

Climate Change Advisory Committee

Green Building Standards: A Pivotal Opportunity

Introduction

Before presenting our recommendations, the Climate Change Advisory Committee (CCAC) would like to acknowledge that a great deal of effort has gone into the process of developing the draft Green Building Standards, and we commend all staff involved with this file for their work in getting us to this point today.

We would also like to highlight that our forthcoming recommendations are being presented with the goal of positively collaborating with city staff to address the gaps existing today, and that collaboration and consultation between our advisory committee and staff can become a routine part of future climate policy development.

Citizens Committee Report: Key Recommendations

1. That the staff report to Planning Committee regarding Green Building Standards currently on the agenda for the meeting on October 1st, 2024, be delayed to a future meeting in 2025 to **allow time for the following recommendations** of the Climate Change Advisory Committee to be implemented:
 - a. The newly formed **Climate Change Advisory Committee should be included as a key stakeholder in the ongoing consultation process** on Green Building Standards before bringing a final staff report to council

Citizens Committee Report: Key Recommendations

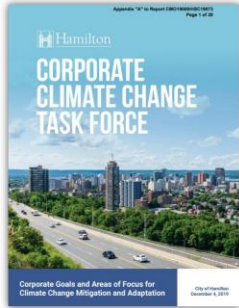
1. That the staff report to Planning Committee regarding Green Building Standards currently on the agenda for the meeting on October 1st, 2024, be delayed to a future meeting in 2025 to **allow time for the following recommendations** of the Climate Change Advisory Committee to be implemented:
 - b. The Climate Change Advisory Committee, through the newly formed Technical & Governance and Buildings working groups, **collaborate with staff to address gaps** identified in the draft Green Building Standards, including:

Citizens Committee Report: Key Concerns

- i. The draft standards **do not clearly outline a framework** that phases in successively more stringent tiered standards over a fixed timeline with full transparency on future requirements to all stakeholders
- i. The draft standards **do not outline emissions limits that are sufficient** to require new buildings to transition to efficient, low-emissions technology now or in the future
- ii. The draft standards **do not align with Hamilton's Climate Action Strategy** to achieve net-zero by 2050 and instead allow for significant fossil fuel lock-in to occur

Green Building Standards Timeline

Staff Direction
Dec 4, 2019



High Impact Actions	Areas of Focus for Further Work	Department Lead	Reporting Timeline
The City will assess future land use and development climate change mitigation and adaptation opportunities.	Climate change evaluation framework, both as part of CRES2 and the Municipal Comprehensive Review	Planning and Economic Development	Initial 2020 Report Annually
	Energy and Environmental Assessment Report requirement for new development projects	Planning and Economic Development	Initial 2020 Report Annually
	Adoption of Community Energy Plan	Planning and Economic Development	Initial 2020 Report Annually
	Low Impact Development guidelines within the City's Comprehensive Engineering Guidelines, City Plan guidelines and zoning standards	Planning and Economic Development	Initial 2020 Report Annually
	Climate change evaluation framework for future infrastructure master plans	Public Works	Initial 2020 Report Annually

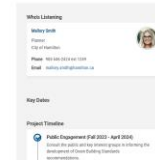
Consultant Report
June 24, 2021



Public & Stakeholder Consultation
April 2021 – April 2024

Consultation

- Staff from various Departments were circulated for comment.
- Following the comment period, a draft was presented to the Development Industry Liaison Group (DILG) on April 12, 2021.
- As a result of this Report, future consultation will occur with members of the public and community stakeholders to inform the final Guidelines and implementation measures.



Today's Meeting
Oct 1, 2024

CITY OF HAMILTON PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT Planning Division	
TO:	Chair and Members Planning Committee
COMMITTEE DATE:	October 1, 2024
SUBJECT/REPORT NO:	Green Building Standards (PED24114) (Urban Areas – City Wide)
WARD(S) AFFECTED:	Urban Areas – City Wide
PREPARED BY:	Mallory Smith (905) 546-2424 Ext. 1249
SUBMITTED BY:	Anita Falzac Acting Director, Planning and Chief Planner Planning and Economic Development Department
SIGNATURE:	

- RECOMMENDATION**
- That the Green Building Standards Final Report attached as Appendix "A" to Report PED24114, be endorsed.
 - That the Green Building Standards Guidebook attached as Appendix "A1" to Report PED24114, be endorsed.

HCAS
Aug 2022



OCCI
Established
2023



CCAC
First meeting
April 30, 2024

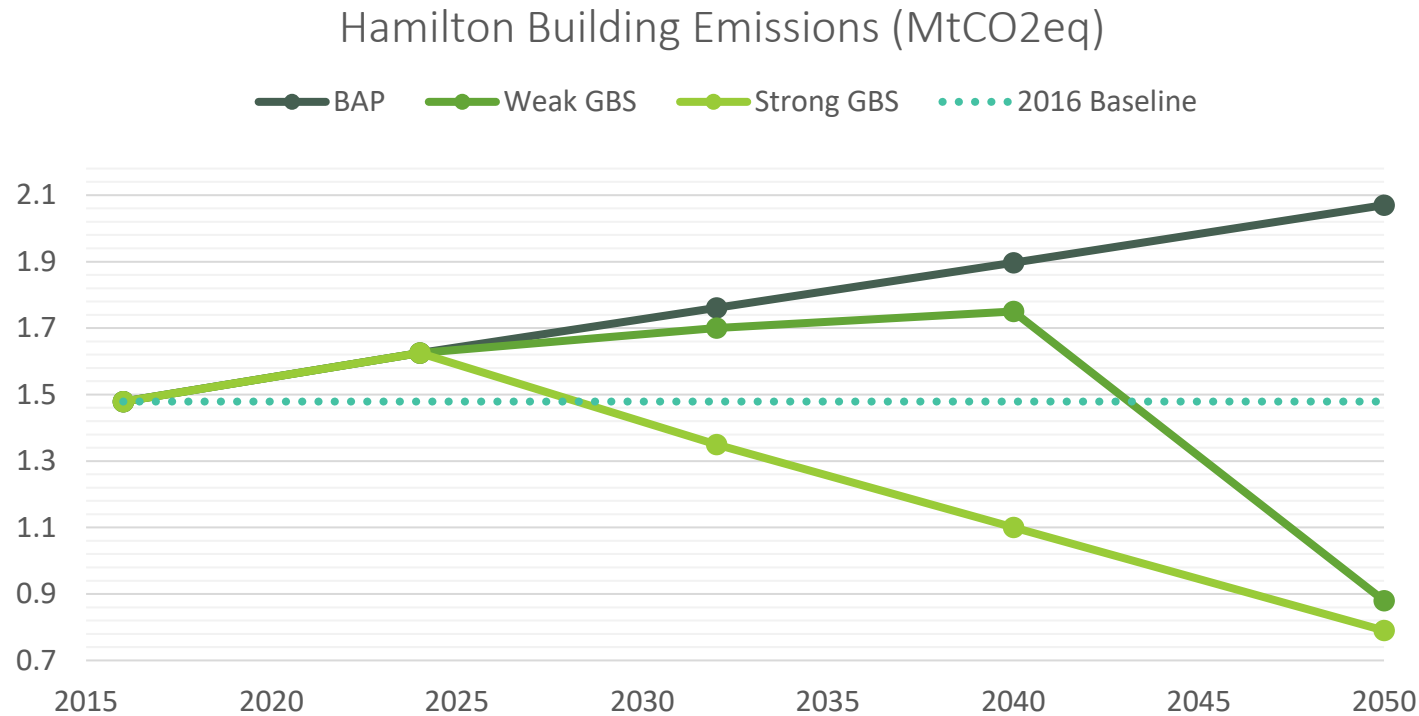


Climate Change Advisory Committee: First Meeting

Dear Climate Change Advisory Committee Members,

Thank you for your patience and ongoing commitment. We are excited Tuesday, April 30th from 6 PM to 8 PM. Location: City Hall, Rooms

Green Building Standards: A Pivotal Opportunity



Emissions gap represents approx. 12% of Hamilton's emission reduction commitments

The slope of decline in emissions has significant **cost implications** for building retrofits required

Examples of Green Building Standards Gaps: Emissions

Item #	Tier	Applicability	Metrics	Documentation	Details																				
EC1.3	Tier 1	Part 3	<ul style="list-style-type: none"> Using whole-building energy modelling, demonstrate an annual Total Energy Use Intensity (TEUI), Thermal Energy Demand Intensity (TEDI), and GHG Emission Intensity (GHGI) that meets the applicable performance limits^{1,2,3}: <table border="1"> <thead> <tr> <th>Building Type</th> <th>TEUI (kWh/m²/yr)</th> <th>TEDI (60 kWh/m²/yr)</th> <th>GHGI (kgCO₂e/m²/yr)</th> </tr> </thead> <tbody> <tr> <td>MURB (< 6 Storeys)</td> <td>135</td> <td>50</td> <td>15</td> </tr> <tr> <td>MURB (< 6 Storeys)</td> <td>130</td> <td>40</td> <td>15</td> </tr> <tr> <td>Commercial Office</td> <td>130</td> <td>30</td> <td>15</td> </tr> <tr> <td>Commercial Retail</td> <td>120</td> <td>40</td> <td>10</td> </tr> </tbody> </table> <ul style="list-style-type: none"> For all other Part 3 buildings: develop a whole-building energy model, and design and construct the building to meet the National Energy Code of Canada for Buildings (NECB) 2020⁴ Tier 1. 	Building Type	TEUI (kWh/m ² /yr)	TEDI (60 kWh/m ² /yr)	GHGI (kgCO ₂ e/m ² /yr)	MURB (< 6 Storeys)	135	50	15	MURB (< 6 Storeys)	130	40	15	Commercial Office	130	30	15	Commercial Retail	120	40	10	<p>Site Plan Application Submission</p> <ul style="list-style-type: none"> Energy Model Report summarizing key modelling inputs, outputs, and assumptions, signed by a licensed professional (Energy Modeller), and demonstrating compliance with the applicable target⁵. 	<ol style="list-style-type: none"> Identify the applicable building archetype and meet the archetype-specific performance limits. Mixed use buildings can apply a weighted average of the applicable performance limits. For guidance on calculating TEUI, TEDI, and GHGI, refer to the City of Toronto's Energy Modelling Guidelines Version 4. For guidance on submission requirements, refer to the City of Toronto's Energy Efficiency Report Submission & Modelling Guidelines. Applicable to building types that do not apply to any of the building archetypes listed above. Refer to the National Energy Code of Canada for Buildings (NECB) 2020. CAGBC Zero Carbon Building-Design Certification is an acceptable alternative compliance for archetype and non-archetype buildings. Zero Carbon Building-Performance Certification is encouraged to demonstrate continued net zero performance.
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EC1.4	Tier 2	Part 3	<ul style="list-style-type: none"> Using whole-building energy modelling, demonstrate an annual Total Energy Use Intensity (TEUI), Thermal Energy Demand Intensity (TEDI), and GHG Emission Intensity (GHGI) performance limits^{1,2,3}: <table border="1"> <thead> <tr> <th>Building Type</th> <th>TEUI (kWh/m²/yr)</th> <th>TEDI (60 kWh/m²/yr)</th> <th>GHGI (kgCO₂e/m²/yr)</th> </tr> </thead> <tbody> <tr> <td>MURB (< 6 Storeys)</td> <td>100</td> <td>30</td> <td>10</td> </tr> <tr> <td>MURB (< 6 Storeys)</td> <td>100</td> <td>25</td> <td>10</td> </tr> <tr> <td>Commercial Office</td> <td>100</td> <td>22</td> <td>8</td> </tr> <tr> <td>Commercial Retail</td> <td>90</td> <td>25</td> <td>5</td> </tr> </tbody> </table> <ul style="list-style-type: none"> For all other Part 3 buildings: Develop a whole-building energy model, and design and construct the building to meet the National Energy Code of Canada for Buildings (NECB) 2020⁴ Tier 2. Alternative Compliance Path: Achieve Zero Carbon Building (ZCB) Design Standard Certification^{4,5,6}. 	Building Type	TEUI (kWh/m ² /yr)	TEDI (60 kWh/m ² /yr)	GHGI (kgCO ₂ e/m ² /yr)	MURB (< 6 Storeys)	100	30	10	MURB (< 6 Storeys)	100	25	10	Commercial Office	100	22	8	Commercial Retail	90	25	5	<p>Site Plan Application Submission</p> <ul style="list-style-type: none"> Energy Model Report summarizing key modelling inputs, outputs, and assumptions, signed by a licensed professional (Energy Modeller), and demonstrating compliance with the applicable target⁵. For ZCB ACP only: Confirmation of registration for ZCB-Design Standard certification. <p>Post Construction Submission</p> <ul style="list-style-type: none"> Energy Modelling Report or other documentation demonstrating compliance with the targeted standard summarizing key modelling inputs, outputs, and assumptions, signed by a licensed professional. Updated Energy Model Report⁵. For ZCB ACP only: CAGBC ZCB-Design Standard certification and complete workbook. 	<ul style="list-style-type: none"> Separate standards for low-rise residential do not incorporate GHGI limits at all, or provide any alternate prescriptive pathway to phasing out gas heating appliances
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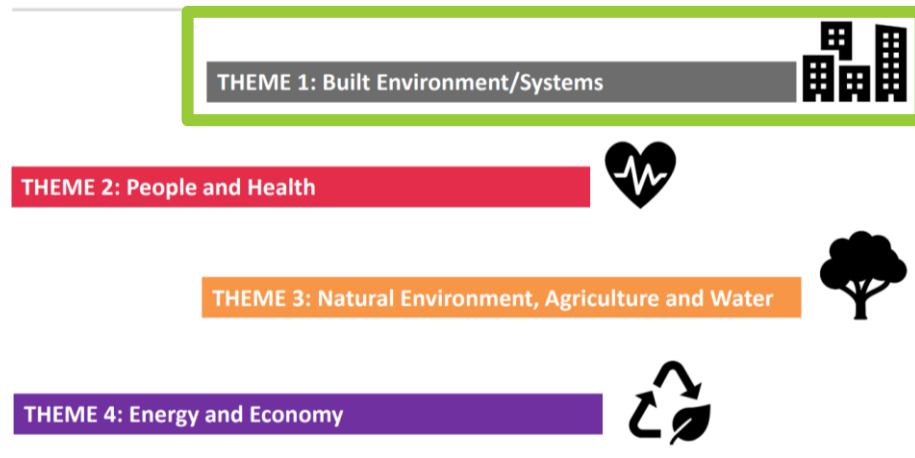
- Effective GHGI limits of 3-5 kg CO₂e/m²/yr are needed to require buildings to transition from gas-burning space and water heating appliances to more efficient, low-emissions alternatives like heat pumps
- Separate standards for low-rise residential do not incorporate GHGI limits at all, or provide any alternate prescriptive pathway to phasing out gas heating appliances

HCAS Commitments

CEEP: 5 Low-Carbon **Transformations** for City and **Community**



CCIAP: 4 Theme Areas for Climate Change Impact Adaptation Actions



“Retrofit 100% of existing homes to achieve 50% energy efficiency savings relative to 2016 by 2050”

“Post-retrofits, switch buildings to heat pumps for space and water heating by 2050”

“Homeowners and property owners will need to participate in adaptation building retrofit programs”

Citizen Committee Report: Background, Analysis and Rationale

- Over the next 25 - 30 years, the population of the City of Hamilton is expected to grow from 584,000 in 2021 to at least 820,000 by 2051. Accommodating the increased population requires an estimated **110,000 housing units**.
- If the **opportunity during the construction phase is missed**, the cost of **retrofitting homes afterwards is prohibitively expensive** for the average household, and prohibitively expensive for the City of Hamilton to fund at scale through municipal incentives.
- Unlike the City of Toronto, Hamilton also faces added **challenges around low-rise development that need to be addressed in Green Building Standards**.
- The City of Hamilton has already affirmed its **support for fiscally prudent and sustainable development that avoids fossil fuel lock-in** through unanimous support for a decision on this subject issued by the Ontario Energy Board in February 2024

Citizen Committee Report: Background, Analysis and Rationale

- The **leading best practices for Green Standards** is to use a framework that phases in new measures over a transparent timeline, with more stringent limits beginning as voluntary and then becoming mandatory, typically after 2-3 years. This provides a **clear step-by-step roadmap** to all stakeholders that shows the full path of the planned transition to sustainable building practices, with clarity on what requirements to expect both now and in the future.
- Hamilton also has the opportunity to work with the development community to provide more choices for how requirements can be met, **including prescriptive options that provide pathways to compliance that reduce administrative burdens.**

Conclusion

- **Green Building Standards** are a pivotal opportunity for Hamilton to chart a clear course for a sustainable future.
- The Climate Change Advisory Committee was created by Council **in order to provide input on key climate policies like Green Building Standards.**
- Our committee would like to engage with staff to explore opportunities and challenges associated with adopting more ambitious Green Building Standards that would seek to align us with other municipal leaders, and most importantly to **keep the City of Hamilton on track to meet its HCAS commitments to the community.**