



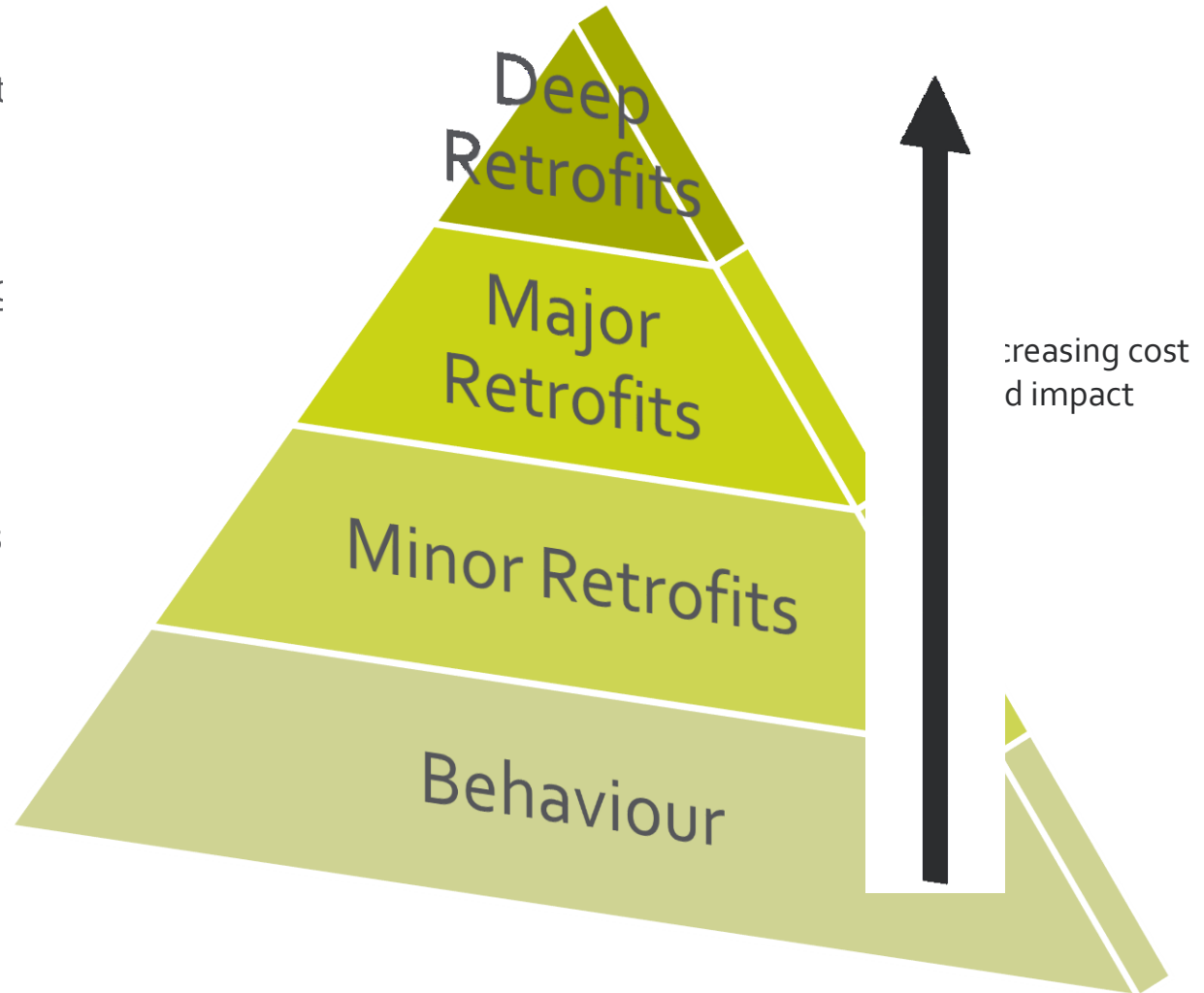
Community Energy Retrofit Strategy – Options Analysis

December 2, 2019

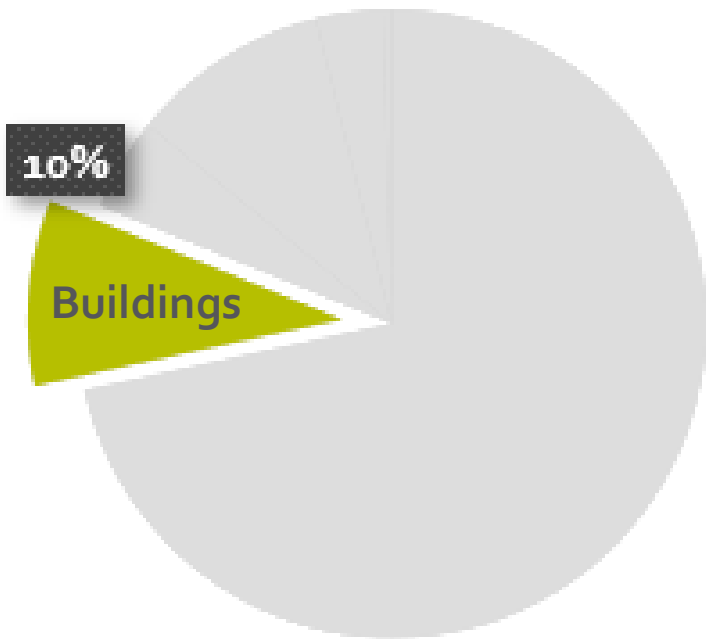


What is a Retrofit?

- Significantly reconfiguring the building
- Rearranging windows for improved orientation
- Updating inefficient heating and cooling systems
- Installing low-flow faucets
- Adding attic insulation
- Upgrading lighting systems
- Lowering water temperature
- Thermostat programming



The Benefit: GHG Emissions Reduction



% of 2023 GHG Emissions Reduction Target

Existing Building Initiatives	Impact
Develop a Community Energy Retrofit Strategy	4.4%
Partner with Fortis BC on delivery of programs	1.7%
Investigate financing models to support city-wide deep energy retrofits	1.1%
TOTAL	7.2%

Other Benefits

Stimulating the Economy

Every **\$1 million** invested in energy efficiency generates **\$3-4 million** of economic growth.¹



13 jobs are created for every **\$1 million** invested in energy efficiency.²



Money in your Pocket



Living in an energy efficient building can **lower your heating bills** by **more than 50%**.³



Energy efficient buildings and homes experience **higher resale value** and **last longer**.⁴

Comfortable Buildings



Canadians spend 90% of their time indoors. An energy efficient building keeps you **warmer in winter** and **cooler in summer**.⁵

Energy efficient buildings stay more comfortable and safe during a **blackout or disaster**.⁶



<https://www.pembina.org/pub/efficient-buildings-infographic>

The Challenge

To meet the 2023 GHG emissions reduction targets for existing buildings, **1%** of Kelowna's existing residential building stock will need to be retrofitted annually, with each achieving at least a **30 %** improvement in energy efficiency:

539

Average # of residential renovation permits in Kelowna between 2014 and 2018:

669

The Challenge

To meet the Provincial GHG Emissions Reduction Targets for existing buildings, **3%** of the existing residential building stock will need to be retrofitted annually, with each achieving at least a **30 %** improvement in energy efficiency:

1,617

Average # of residential renovation permits in Kelowna between 2014 and 2018:

669

Other Barriers and Challenges

- High capital cost of energy-efficient upgrades
- Low cost of energy in Kelowna
- Lack of consumer knowledge about the benefits and opportunities
- Lack of skilled and knowledgeable contractors to advocate for and complete energy retrofits
- Lack of jurisdictional authority for municipalities to require energy retrofits.
- “Misplaced incentives” in rental market

Long-Term Impact





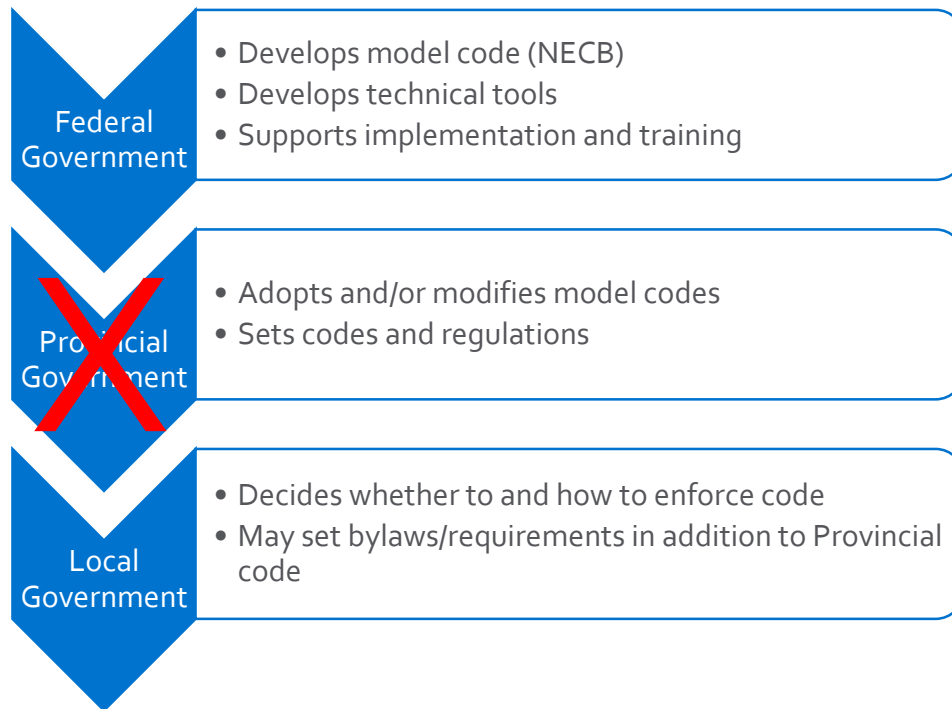
Options



Regulation: Energy Codes

“New standards for building upgrades will be developed by 2024, guided by the model National Energy Code.”

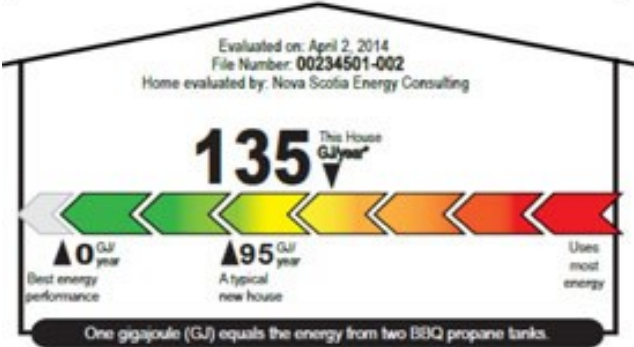
- CleanBC



Regulation: Vancouver Example

Total Renovation Cost	Energy Retrofit Requirements
Less than \$5,000	None
\$5000 to \$24,999	EnerGuide Home Evaluation
\$25,000 to \$49,999	EnerGuide Home Evaluation + air sealing
More than \$50,000	EnerGuide Home Evaluation + air sealing + improve attic insulation





Incentives

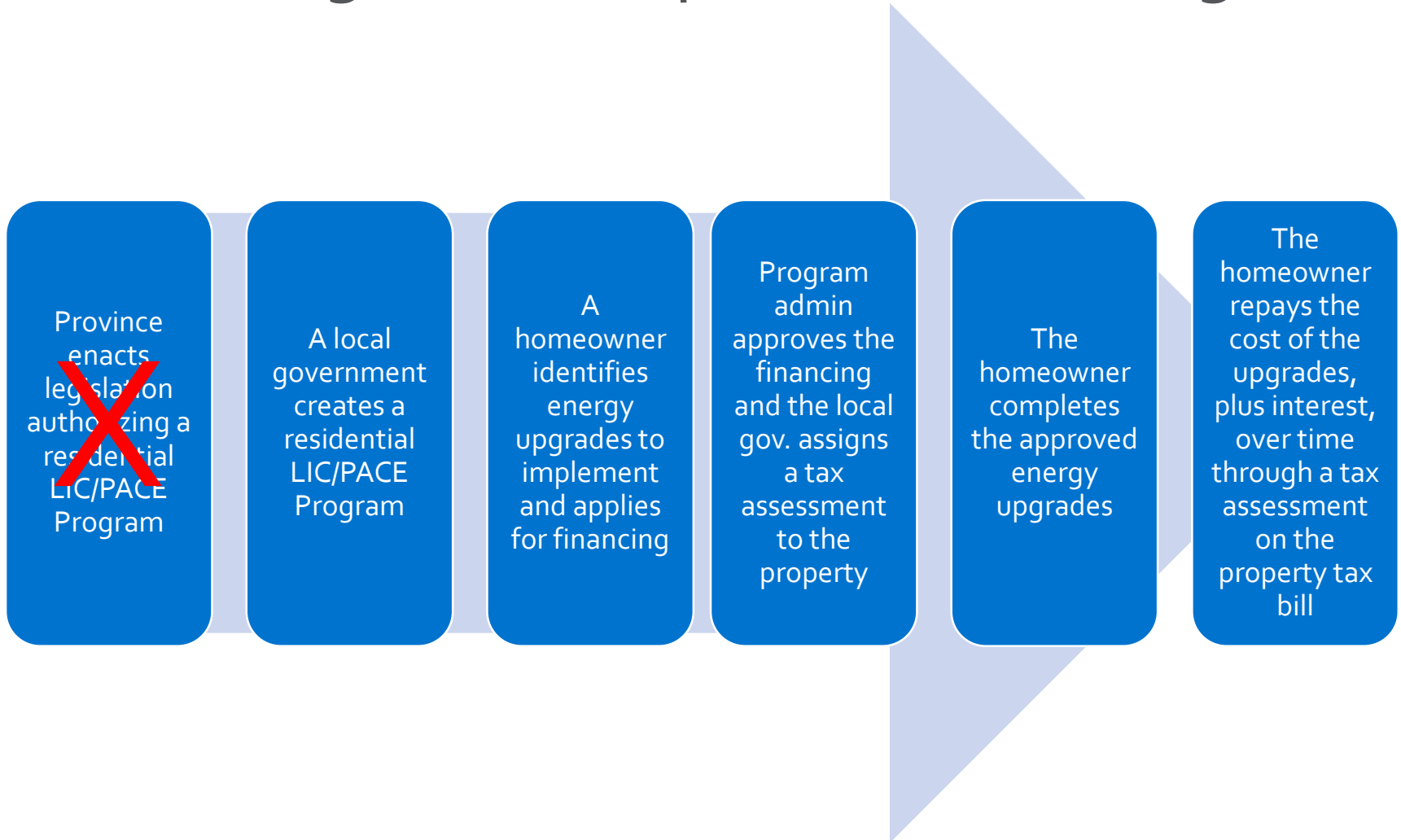
▶ Rebates

1. Support existing Provincial and utility rebates
2. Top-up existing rebates
3. Offer our own unique rebates

▶ Tax Exemptions



Financing: Local Improvement Charge



Education and Awareness

	Information Distribution Assets	Educational Assets	Educational Interventions
Description	Simple, punchy messages that culminate into a call to action	<ul style="list-style-type: none"> Digital Asset: information heavy websites. Physical Asset: a location that allows people to see energy-efficient upgrades. 	Capacity building for building owners and industry professionals (i.e., events).
Examples	<ul style="list-style-type: none"> Social media Direct mail 	<ul style="list-style-type: none"> Digital: <ul style="list-style-type: none"> betterhomesbc.ca Physical: <ul style="list-style-type: none"> Demonstration site 	<ul style="list-style-type: none"> Lunch and learns Public access lectures Tours

Community Energy Mapping

- **PROJECT:** Partnering with Natural Resources Canada to develop a prototype for an online map-based decision tool for building stock energy efficiency.
- **GOAL:** Make residential energy end-use and efficiency opportunities visible on a map using available, federal, municipal, and open data.
- **VALUE:** Easily identify areas and households that have higher modeled energy usage, so we can prioritize retrofit outreach efforts.





Recommended Approach

Recommended Approach: Regulation



Conduct a legal assessment to determine if the City can require an EnerGuide Assessment at the time of renovation permit.



Seek clarity from the Province on the direction regarding local government jurisdiction for benchmarking and home energy labelling.

Recommended Approach: Incentives

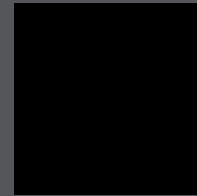


Expand Kelowna's rebate top-ups to the Province's CleanBC rebates.



Explore options to link energy retrofits with upgrades of buildings on Kelowna's Heritage Register.

Recommended
Approach:
Financing



Recommended Approach: Education & Awareness



Expand education / awareness initiatives.



Continue the development of a prototype community energy end-use map with NRCan.

Summary

- ▶ The Community Energy Retrofit Strategy is a key component of the *Community Climate Action Plan*, and has many other benefits.
- ▶ There are various options for the City to help reduce energy and GHG emissions from existing buildings.
- ▶ In developing the Strategy, the City needs to consider its limited authority, while also taking a leadership role to ensure retrofits are occurring at the required rate.



Questions?

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For more information, visit kelowna.ca.

National and Provincial direction

PAN-CANADIAN FRAMEWORK

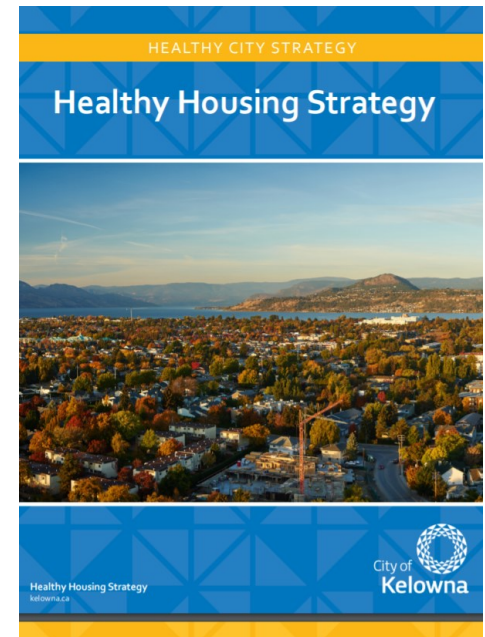
cleanBC
our nature. our power.
our future.



- ▶ Pan Canadian Framework
 - ▶ Federal plan to reduce GHGs
 - ▶ Retrofitting existing buildings
- ▶ Clean BC
 - ▶ Provincial plan to reduce GHGs and energy
 - ▶ Indications of a Retrofit Code for existing buildings, and home energy labelling

Delivering on our plans

- ▶ Kelowna's Community Climate Action Plan
 - ▶ Develop a Community Energy Retrofit Strategy
 - ▶ Partner with Fortis BC on delivery of Programs
 - ▶ Investigate financing models to support city-wide deep energy retrofits
- ▶ Kelowna's Healthy Housing Strategy
 - ▶ Implement Step Code to increase energy efficiency and reduce household carrying costs.



Council Priority: Environmental Protection

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

