

ENERGY
STEP CODE
BUILDING BEYOND THE STANDARD

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Program Manager

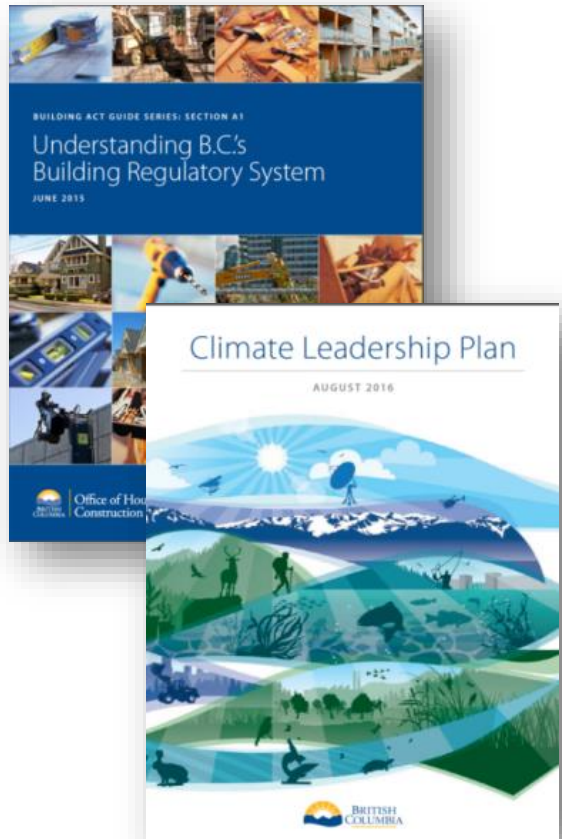
BC Hydro

Co-Chair

*Energy Step Code Capacity Building and
Communications Sub-Committee*



TWO PROVINCIAL INITIATIVES SET THE STAGE



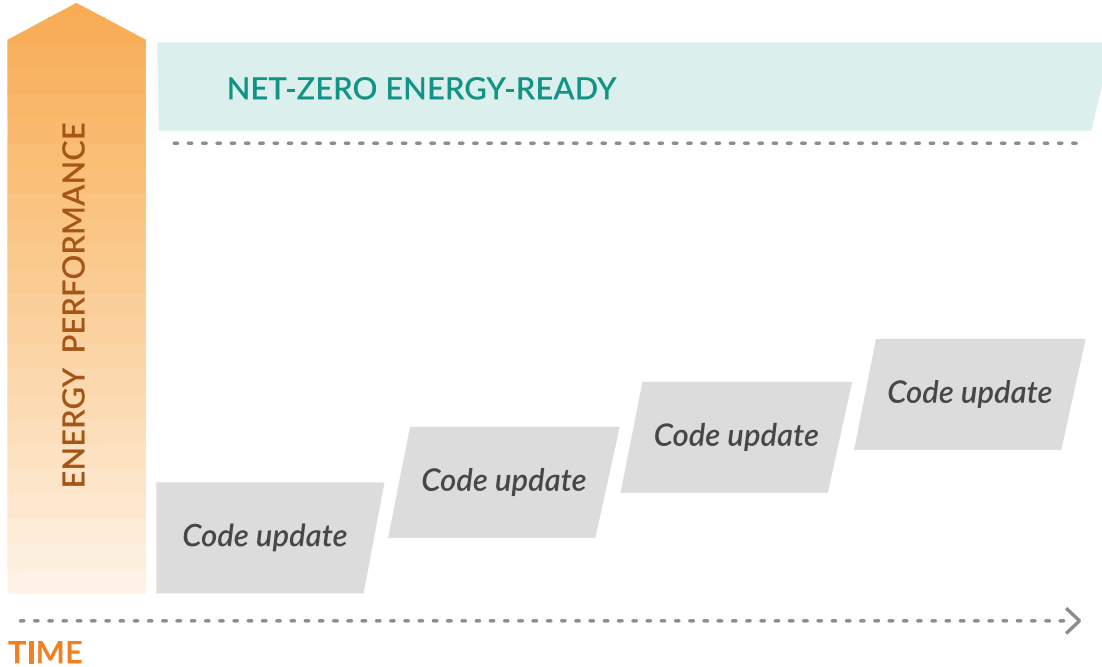
Building Act

- Consistency, Competency & Innovation
- December 2017 marks 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.

CHANGING THE BUILDING CODE...



CHANGING THE BUILDING CODE... BARRIERS

- **Complex systems**
- **Many stakeholders**
- **Different standards**



ENERGY EFFICIENCY WORKING GROUP



| PROVINCIAL GOV.

| BUILDERS & DEVELOPERS

| LOCAL GOVERNMENTS

| TRADES & PROFESSIONALS

| NGOs



| UTILITIES

City of Vancouver



2014

One certified Passive House

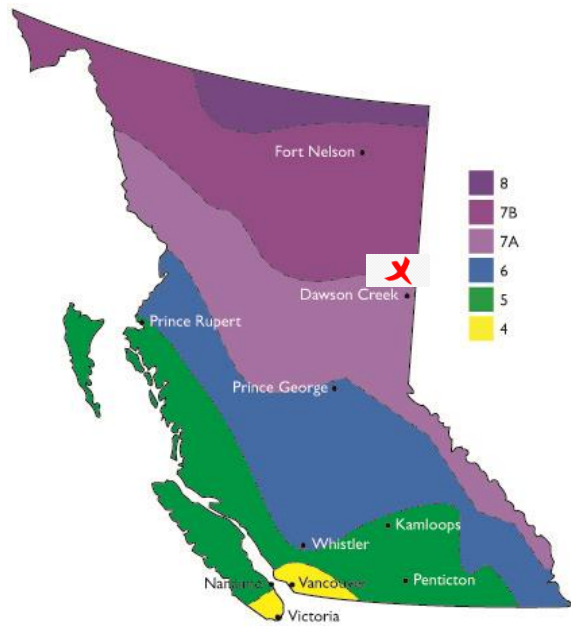


2019

4,240 residences

80 projects*

City of Fort St John



District of Invermere



2017

Step 4 Home at same market price as
“Code built” home



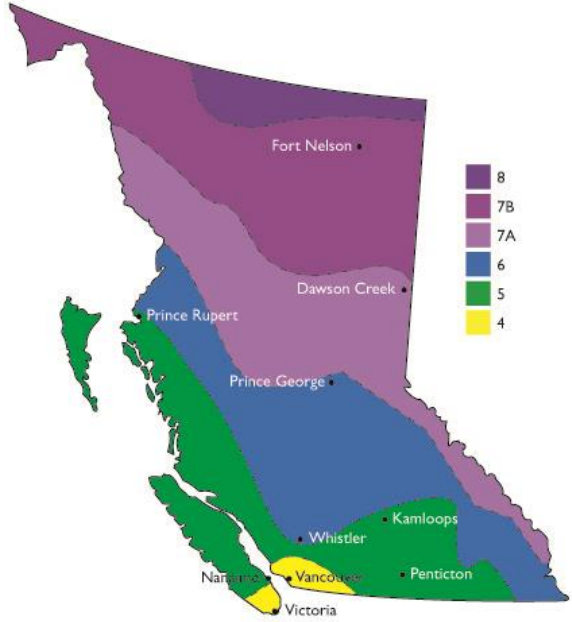
City of Nanaimo



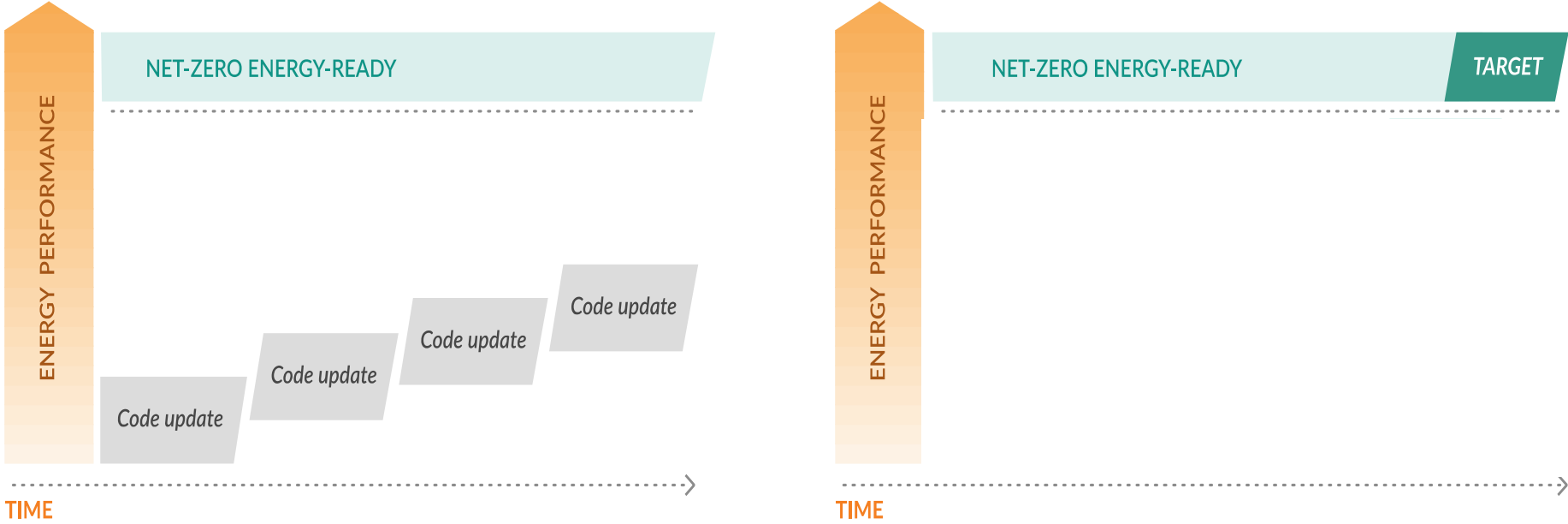
2018

Passive House certified Indigenous Housing

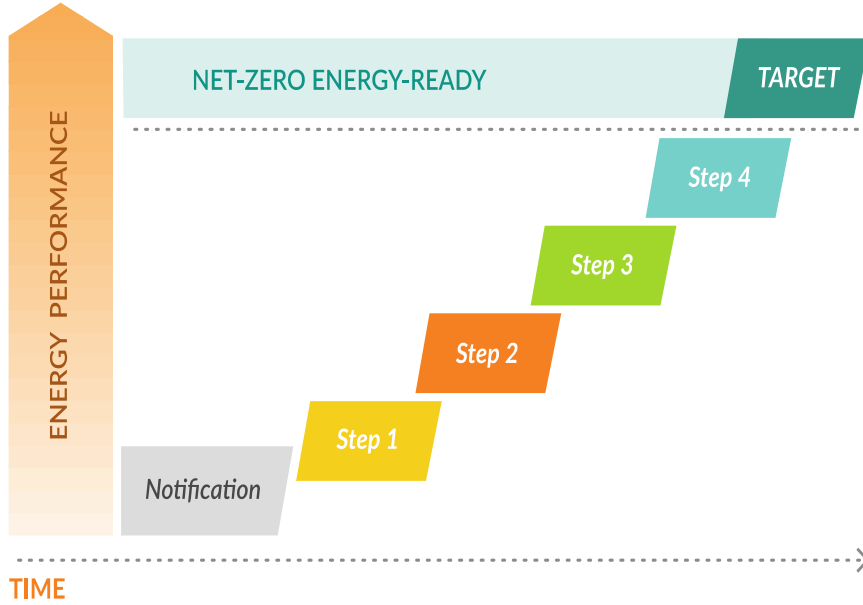
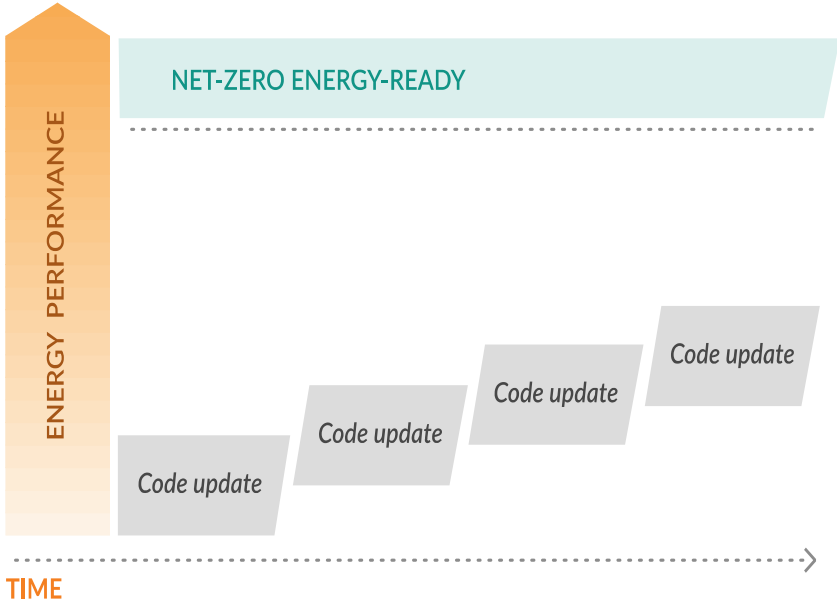
City of Victoria



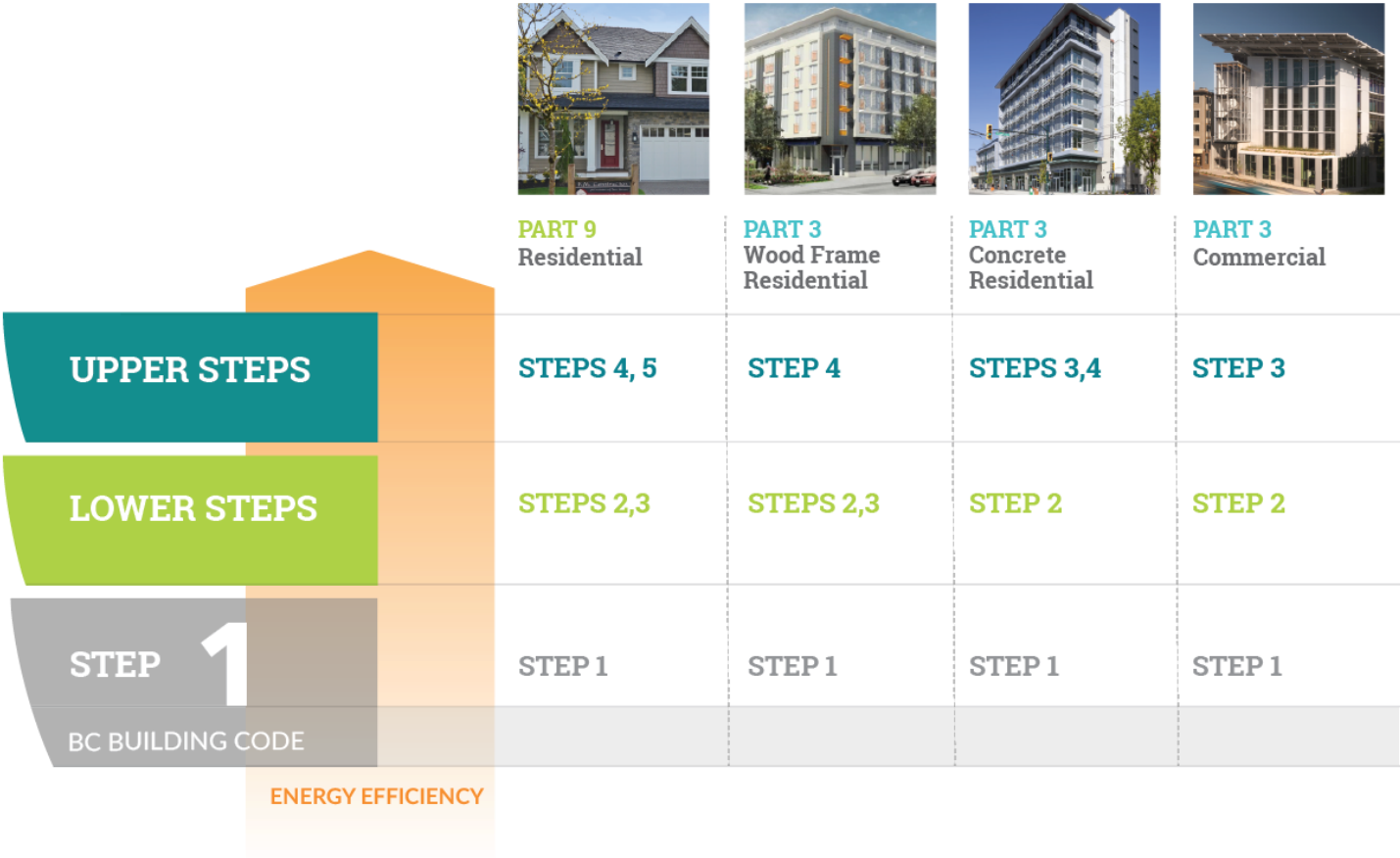
CHANGING THE BUILDING CODE... ROADMAPMING



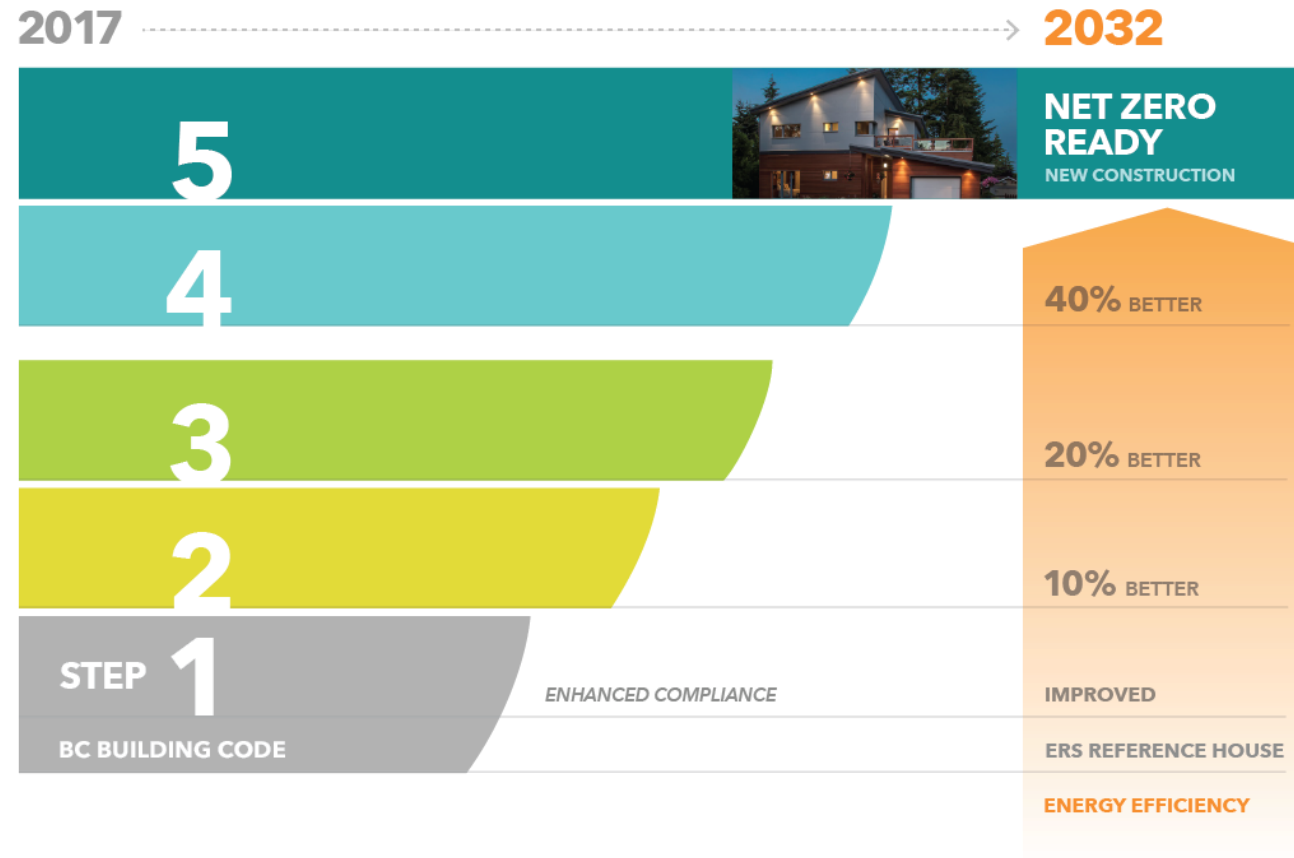
CHANGING THE BUILDING CODE... BACKCASTING



STEPS AND BUILDING ARCHETYPES



BC ENERGY STEP CODE: PART 9 BUILDINGS



WHAT DOES IT MEASURE?

Performance Requirements For:

✓ **Building envelope**

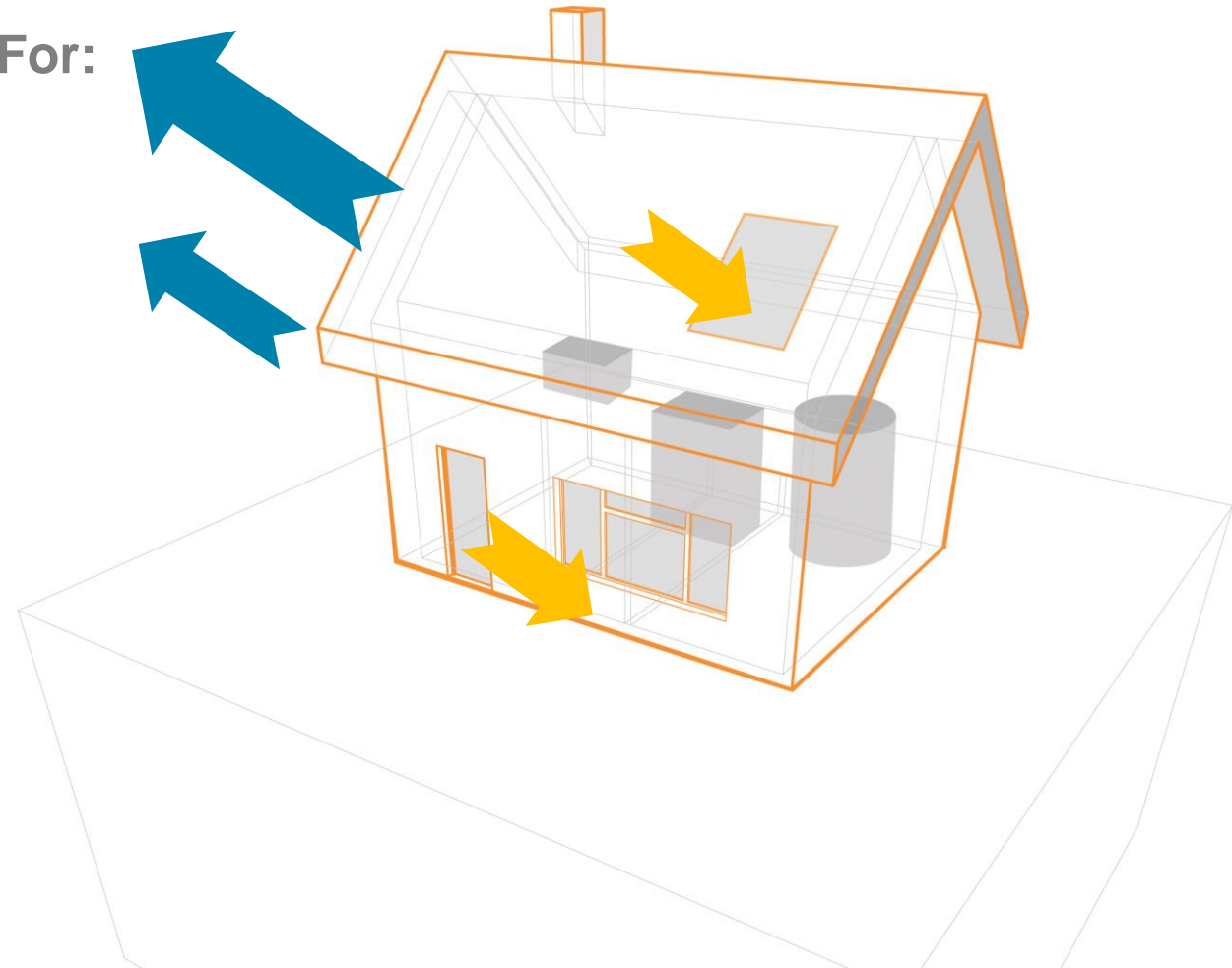
Losses

- Air tightness
- Insulation

Gains

- Solar gain
- People and equipment

Units of heat energy required for constant temperature after losses and gains (ignores equipment efficiency).



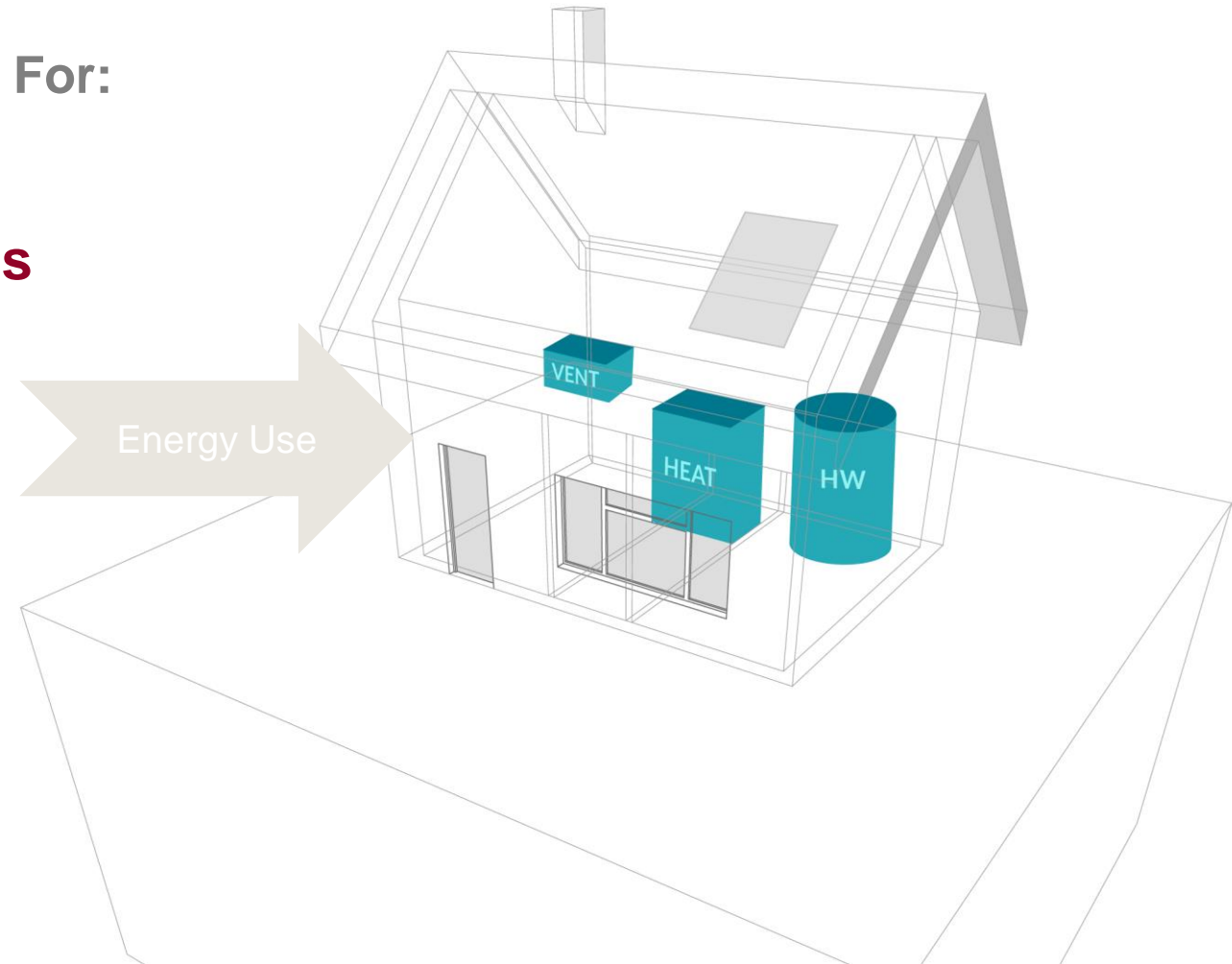
WHAT DOES IT MEASURE?

Performance Requirements For:

- ✓ Building envelope
- ✓ **Equipment and systems**

Energy Use

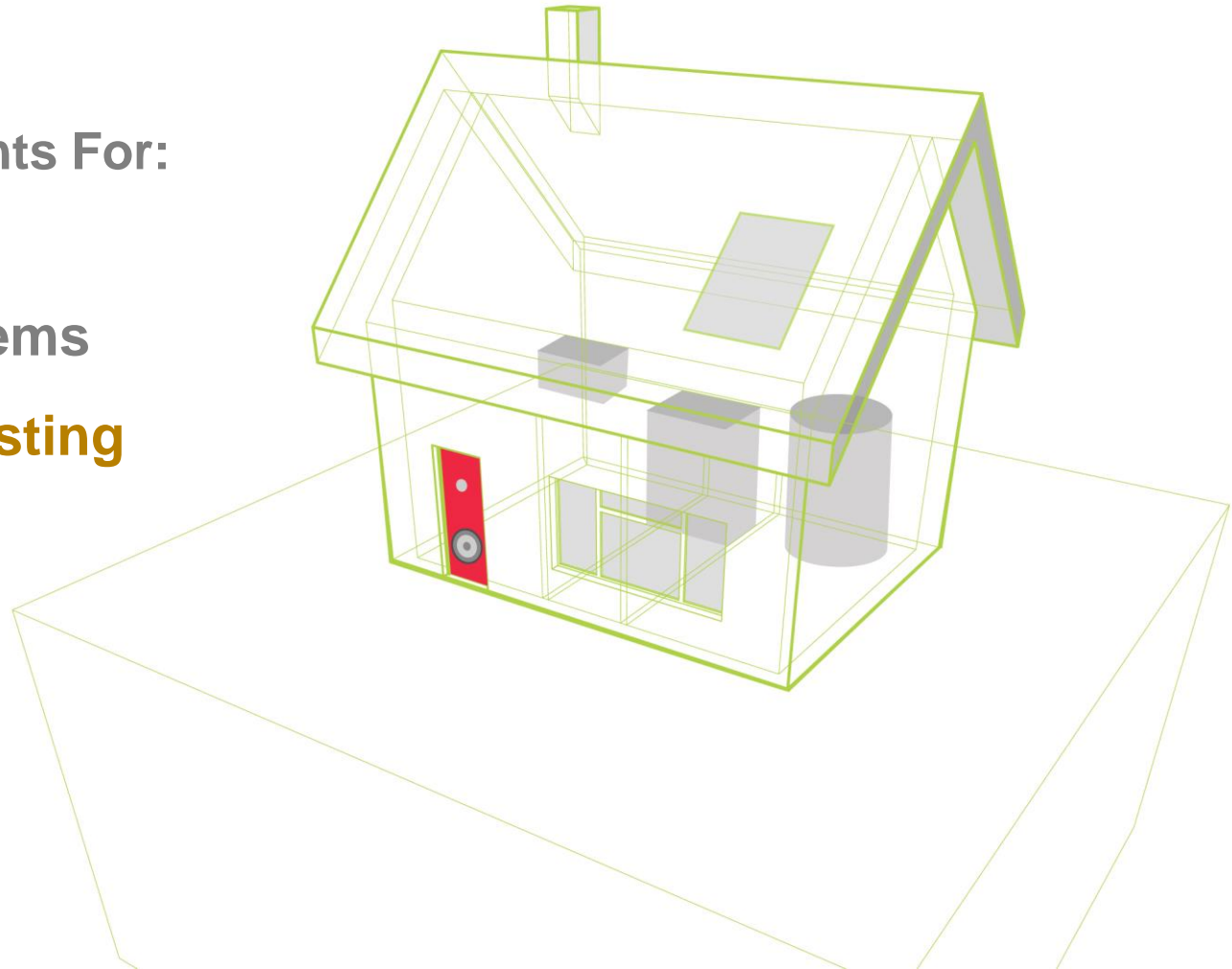
- Heat
- Water heating
- Ventilation
- Lights and plug loads
(large buildings only)



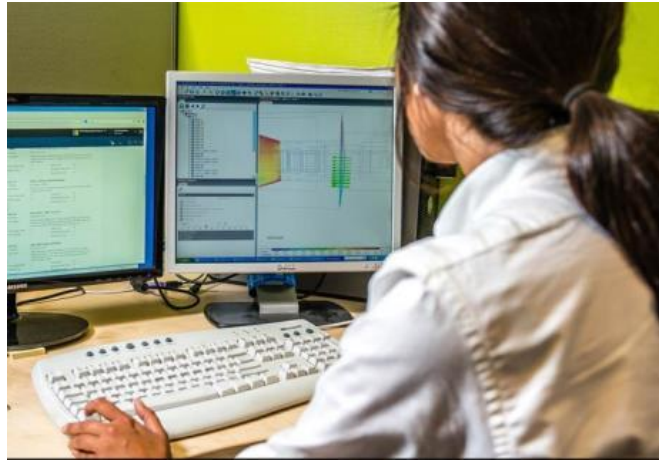
WHAT DOES IT MEASURE?

Performance Requirements For:

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



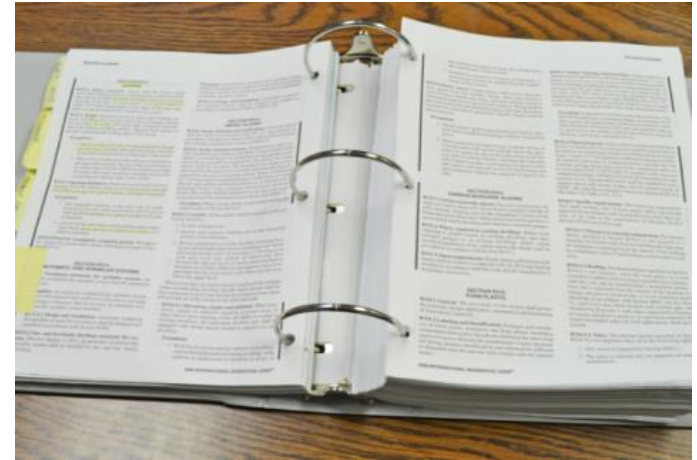
PERFORMANCE COMPLIANCE



Energy modeling

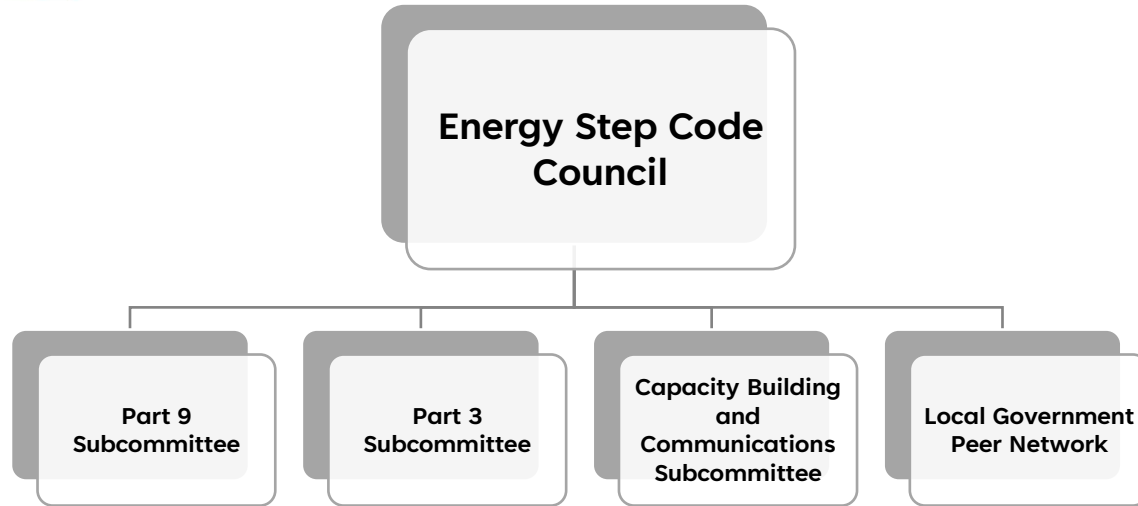


Air-Tightness Testing



No Prescriptive Requirements


CONTINUED IMPLEMENTATION SUPPORT



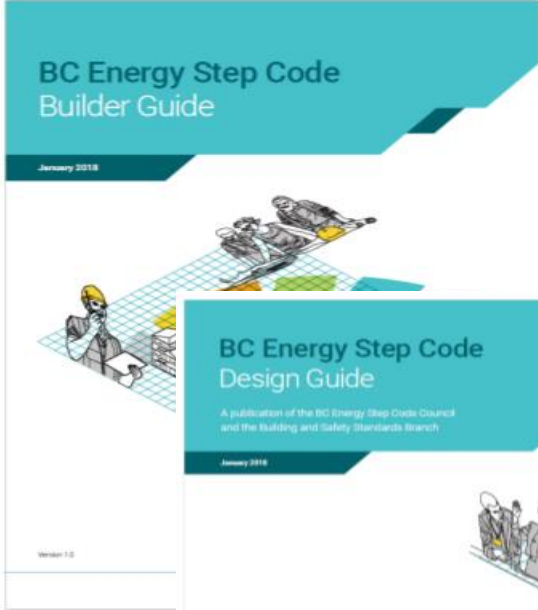
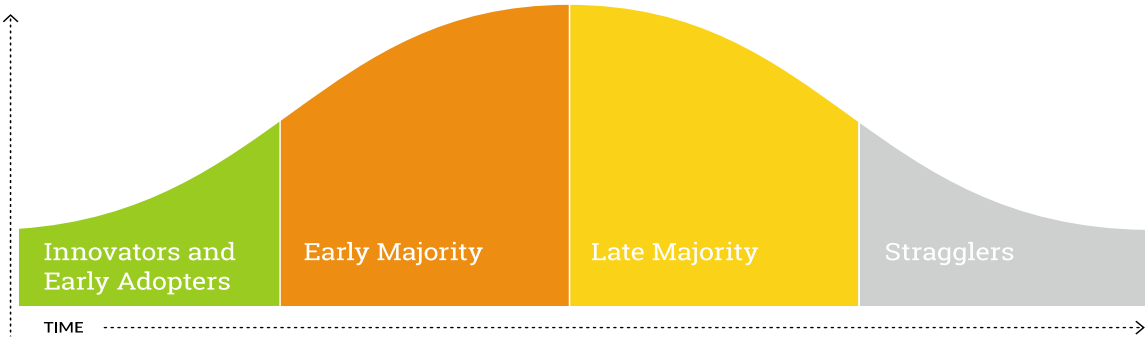
ENABLE LOCAL GOVERNMENT LEADERSHIP



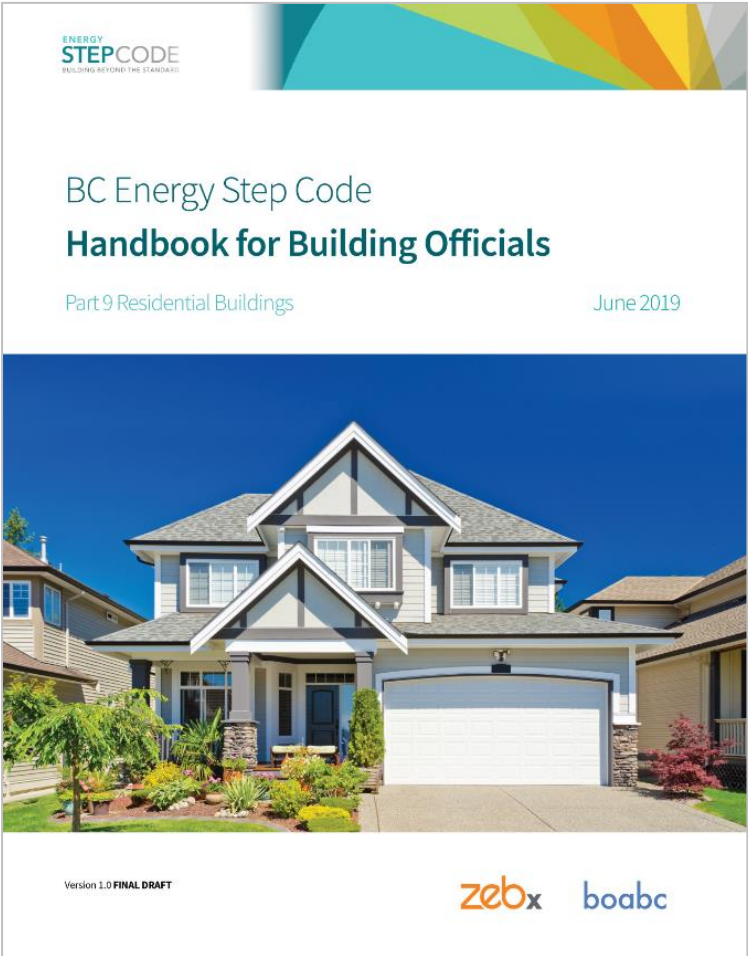
BC Energy Step Code
A Best Practices Guide for
Local Governments

 **BRITISH COLUMBIA** Version: 1.2 September 15, 2017
A publication of the Energy Step Code Council and the Building and Safety Standards Branch.

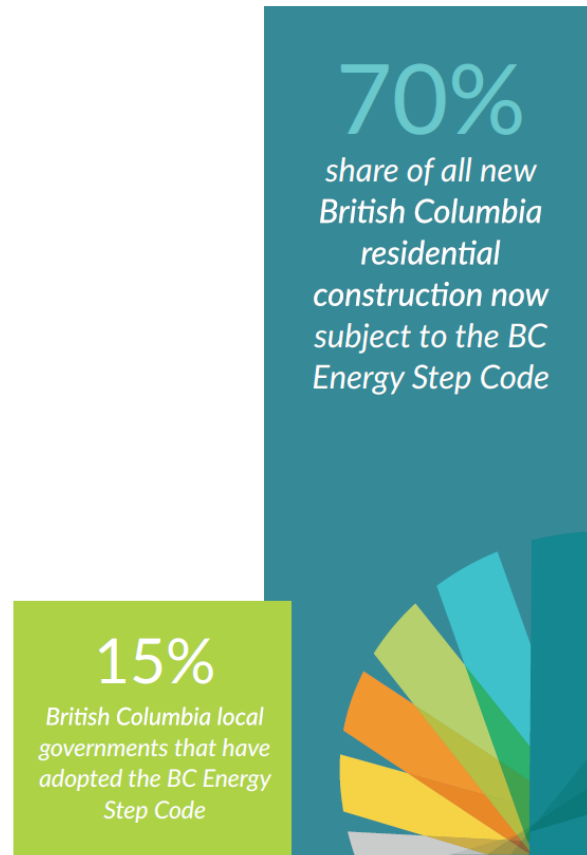
BUILD INDUSTRY CAPACITY



ENABLE COMPLIANCE



HOW DO WE DO?



Local government uptake... within one year

- As of March 2022 – 52 Local Governments have implemented the BC Energy Step Code into their Building Bylaws
- Approximately 85% of new construction in BC
- 92% of licensed builders in BC are aware of the BC Energy Step Code
- 78% of licensed builders in BC have built housing that meets one of the steps of the BC Energy Step Code

Source: BC Housing Licensed Residential Builder Survey 2021

WHAT'S NEXT?

- **Implementing Step 3 Province Wide**
 - Step 3 Performance level (20% better) will be mandatory as of 2022 BC Building Code Update
- **Zero Emissions Buildings**
 - Introduce a Carbon Pollution Standard into the BC Building Code
 - Opt-in regulation for local governments starting 2022

