

ENERGY
STEPCODE
BUILDING BEYOND THE STANDARD



Building Better with the Energy Step Code

Squamish: May 28, 2018

Building Better with the Energy Step Code



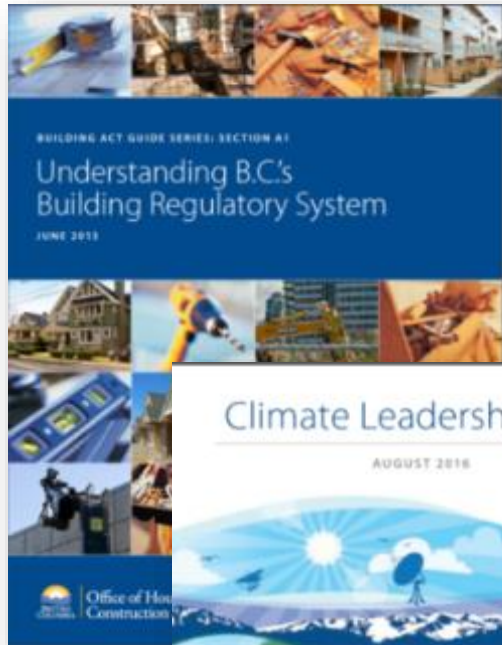
Agenda

- 8:00 Community Energy Association (CEA): Welcome and Introductions
- 8:02 Maya Chorobik, Community Energy Association: Energy Step Code overview
- 8:15 Einar Halbig, E3 Eco Group: Building Science and the Energy Step Code Part 1
- 9:45 BREAK
- 10:00 Einar Halbig, E3 Eco Group: Building Science and the Energy Step Code Part 2
- 12:00 LUNCH
- 12:45 Einar Halbig, E3 Eco Group: Working with an Energy Advisor
- 13:00 FortisBC: Current incentive programs for energy efficient homes
- 13:30 Richard Matthews, District of Squamish: Presentation and Dialogue about Energy Step Code Implementation
- 13:45 BREAK and TRAVEL to on-site blower door demo
- 14:15 Einar Halbig, E3 Eco Group: On-site blower door demo and discussion
- 16:00 CLOSE

Address for On-Site Demo



Two Provincial Initiatives Set the Stage



Building Act

- Consistency, Competency & Innovation
- December 2017 marked the end of local building requirements in bylaws.

Climate Leadership Plan

- Establishes a target that all new construction will be net-zero ready by 2032.

Benefits of the Energy Step Code

Supports Local Government Climate Action

- Consistent approach to improve building energy efficiency

Supports Industry Leadership

- Eliminates the patchwork
- Allows for flexibility in approaches
- Predictable path towards 2032

Supports a Green Economy

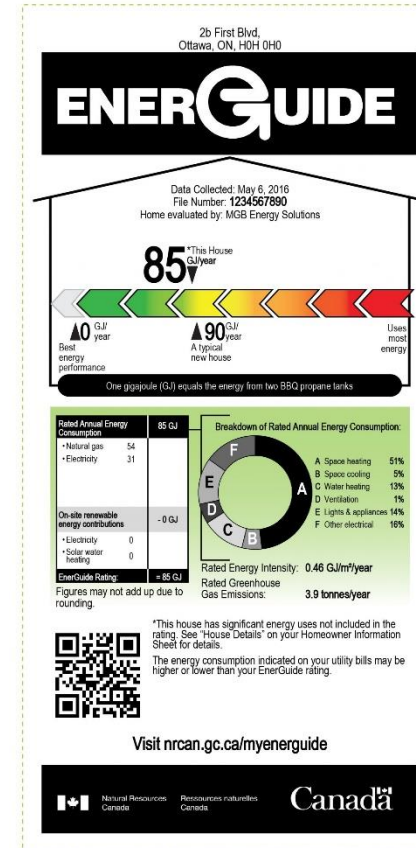
- New economic development opportunities



Benefits of the Energy Step Code

Quality building stock for residents

- Understanding the home's energy consumption through energy labelling
 - Easier to compare similar homes when buying
- Reduced energy consumption and utility bills
- Improved thermal comfort and reduced air drafts
- More durable building envelope
- At higher steps, ability to make the home “net zero energy” with the addition of renewables



BC Energy Step Code Council



PROVINCIAL GOV.

BUILDERS & DEVELOPERS

LOCAL GOVERNMENTS

TRADES & PROFESSIONALS

NGOs



UTILITIES

A Focus on Performance



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Part 9 | Step 1: Enhanced Compliance

2017 -----> 2032

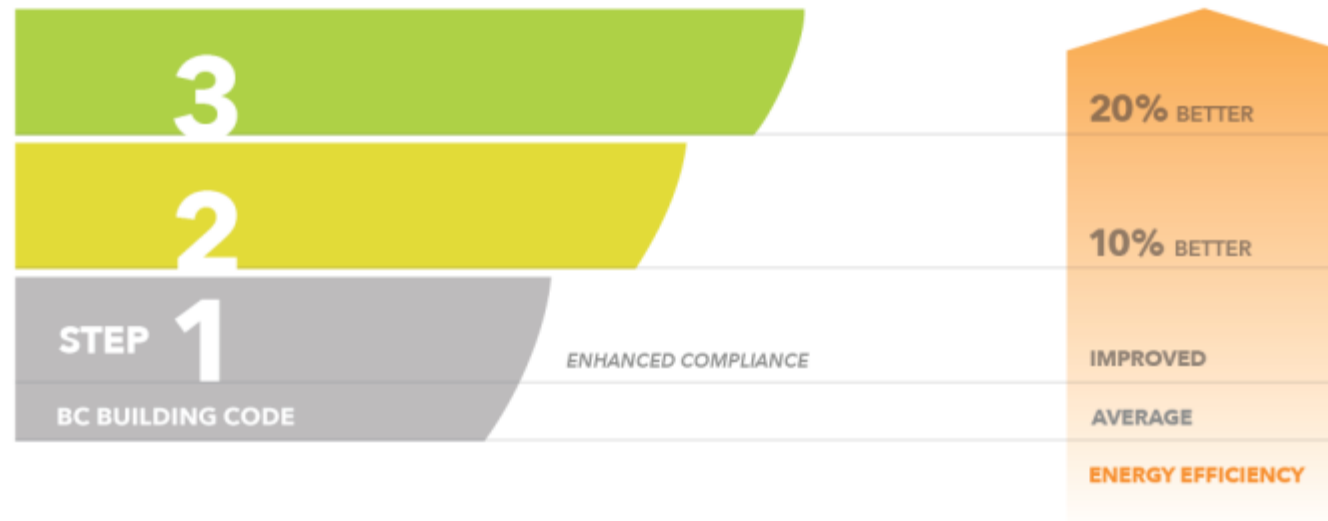
BC BUILDING CODE

AVERAGE

ENERGY EFFICIENCY

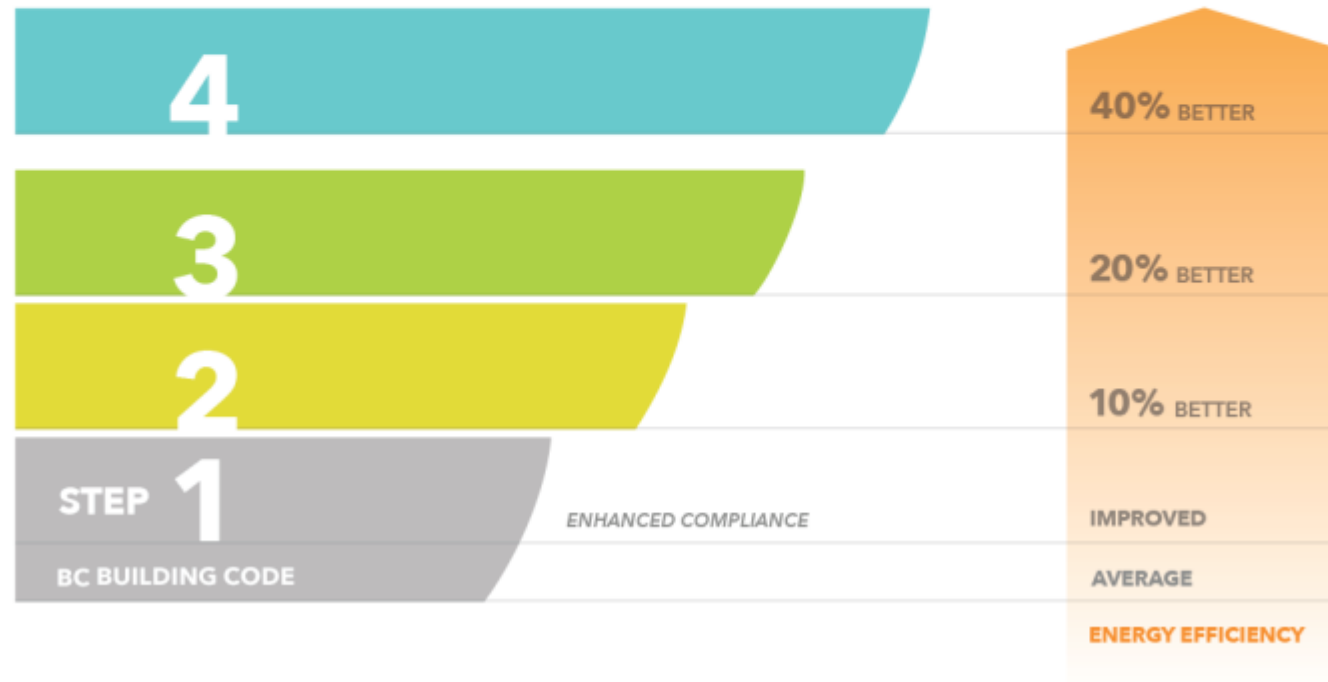
Part 9 | Steps 2 and 3: The Lower Steps

2017 -----> 2032

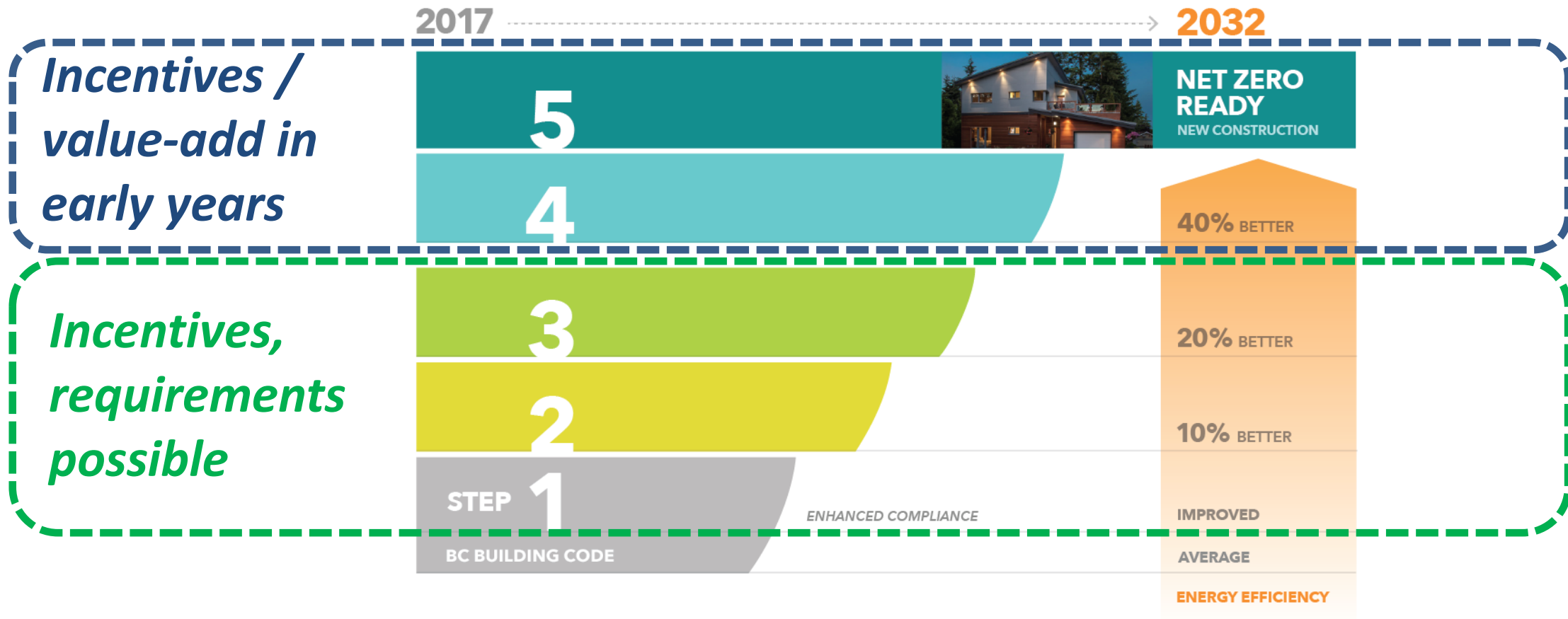


Part 9 | Step 4: The Threshold to the Upper Steps

2017 -----> 2032



Part 9 | Step 5: Net Zero Ready New Construction



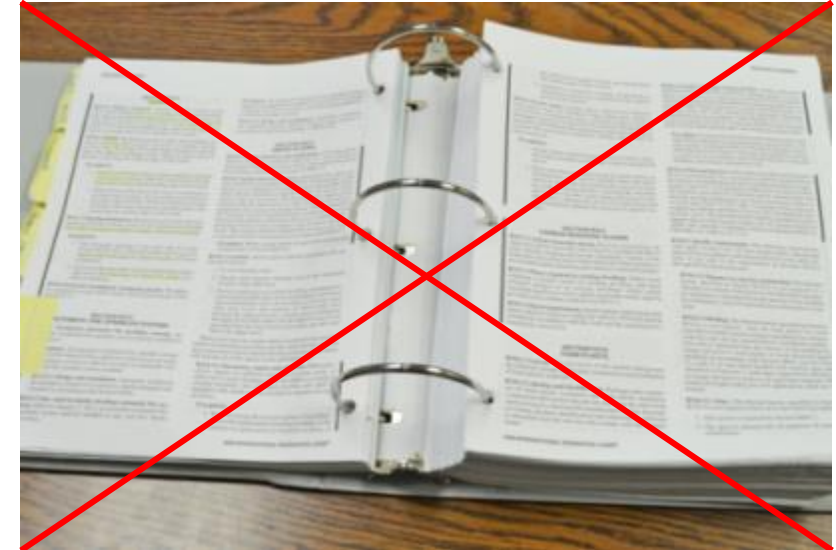
Performance Compliance



Energy modeling



Air-Tightness Testing

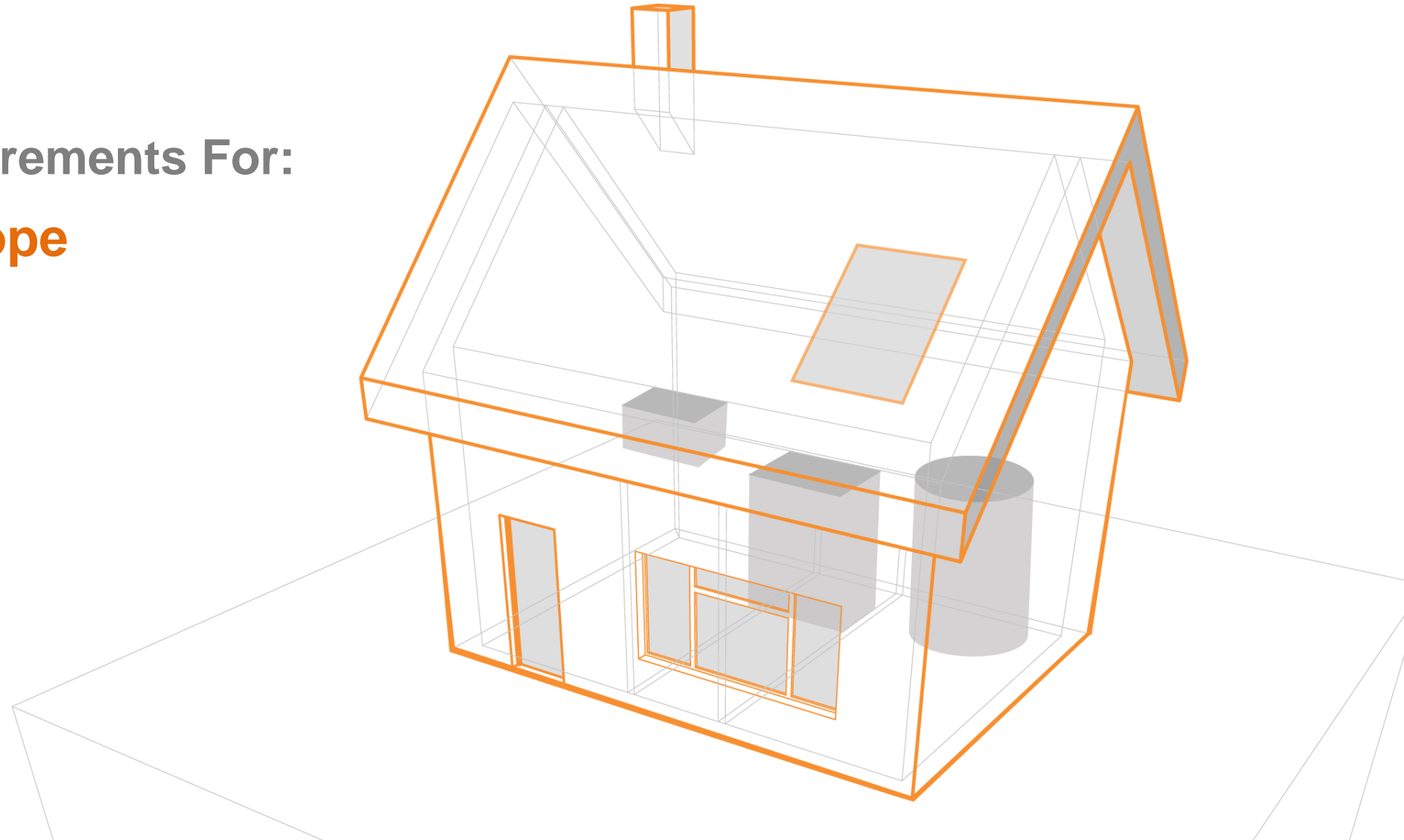


No Prescriptive Requirements

What Does the BC Energy Step Code Measure?

Performance Requirements For:

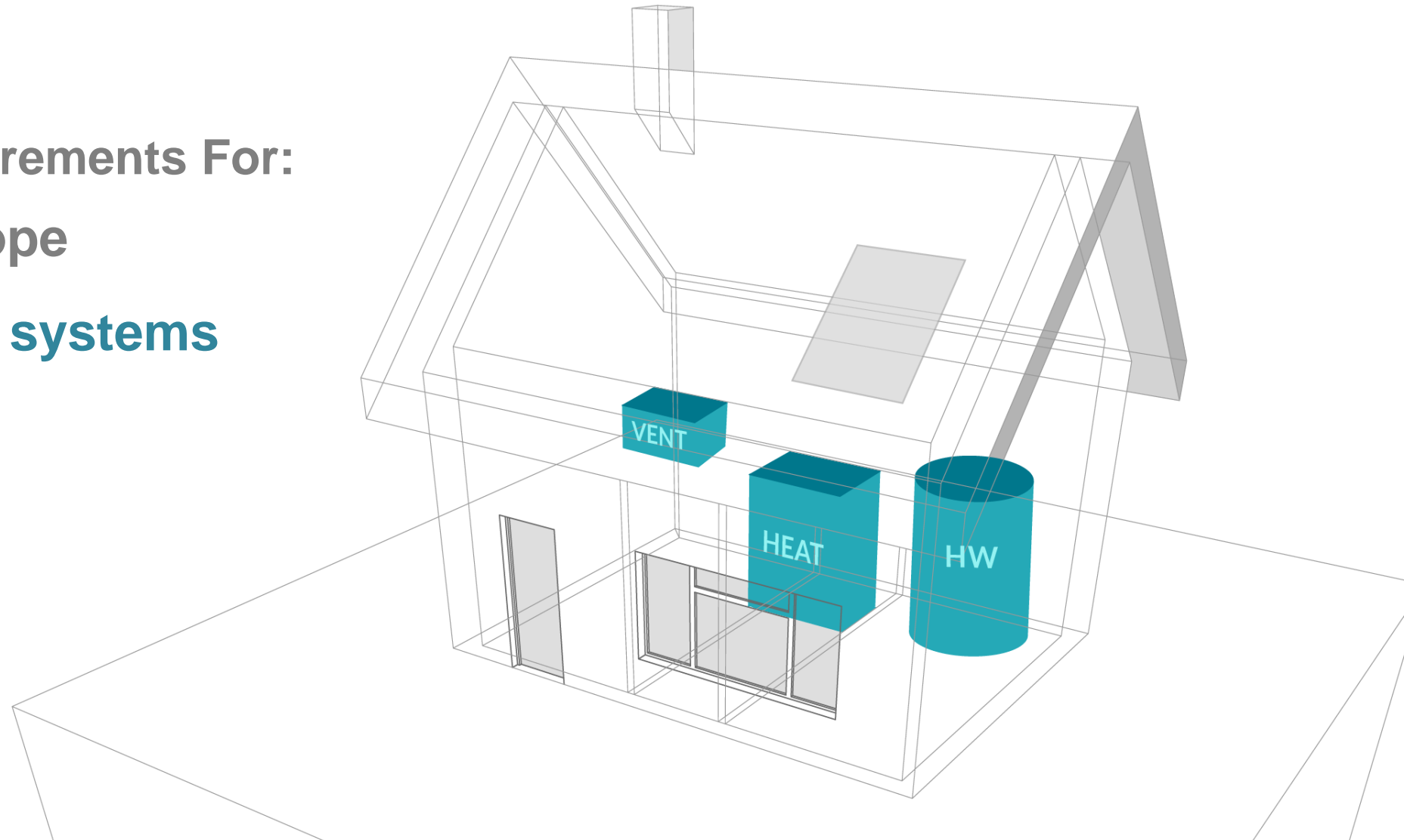
✓ **Building envelope**



What Does the BC Energy Step Code Measure?

Performance Requirements For:

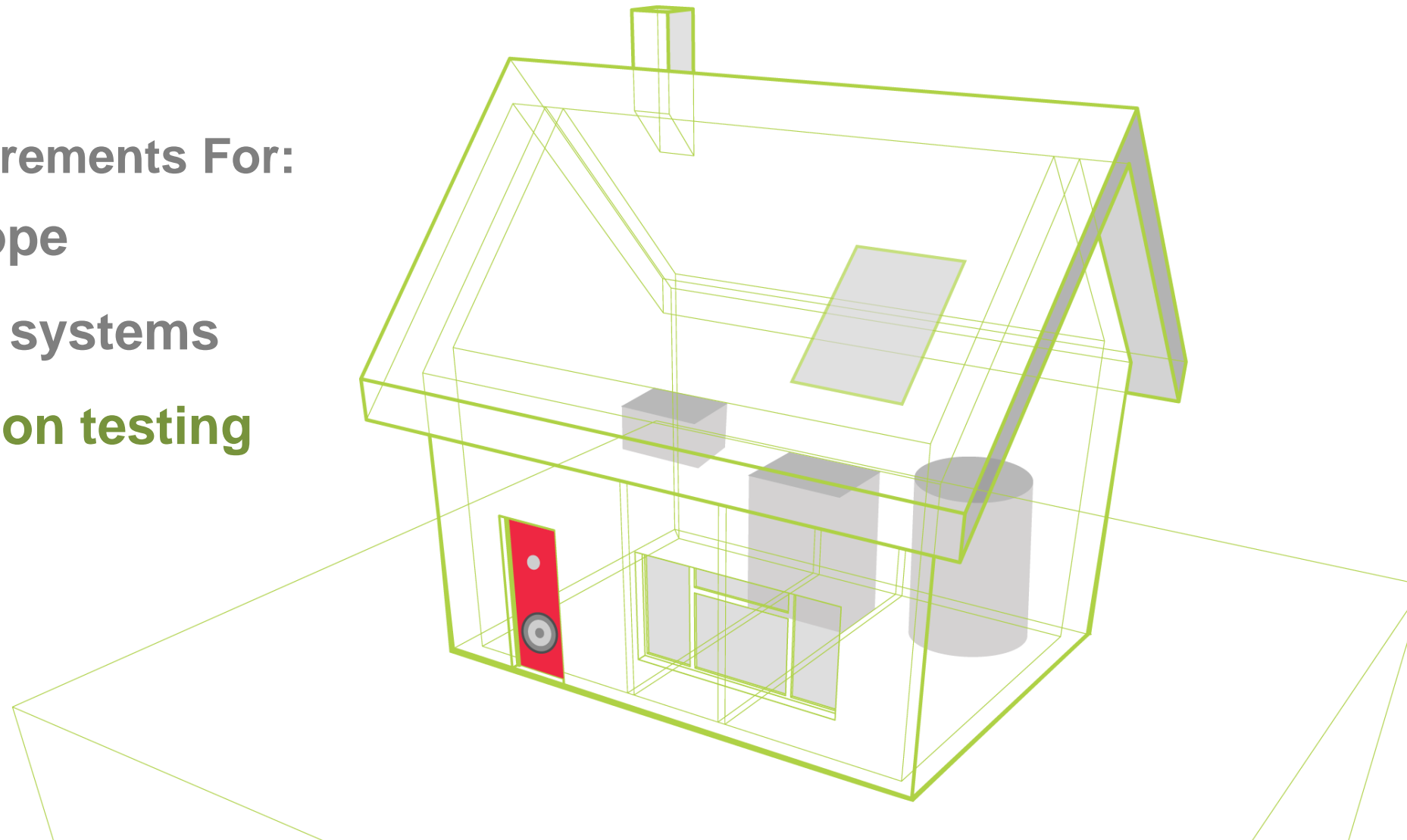
- ✓ Building envelope
- ✓ Equipment and systems



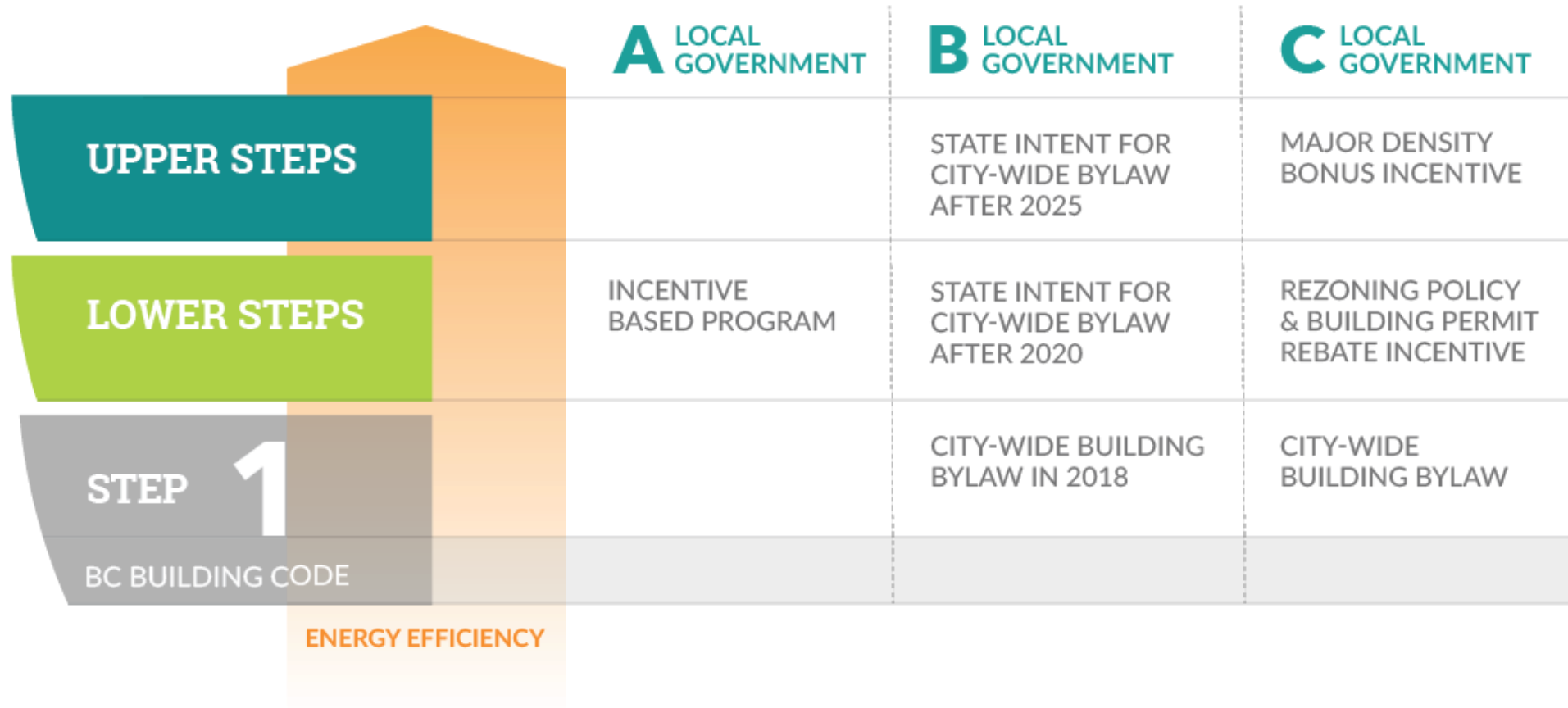
What Does the BC Energy Step Code Measure?

Performance Requirements For:

- ✓ **Building envelope**
- ✓ **Equipment and systems**
- ✓ **Post-construction testing**
 - Airtightness



Putting into Practice: Possible Implementation Approaches



Research and Support Resources

LOCAL GOVERNMENTS

NGOs

TRADES &
PROFESSIONALS



PROVINCIAL
GOVERNMENT

BUILDERS &
DEVELOPERS

UTILITIES



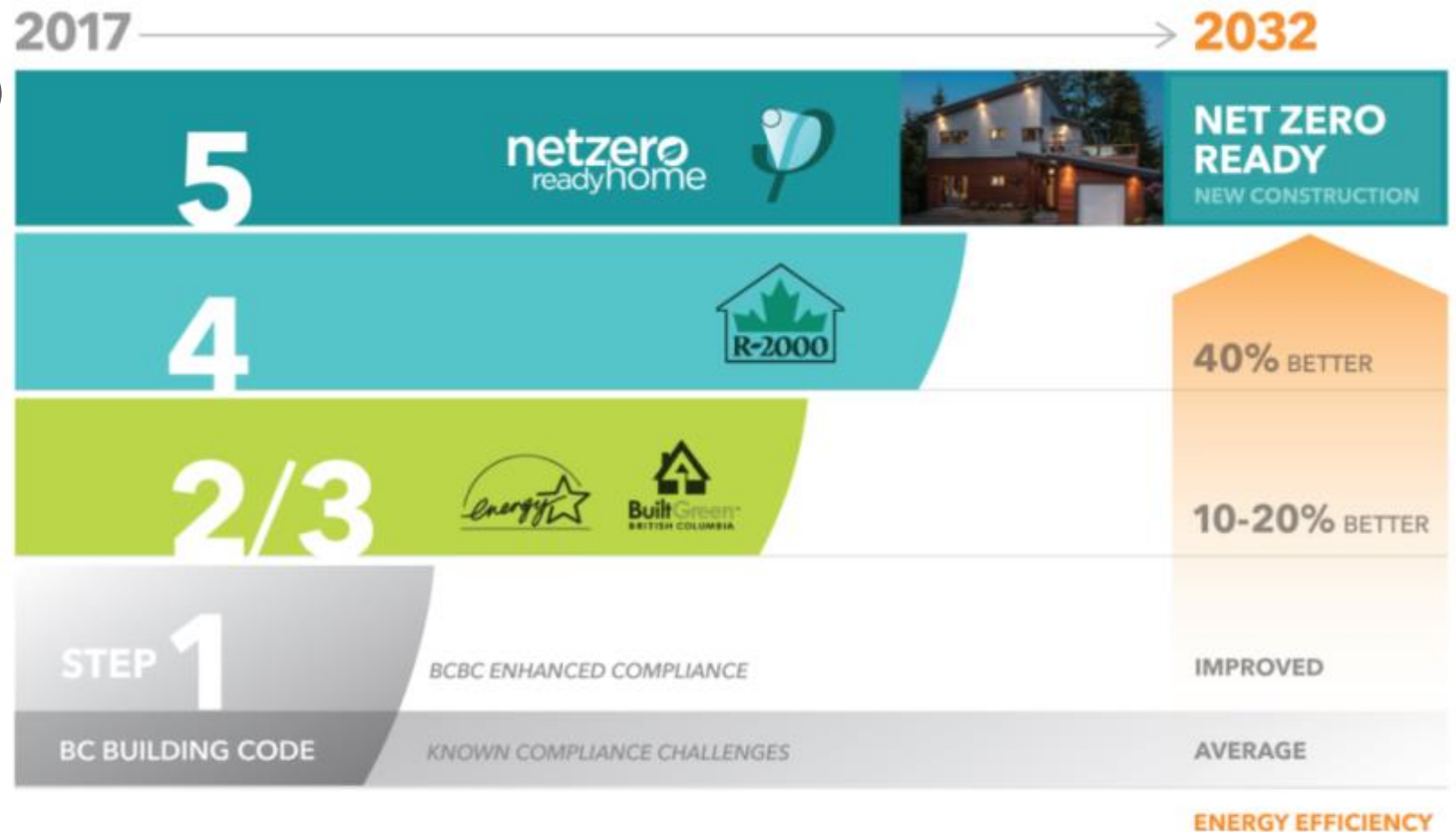
Completed or Underway:

- Resource hub: energystepcode.ca
- Training and capacity assessment
- Costing study
- Local government readiness survey
- Peer network for local government staff
- Webinars and presentations
- Design Guide
- Builder Guide

Similar Existing Programs

Similar Programs:

- City of North Van (N-RZ)
- CVRD & Camp River (BPR)
- Richmond (TH RZ)
- Surrey (N-DB)
- City of North Van (TH RZ)
- Sparwood (BPR)
- Invermere (Incent)
- Kimberley (BPR)
- City of North Van (DB)
- ToL (BPR)
- Saanich (RZ)
- Whistler (EA incent.)
- New West (EA incent.)



Part 9: Examples of High Performance Housing

city
of north
vancouver

Step 2

Density bonus policy

**Since 2011, 98% of
houses have been
built to Step 2+**



Part 9: Examples of High Performance Housing

SPARWOOD

Step 2

Incentive via
Carbon Neutral
Reserve Fund

50% of new
homes built



Part 9: Examples of High Performance Housing



Step 3

Townhouse rezoning policy

550 units since
2014



Part 9: Examples of High Performance Housing



Step 3

Builder voluntary

75 houses built



Concluding Comments

- BC Energy Step Code was developed with input from the building industry, & is supported by many other partners
- The base BC Building Code is heading in this direction regardless, but communities can use the Step Code to help the building industry prepare
- High performance homes are already being built across BC
- (Generally) little to no cost premium for Steps 1-3 in your climate zone

Concluding Comments

- BC Energy Step Code is a useful tool to:
 - Help the building industry prepare for future code changes
 - Create healthier & better buildings
 - Help customers understand their choices (like MPG ratings with vehicles)
 - Reduce GHG emissions

Thank You!

Questions?

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Community Energy Manager

Community Energy Association

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