

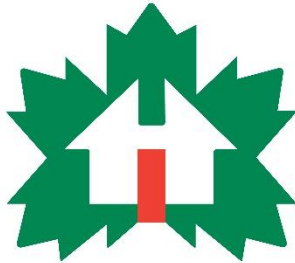
ENERGY  
**STEP**CODE  
BUILDING BEYOND THE STANDARD



May 3, 2018

Terrace Workshop

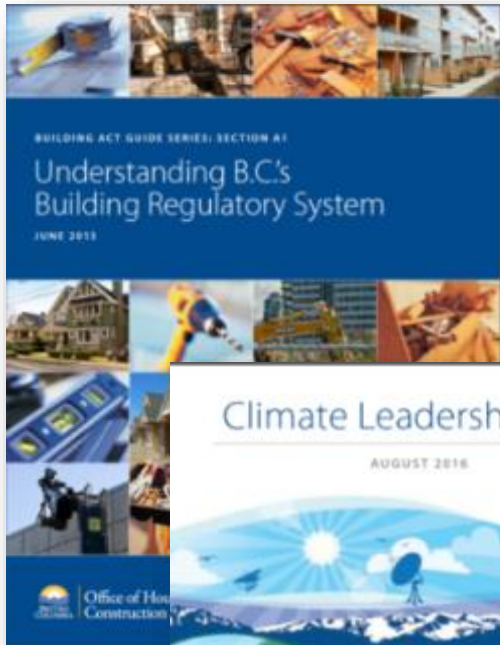
# Building Better with the Energy Step Code



# Agenda

- 8:00 Introduction (City of Terrace, Community Energy Association - CEA)
- 8:05 Energy Step Code Overview (Peter Robinson, CEA)
- 8:15 Building Science Part 1 – Optimizing Building Envelopes & Airtightness Testing (Rod Croome, Hometech Energy Solutions)
- 9:45 Break
- 10:00 Building Science Part 2 – Energy Efficient Mechanical Systems and Requirements of Energy Modelling (Rod Croome)
- 12:00 Lunch
- 12:45 Working with an Energy Advisor (Rod Croome)
- 1:00 Current Natural Gas Incentive Programs (Al Kleinschmidt, Pacific Northern Gas)
- 1:30 Policies Under Consideration for Step Code Implementation (David Block, City of Terrace)
- 1:45 Break and Drive to Local Home
- 2:00 On-Site Blower Door Demonstration and Discussion (Rod Croome)
- 4:00 Close

# 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.

# BC Energy Step Code Council



PROVINCIAL GOV.

BUILDERS & DEVELOPERS

LOCAL GOVERNMENTS

TRADES & PROFESSIONALS

NGOs



UTILITIES

# A Focus on Performance



ENERGY  
**STEP**CODE  
BUILDING BEYOND THE STANDARD

# Part 9 | Step 1: Enhanced Compliance

2017 -----> 2032

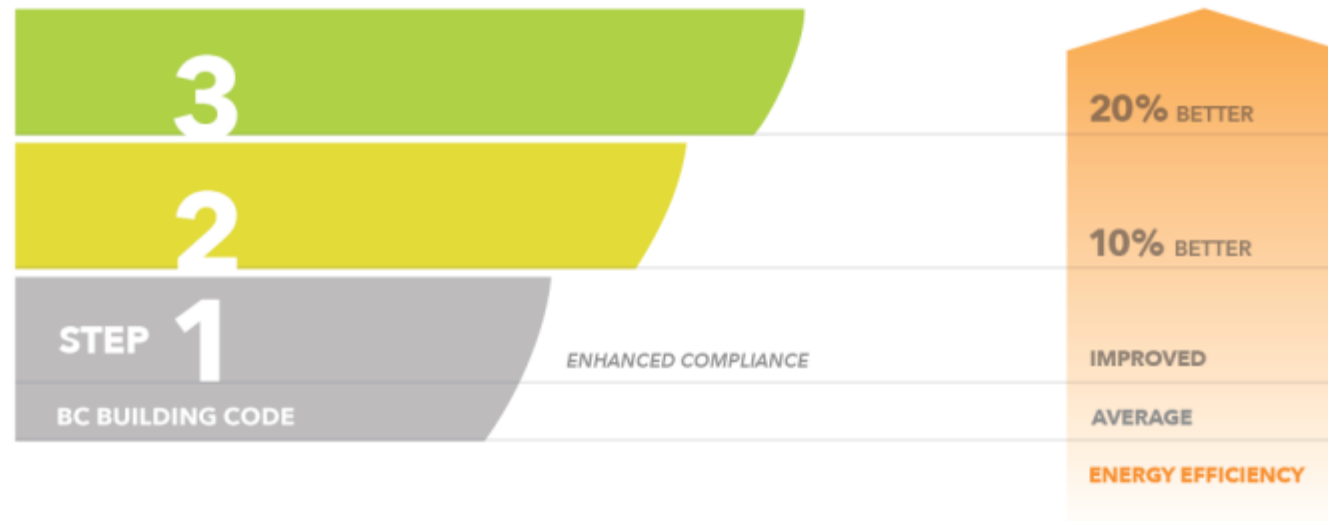
BC BUILDING CODE

AVERAGE

ENERGY EFFICIENCY

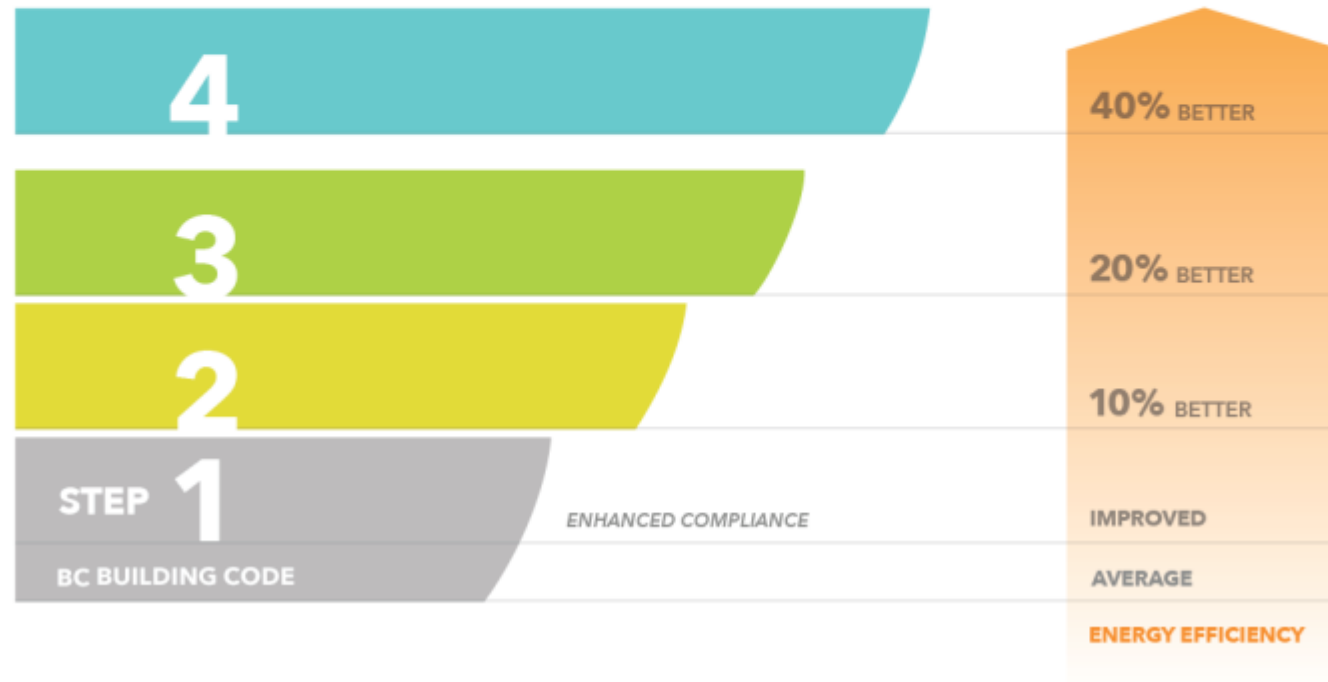
# Part 9 | Steps 2 and 3: The Lower Steps

2017 -----> 2032

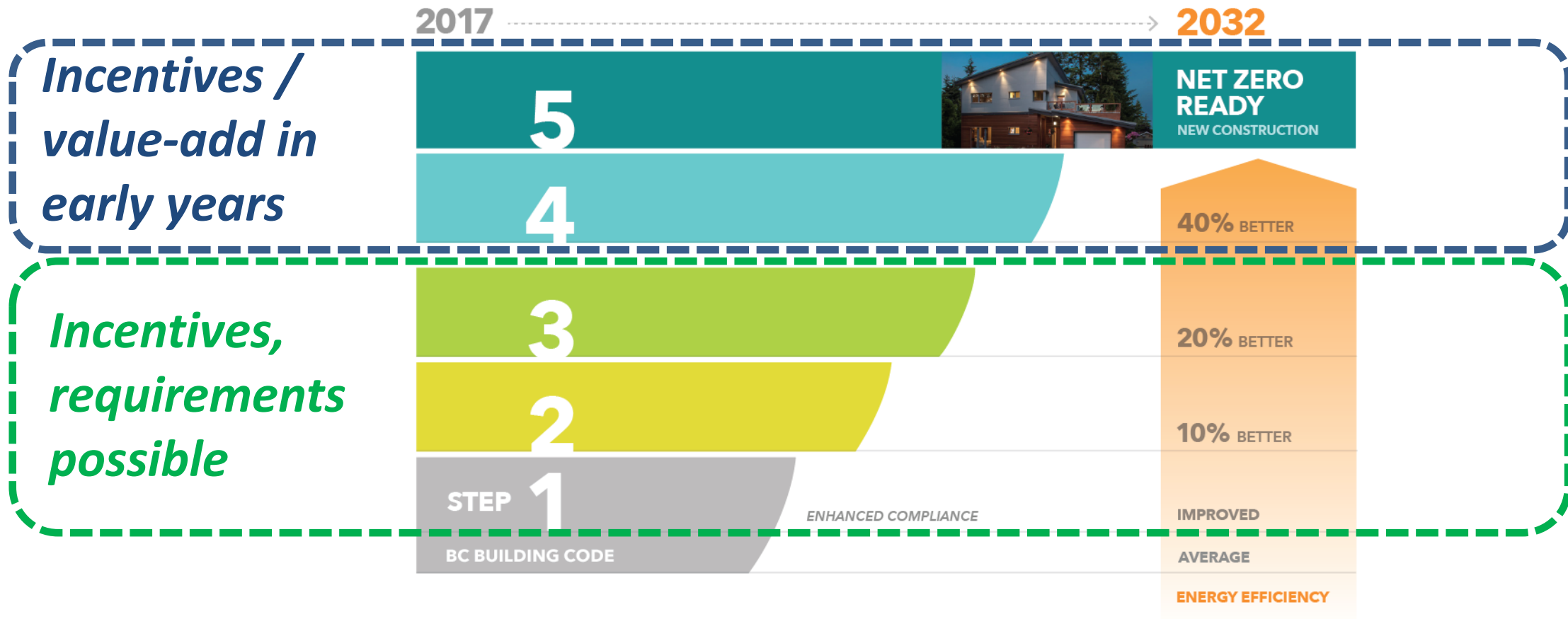


# Part 9 | Step 4: The Threshold to the Upper Steps

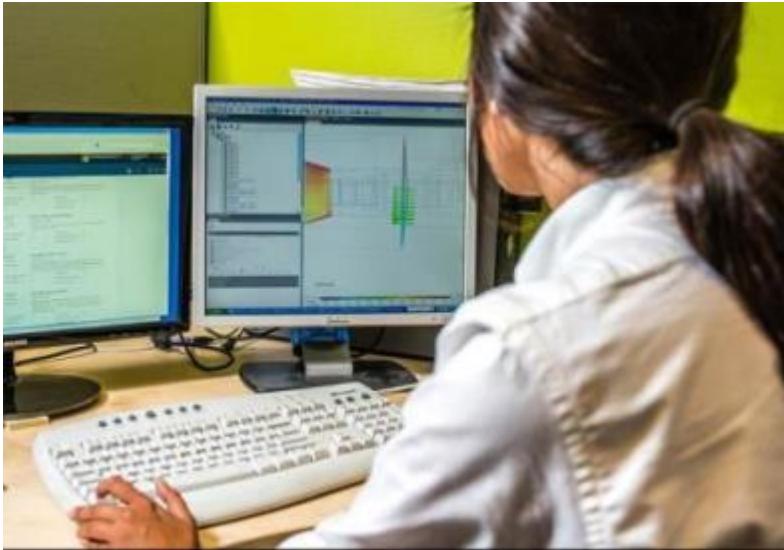
2017 -----> 2032



# Part 9 | Step 5: Net Zero Ready New Construction



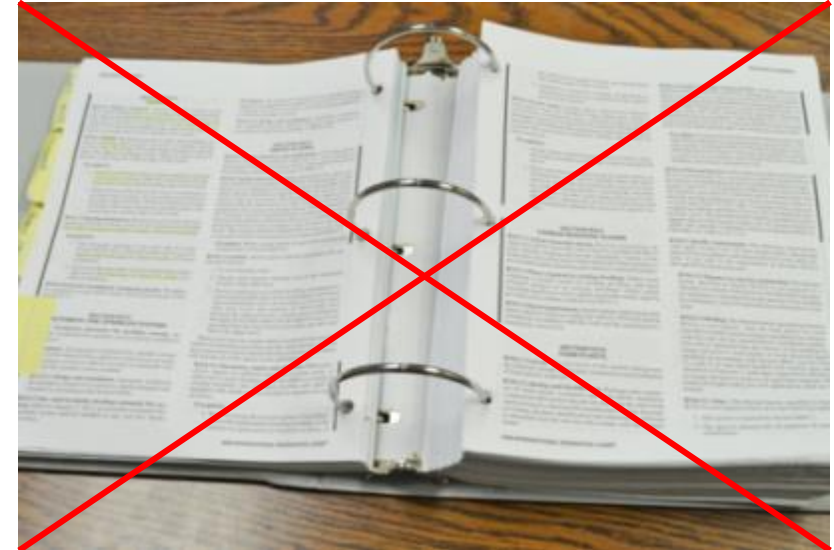
# Performance Compliance



**Energy modeling**



**Air-Tightness Testing**

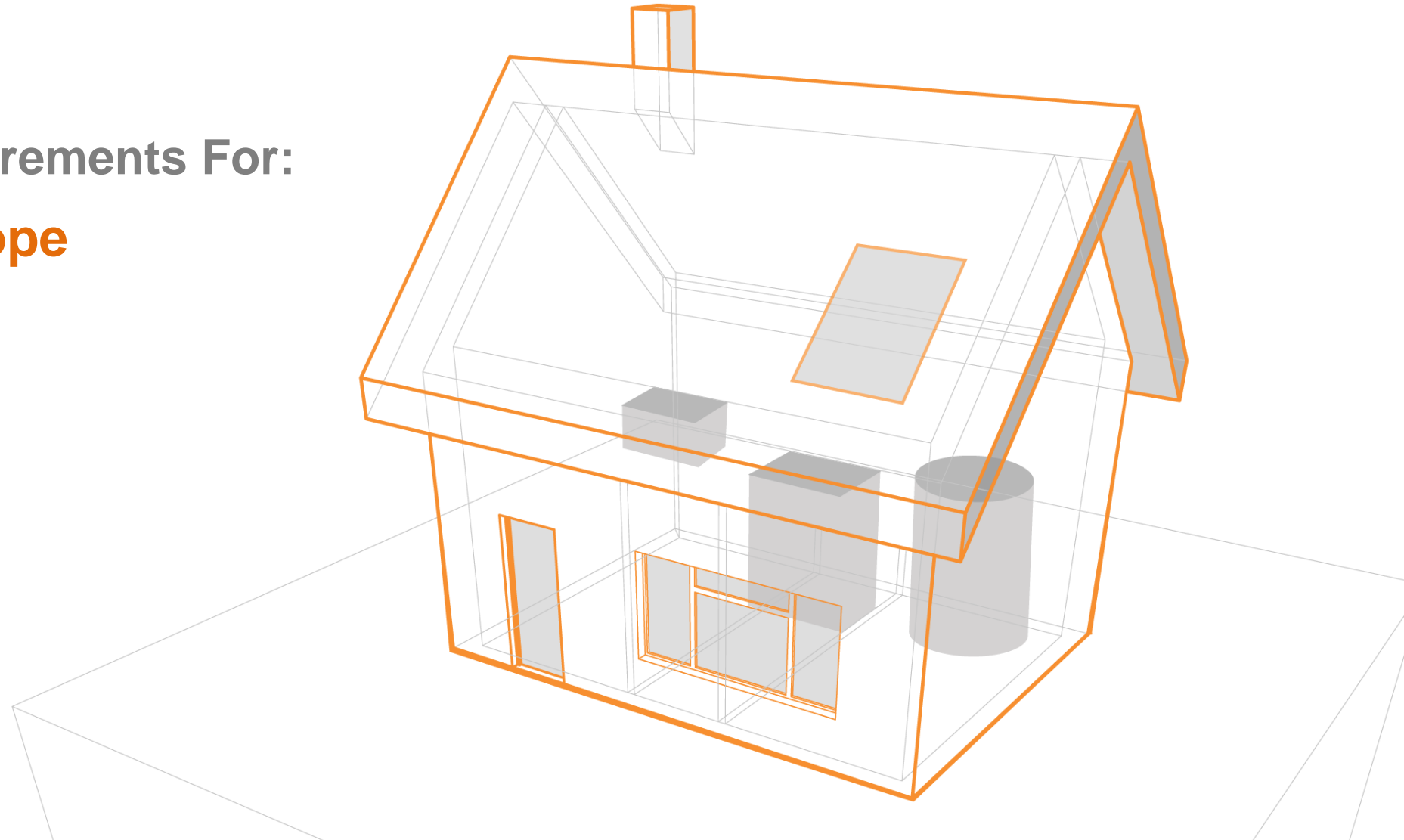


**No Prescriptive Requirements**

# What Does the BC Energy Step Code Measure?

Performance Requirements For:

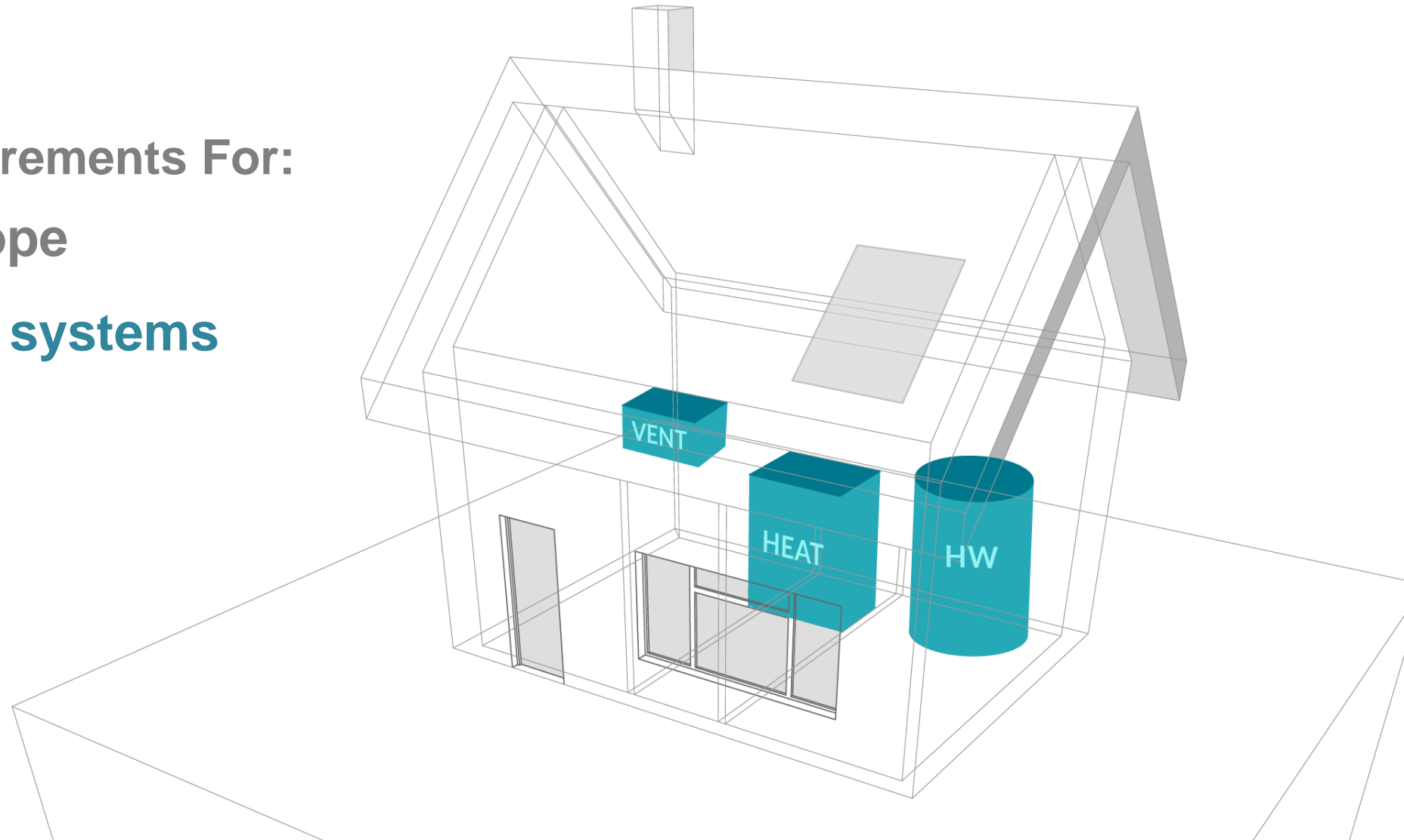
✓ **Building envelope**



# What Does the BC Energy Step Code Measure?

Performance Requirements For:

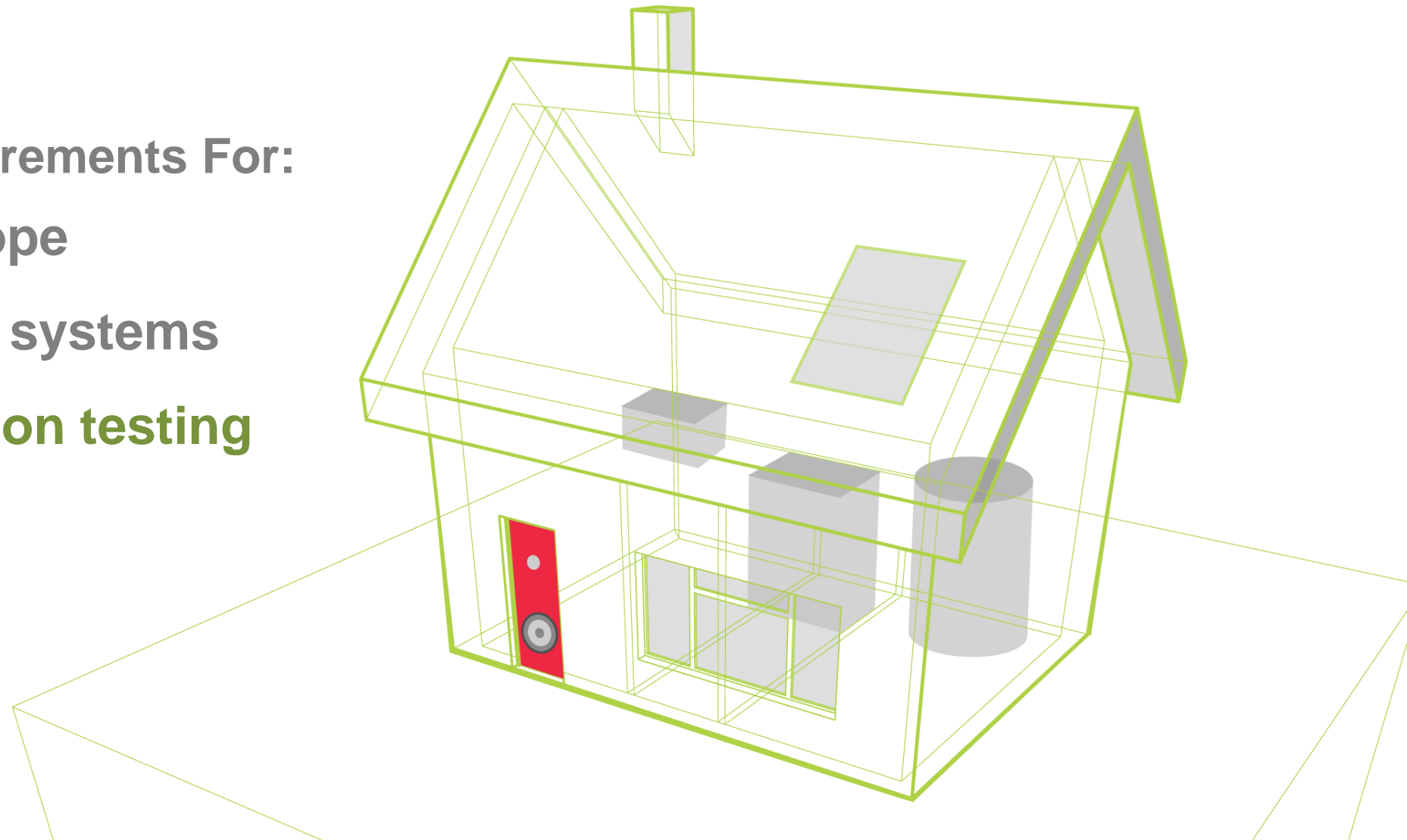
- ✓ Building envelope
- ✓ Equipment and systems



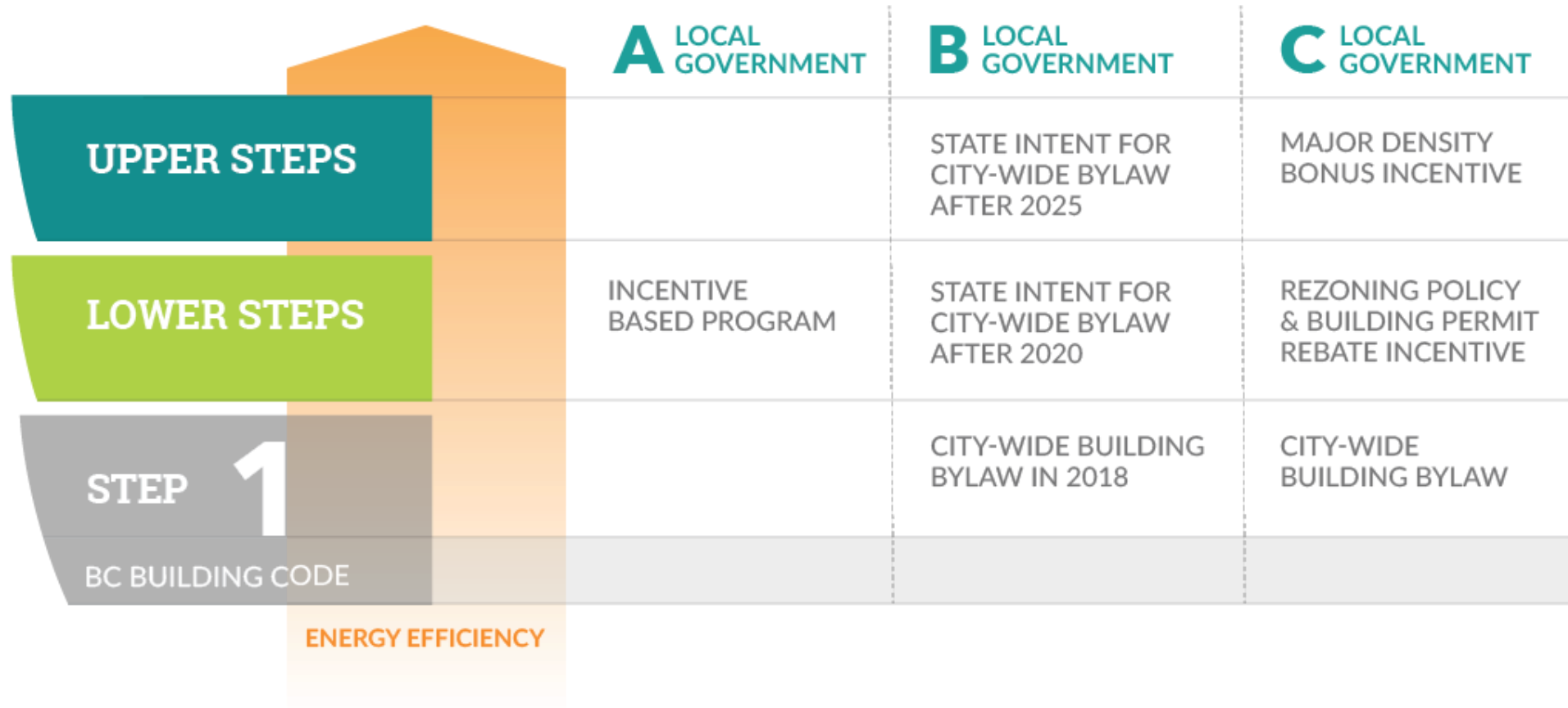
# What Does the BC Energy Step Code Measure?

## 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



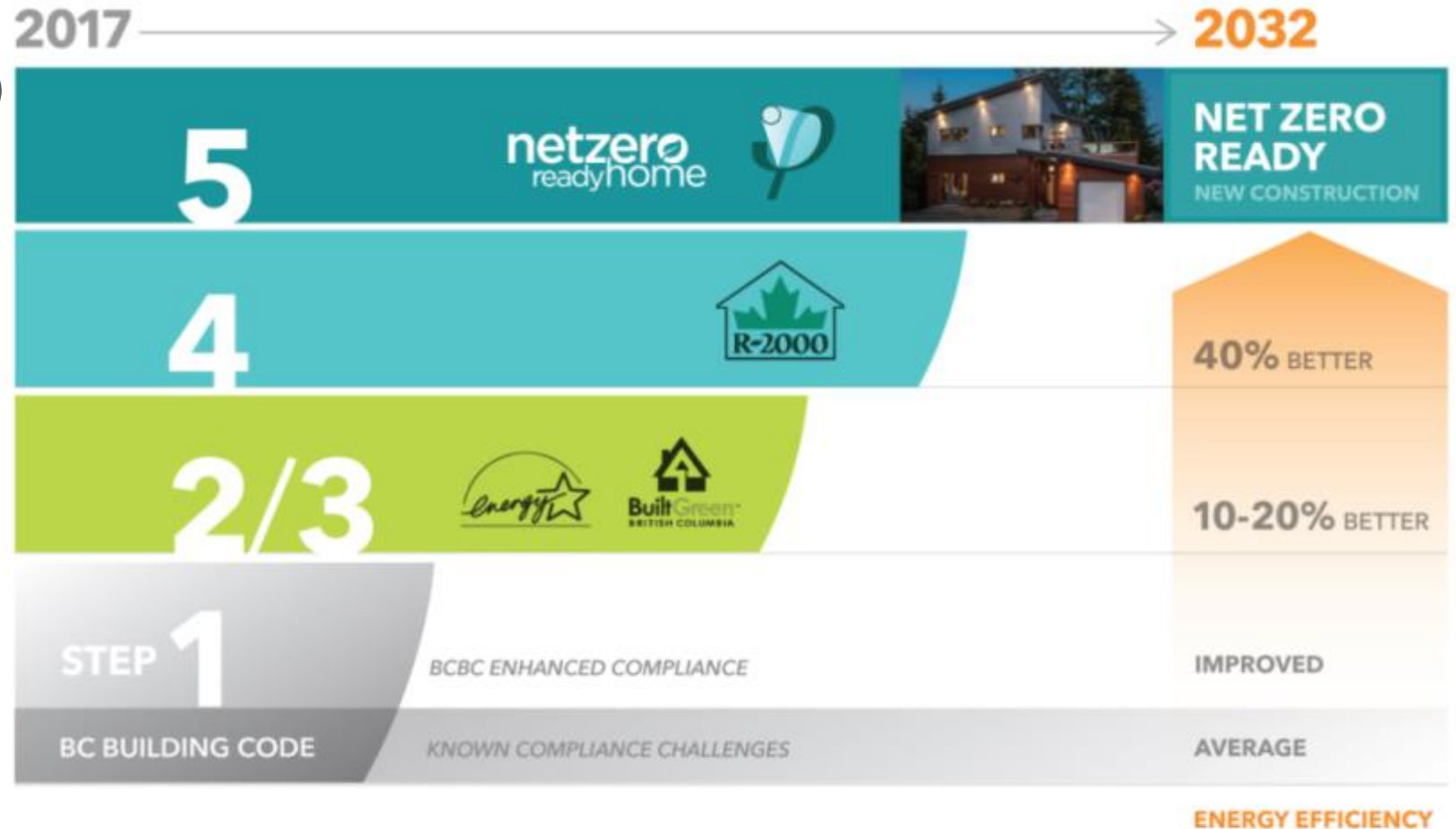
## Completed or Underway:

- Resource hub: [energystepcode.ca](http://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



**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?

**Peter Robinson**

Chief Technology Officer

Community Energy Association

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