

BC ENERGY STEP CODE

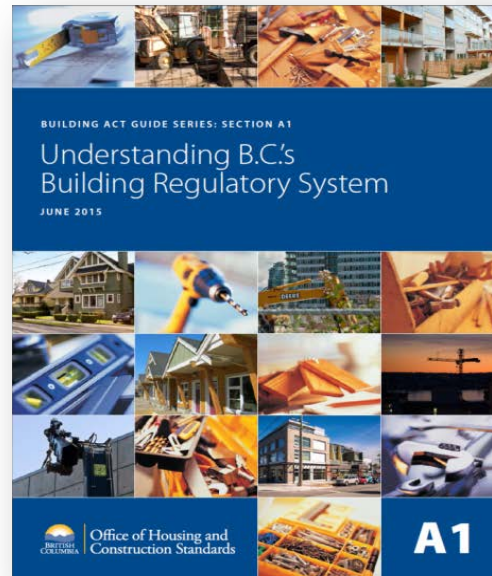
Live Green Save Green Workshop
Vernon, BC | February 16, 2017

Wilma Leung | Senior Manager, Technical Research and Education
Research and Corporate Planning | BC HOUSING

Background

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Building Act calls for
**'consistency, competency
and innovation'** across BC



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Building Act calls for ‘**consistency, competency and innovation**’ across BC

Climate Leadership Plan calls for “**net zero ready**” buildings by **2032**



What is Energy Step Code?



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An incremental path to improve energy performance, comfort and quality in **new** homes and buildings across BC



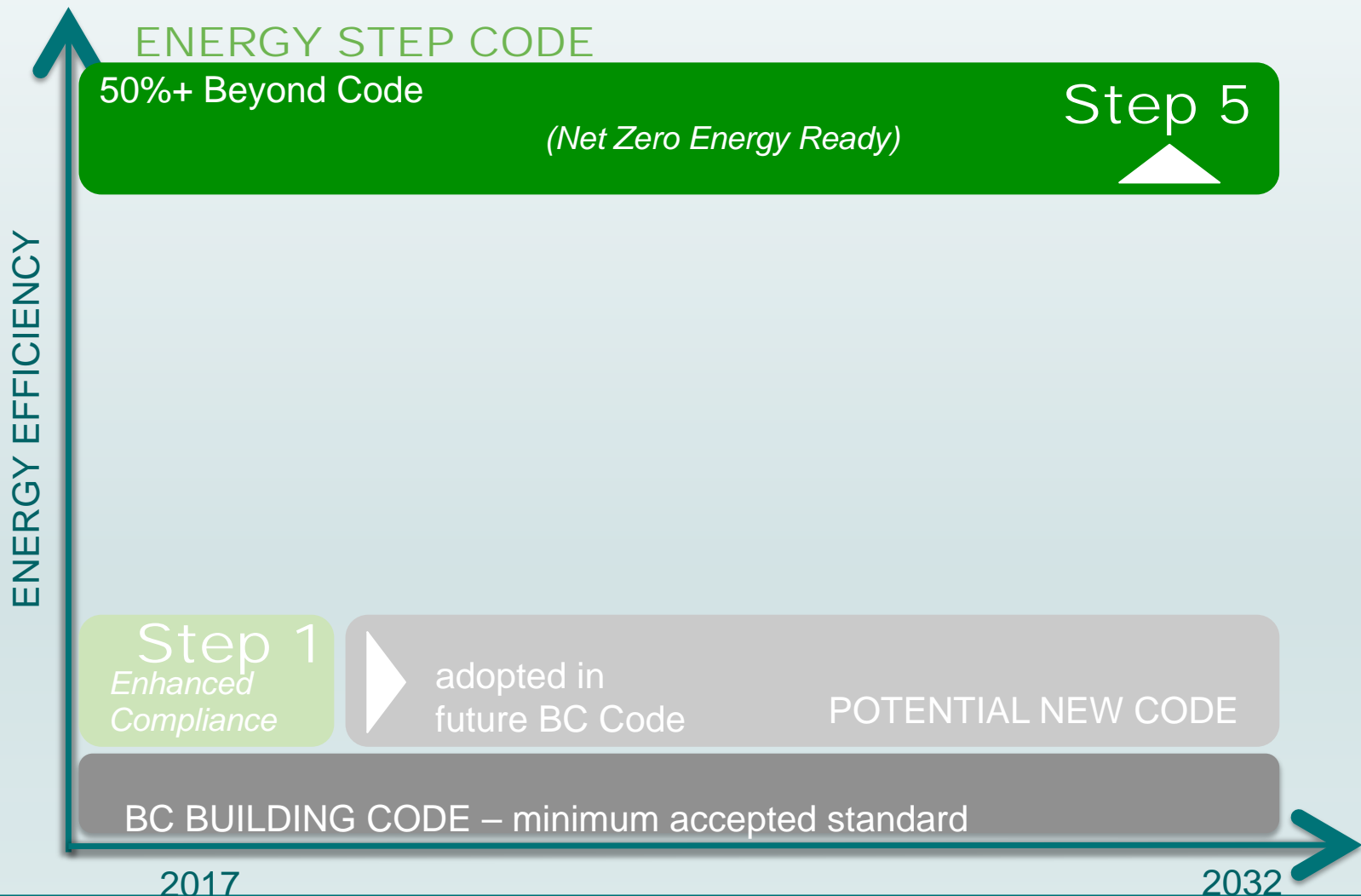
ENERGY EFFICIENCY

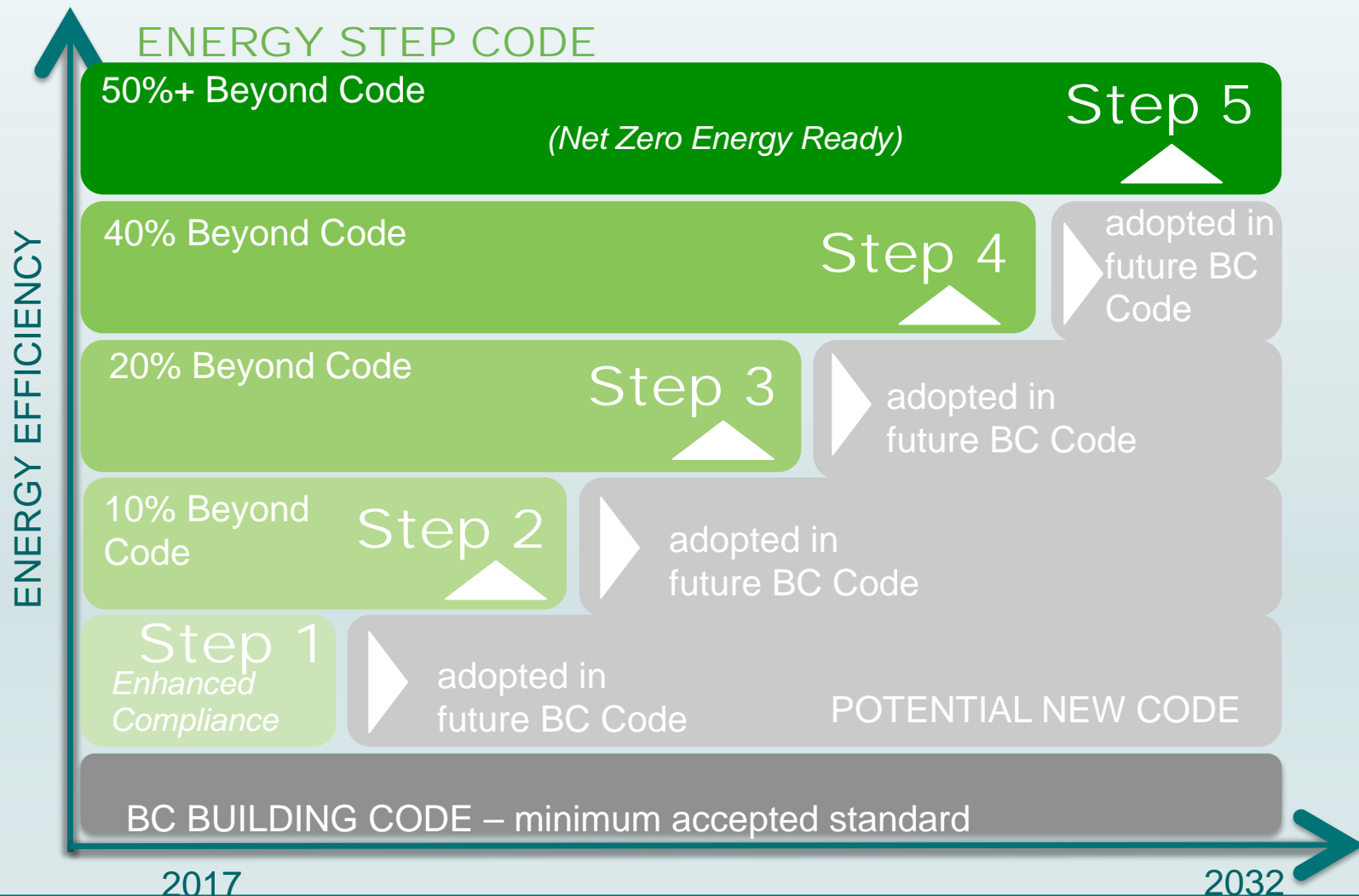
ENERGY STEP CODE

2017

2032







Industry Infrastructure Evolving with the Energy Step Code

Industry Infrastructure Evolving with the Energy Step Code

Industry Capacity

- Energy Advisers
- Inspectors
- Builders, Contractors
- Trades, Suppliers
- Designers
- Municipal Experience

Industry Standards

- Design & Compliance Guidelines
- Best Practices
- Energy Modelling Software
- Testing Protocols
- Material & System Specifications
- Construction Method Specifications

Industry Infrastructure Evolving with the Energy Step Code

Normalizing supply and pricing of related material, equipment and services

- Building Envelope Material e.g. Insulation, Air Barrier Systems . . .
- High Performance Windows and Doors
- Heat Recovery Ventilators
- Energy Modelling and Airtightness Testing

Why should you care?

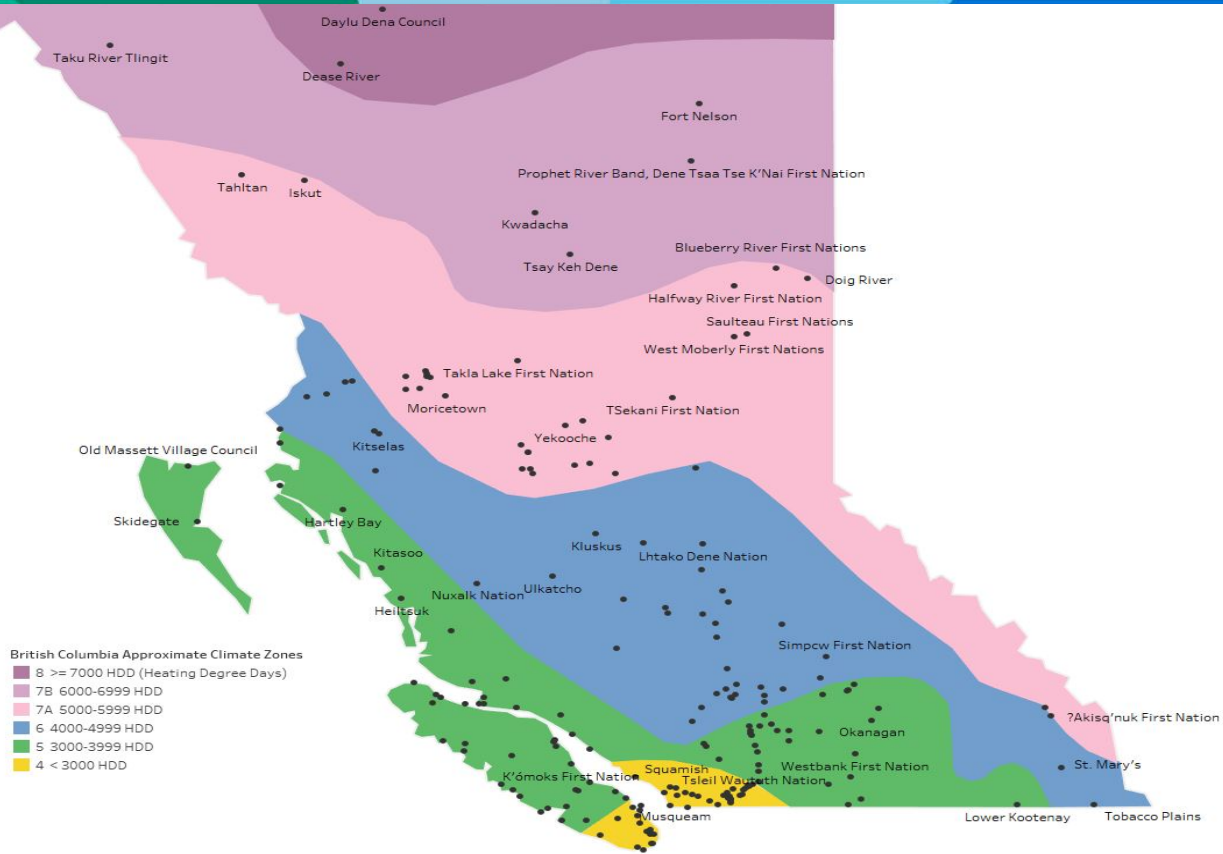
FN Housing Managers have a lot on their plates

Why should you care?

FN Housing Managers have a lot on their plates, this is a new tool that helps you...

- Understand what level of energy performance you should expect in your region over the next 15 years
- Know your climate zone (see map)

First Nations Communities and Climate Zones in BC



Why should you care?

FN Housing Managers have a lot on their plates, this is a new tool that helps you...

- Access skilled builders, trained on Energy Step Code
- Speak the same language as the building industry so you get a better home at the end of the day
- Clearly articulate your requirements and embed them in housing policy and construction tenders

What are the benefits?

What are the benefits?

- Focus on simplified design and equipment (better envelopes)
- Focus on performance outcomes, not prescriptive requirements or expensive certifications
- Fuel/material neutral
- Reduces home energy costs

What are the benefits?

- Increases comfort and quality (e.g., better building envelopes help with moisture issues)
- Creates consistent language and understanding across BC
- Provides a process to ensure buildings perform as designed

What are the costs?

What are the costs?

Yale First Nation's Six-Plex Passive Multi-Unit Housing

- \$176/square foot
- Estimated Heating/Cooling cost \$10-20 /month

Penticton Indian Band's Sage Project – built to a range of standards

What are the costs?

Esk'etemc's Alkali Supportive & Recovery Centre

- Local Energy Efficiency Partnership (LEEP) Field Trial Project
- Targeting Net-Zero Energy, or Net-Zero Energy Ready
- Costing information available later this year

What's important?

What's important?

To First Nations

- Higher quality housing with lower operating costs
- Peace of mind = ability to ask for higher performance and rest assured that the industry is trained to deliver it

What's important?

To Builders and Developers

- Consistent, long-term expectations
- Predictable capacity building and training

What's important?

To the Province

- Consistent building requirements
- Roadmap to 2032 targets

If you'd like to learn more...



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The Energy Step Code and the Future of B.C.'s Built Environment,
February 28 Webinar

<https://local-gov-staff-energystepcode.eventbrite.com>

Builder Workshops around BC (Energy Star and Step Code)

<http://communityenergy.bc.ca/energy-star-for-new-homes-builder-workshop/>

Kamloops, February 28
March 7

Chilliwack, March 3

Nelson,

Trail/Rossland, March 8

Grand Forks, March 9

From Technical Research and Education at BC Housing

Educational Events, Videos & Publications For Builders

- Building & Testing for Airtightness
- Meeting Part 9 Requirements of the Energy Step Code
- Actual Projects and Their Compliance Paths ... and lessons learned
- Affordability and Cost-Effectiveness

Building & Testing for Airtightness

Publication	Tentative	Event	Video
Illustrated Guide for Achieving Airtight Buildings (for both Part 3 and Part 9 buildings)	Apr – Jul 2017	Airtightness training and demonstration sessions	Part of the training and demonstration sessions will be captured in videos for web posting (?) Animated instructional video on building and testing for airtightness
-	Nov 21, 2017	Encore webinar on “Air & Vapour Barrier”	Recorded for web posting

Meeting Part 9 Requirements of the Energy Step Code

Publication	Tentative	Event	Video
Illustrated builder guide to meeting Energy Step Code Steps 1 & 2 (Pt 9) in CZ 4-8	Sept-Nov 2017	Building Smart seminars/webinars at 8-10 locations across province for Pt 9 builders to build to <u>Steps 1 and 2</u> <input checked="" type="checkbox"/> Working with a CEA <input checked="" type="checkbox"/> Modelling and Testing <input checked="" type="checkbox"/> Walls and windows for Step 2	One recorded webinar for <u>each</u> climate zone
Ditto for Steps 3 & 4	Jan-April 2018	Building Smart seminars/webinars at 8-10 locations across province for Pt 9 builders to build to <u>Steps 3 and 4</u> <input checked="" type="checkbox"/> Modelling and compliance paths <input checked="" type="checkbox"/> Walls and windows for Steps 3/4 <input checked="" type="checkbox"/> HVAC for Steps 3/4	One recorded webinar for <u>each</u> climate zone
Ditto for Step 5	Sept-Nov 2018	Building Smart seminars/webinars at 8-10 locations across province for Pt 9 builders to build to <u>Steps 4 and 5</u> <input checked="" type="checkbox"/> Modelling and compliance paths <input checked="" type="checkbox"/> Walls and windows for Steps 4/5 <input checked="" type="checkbox"/> HVAC for Steps 4/5	One recorded webinar for <u>each</u> climate zone

LEEP Projects and Their Energy Step Code Compliance Paths

(LEEP = Local Energy Efficiency Partnership)

Publication	Tentative	Event	Video
(?) Builder Insight Bulletin on LEEP technology used in CZ4 (Lower Mainland & Island South)	Feb - Jul 2017	Builder tech exchange forums for CZ4, with CHBA local branch and others	Videos on select LEEP field trial homes that meet the Energy Step Code Part 9 Steps 3-5 in Climate Zone 4 (Lower Mainland & Island South)
(?) Ditto for CZ5 (Southern Interior & Island North)	Jul 2017 - Jul 2018	Ditto for CZ5	Ditto for Climate Zone 5 (Southern Interior & Island North)
(?) Ditto for CZ6-8 (Central & Northern BC)	Jul 2017 - Jul 2018	Ditto for CZ6-8	Ditto for Climate Zones 6-8 (Central & Northern BC)

Affordability and Cost-Effectiveness

Publication	Tentative	Event	Video
Builder Guide on Cost Effective Tips and Optimization for High Performance Homes and Buildings	By Jul 2017	(?) Presentation at various builder tech exchange forums, with local CHBA and others (?) Building Smart webinar	Recorded webinar for web posting (?) Animated video for builder education on cost effective tips and optimization for high performance homes and buildings
Consumer Guide on Affordable and Cost Effective High Performance Homes	By Dec 2017	(?) Presentation at homebuyers' forums	(?) Animated video for consumer education on affordable & cost effective high performance homes
(?) Builder Insight Bulletin on case studies of how Pt 9 & Pt 3 affordable housing projects met the Energy Step Code in different parts of BC	By Dec 2018	(?) Presentation at BCNPHA Conference (?) Building Smart webinar	Video-profile case studies of how Pt 9 & Pt 3 affordable housing projects have been meeting the Energy Step Code in different parts of BC

Questions

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