



CAPITAL HOME ENERGY

The Zero Carbon Step Code: An Introduction

Capital Home Energy Inc

May 1st 2023

ZERO CARBON
STEPCODE

Today's Presentation

- Buildings and climate change
- Overview of the regulation
- Compliance options with sample projects
- Sample proposed implementations

Fossil fuels in buildings drive climate change

Relative share of overall carbon pollution produced by natural gas, fuel oil, and propane burned in buildings.

57%

City of Vancouver



12%
British
Columbia



29%

City of Kamloops



38%

City of
Prince George



Top residential carbon pollution sources

Fossil fuel space and water heating equipment contributes the majority of household carbon pollution.



64%

Space heating



35%

Water heating



1%

Cooking



Zero-carbon electric equipment

Electric heat pump



Electric water heater



Induction stove

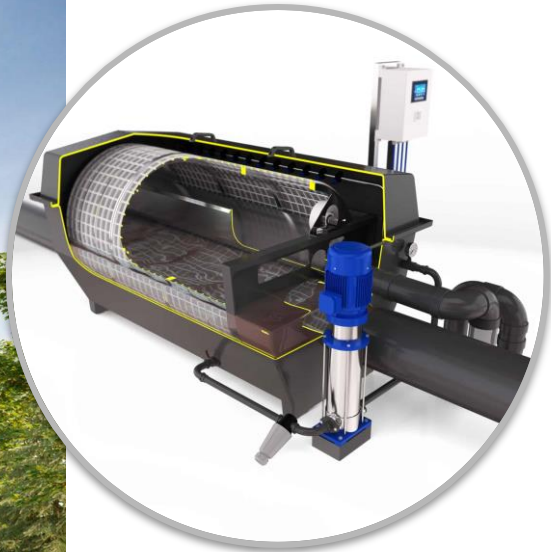


Zero carbon energy systems - MURBs



Courtesy Innovation Building Group

Zero carbon energy systems - Civic facilities



Gravity-fed filtration system
dramatically reduces energy use

Courtesy HCMA, inBlue / ULTRAAQUA group



ZERO CARBON

STEP CODE

Origin of the new regulation

“By 2030, all new buildings will be zero carbon, and all new space and water heating equipment will meet the highest standards for efficiency.”

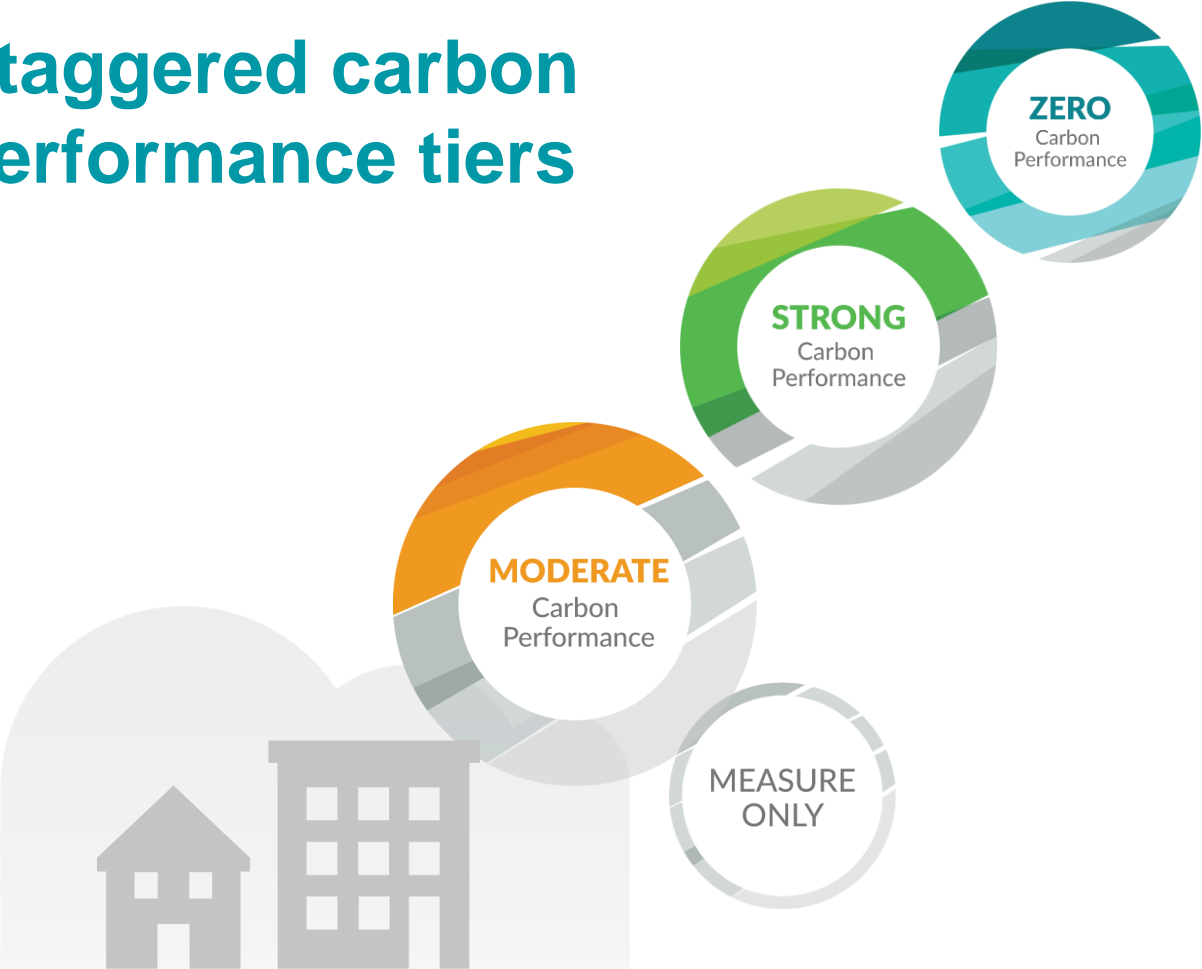
– *CleanBC Roadmap to 2030*



Roadmap to 2030



Staggered carbon performance tiers



Many types of buildings can be regulated under the **Zero Carbon Step Code**

Part 9:

Smaller + simpler buildings, specifically...



Homes and smaller residential buildings

Part 3:

Larger and more complex buildings, including...



Offices

Condos + apartments

Financial institutions

Retail + grocery stores



Compliance options
and sample projects:
Part 9 homes

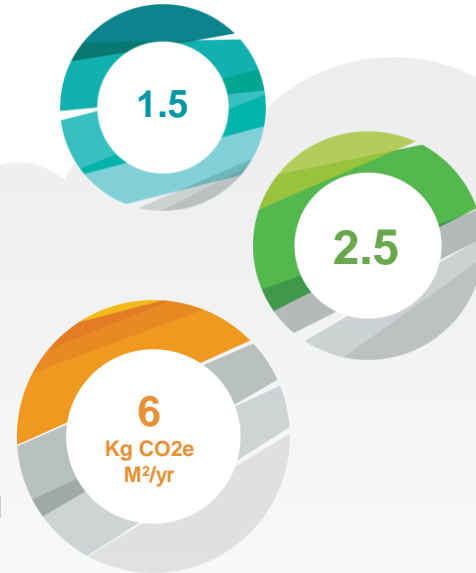
Industry compliance: Homebuilders and the performance approach

Quantity of carbon pollution



Maximum GHG emissions per home per year

Intensity of carbon pollution



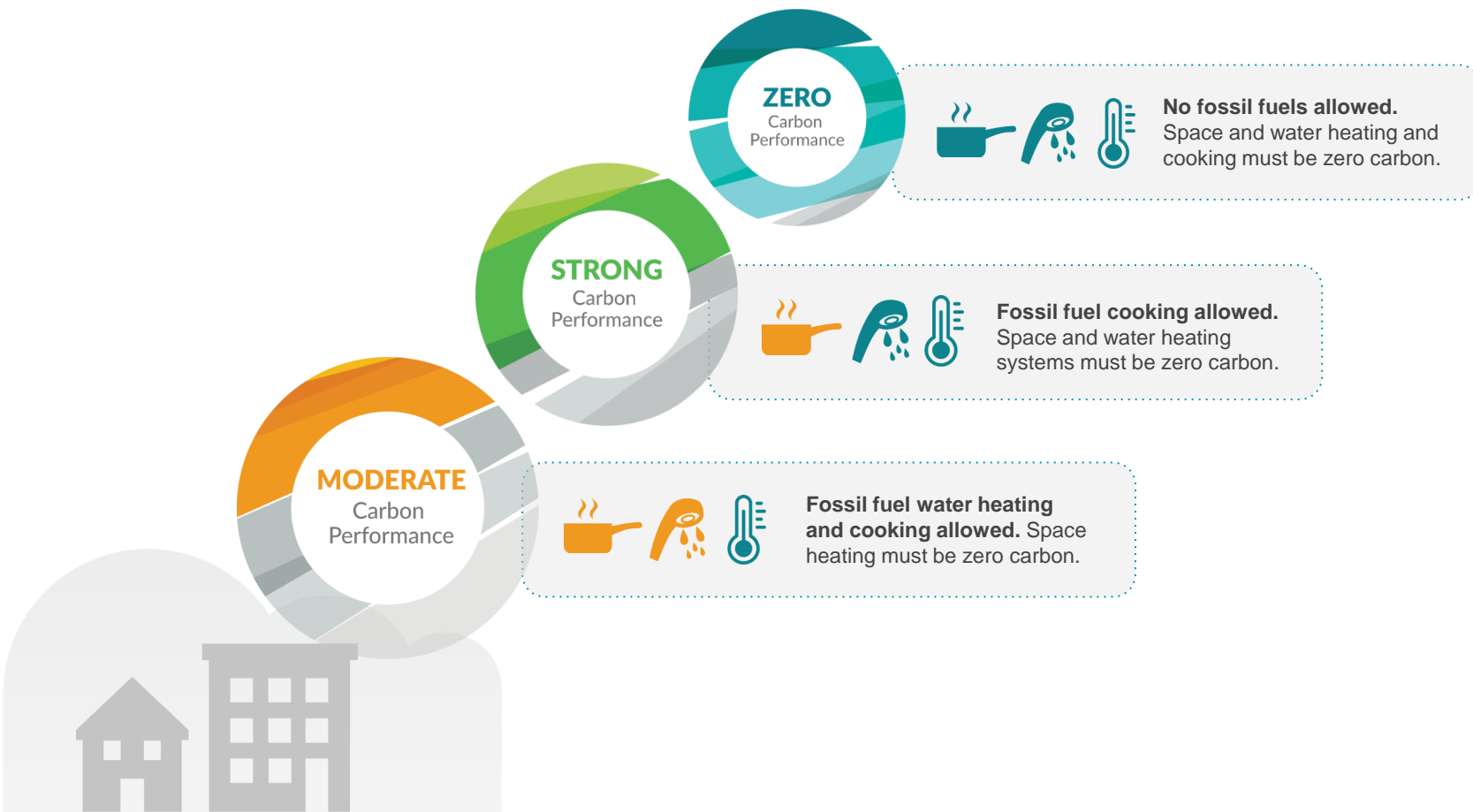
Maximum GHG intensity per home per year



Industry compliance: Homebuilders and the prescriptive approach



Industry compliance: Homebuilders and the prescriptive approach



Zero Carbon Performance: Westside Residence, Invermere

Four bedrooms
143 square metres
Climate zone 6

All electric systems:
Air source electric heat
pump, conventional
electric hot water tank.

248

Kg/CO₂e/yr



Courtesy thinkBright



Compliance options and
sample projects: **Part 3**
Larger buildings

Industry compliance: Developers and the performance approach



Maximum GHG intensity per building per year

Moderate Carbon Performance: First Avenue Supportive Housing, Prince George



Four stories
48 units
3,037 square metres
Climate zone 6

Natural gas hot water,
through-wall electric heat
pumps in each unit,
induction cooktops

3.9
kgCO₂e
M²/year

Courtesy Connective

Zero Carbon Performance: UBC Okanagan Skeena student residence, Kelowna

220 units
7,018 square metres
Climate zone 5

All-electric heat, hot water,
and cooking.

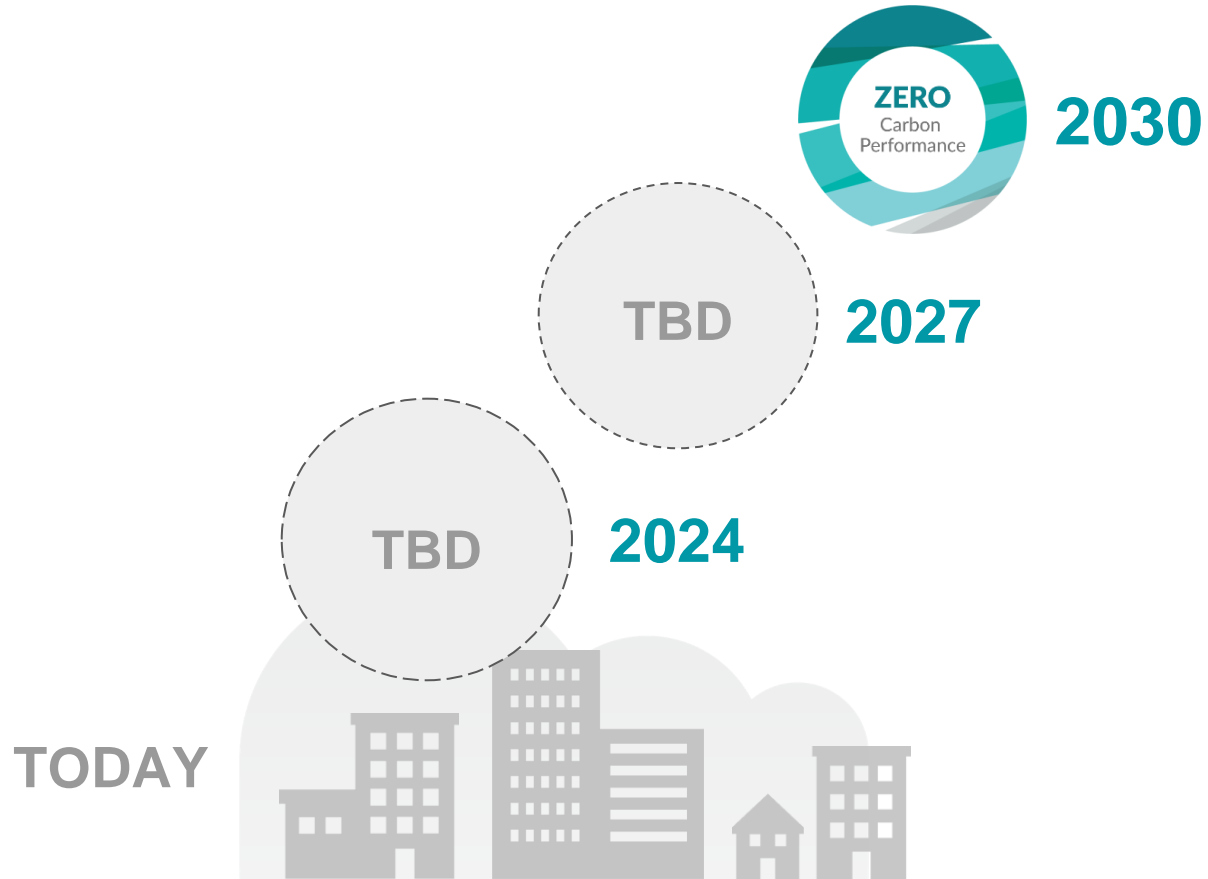
0.66
kg CO₂e
M²/year

Courtesy Latreille Architectural Photography

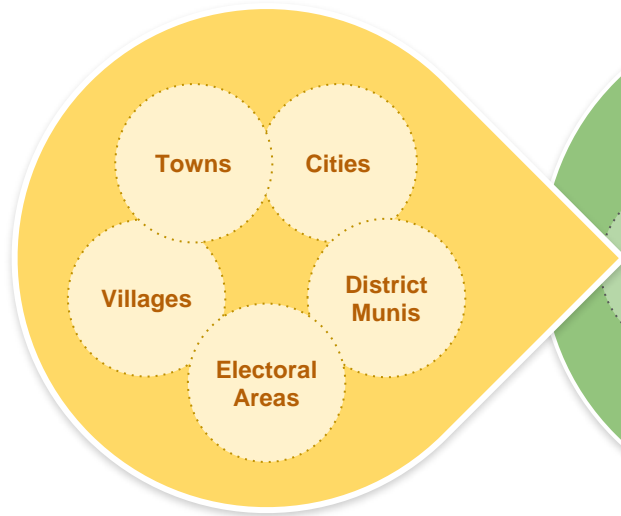


Sample implementations:
Local governments
proposing to use the
Zero Carbon Step Code

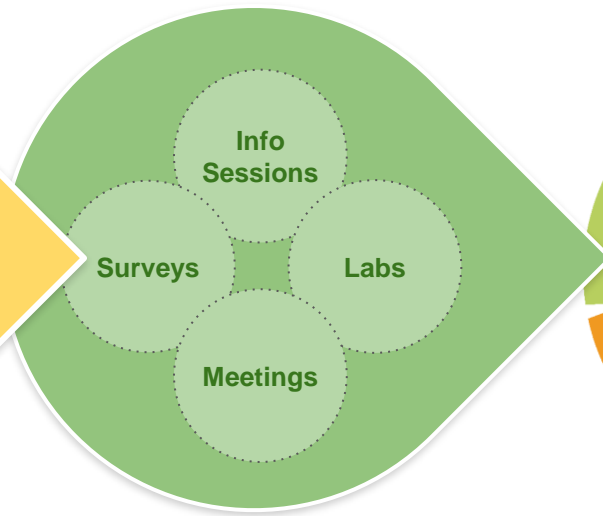
Provincial Pathway: Stepping up to 2030



Implementation: Pursuing regional alignment



Convening local governments



Engaging with industry



Proposing an approach

Implementation: District of Saanich + City of Victoria

January 2025



July 2025



July 2023



July 2024



TODAY

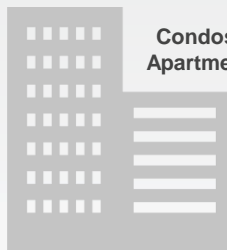
Houses, townhouses, duplexes, triplexes, or garden suites.



Offices



Condos + Apartments



Thank you!

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**ZERO CARBON
STEPCODE**

Exempted: Secondary heating equipment

The Zero Carbon Step Code regulates **primary space-heating equipment**. Secondary heating systems are exempted.



Wood-burning
stoves OK



Decorative
fossil-fuel
fireplaces OK