



# Updated Code Changes for Large Buildings in Vancouver

2022 11 04

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CITY OF  
VANCOUVER

Vancouver  
Plan



CLIMATE  
EMERGENCY

# today's agenda

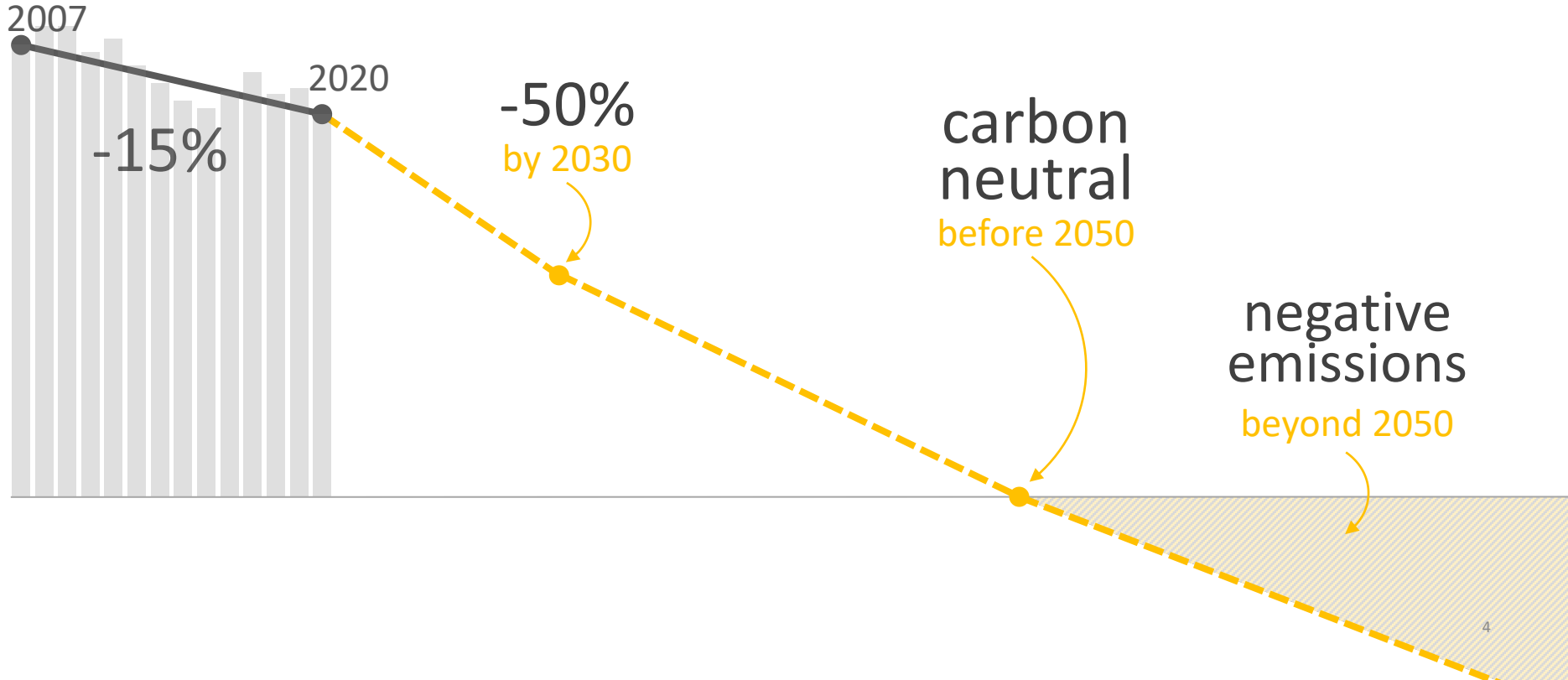
- Part 1: Policy Context
- Part 2: Code Changes for Large New Buildings
- Part 3: Regulations for Existing Commercial & Multifamily Buildings



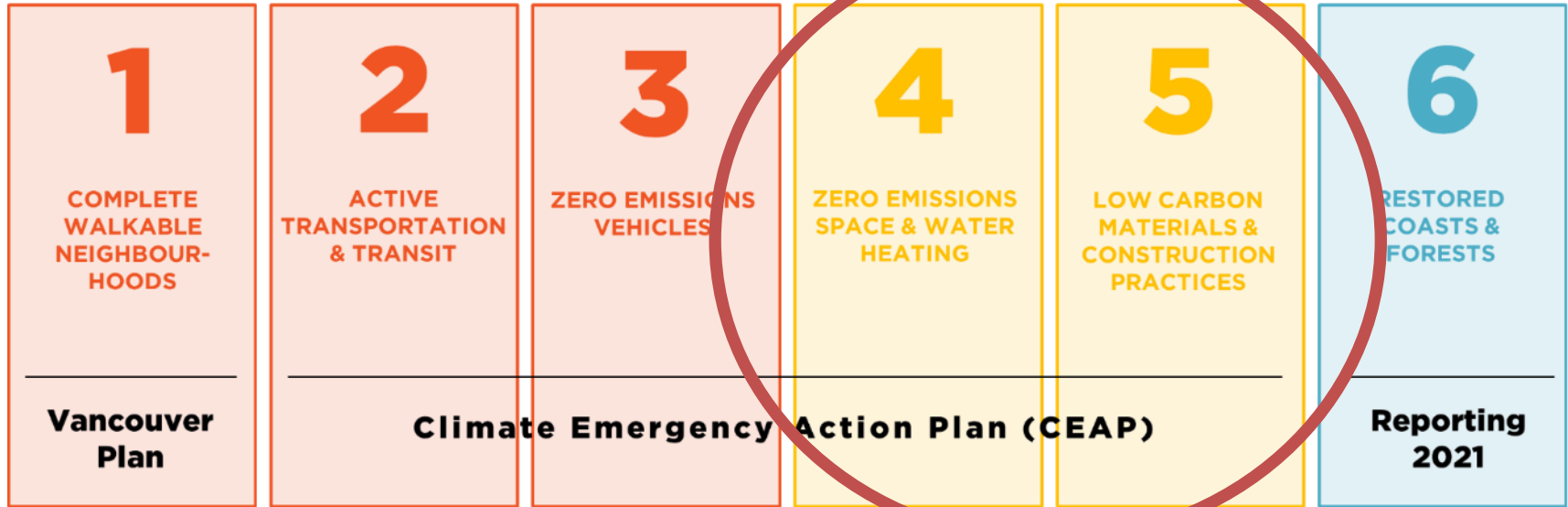


# Part 1 Policy Context

# Vancouver's Carbon Pollution



# Climate Emergency 6 Big Moves



# embodied carbon policy is growing at all levels

**Local:** Climate Emergency Action Plan

- 40% by 2030 city-wide

**Provincial:** CleanBC Roadmap to 2030

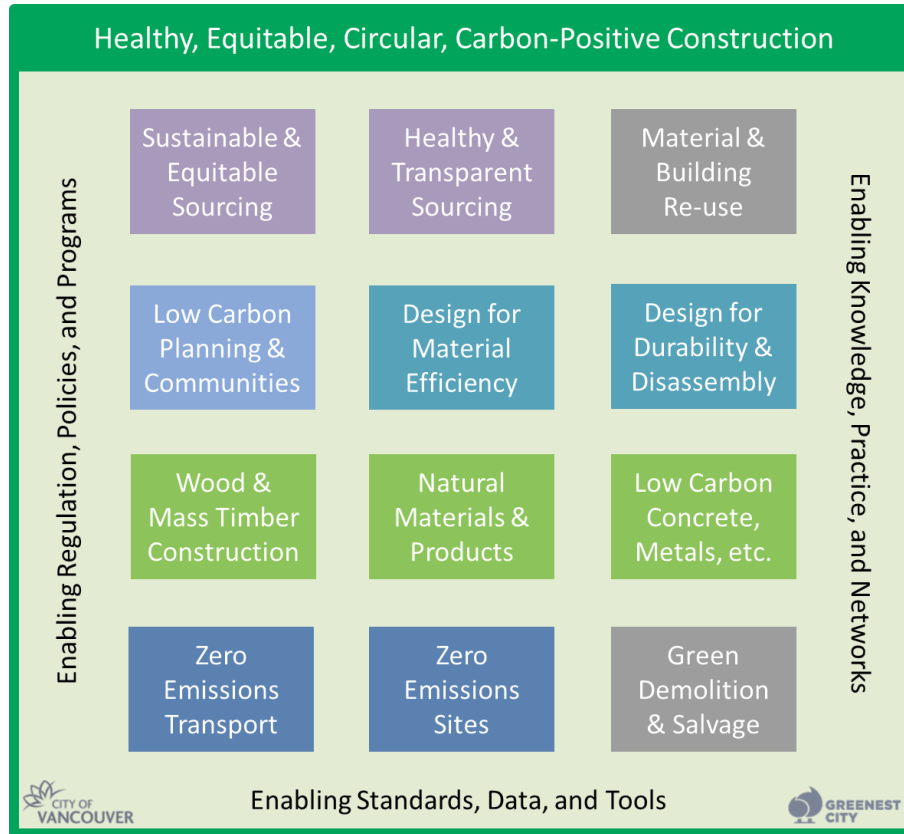
- Low Carbon Building Materials Strategy by 2023

**Federal:** Greening Government Strategy

- 30% by 2025 for major construction

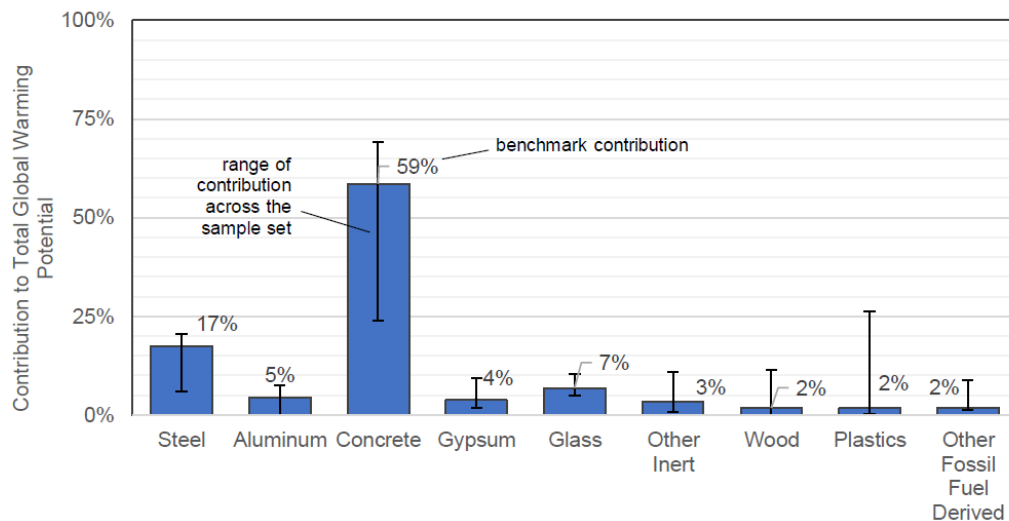
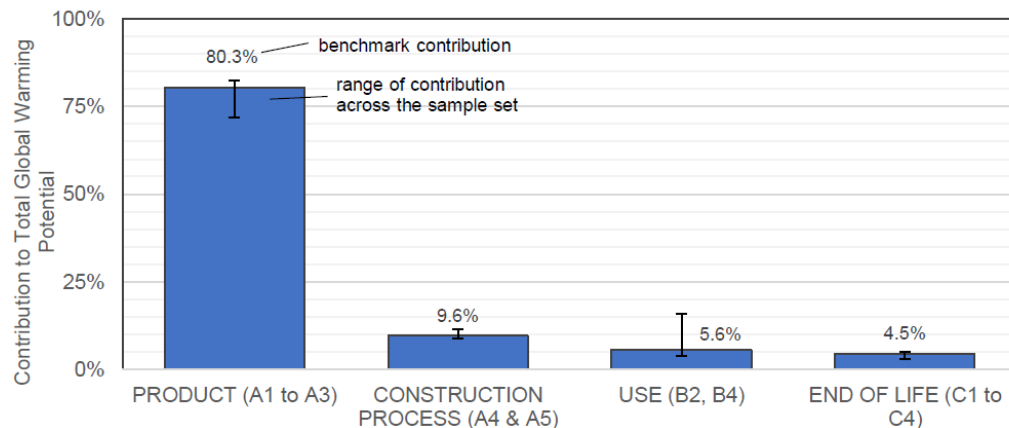
**Networks:** PCC, CNCA, USDN, C40 Cities, CLF, etc.

# embodied carbon strategy: our vision



# where embodied carbon lives

## Part 3



source: Carbon Footprint Benchmarking of BC Multi-Unit Residential Buildings – Athena Sustainable Materials Institute

# where embodied carbon lives

## Part 9

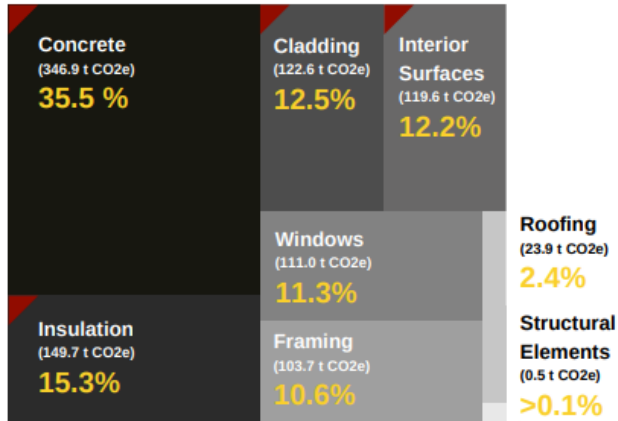
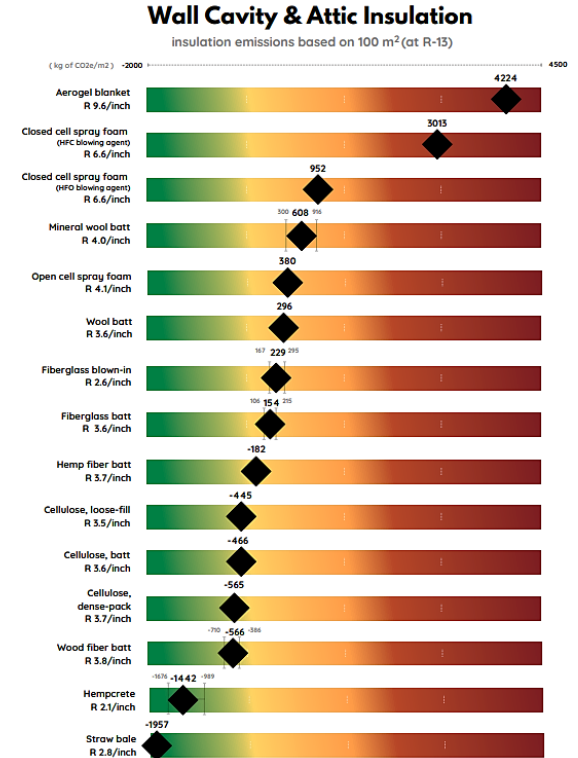
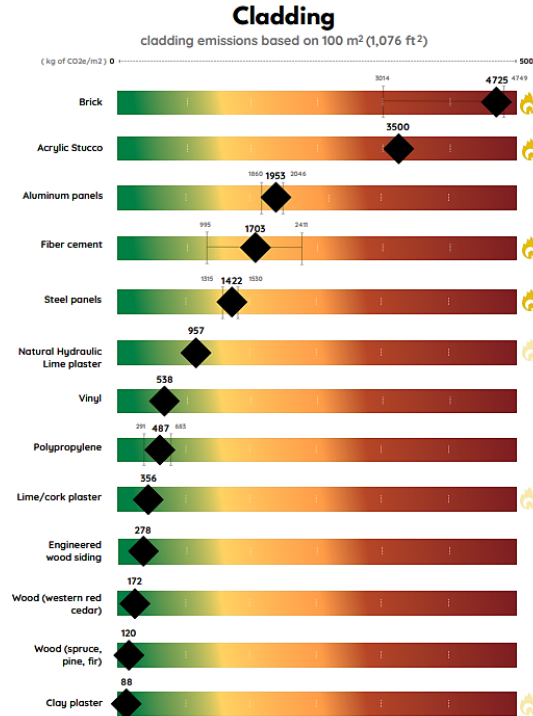


FIGURE 1 This tree map chart highlights where the material carbon emissions from all homes in the study came from based on eight main material categories.





# Part 2

## code changes for large new buildings

4

ZERO EMISSIONS SPACE  
AND WATER HEATING

By 2030, the carbon pollution from buildings will be cut in half from 2007 levels.

5

LOW CARBON  
MATERIALS AND  
CONSTRUCTION  
PRACTICES

By 2030, the embodied carbon from new buildings will be 40% less than 2018 levels.

Set carbon pollution limits  
+ streamline regulations

Carbon pollution requirements for new developments

Build industry capacity

Facilitate access to renewable energy

Support early owner action

# Approved Changes



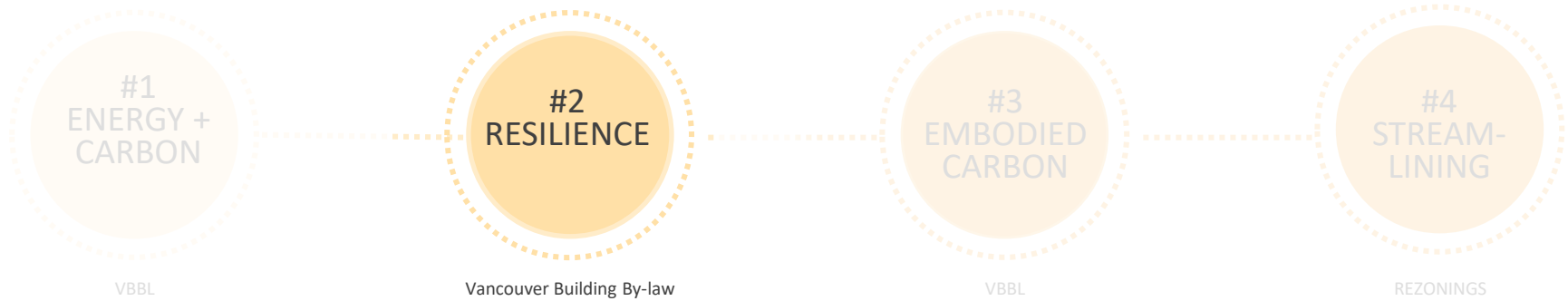
## Effective July 2023

- 4-6 story residential occupancies: GHGI = 3
- For industrial/care/assembly (Group A, B, F major occupancies): 50% lower than the GHGI of the reference building modelled using only fossil-fuel systems

## Effective Jan 2025

- 7+ storey residential occupancies: GHGI = 3
- Hotel & motel occupancies: GHGI = 4
- Include refrigerant impact (GHGI-R) in calculation of whole building GHGI limit
- For industrial/care/assembly (Group A, B, F major occupancies): 85% lower than the GHGI of the reference building modelled using only fossil-fuel systems

# Approved Changes



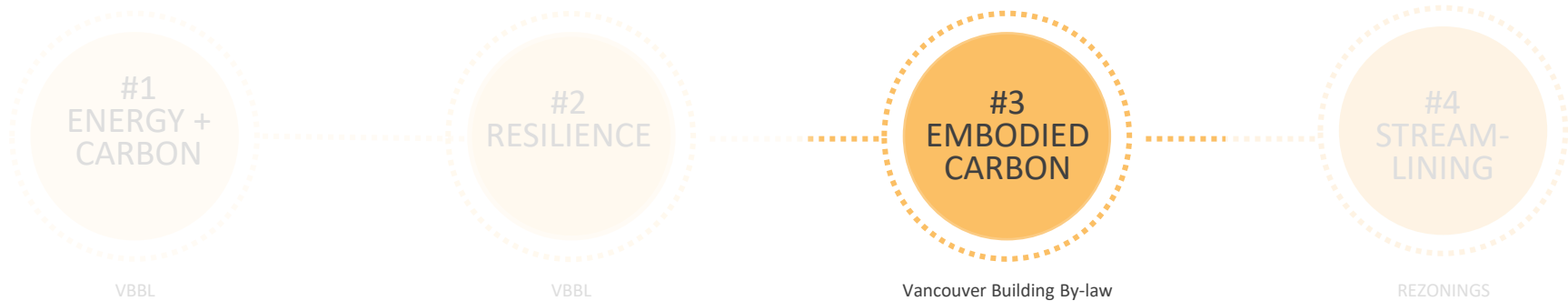
## Effective July 2023

- MERV 13 filtration is required prior to introduction of outdoor air into indoor occupied spaces

## Effective Jan 2025

- All dwelling units within new Part 3 buildings must be served by active mechanical cooling capable of maintaining an indoor air temperature of 26°C, with windows closed.

# Approved Changes



## Effective July 2023

- Report whole-building embodied carbon impacts that must not be more than double that of a functionally equivalent baseline (created based on new COV Embodied Carbon Guidelines)

## Effective Jan 2025

- 1-6 storey buildings that can be built with wood or mass timber: 20% embodied carbon reductions compared to baseline
- All other buildings: 10% embodied carbon reductions
- All new Part 3 buildings: meet one responsible source materials category, **OR** double the minimum embodied carbon reductions noted above

# Approved Changes

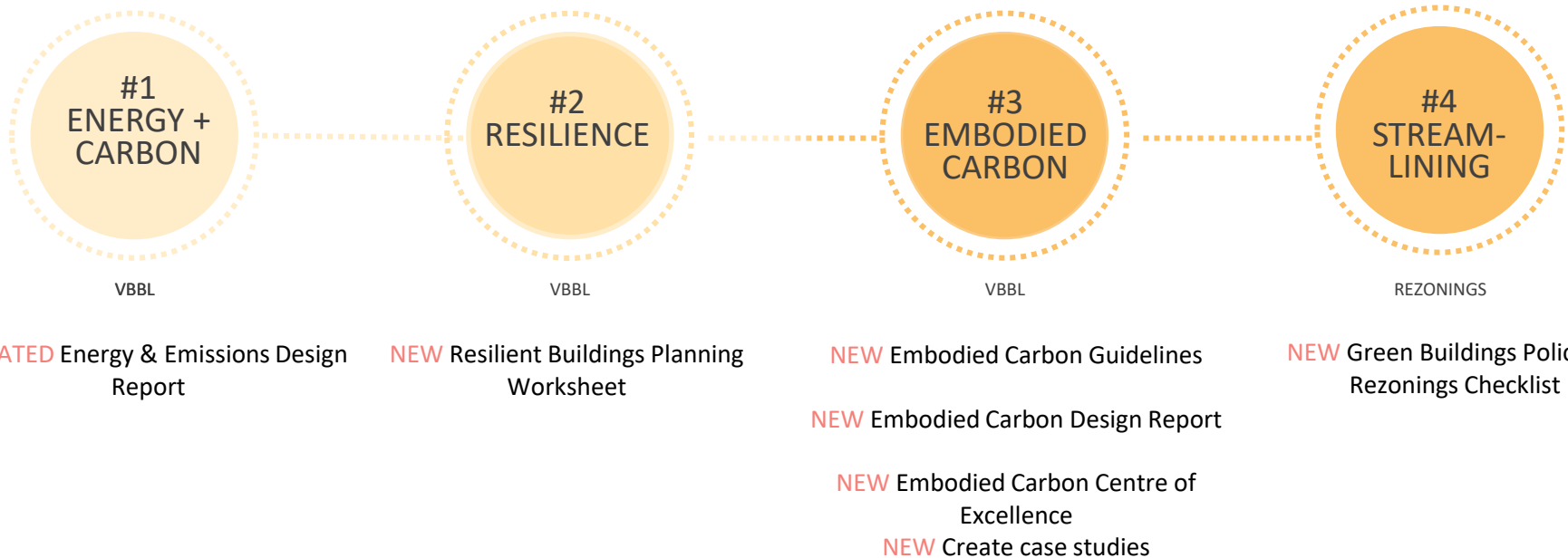


Effective May 18, 2022

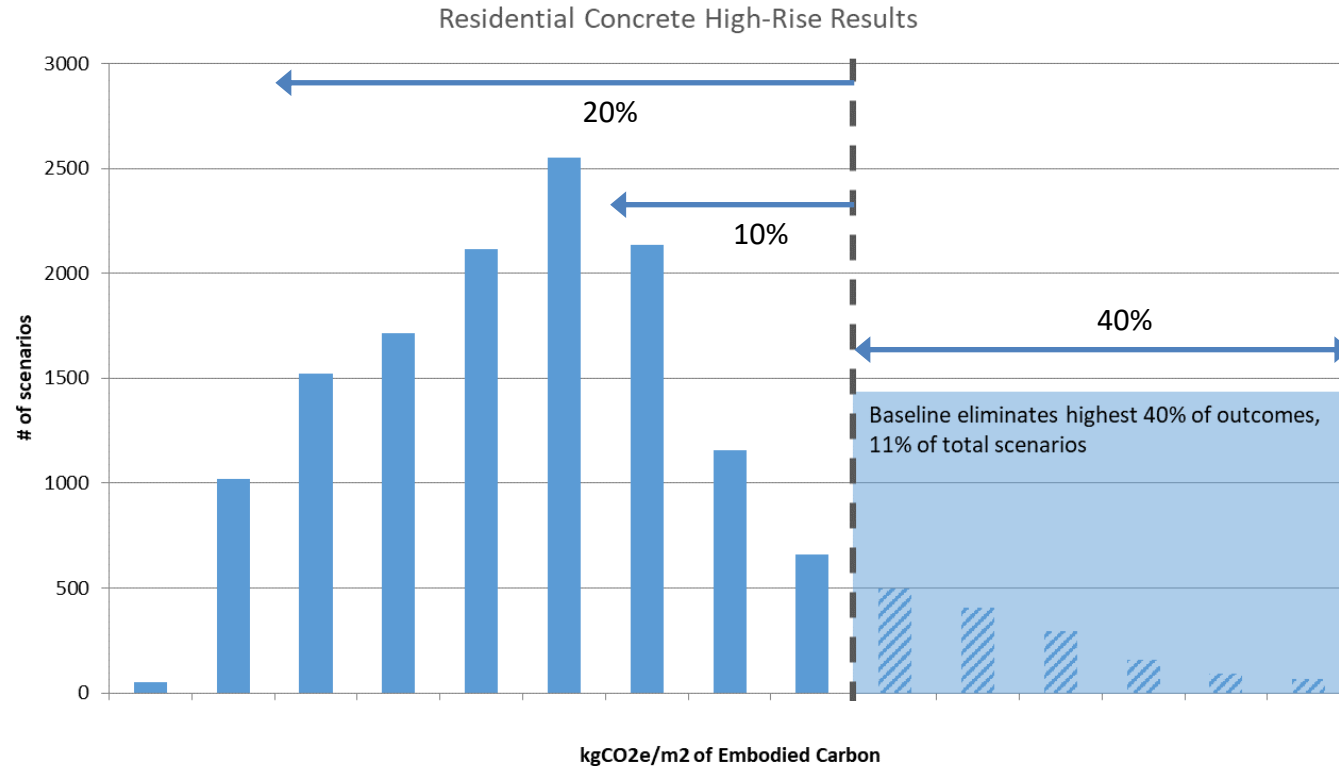
**Streamlined Process:** submissions at rezoning application stage only\*

\*refer to [Green Buildings Policy for Rezoning – Process and Requirements](#)

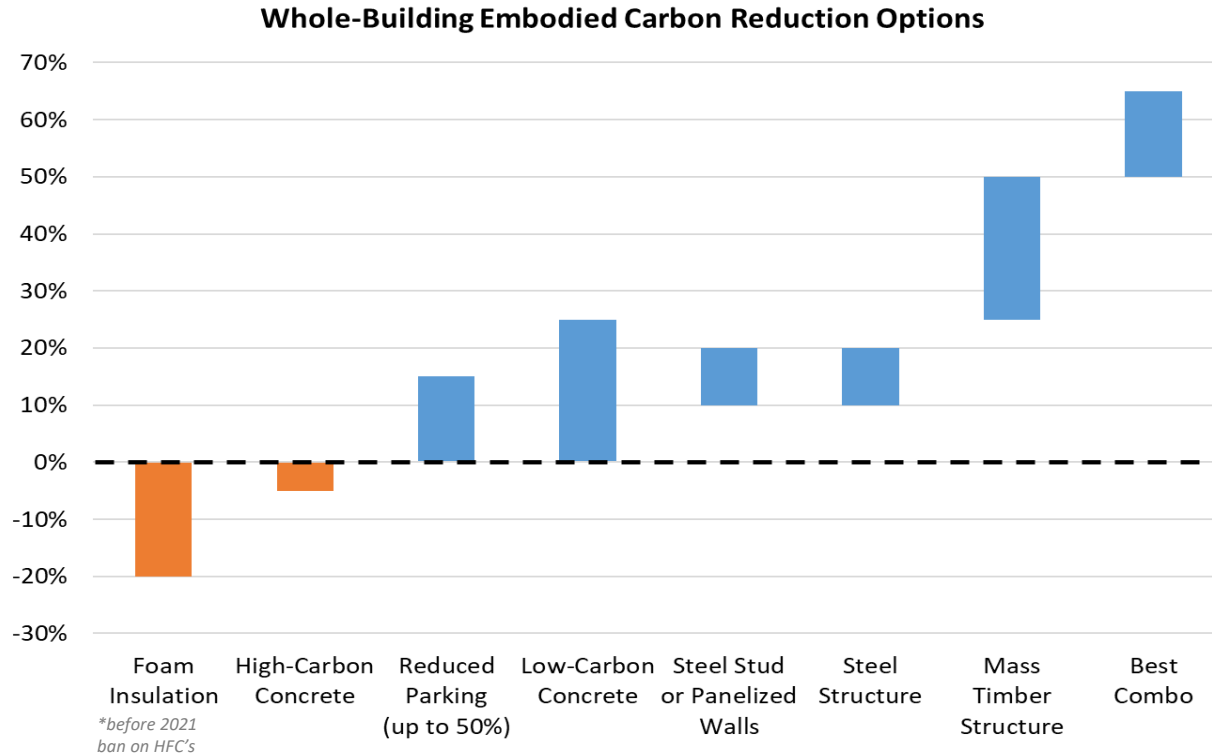
# Implementation supports in progress



# Embodied carbon



# Embodied carbon



**Example Baseline (High-Rise):**  
15% SCM GUL Concrete,  
Double-Pane Window Wall,  
Mineral Wool Insulation, Metal  
Cladding, Polyiso Roof  
Insulation

*\*estimates based on 2021 report for CoV by Morrison Hershfield*

A nighttime photograph of a city street corner. In the foreground, a historic brick building with ornate architectural details and a fire escape on its side houses retail stores, including 'Roots' and 'Lacoste'. To the right, modern high-rise office buildings with glowing windows and signs like 'HYATT' stand in contrast. A traffic light with a red light is visible in the upper left. The street is wet, reflecting the city lights, and some motion blur is visible on the cars in the distance.

# Part 3 Regulations for existing commercial + multi- family buildings

# large commercial + multi-family



Detached homes  
+ duplexes

78,800 homes

28% of total GHG's



Multi-Family  
Residential\*

6,115 buildings

24% of total GHG's

\*incl. rental, non-market,  
condos



Commercial

3,420 buildings

26% of total GHG's



Industrial

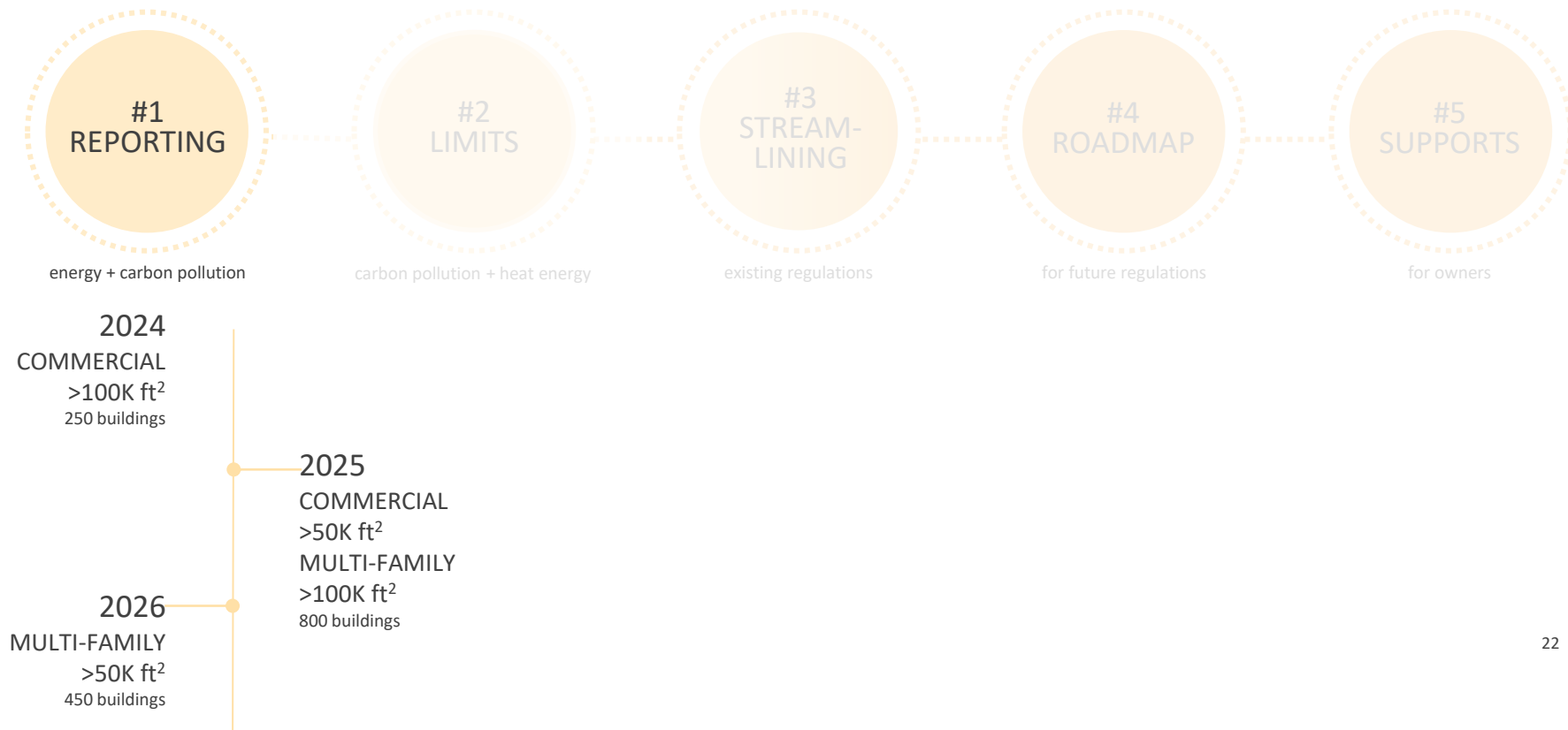
1,081 buildings

20% total GHG's

# Approved policies



# Approved policies



# Approved policies



OFFICE + RETAIL

>100K ft<sup>2</sup>

**2026 limits**

~45 buildings

Office: 25 kg CO<sub>2</sub>e/m<sup>2</sup>/yr

Retail: 14 kg CO<sub>2</sub>e/m<sup>2</sup>/yr

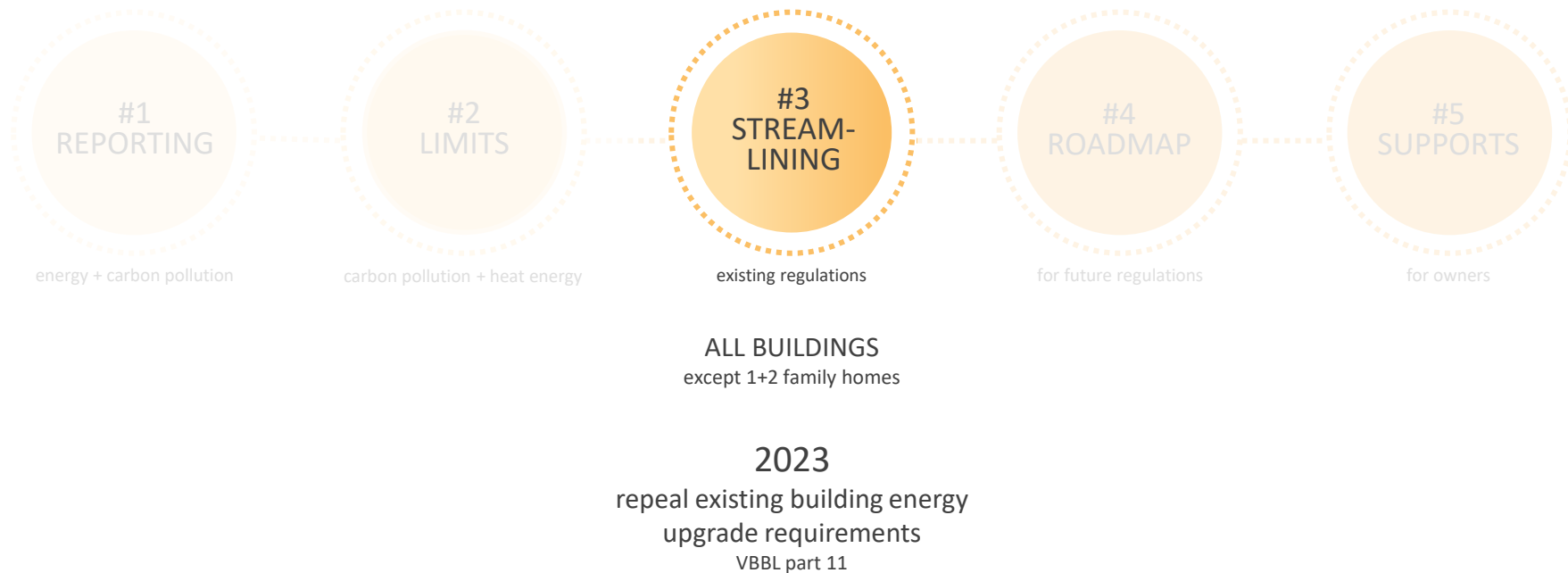
**2040 limits**

~175 buildings

GHGi: 0 kg CO<sub>2</sub>e/m<sup>2</sup>/yr

HEL: 0.09 GJ/m<sup>2</sup>/yr

# Approved policies



# Approved policies



**2024**  
recommendations  
to Council to achieve 2030 target

**COMMERCIAL REGs**  
limits for smaller + more commercial types  
prescriptive requirements, including rooftop unit

**MULTI-FAMILY REGs**  
2030 limits + prescriptive requirements

# Approved policies



## MULTI-FAMILY

- early reporting incentive
- pilot cooling/heat pump program

## COMMERCIAL

- tune-up program
- 2040 retrofit planning + concierge service



Q+A

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