

DIRECTION TO CONSULT WITH
INDUSTRY ON

Proposed Approach to BC Energy Step Code



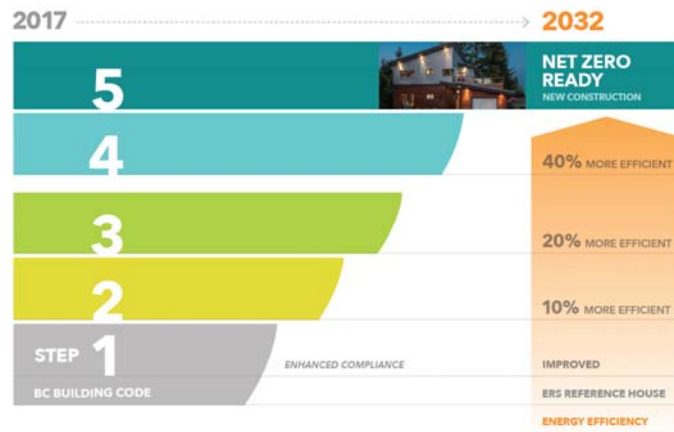
Climate Leadership Plan Targets for Buildings

- **By 2030, all new buildings are “net zero energy ready”.**
- Before 2050, all existing buildings are retrofitted to new efficiency standards (TBD).
- Oil heating is phased-out by 2030.
- Before 2050, all buildings will only use renewable energy.



Direction to Consult with Industry on Proposed Approach to BC
Energy Step Code

BC Energy Step Code



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Alignment with other existing energy efficiency programs

Sample Programs:

City of North Vancouver

City of Richmond

City of Surrey

Sparwood District Municipality

District of Invermere

City of Kimberley

Township of Langley

District of Saanich

Resort Municipality of Whistler

City of New Westminster



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Lower and Upper Steps



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Changing from prescriptive to performance-based compliance



Energy modeling



Air-Tightness Testing



No Prescriptive Requirements



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Example home

2,550ft² Single Family House

Prescriptive Requirement of Code	
Walls	R16
Attic	R40
Slab Insulation	None
Foundation	R11
Windows/Doors	1.8
Heating	Elec Baseboard
HRV/ERV	None (CRV)
DHW	Code
Air Tightness	3.5
Base Construction Cost	\$190/sq ft (\$484,500)*



*Data from BC Energy Step Code Metrics Research Report

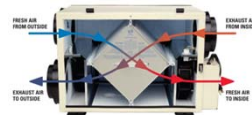


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Same home

Built to Step 3 of the Step Code

Measures to achieve 20% better than Code	
Walls	R18 (more insulation)
Attic	R40
Slab Insulation	None
Foundation	R11
Windows/Doors	1.8
Heating	Elec Baseboard
HRV/ERV	70% recovery ventilator
DHW	Heat Pump Hot Water Heater
Air Tightness	2.5 (improved air tightness)
Base Construction Cost	\$192/sq ft (\$488,500)*
% premium above Code	0.8% (\$4000)*



*Data from BC Energy Step Code Metrics Research Report



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Local projects

Townley Place
Part 3 – Step 4



Credit: Greater Victoria Housing Society

North Park Passive House
Part 9 – Step 5



Credit: Bernhardt Contracting

The Emerson
Part 3 – Step 2



Credit: Abstract Developments

1515 Douglas/950 Pandora
Part 3 – Step 2/3



Credit: Jawl Development Corp and D'Ambrosio Architecture + Urbanism



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Approach in other communities

Initial notification to consult

- City of Richmond
- City of North Vancouver
- City of Campbell River
- City of Duncan
- District of North Vancouver
- City of Victoria
- District of Saanich
- Comox Valley Regional District
- District of North Saanich
- Resort Municipality of Whistler
- District of West Vancouver
- City of Surrey
- City of New Westminster

City of North Vancouver committed:

- **Step 1** Dec 15
- **Step 2/3** July 2018 (includes rezoning policies)

District of Saanich recommending same adoption approach to City of Victoria



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Engagement to-date

1. **CRD Building Industry Survey** – Aug/Sept 2017 (60 ppl)
2. **Industry Workshop #1** – November 1st (90 ppl)
3. **Building Inspector Workshop** – November 6th (40 ppl)
4. **Elected Official Building Tours** – November 10th (25 ppl)
5. **BC Housing Building Smart**– November 16th (90 ppl)
6. **Local Government Staff** – November 30th (90 ppl)
7. **Industry Workshop #2** – Feb 2018

Collaborated with:



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Feedback and Guiding Principles

1. **Industry capacity and readiness**
2. **City's Climate Action Goals**
3. **Cost implications**
4. **Regional coordination**
5. **Clarity regarding timelines and Steps (what Step when)**



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Recommended approach – Part 9



Single Family Home
Option 1
Step 1 Nov 2018
Step 3 Jan 2020



Garden Suite
Option 1
Step 1 Nov 2018
Step 2 Jan 2020*

**there are higher cost implications for garden suites and this building typology has minimal aggregated energy use.*



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Recommended approach – Part 3



Part 3 Residential (mid-rise)
Option 1
Step 1 Nov 2018
Step 3 Jan 2020



Part 3 Residential (high-rise)
Option 1
Step 1 Nov 2018
Step 3 Jan 2020*



Part 3 Commercial
Option 1
Step 1 Nov 2018
Step 3 Jan 2020*

**Step 3 is considered an Upper Step for high-rise and commercial buildings, and this may result in design implications for these building typologies*



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Recommendation

That Council direct staff to engage with development industry representatives on the following proposed approach to the BC Energy Step Code:

1. For new Part 9 buildings:
 - a. Step 1 building bylaw requirement starting in November 2018 for all new Part 9 buildings
 - b. Step 3 building bylaw requirement starting in January 2020 for all new Part 9 buildings with the exception of garden suites
 - c. Step 2 building bylaw requirement starting in January 2020 for all new garden suites
 - d. The exploration of a rebate or tiered fee structure program to support Part 9 builders to use an energy advisor, conduct a mid-construction blower-door test, and conduct a post-construction verification blower-door test.
2. For new Part 3 buildings:
 - a. Step 1 building bylaw requirement starting in November 2018
 - b. Step 3 building bylaw requirement starting in January 2020.



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