and Motels

### Issue:

Currently, the Group C (Residential) occupancy targets apply to hotels and motels. However, hotels and motels have higher hot water loads and higher occupant densities than other residential buildings, which increases their energy use. This leads to higher Total Energy Use Intensity (TEUI) values per unit of floor area. In contrast, the opportunity for heat recovery is greater in hotels, which justifies a lower thermal energy demand intensity (TEDI) value.

### Recommendation:

Increase the TEUI target (less stringent) for hotels and motels compared to other Group C (residential) occupancies buildings, to enable hotels to meet the BC Energy Step Code targets, while decreasing the TEDI targets (more stringent).

### Impact:

As outlined in Appendix B, this change would reduce the challenges that hotels and motels face in complying with the current BC Energy Step Code residential targets, and create requirements that are in line with the energy demands of these buildings. The 2018 Metrics Research Report states hotel and motel developers may be able to comply with the BC Energy Step Code to Step 2 for less than a Code compliant building in CZ4 and CZ5, at no more than 1.1% in CZ6 and CZ7A. Step 3 could be achievable at no more than 2.3% above Code compliance, and Step 4 for less than 3% above Code compliance, except that there were no compliant archetypes modelled to Step 4 in CZ7A.

The updated 2018 Metrics Report with the new proposed targets for all building types and climates is available at [www.energystepcode.ca](http://www.energystepcode.ca).

## **Proposal 2 – Extend Targets for Hotels and Motels Across the Province**

### **Issue:**

The BC Energy Step Code currently only has targets for Part 3 buildings, including hotels and motels, located in CZ4. The BC Energy Step Code cannot be used as a BCBC compliance path outside of CZ4. Authorities Having Jurisdiction outside of CZ4 are also unable to reference the BC Energy Step Code for Part 3 Group C buildings.

### **Recommendation:**

Extend targets for Hotel and Motel Occupancies across British Columbia.

### **Impact:**

The proposed change would enable hotels and motels to comply with the BC Energy Step Code across the province.

The cost of compliance is described in Proposal 1 and Appendix B.

## Appendix A – Proposed Code Changes for Hotel and Motel TEUI and TEDI Targets

Update Table 10.2.3.3.A to create separate targets for Hotels and Motels (with changes in red text) that would apply across BC:

Table 10.2.3.3.A Energy Performance Requirements for Residential Occupancies Forming part of Sentences 10.2.3.3.(1) and (2)				
Step	Hotels and Motels	Other Group C Occupancies	Hotels and Motels	Other Group C Occupancies
	Equipment and Systems – Maximum Total Energy Use Intensity, kWh/(m <sup>2</sup> -year)		<i>Building</i> Envelope – Maximum Thermal Energy Demand Intensity, kWh/(m <sup>2</sup> -year)	
1	Conform to Part 8 of the NECB			
2	170	130	30	45
3	140	120	20	30
4	120	100	15	15

## Appendix B – Lowest Incremental Capital Costs for the Proposed Changes

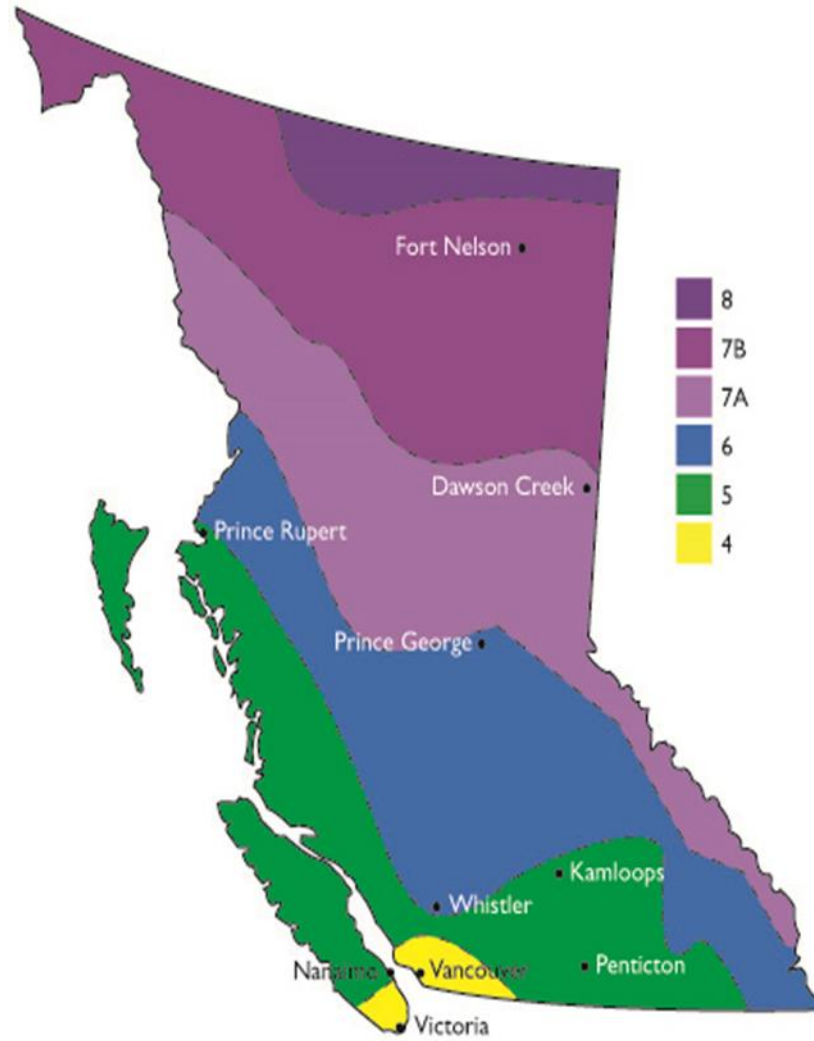
The previous version of the BC Energy Step Code Metrics Research Report did not address hotels or motels. The City of Richmond’s report “Getting to Zero: A High Performance Energy Policy for New Buildings in the City of Richmond” undertook an assessment of the costs to meet adjusted steps for hotels and motels in the BC Energy Step Code. The targets in the Richmond study informed the proposed targets in Appendix A. The 2018 update to the BC Energy Step Code Metrics Research Report assessed the cost of compliance to the proposed targets. Table 1 shows the lowest incremental cost to comply with the steps.

*Table 1. Lowest Incremental Cost for Hotels and Motels achieving proposed Step Code targets.*

Archetype	Step	CZ4	CZ5	CZ6	CZ7A
Hotel	1	0.0%	0.0%	0.0%	0.0%
	2	-0.2%	-0.1%	1.1%	0.7%
	3	0.0%	1.2%	2.3%	2.2%
	4	1.2%	2.1%	2.8%	-- <sup>1</sup>

<sup>1</sup> – no modelled archetype met the target.

## Appendix C – British Columbia Climate Zones



Source: BC Housing