



Updated Energy Step Code Implementation Strategy

May 6, 2019

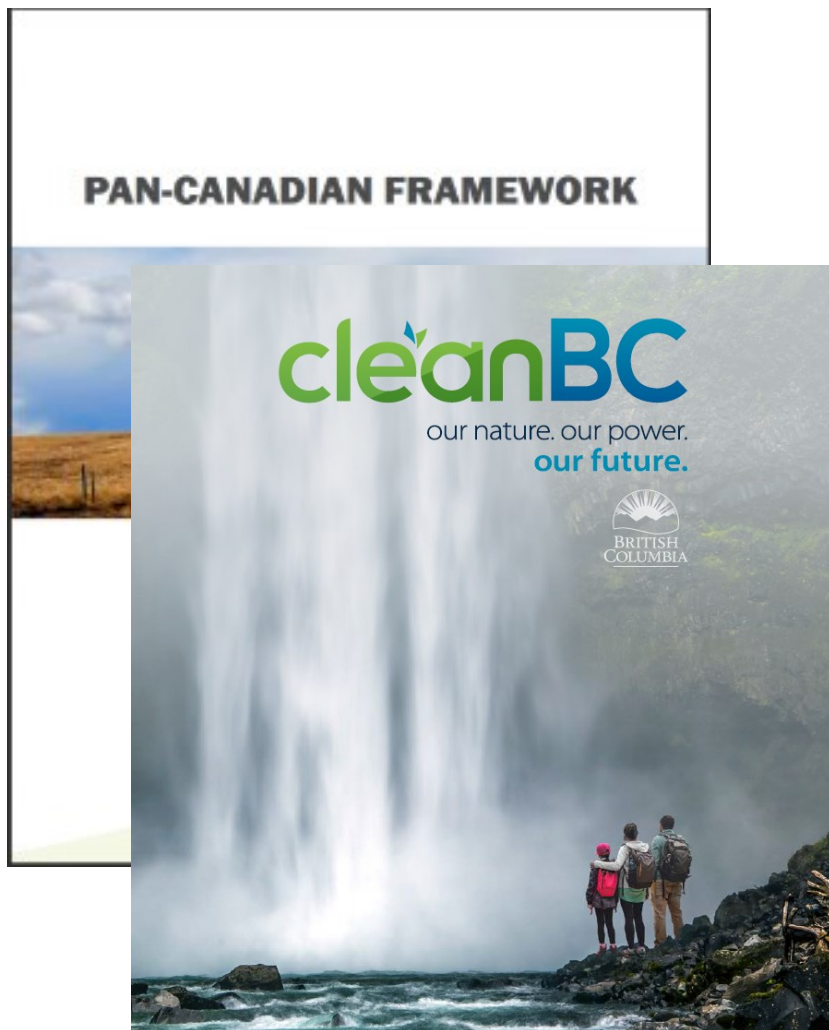


The time to act is now



Urgently need rapid, far-reaching and unprecedented change in all aspects of society by **2030** to limit global warming to **1.5°C** to avoid catastrophic impacts

National and Provincial direction



- ▶ Pan Canadian Framework
 - ▶ Federal plan to reduce GHGs
 - ▶ Net-zero energy ready by 2030
- ▶ Clean BC
 - ▶ Provincial plan to reduce GHGs and energy
 - ▶ Timeline for Energy Step Code

BC Energy Step Code

Designed to help industry move incrementally toward “**net-zero energy ready**” for all **new construction** by 2032.

Net-Zero Energy Ready

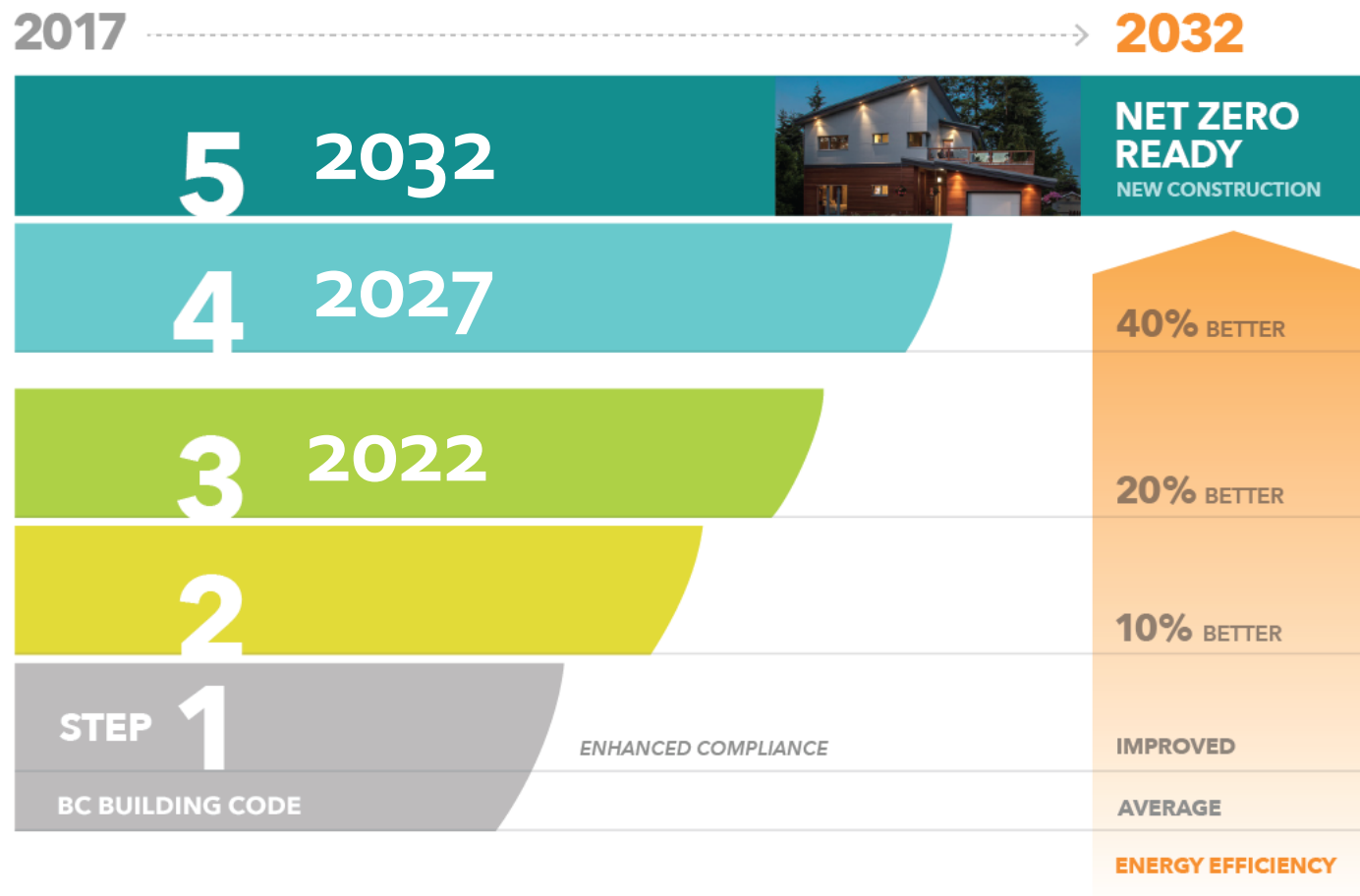
A building built to high energy efficiency standards such that it could – with additional measures – generate enough on-site energy to meet its own energy needs



Energy Modelling

On-Site Testing

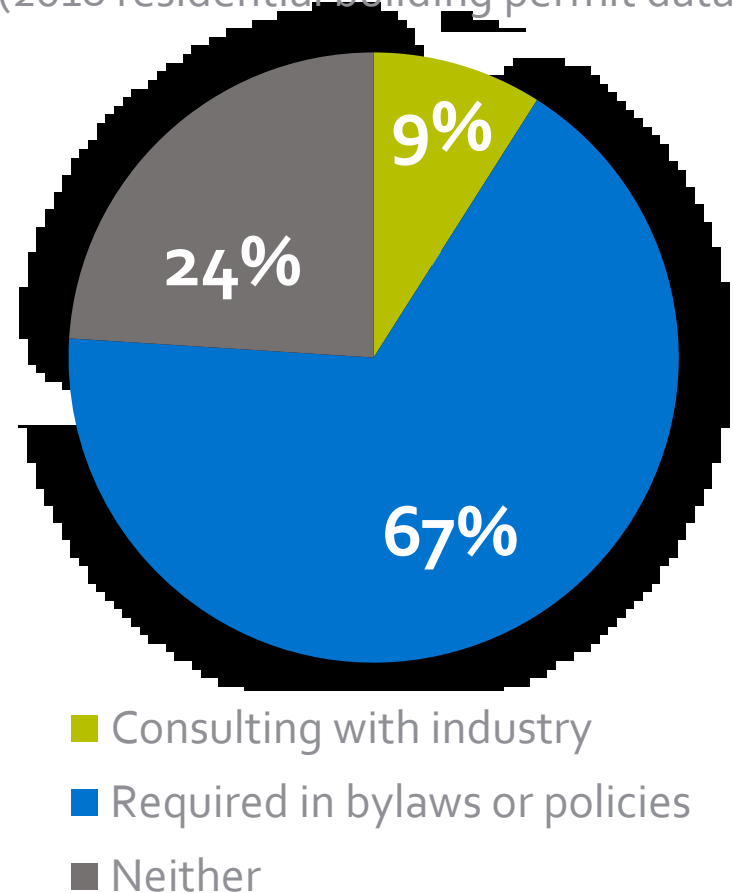
Province sets timelines



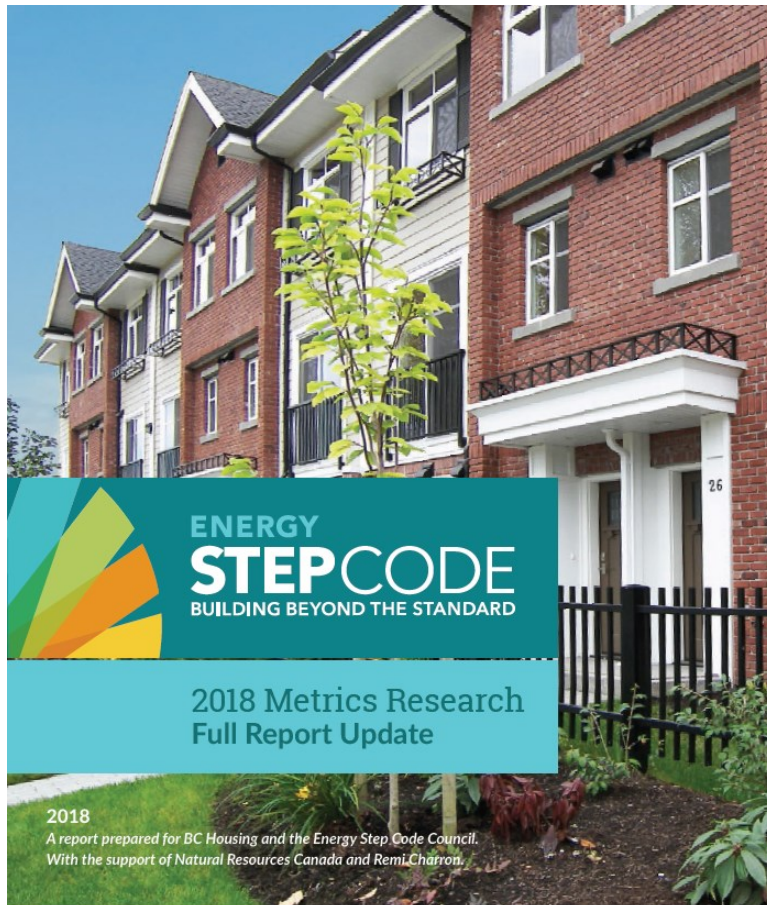
Step Code adoption

- ▶ Communities that represent two-thirds of the province's residential building permits have now enacted Step Code in building bylaws or policies.
- ▶ Local adoption:
 - ▶ Penticton
Step 1: March 15, 2019
 - ▶ Lake Country
Step 1: April 1, 2019

Status of implementation
by building starts
(2018 residential building permit data)



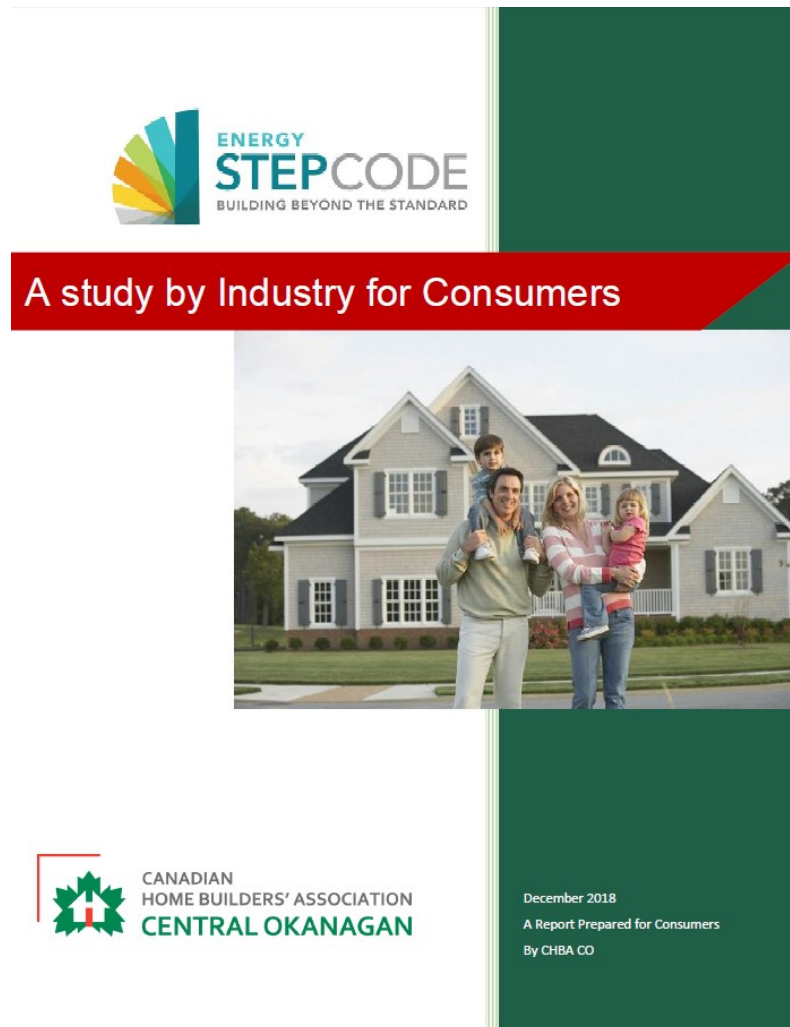
Costing studies



▶ BC Housing's Metrics Research

- ▶ Studied how to achieve low costs for each step based on **optimized** building design
- ▶ Costs varied between 0.4 – 1.2% to achieve Step 3

Costing studies



▶ CHBA-CO Costing Study

- ▶ Studied **incremental costs** to an **existing design** to meet various steps
- ▶ Costs varied between 2.5 – 6.4% to achieve Step 3

Costing studies

INSIDE THE STEP 3 HOME

Projects that point to the future of B.C. home performance

CASE STUDY: Maryland Residence, Campbell River



Project size:
2,525 square feet
Build cost:
\$381,564 or \$151/sq. ft.
Climate zone 5

This Campbell River four-bedroom home reaches Step 3 for a total cost premium of... zilch. The secret? Everyday materials and a strict attention to detail.

0% above
cost to build to the
existing energy efficiency
requirements of the
BC Building Code

Two of the many strategies used to boost performance include:

SEAL IT UP

The crew sealed the house with standard building wrap, taping it to poly plastic sheathing on the underside of the roof trusses, and at the foundation. They also spray-foamed the boards covering the ends of joists, and in a zillion other places. Result? An impressive 1 air change per hour. (A Step 3 home must clock in at, or under, 2.5.)

MIND YOUR MACHINES

A air-source heat pump keeps the home cozy through the chilly and damp northern Vancouver Island winters. A tankless on-demand natural gas water heater serves up abundant hot water – and allowed Farren to access a utility incentive.

I've been given a chance, as a builder, to do my part to make more responsible housing. All the technology is out there, why wouldn't you want to use it?
- Todd Farren, builder



▶ BC Hydro' Community Energy Managers' Network Case Studies

- ▶ Studied 5 **recently constructed** single family homes
- ▶ Costs varied from 0-2% to achieve Step 3 (4 homes)



**90,000 Total
Units by 2040**



**30% of Units will
be built after 2018**



Actions for New Housing Built After 2018

- 1. Energy Step Code for Part 9 (2019)**
- 2. Energy Step Code for Part 3 (TBD)**

Engagement

- ▶ **Over 55 touchpoints** from Sept. 2017 to April 2019:
 - ▶ Meetings, print, email, web, industry surveys, targeted training
- ▶ **Energy Step Code Solutions Lab**
 - ▶ February 12, 2019
 - ▶ Diverse group of representatives



*Photo credit: Energy Step Code Council March 2019
Monthly Update*

Solution Lab task

Diverse group of impacted industry stakeholders worked together to create a solution that incorporated reducing energy use while building industry capacity between now and 2022.

FOCUS
Getting to 2022

**We
are
here**

2019

2020

2021

2022

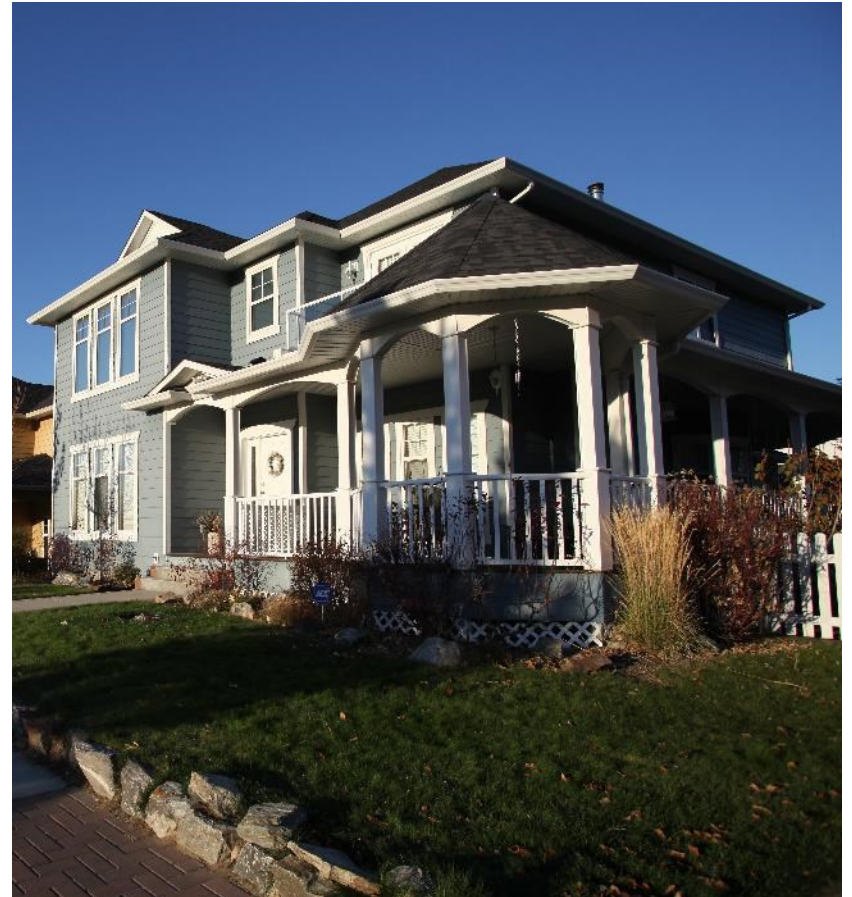
**20%
Step 3**

Solutions Lab summary

	2019				2020				2021				2022			
Step 1			✓		✓			✓					Province requires Step 3 20% more efficient			
Step 2			✓	✓												
Step 3					✓			✓			✓				✓	
	Mar-19	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22

Updated Implementation Strategy

- ▶ For Part 9 Residential Buildings
 1. Timeline
 2. Incentives
 3. Training



Timelines

	Original Proposal (August 27, 2019)	Revised Implementation Strategy (May 6, 2019)
Step 1	April 1, 2019	December 1, 2019
Step 3	October 1, 2020	June 1, 2021

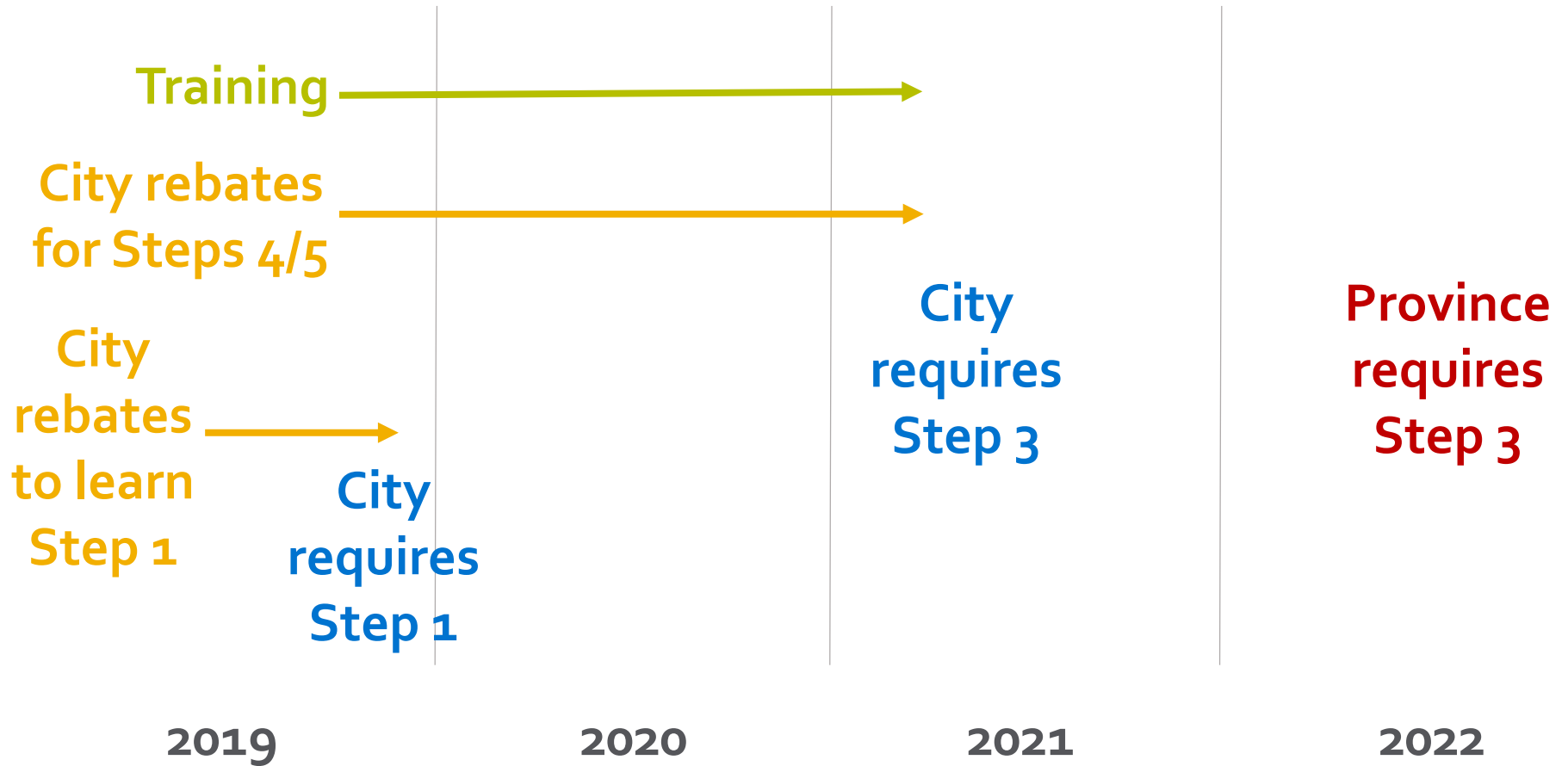
Incentives

	Original Proposal (August 27, 2019)	Revised Implementation Strategy (May 6, 2019)
City Financial Incentives	Building Permit rebates: <ul style="list-style-type: none">• \$500 for Step 4• \$1,000 for Step 5	Building Permit rebates: <ul style="list-style-type: none">• \$500 for an energy advisor and final construction blower door test <i>(until Nov. 30th 2019)</i>• \$500 for Step 4• \$1,000 for Step 5
Zoning Incentives	<ul style="list-style-type: none">• Relax setbacks for Step 5 homes	<ul style="list-style-type: none">• Relax setbacks for Step 5 homes

Training

	Original Proposal (August 27, 2019)	Revised Implementation Strategy (May 6, 2019)
Training		<ul style="list-style-type: none">• Building officials training on permitting process• Builders and trades training: understanding the permitting process• Explore other opportunities through ESC Council, FortisBC, and Okanagan College

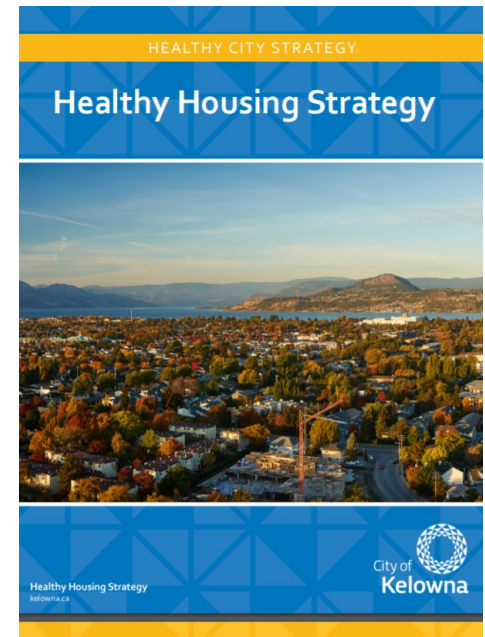
Step Code timeline



Delivering on our plans

- ▶ Kelowna's Community Climate Action Plan
 - ▶ City-wide requirement for Step Code by April 2019
 - ▶ Relax setback requirements in Zoning bylaw
 - ▶ Create a building permit rebate program to incentivize Upper Steps
- ▶ Kelowna's Healthy Housing Strategy
 - ▶ Implement Step Code to increase energy efficiency and reduce household carrying costs.

City of Kelowna



Council Priority: Environmental Protection

- ▶ Goal: adaptable in the face of climate change
 - ▶ Greenhouse gas emissions are decreasing
 - ▶ Resiliency & adaptability to climate change



Next steps

1. Consultation on Energy Step Code for Part 3 buildings
 - ▶ Examples of Part 3 buildings include larger apartment buildings, condos, etc.
2. Develop Community Retrofit Strategy



Actions for Pre-2018 Housing Stock

1. Community Retrofit Strategy (City-led 2019)
2. Provincial Retrofit Code (BC Gov 2024)

When we build better buildings, we are putting new skills and newly skilled workers to work, and the building or home owner is going to save money in the long run.

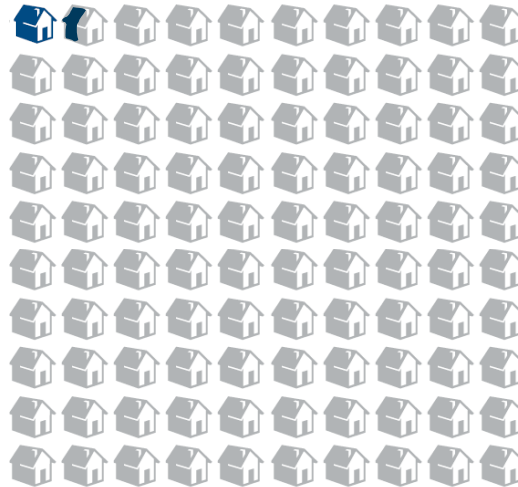
CleanBC, 2018



Impact through Leadership



Voluntary
Uptake



Incentive
Uptake



Combined
Approach –
Regulation &
Incentives



Questions?

For more information, visit kelowna.ca.