



Hamilton

WELCOME TO THE CITY OF HAMILTON

# PLANNING COMMITTEE

April 29, 2025

# PED24114(a) –

## City of Hamilton Green Building Standards Enhanced Engagement and Recommendations (Urban Areas - City Wide)

Presented by: Mallory Smith & WSP



## Introductions

### **Mallory Smith**

Planner I – Zoning By-law Reform, City of Hamilton

### **Antoni Paleshi**

Energy and Carbon Technical Lead, WSP

### **Robert Rappolt**

Planning & Engagement, WSP



# Agenda

- Project Context
- Engagement and Consultation Summary
- Summary of Changes to the Energy Performance Metrics

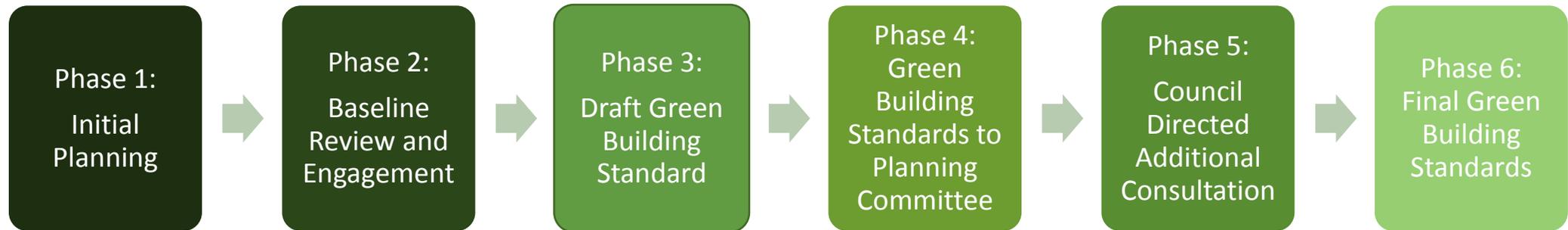


September 6, 2022 Planning Committee saw the first version of the Green Building Standards, at the time called the Sustainable Building and Development Guidelines in Report PED22185.

On October 1, 2024 Planning Committee endorsed the Green Building Standard and directed staff to:

- Consult with the Climate Change Advisory Committee including its Technical and Governance Working Group and Building Working Group on the following:
  - (i) A framework that phases in successively more stringent tiered standards over a fixed timeline with full transparency on future requirements to all stakeholders;
  - (ii) Emissions limits that are sufficient to require new buildings to transition to efficient, low-emissions technology now or in the future; and,
  - (iii) Alignment with Hamilton’s Climate Action Strategy to achieve net-zero by 2050 and avoid fossil fuel lock-in;
- Conduct this consultation in advance of implementation and report back with the results of the consultation, any adjustments to the Green Building Standards that may be required, including any necessary financial resources, and timelines for the recommendations in Report PED24114.

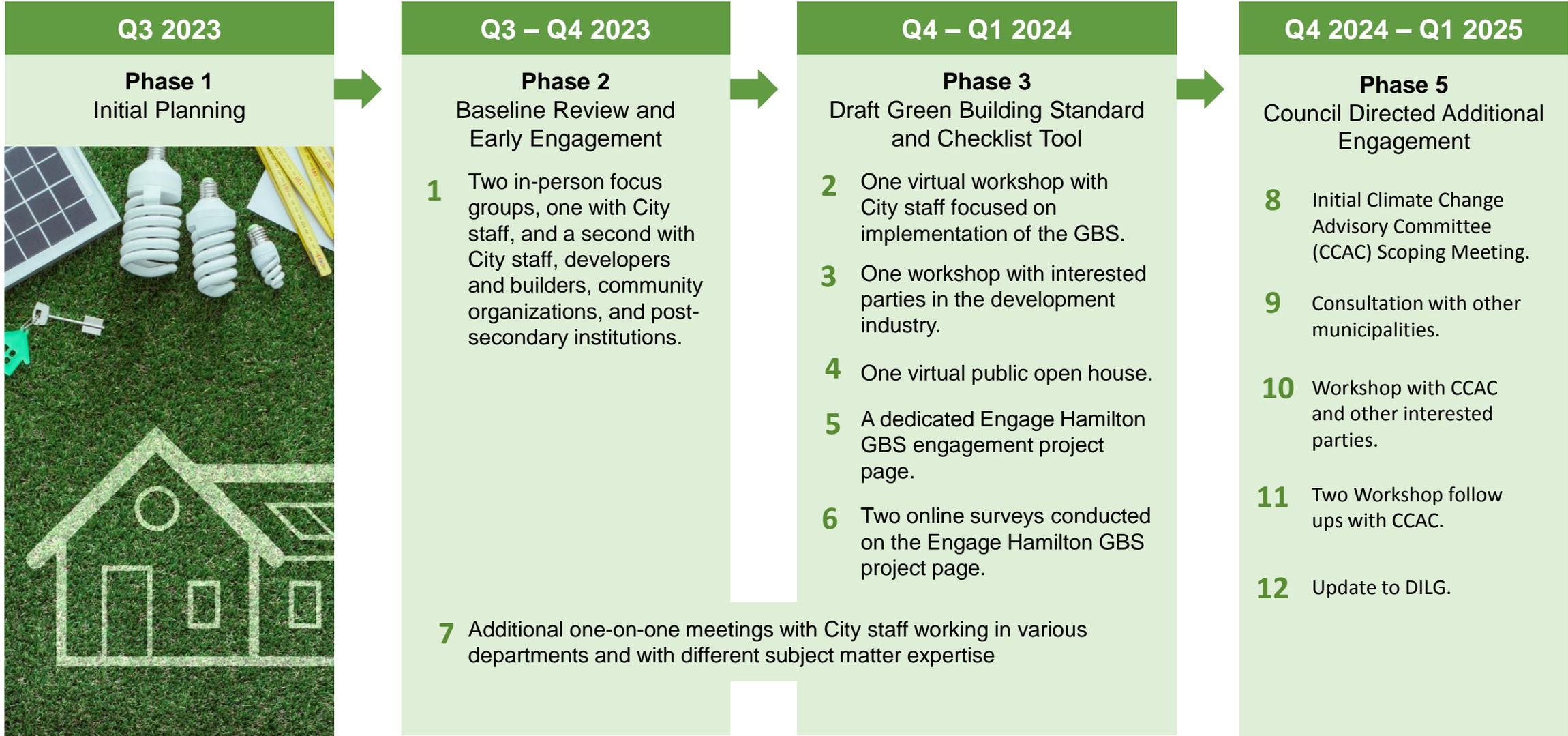
# Project Scope and Timeline





# Engagement Overview

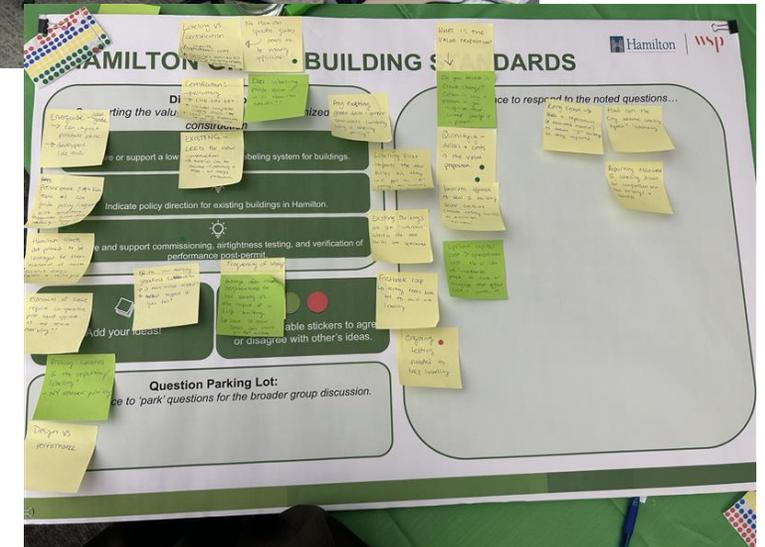
# Engagement Overview



- Overview of engagement and consultation undertaken, including:
  - Meetings with CCAC on **December 12, 2024**, and **February 25, 2025**
  - Workshop with CCAC and industry representatives on **February 19, 2025**
  - Interviews with Toronto and Caledon **February 14, 2025**, and **March 12, 2025**
  - Formal touch points with CCAC and Staff, including on **March 12, 2025**
  - Regular meetings with the Project Team

# Engagement and Consultation Summary

- Summary of What We Heard
  - Encourage fuel switching (e.g., natural gas to heat pump)
  - Multiple alternative compliance pathways (e.g., flexible and prescriptive)
  - Harmonize with other standards (e.g., NECB or TGS)
  - District energy compliance pathway
  - Concern with meeting the 2028 targets (i.e. Tier 2)





# Energy Performance Metric Updates

What was originally proposed on October 1, 2024?

- ***Alignment with Toronto Green Standard Version 4 (i.e. current version)***

Criticisms of this approach (from CCAC & other depositions):

- ***Matching the current requirements will put us behind, not aligned with others.*** Toronto (and other municipalities) will be at the next tier (e.g., Version 5) by 2026/2027.
- ***Fuel-switching is urgent to address City-wide decarbonization goals.*** We want to avoid lock-in and maximize GHG reductions from new construction (which is much more cost-effective than in existing buildings).

# What core changes were discussed & made?

## On pace of change:

- Align with the **expected Version 5 of the Toronto Green Standard**
- **Offer some relaxation / alternative pathways of compliance** – this may help to ease complexity of applications

## On fuel-switching focus:

- Further **emphasize fuel-switching**, especially in Part 9 (i.e. low-rise homes)
- When developing **alternative pathways, promote trade-offs which emphasize fuel-switching**

## #1. Greenhouse Gas Intensity (GHGI)

- **Definition:** The amount of carbon dioxide equivalent (CO<sub>2</sub>e) emissions per gross floor area per year. Typically includes both *Scope 1 (direct)* & *Scope 2 (electricity)* emissions.
- **Supports:** Fuel-switching.
- **Risks:** Could cause peak demand to increase and energy costs to go up.

## #2. Total Energy Use Intensity (TEUI)

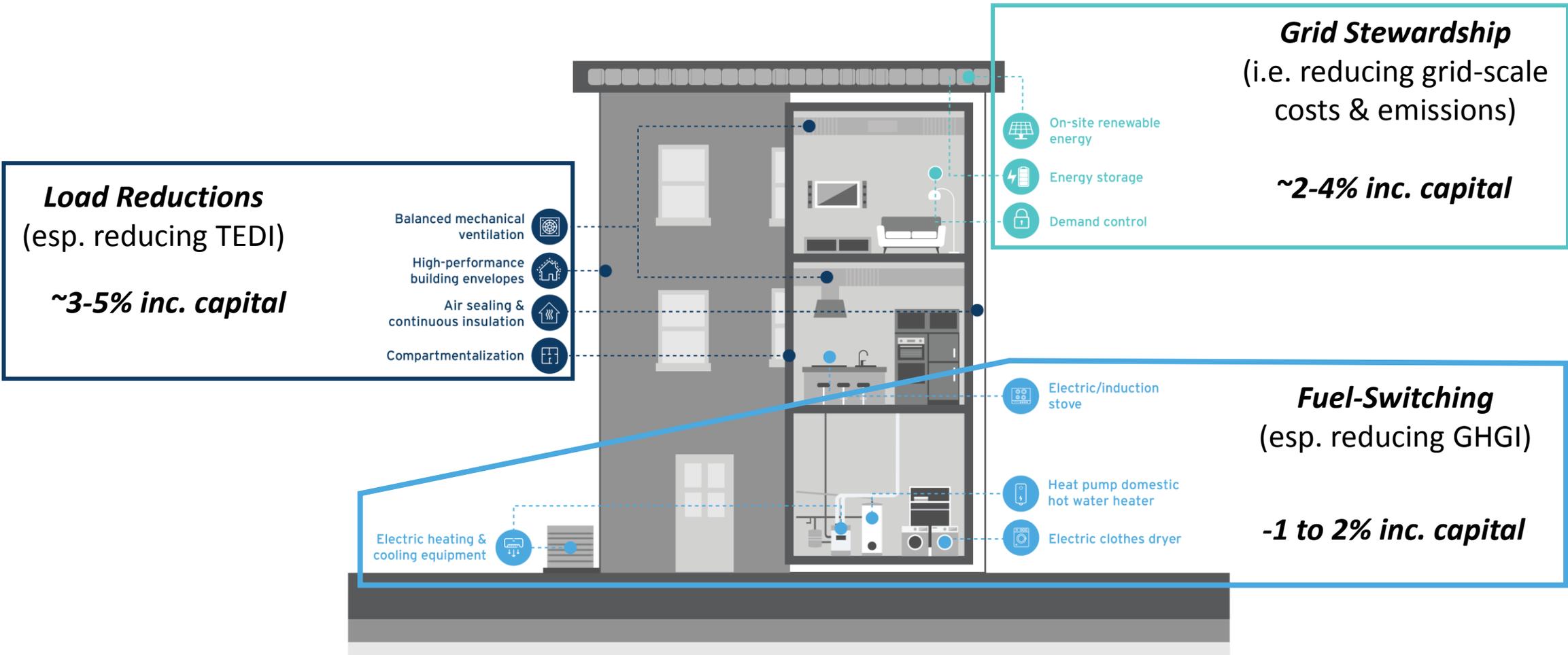
- **Definition:** The net energy used by the building divided by the building's floor area. Typically accounts for on-site generation.
- **Supports:** Grid stewardship, resilience & back-up power, energy cost savings for occupants.
- **Risks:** Somewhat agnostic to GHG reductions (a core goal).

## #3. Thermal Energy Demand Intensity (TEDI)

- **Definition:** The annual heating load per floor area of a building.
- **Supports:** Grid stewardship, resilience & passive survivability, energy cost savings for occupants.
- **Risks:** Ignores the benefit of heat recovery and energy sharing (e.g. district energy).

*Taken together, these metrics support a holistic set of energy performance goals.*

# What changes are needed to achieve targets?

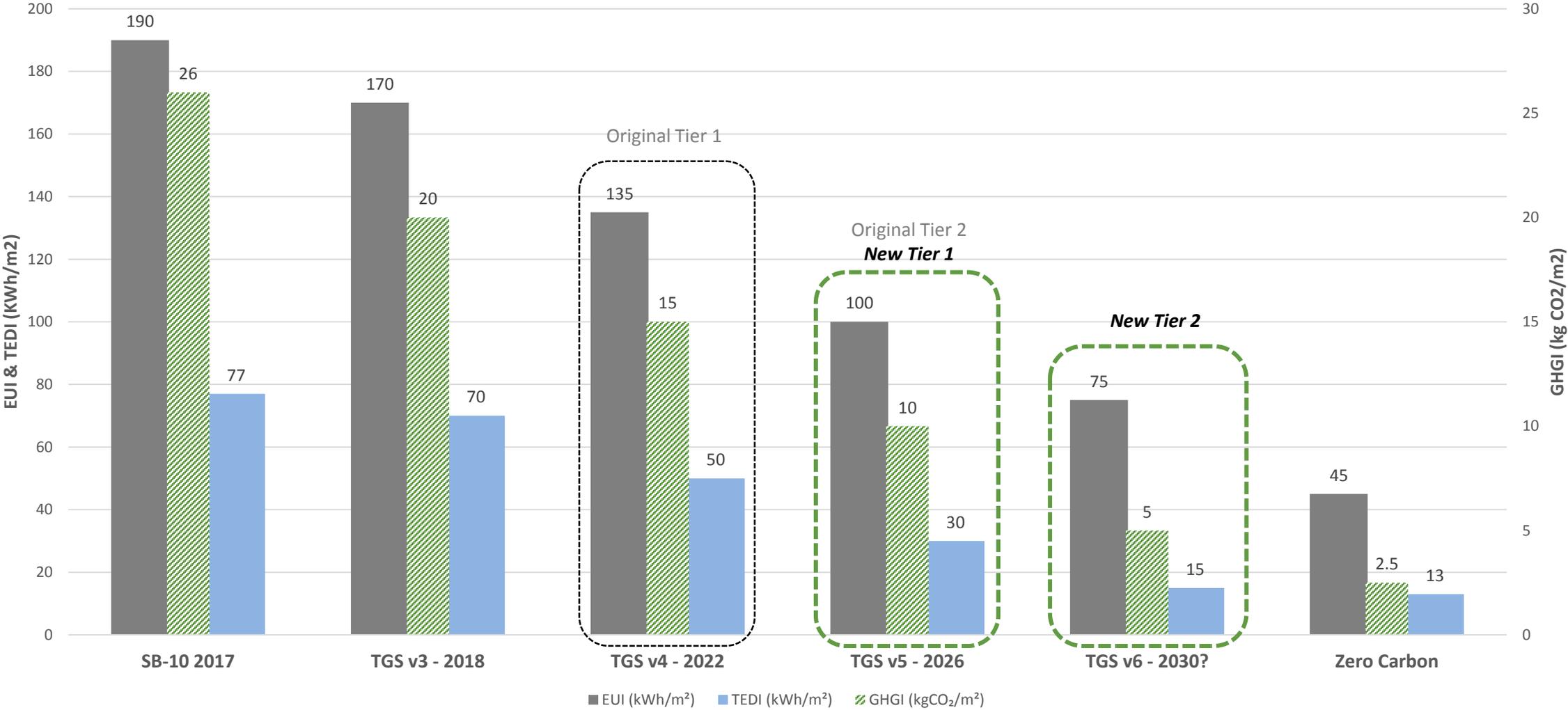


[rmi.org/creating-a-one-stop-shop-for-whole-home-retrofits/](https://rmi.org/creating-a-one-stop-shop-for-whole-home-retrofits/)

*Inc. capital vs. typical practice  
(e.g. TGS v4 in Toronto)*

# Proposed Metrics and Targets

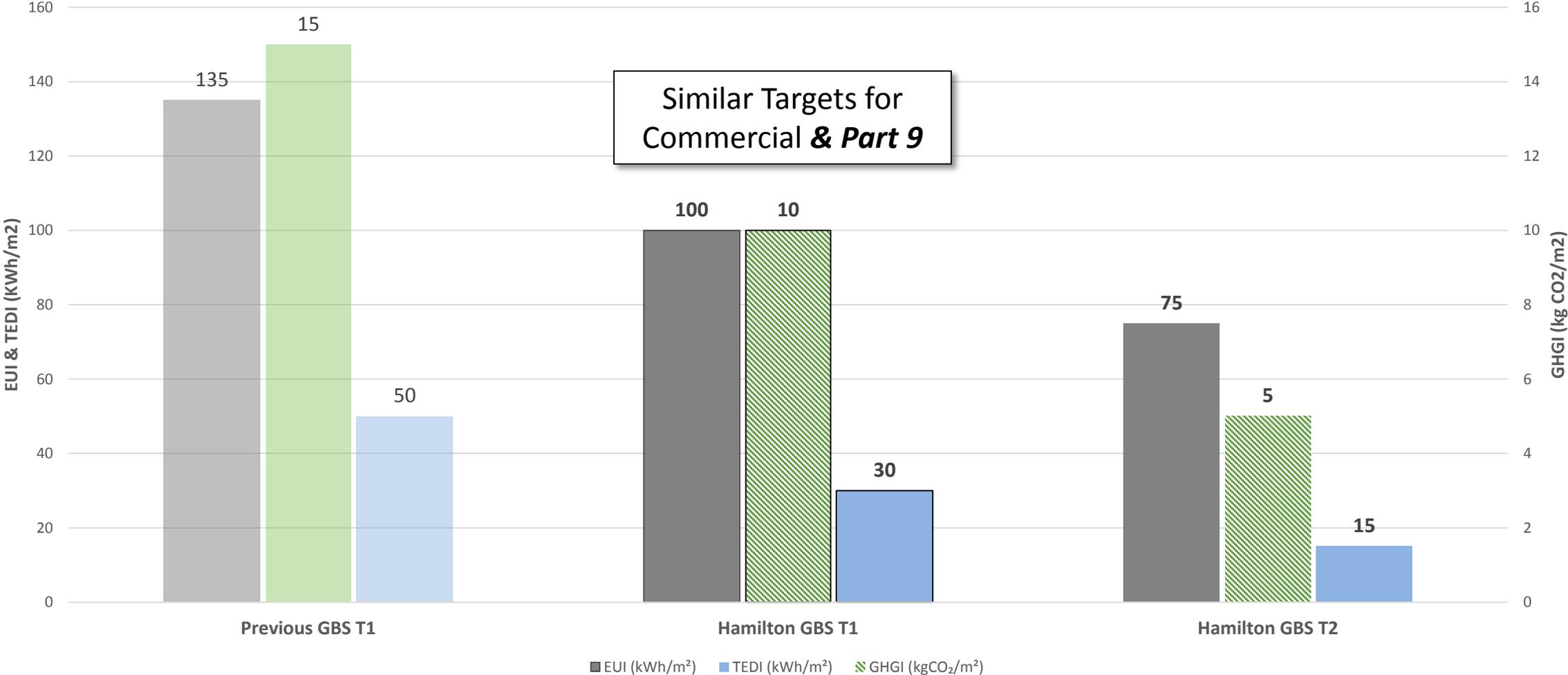
High-Rise Residential Benchmarks and Targets



\*Electricity EF = 30 gCO₂e/kWh

# Proposed Metrics and Targets

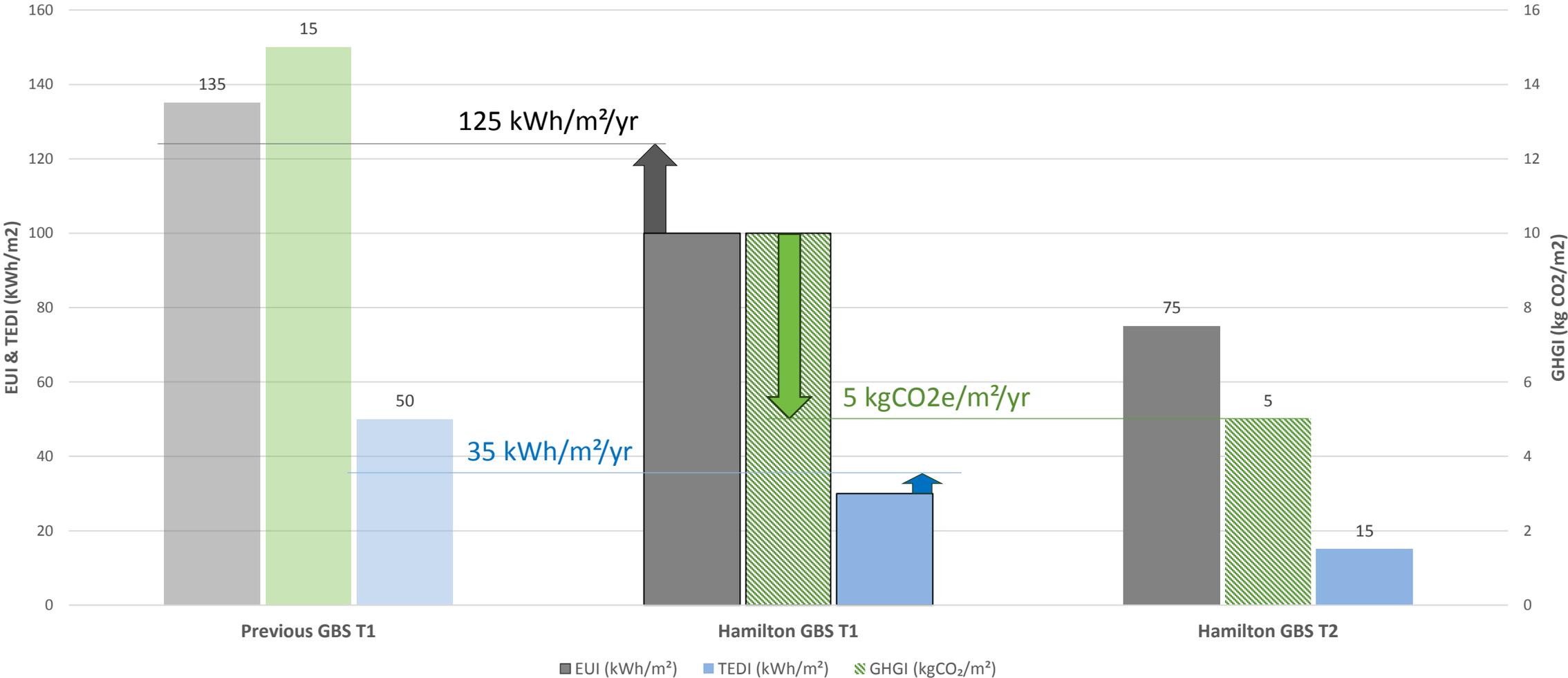
High-Rise Residential Benchmarks and Targets



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# Alternative Compliance Path: Trade-off

High-Rise Residential Benchmarks and Targets



\*Electricity EF = 30 gCO<sub>2</sub>e/kWh

# Alternative Compliance Path: Prescriptive Options

## Prescriptive Path – Residential

### *Implement a Partial Fuel-Switch.*

- Size cold climate heat pumps for 80% of load.
- Make sure HP is first stage of heating.

## Prescriptive Path (*future*) - District Energy Connection

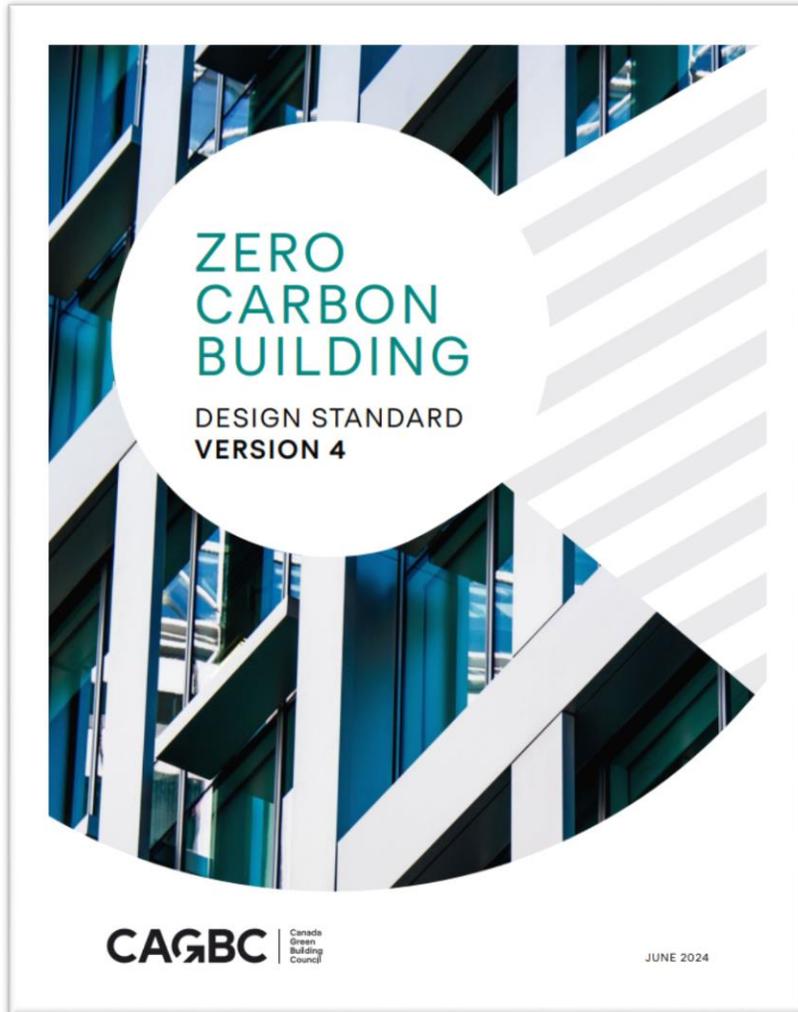
### *Connect to approved district energy.*

- Provide 100% of heating and domestic hot water using approved district energy system (e.g. HCE)

### ***Next Step:***

Work with HCE and other DE providers to agree on needed commitments and information provided to customers.

# Metrics and Targets – All Buildings Tier 3



Fulfill the zero carbon mandate.

Design to Tier 2 *OR* Certify to the CaGBC ZCB – Design Standard

+

Commit to five (5) years of CaGBC ZCB Performance Standard Certification

**Next Step:**

Build a coalition of partners willing to commit to Tier 3, potentially starting with City facilities.

**Additional Next Step:**

- Closing the gap between modeled & real performance (e.g. commissioning requirements).
- Financial supports & advocacy for builders and owners.
- Looking towards existing building regulation.

# Summary of Changes

## Pace of change:

- Align with the **expected Version 5 of the Toronto Green Standard**
- Offer **relaxation & alternative pathways** of compliance, respecting the higher costs of load reductions.

## Fuel-switching focus:

- Further **emphasize fuel-switching**, especially in Part 9.
- When developing alternative pathways, promote **trade-offs** which emphasize fuel-switching.

TABLE EC1 Version 1 - October 2024				
Building Type	Tier	TEUI	TEDI	GHGI*
		(kWh/m <sup>2</sup> /yr)	(kWh/m <sup>2</sup> /yr)	(kgCO <sub>2</sub> /m <sup>2</sup> /yr)
Part 3 MURB (< 6 Storeys)	1	130	40	15
	2	100	25	10
Part 3 MURB (≥ 6 Storeys)	1	135	50	15
	2	100	30	10
Commercial Office	1	130	30	15
	2	100	22	8
Commercial Retail	1	120	40	10
	2	90	25	5

TABLE EC1 Version 2 - March 2025				
Building Type	Tier	TEUI	TEDI	GHGI*
		(kWh/m <sup>2</sup> /yr)	(kWh/m <sup>2</sup> /yr)	(kgCO <sub>2</sub> /m <sup>2</sup> /yr)
Part 9 & Part 3 MURB (< 6 Storeys)	1	100	25	10
	2	70	15	5
Part 3 MURB (≥ 6 Storeys)	1	100	30	10
	1 Trade- Off	125	35	5
Commercial Office	2	75	15	5
	1	100	22	8
	1 Trade -Off	115	35	4
Commercial Retail	2	65	15	4
	1	90	25	5
	1 Trade -Off	115	35	3
	2	70	15	3

\*Tables assume GHG emission factor for electricity of 30 kg CO<sub>2</sub>e emissions per MWh of electricity.



# Next Steps: Implementation & Incentives

## Next Steps: Implementation & Incentives

Report PED25117 is being brought forward to the April 30, 2025 General Issues Committee, it will address five key implementation areas:

- Planning Process
- Incentives
- Standards and Monitoring
- Date of Effect and Transition Provisions
- Communications





Hamilton

**THANK YOU FOR ATTENDING**

THE CITY OF HAMILTON PLANNING COMMITTEE