# **DA** TORONTO

## Toronto Green Standard: Net Zero Transition Study Update

Date: November 19, 2024To: Planning and Housing CommitteeFrom: Interim Chief Planner and Executive Director, City PlanningWards: All

#### SUMMARY

With the adoption of TransformTO Net Zero Strategy in December 2021, Council committed to taking a number of actions to achieve net-zero emissions in Toronto by 2040 to align with the global 2030 trajectory to keep the planet's temperature habitable. This included the direction to accelerate implementation of the greenhouse gas emission limits performance measure in the Toronto Green Standard in 2025 and 2028 to ensure that buildings constructed in or after 2030 are near zero emissions. To address the feasibility of this acceleration, the City launched the Net Zero Transition Study.

As part of the study, staff, in consultation with stakeholders considered opportunities to introduce revised Toronto Green Standard performance measures to reduce greenhouse gas emissions in 2025. These opportunities were based on the results of the study's first phase.

The Toronto Green Standard (TGS) has been applied to new construction through the development review and approvals process since 2010 and has followed a standard frequency of updates on a four-year cycle, each time advancing the City's environmental sustainability priorities. This frequency has ensured the development industry has time to adjust to higher standards. Implementing changes between the four-year period is more challenging as it is not part of a comprehensive TGS update. Stakeholder feedback identified the need to understand the full suite of proposed changes associated with the next TGS update, as well as comprehensive costing on all potential changes. While changes would positively contribute to addressing the climate crisis, based on current market trends it is expected that the number of projects that would be affected by accelerating one year earlier than planned is negligible and would be more appropriately addressed as part of the next phase of the TGS.

This report recommends that staff incorporate revised greenhouse gas emission limits as part of the planned update to the TGS Version 5 performance measures, which would - if adopted - come into effect in 2026. A report on an update to Version 5 the

TGS is targeted for the fourth quarter of 2025, allowing for completion of the second phase of the Net Zero Transition Study and further stakeholder consultation.

#### RECOMMENDATIONS

The Interim Chief Planner and Executive Director, City Planning, recommends that:

1. City Council direct the Interim Chief Planner and Executive Director, City Planning, in consultation with the Executive Director, Development Review, Executive Director, Environment and Climate, Chief Building Official and Executive Director, Toronto Building, General Manager, Toronto Water, Executive Director, Corporate Real Estate Management and other relevant Divisions to report to Planning and Housing Committee in the fourth quarter of 2025 on the update to Version 5 of the Toronto Green Standard including:

a. the results of further analysis and consultation of energy and emissions performance measures resulting from the Net Zero Transition Study; and

b. the feasibility of requiring mandatory embodied emissions caps for new development.

2. City Council direct the Interim Chief Planner and Executive Director, City Planning, in collaboration with the Executive Director, Environment and Climate and the Chief Building Official and Executive Director, Toronto Building, and in consultation with the building industry, to develop a training curriculum for building design and construction professionals on the Toronto Green Standard, including new and emerging technologies.

#### **FINANCIAL IMPACT**

City Planning confirms that there are no financial implications resulting from the recommendations included in this Report in the current budget year or in future years.

#### EQUITY IMPACT STATEMENT

The Toronto Green Standard (TGS) serves several strategies and actions that support equity-deserving groups, including: the Resilience Strategy, TransformTO and the HousingTO 2020-2030 Action Plan. The TGS performance requirements result in quality, resilient and energy efficient housing and developments with reduced greenhouse gas (GHG) emissions and environmental impacts.

Energy efficient housing costs less to operate resulting in reduced utility bills for renters and owners, given that future proofing buildings today helps to avoid retrofits in the future needed to withstand the changing climate and for building system electrification. The TGS energy and emissions performance measures result in new development that is more affordable in the longer term with significantly reduced costs for heating and cooling utility bills. Some of the most durable and high-performance developments have been implemented by affordable and social housing providers, including Toronto Community Housing, Create TO and private affordable rental housing providers for this reason. High performance buildings are more resilient during extreme weather events; well insulated buildings hold their indoor temperature allowing homeowners to shelter in place during extended power outages posing less pressure on city emergency services while providing comfort and safety to occupants. The TGS is a market transformation tool, readying and supporting the development industry in making positive changes towards a sustainable city. The impact of this work supports the City's climate action, economic recovery and social resilience goals.

#### **CLIMATE IMPACT**

In 2019, City Council declared a Climate Emergency for the purpose of "naming, framing and deepening our commitment to protecting our economy, our ecosystems and our community from climate change" (<u>Item MM10.3</u>). This was followed up with the adoption of TransformTO Net Zero Strategy, which includes targets to achieve net-zero emissions in Toronto by 2040 (<u>Item IE26.16</u>).

Since 2010, new development has been required to meet higher performance measures for energy and emissions through the TGS and has resulted in avoided emissions of over 5.4 mega tons. The TGS also helps to transition new development towards more stringent energy efficiency provisions in the Ontario Building Code.

Council adopted Version 4 of the TGS addresses climate change adaptation and resilience including measures to enable electric vehicle (EV) charging, green infrastructure, biodiverse landscapes, increased tree canopy and cool paving, energy efficient and climate resilient building design and construction waste diversion and recovery. City owned new developments are required to have net zero emissions. Embodied emissions targets were introduced in 2023 for applicants to the Tier 2+ development charge refund program and new city owned projects. This made Toronto the first City in Canada to require reductions in emissions from building materials for municipal projects.

#### **DECISION HISTORY**

At its meeting of December 5, 2017, City Council adopted PG23.9 - Toronto Green Standard Review and Update which presented the Version 3 changes to the TGS to be applied to new development applications commencing May 1, 2018. In adopting the report City Council directed that commencing January 1, 2020 new buildings be designed to meet or exceed the Tier 1 absolute energy performance targets TEUI, TEDI and GHGI by building type and that, commencing January 1, 2020 bird friendly performance measures be applied to all exterior glazing within the first 16 metres of the building above grade; and, where visual markers are utilized the maximum spacing will be 50 mm X 50 mm. Council also directed that commencing January 1, 2022, where visual markers are utilized, all building types apply visual markers to the first surface of glass. <u>https://secure.toronto.ca/council/agenda-item.do?item=2017.PG23.9</u>

At its meeting on July 14, 15 and 16, 2021, City Council adopted the TGS Version 4 performance measures to be applied to new development applications commencing May 1, 2022, and to report on any further updates resulting from studies, consultations or other relevant considerations with respect to performance measures for embodied emissions. <u>https://secure.toronto.ca/council/agenda-item.do?item=2021.PH25.17</u>

At its meeting on December 15, 16 and 17, 2021, City Council endorsed the targets and actions outlined in Attachment B to the IE26.16TransformTO - Critical Steps for Net Zero by 2040 report with additional instructions directing City Planning to accelerate implementation of the greenhouse gas emission limits performance measure in the TGS to ensure that buildings constructed in or after 2030 are near zero emissions, by revising the TGS Tier 1 mandatory performance measure as follows, to: the "High Performance" level (Toronto Green Standard Version 4 Tier 2) to apply in 2025; and the "Near Zero Emissions" level (TGS Version 4 Tier 3) to apply in 2028. https://secure.toronto.ca/council/agenda-item.do?item=2021.IE26.16

At its meeting on May 10, 11 and 12, 2023 City Council approved the inclusion of new voluntary embodied emissions caps for private buildings and mandatory caps for City-owned new developments in the TGS. City Council directed the Chief Planner and Executive Director, City Planning, in consultation with the Executive Director, Environment and Climate, the Chief Building Official and Executive Director, Toronto Building, and the City Solicitor, to report to the Planning and Housing Committee in the second quarter of 2024 on the feasibility of requiring mandatory embodied emissions caps for new development as part of the update of the TGS to Version 5. <a href="https://secure.toronto.ca/council/agenda-item.do?item=2023.PH3.19">https://secure.toronto.ca/council/agenda-item.do?item=2023.PH3.19</a>

At its meeting on March 20, 2024, City Council requested the Chief Planner and Executive Director, City Planning, in consultation with the Executive Director, Environment and Climate and the Toronto Hydro Corporation, to report back to City Council by the fourth quarter of 2024, with recommendations to align the TGS with TransformTO and the planned Emission Performance Standards for Existing Buildings, so that newly approved buildings will be capable of net zero carbon operating emissions by 2040. https://secure.toronto.ca/council/agenda-item.do?item=2024.CC16.10

At its meeting July 24, 2024, (MM20.24) City Council directed the City Manager to take all available steps to ensure that all newly constructed buildings adhere to the most recent version of the TGS, in order to reduce future flood risks. https://secure.toronto.ca/council/agenda-item.do?item=2024.MM20.24

At it meeting September 26, 2024, Planning and Housing Committee requested the Chief Planner and Executive Director, City Planning, to report back with a detailed proposal report on a review the Zoning By-law to identify zoning barriers to solar panels, heat pump and energy storage devices in the first of quarter of 2025. https://secure.toronto.ca/council/agenda-item.do?item=2024.PH15.4

#### Toronto Green Standard: Leading sustainable development for 15 years

The TGS is the City's key tool to ensuring that new development is low carbon, resilient and biodiverse. It requires that development meet sustainable performance measures for energy, emissions and resilience; air quality; water quality and efficiency; ecology and biodiversity; and waste and the circular economy and is a critical tool to achieving the City's Transform TO climate change goals of net zero emissions by 2040. The TGS has been applied to new construction through the development review and approvals process since 2010. The TGS has been updated four times since inception, each time advancing the City's environmental sustainability priorities using a tiered system approach.

Tier 1 requirements are mandatory and apply to all new developments of ten units or more. Tiers 2 and 3 are voluntary for private new development and represent high levels of performance with low levels of greenhouse gas emissions. City-owned buildings must meet Tier 2 or better as directed by City Council in 2021. Tier 2 and city-owned projects are also third-party verified post-construction to ensure compliance. The City offers a development charge (DC) refund incentive program for high performance projects that are subject to development charges. The program provides a partial refund for third-party verified projects. It has been effective in attracting more than 173 projects enrolled into the TGS DC Refund program with 105 projects certified to date. This equates to a participation rate of between 10-15% of development projects targeting Tier 2 levels.

#### **Policy and Regulatory Context**

The TGS supports and implements planning requirements and policy objectives for sustainability and climate action.

#### **Planning Act**

The Planning Act governs land use planning in Ontario and establishes the means by which a municipality must implement land use planning decisions. Section 2 of the Planning Act requires that municipalities, when carrying out their responsibility under the Act, have regard for matters of provincial interest including:

(a) the protection of ecological systems, including natural areas, features and functions; (e) the supply, efficient use and conservation of energy and water;

(q) the promotion of development that is designed to be sustainable, to support public transit and to be oriented to pedestrians; ... and

(s) the mitigation of greenhouse gas emissions and adaptation to a changing climate.

#### **Provincial Planning Statement, 2024**

All decisions of Council in respect of the exercise of any authority that affects a planning matter shall be consistent with the Provincial Planning Statement (2024) (the "PPS (2024)"), and shall conform to provincial plans, including the Greenbelt Plan (2017), and others.

Section 2.9 of the PPS (2024) directs planning authorities to plan to reduce greenhouse gas emissions and prepare for the impacts of a changing climate through approaches that: b) incorporate climate change considerations in planning for and the development of infrastructure; c) support energy conservation and efficiency; d) promote green infrastructure, low impact development, and active transportation, protect the environment and improve air quality; and e) take into consideration any additional approaches that help reduce greenhouse gas emissions and build community resilience to the impacts of a changing climate.

#### **City of Toronto Official Plan**

The Toronto Green Standard implements the climate mitigation, climate adaptation, resilience and sustainability policies of the Official Plan.

The Official Plan envisions Toronto as "a sustainable and resilient city. Toronto will reach net zero and become more resilient to climate change, demonstrated in our land use planning decisions, infrastructure investments, extensive transit and cycling networks, restored biodiversity, and integrated perspectives, including Indigenous views on land protection." Planning priorities include "taking action on climate change and its impacts". Policy 3.4.1 specifies that changes to the built environment will, among other matters, be environmentally friendly by reducing energy consumption and greenhouse gas emissions and reliance on carbon-based fuels for energy.

On June 15, 2022, City Council approved Official Plan Amendment 583 which updated the environment and climate change policies. New policy 3.4.1 notes that changes to the built environment, including public works, will be environmentally friendly, sustainable, low carbon, and resilient to climate change, based on, among other matters, addressing environmental stresses caused by the consumption of natural resources, and by reducing the amount of energy and emissions-intensive materials in new construction. Policy 3.4.19. identifies that innovative energy producing options, sustainable design and construction practices and green industry will be supported and encouraged in new development and building renovation through various manners, including advanced energy conservation and efficiency technologies and processes that achieve a net zero emissions built environment including: i. connecting to and establishing and extending district heating and cooling facilities; and ii. renewable energy systems including wind, solar power and geothermal.

OPA 583 is pending approval by the Minister of Municipal Affairs and Housing and will come into effect upon Provincial approval.

#### COMMENTS

#### Transition to Net Zero and Supporting New Housing Supply

With the adoption of TransformTO Net Zero Strategy in December 2021, Council committed to taking a number of actions to achieve net zero emissions in Toronto by 2040 to align with the global 2030 trajectory to meet the necessary scientific based commitments to keep the planet's temperature habitable. Reducing GHG emissions

means reducing both operational emissions and construction related emissions known as embodied carbon (the "upfront" energy and emissions of extraction, processing and transporting building materials to the construction site).

For almost 15 years Toronto has been a leader in achieving new low carbon development through the TGS requirements and incentive program and has been the model that 14 municipalities across Ontario have used to develop their own green standards. The City also demonstrates this leadership in requiring that all new City owned facilities be net zero and meet an embodied carbon cap of equal to or less than 350 kgCO2e/m.

The City is also committed to increasing the overall housing supply and City Council has endorsed the 2023 Housing Action Plan for the 2022-2026 term of Council to enable market, non-market, and mixed housing production to achieve or exceed the provincial housing target of 285,000 new homes over the next 10 years. This target is in addition to the 280,000 residential units that have already been approved by Council in the last decade. The City has advanced numerous process improvements to streamline the development approvals process to help meet the Housing Action Plan priorities and provincial housing target. Implementation of the TGS has been integrated into these process improvements to ensure TGS performance standards are clear and well understood.

In terms of affordable housing, all new City Agency, Corporation and Division owned projects, including affordable housing, are required to achieve net zero and to meet embodied carbon emission caps. In 2021, Council also requested that CreateTO require the application of the TGS Version 4, Tier 2 for all development agreements, including the Housing Now Initiative.

#### Net Zero Transition Study

The following sets out the results of phase 1 of the Net Zero Transition Study and consultation findings.

#### **Review of TGS Energy and Emissions Performance Measures**

In 2017, Council directed a significant shift in energy and emissions requirements of the TGS with the adoption of a new four-tiered framework which put the City on a path for new development to be near-zero emissions by 2030. This was based on the Zero Emissions Buildings Framework study which provided a trajectory of operational energy and emissions targets out to 2030. The requirements were increased by one performance tier (or level) every four years with the next planned change occurring in 2026 (TGS Version 5) and then in 2030 (TGS Version 6). The framework has been embraced by the building industry for setting out a clear pathway that incrementally advances new performance requirements with each TGS update.

In December 2021, in adopting the TransformTO Critical Steps for Net Zero by 2040 report, Council directed the acceleration of the performance measure for greenhouse gas (GHG) emission limits sooner than planned, in 2025 and 2028 to ensure that buildings constructed in or after 2030 are near zero emissions. To address the feasibility

of this City Planning and the Environment & Climate staff initiated the Net Zero Transition Study (the "Study") in May 2024.

The purpose of the Study is to update the Zero Emissions Building Framework (2017) including buildings energy and emissions targets for large building types (part 3 buildings under the Ontario Building Code) and assess the available building technologies and current costs associated with meeting those targets to make informed decisions about next TGS versions/updates. The consultants retained for this Study include Introba, Perkins & Will Architects, Westerhoff Climate Strategies and A.W. Hooker cost consultants.

The Study is divided into two phases. Phase 1, which is complete, assessed the feasibility of advancing the current required GHG emissions performance target in 2025 instead of 2026 as directed by Council, and included a financial feasibility analysis. Phase 2 is planned to be completed in the spring 2025 and includes a review of the suite of TGS energy, emissions and resilience targets and an extensive cost analysis of market-ready building design packages to meet new requirements. Industry consultation was undertaken as part of the phase 1 and will continue as part of phase 2. The phase 2 Study recommendations will inform reporting on future the TGS update, scheduled for the fourth quarter of 2025.

#### Phase 1 Net Zero Transition Study Results

The objective of phase 1 of the Study was to assess the feasibility of accelerating the TGS greenhouse gas intensity (GHGI) target by one performance tier in 2025 instead of 2026. Feasibility was assessed through the review of application compliance data, a jurisdictional scan, industry engagement and a financial feasibility analysis.

Staff identified 108 mid to high-rise multi-unit residential current applications with a GHGI less than 15 kgCO2/m2, which is the current requirement for Tier 1 of the TGS. Of the 108 buildings, 52 (48%) are achieving a GHGI less than 10 kgCO2/m2, which is the current target under Tier 2.

Twenty of the 108 projects contain affordable housing units. Seven of these are public projects (6 City of Toronto and 1 Toronto Community Housing Corporation), and two are private not-for-profit projects. Of the 11 remaining projects one is a Housing Now project and the rest include a combination of rental replacement and/or affordable units as part of larger developments. Fourteen of the twenty are achieving a GHGI less than 10 kgCO2/m2, including two private not-for-profits.

Overall, the Study analysis indicates that approximately 50% of mid to high rise multiunit residential applications are already achieving the lower GHGI target with minimal cost implications and identified that the proposed acceleration of GHGI target for new development one year sooner could achieve a projected reduction in GHG emissions of between 5,000 and 16,000 tonnes annually (depending on number and size of developments). This would be equivalent to between 1,500 and 4,900 fewer internal combustion engine passenger vehicles on the road per year.

#### **Financial Feasibility Analysis**

The financial feasibility assessment evaluated the capital cost premium of designing to meet the proposed GHGI over the current TGS Tier 1 base case for the four TGS building archetypes: high rise residential, low-mid rise residential, commercial office and large retail building types.

The acceleration of the GHGI target would require some adjustments in mechanical systems designs. Meeting lower GHGI targets and transitioning to net zero emissions buildings generally requires electrification of heating loads (i.e. heat pumps instead of natural gas-fired equipment), increased deployment of low carbon thermal energy including geo-exchange, wastewater energy and district energy systems, and a clean electricity grid.

The analysis determined that the costs associated with accelerating the GHGI targets to Tier 2 levels would have an estimated cost premium of approximately 1% above the current average cost of \$422 per square foot for high rise residential. The reason for the marginal cost increase is that the current TGS mandatory energy and GHG requirements are already causing partial fuel switching to electrical heating and cooling systems. The modelling and costing analysis concluded that accelerating the GHGI targets, without any other changes to the TGS, would have minimal impact on the capital cost of a project.

The use of low-carbon energy systems to meet the proposed GHGI often requires mechanical equipment to be located on lower floors of buildings rather than rooftop mechanical space used in conventional HVAC systems. This mechanical equipment location shift often frees up rooftop space which can potentially allow for the redeployment of typical mechanical penthouse space to usable floor space (e.g. residential units, amenity space, etc.). This in turn can offset up-front costs of including a low-carbon energy system within a building that is used to meet lower GHGI targets. Staff have worked with developers on several occasions to enable the conversion of the mechanical penthouse to useable floor space provided low carbon fuel sources are included in the development.

#### **Consultation Findings**

Consultation on phase 1 occurred between July and October 2024 and consisted of the following:

- Steering committee of industry experts;
- Three focus group meetings with developers/owners, architects/designers and energy providers;
- Industry survey, distributed through the Building Industry and Land association (BILD);
- One on one interviews with Residential Construction Association of Ontario (RESCON); Independent Electricity System Operator (IESO) and Enbridge Gas; and
- Meeting with BILD association members.

Consultation on the phase 1 Study results highlighted two main sentiments:

- acceleration of GHGI one year sooner amid the current housing crisis may introduce added complexity and potentially increase costs for new developments; and,
- acceleration would not pose a significant challenge for most but not all developers. There were concerns raised about the potential costs associated with other energy performance measures such as Thermal Energy Demand Intensity (TEDI), which will be examined in phase 2.

Stakeholders also suggested some actions the City could take to mitigate the impacts associated with updated performance measures:

- Communicate changes to the TGS performance measures as far in advance as possible;
- Address gaps in understanding of energy and emissions targets through additional outreach, education and support;
  Assist in reducing barriers, fostering availability of low-carbon energy networks, and increasing awareness of technical options to meet the GHGI target. Planning and Housing Committee requested a report with detailed proposals on zoning barriers in the first quarter of 2025.
- Accommodate directional drilling under public lands (rights of way and parks), when critical to enable feasibility for geo-exchange systems, consistent with Council's October 9, 2024 adoption of OPA 528 which amends the Official Plan to specify limited exemptions to facilitate essential public works and utilities (including alternative energy systems) provided certain criteria are met; and
- Aligning the timing of incentives with the timing of design decisions would help support the business case for lower GHGI performance. The development charge refund program currently provides the DC refund once construction and third- party verification is complete.

A summary of the phase 1 stakeholder engagement can be found in Attachment 1.

#### TGS Version 5 Update

A comprehensive review of the TGS is undertaken every 4 years and an update to Version 5 is planned for the fourth quarter of 2025 and if adopted, will come into effect in 2026.

Stakeholder feedback on phase 1 of the Study identified the need for a full understanding of all changes and costs associated with the next update of TGS. Stakeholders also raised concerns that the added requirements prior to 2026 could have the impact of delaying new housing supply.

Stakeholder feedback on phase 1 of the Study identified the need for a full understanding of all changes and costs associated with the next update of TGS. Stakeholders also raised concerns with making two sets of changes only one year apart, which some viewed as a burden in an already challenged housing marked.

As the number of projects that would be affected by accelerating one year earlier than planned is negligible, this report recommends addressing updated GHGI changes as part of the planned Version 5 update of the TGS, allowing for completion of Phase 2 of

the Study and further industry consultation. The TGS Version 5 update will also address requirements for a life cycle assessment for embodied carbon and the feasibility of requiring mandatory embodied emissions caps for new development. The update will clarify alignment of the TGS with TransformTO, the Resilience Strategy and the planned Emission Performance Standards for Existing Buildings and identify an approach to ensure that all newly constructed buildings adhere to the most recent TGS version to reduce future flood risks in response to Council direction.

#### **Next Steps**

The City has received grant funding from the National Research Council's Code Acceleration Fund to support training on code acceleration for existing and new buildings. The funding is available over three years from 2024 to 2027. City Planning is working with the Environment and Climate Division to develop a training curriculum on the TGS and any future changes emerging in the Version 5 update. Target audiences will include building design and construction professionals.

#### CONTACT

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#### SIGNATURE

Kyle Knoeck, MCIP, RPP Interim Chief Planner and Executive Director City Planning

#### ATTACHMENTS

Attachment 1: Net Zero Transition Study Phase 1 Stakeholder Engagement Summary

### Attachment 1: Net Zero Transition Study Phase 1 Stakeholder Engagement Summary

Key Feedback	Response
1) Accelerating the GHGI target by one tier is not seen as posing significant challenges and is generally achievable. Other TGS energy efficiency metrics pose greater challenges for compliance and cost.	Continue to complete phase 2 of the Net Zero Transition Study analysis and industry consultation to assess challenges and cost barriers with reducing GHG emissions and other performance metrics. Report back in Q4 2025 on results and recommendations for future TGS versions.
2) Changes to the TGS requirements need to be communicated as far in advance as possible to send the signal to the market, including energy providers.	Provide advance notice (6 months to 1 year) for any changes to ensure industry has time to anticipate the changes in requirements for development applications.
3) There is still a gap in understanding and proactive development planning to address the targets. More outreach, education and support from the city would increase ease of compliance.	Develop industry training with funding from the Federal Code Acceleration Fund to train industry and staff on the proposed targets if approved by City Council.
4) Grid capacity was identified by some as a challenge to accelerating the GHGI targets, which would have some impact on electricity demand.	Toronto Hydro and the IESO affirmed that long-term capacity planning and projections have been taken into account. The city participates in the Integrated Regional Resource Plan process with Toronto Hydro, Hydro One and the IESO to ensure that distribution system planning continues to align with TransformTO.
5) The city has a role to play in reducing barriers, fostering the availability of low- carbon energy networks, and increasing awareness of technical options to meet the GHGI target.	The city works to enable renewable and low carbon thermal energy at the building and district scale, including: developing low carbon district energy systems on city-owned land in partnership with Enwave; allowing developers to potentially reclaim mechanical penthouse space when using a low carbon energy system through zoning bylaw amendments with the newly established Development Review Division; enabling access to city assets, such as trunk sewers for wastewater energy systems; and reviewing the city-wide zoning bylaw for barriers to solar energy, energy storage, and heat pumps.

Key Feedback	Response	
6) Work to allow directional drilling under public lands (rights of way and parks) is critical to enable feasibility for geo- exchange systems.	The city is facilitating access to rights-of-way for installation of low carbon energy systems such as geo-exchange borefields and wastewater energy infrastructure. City Council adopted OPA 528 removes the need for an official plan amendment to allow for renewable energy systems. The city is currently developing the criteria for accessing subsurface land below parks for low carbon thermal energy systems.	
7) Aligning the timing of incentives with the timing around design decisions would help support the business case for lower GHGI performance.	The city currently provides a development charge refund for high performance development, which is refunded post construction once verified. The city will continue to explore opportunities for other incentives.	

#### **Summary of Participants - Steering Committee**

#### Meetings

Workshop #1 – Introductions & Background (July 8, 2024) Workshop #2 – Phase 1 Summary (September 9, 2024) Workshop #3 – Phase 2 Methodology (October 3, 2024)

#### Membership

**BDQ Quandrangle Architects** Building Industry and Land Development Association (BILD) Canada Green Building Council (CaGBC) CreateTO **Daniels Corporation** Ellisdon Builders Enwave Hammerschlag & Joffe Mantle Developments Passive House Canada RDH Building Science RIOCAN Superkul Sustainable Buildings Canada The Atmospheric Fund (TAF) Toronto Community Housing Toronto Hydro Tridel University of Toronto Waterfront Toronto

#### **Focus Groups**

Developers/Owners (July	Subject Matter Experts	Energy Providers (July
16, 2024)	(July 16, 2024)	18, 2024)
Pinnacle Tenblock Northcrest Developments Dream Toronto Community Housing Context Development & Globizen TAS	SvN Architects + Planners Urban Equation Purpose Building Montgomery Sisam Architects WSP Canada Rathco ENG Kirkor Architects SA Footprint MCW Consultants EQ Building Performance	AltCrest Energy Enbridge Sustain Noventa Energy Enwave Geosource Energy Corix Subterra Renewables Creative Energy Diverso Energy

#### **One-on-One Interviews**

Residential Construction Council of Ontario (RESCON) (August 14, 2024) Independent Electricity System Operator (IESO) (August 19, 2024) Enbridge (September 3, 2024)

#### BILD Industry Survey Overview (July 18 to August 11, 2024)

Respondents: 11 Start Page Views: 385

Survey key comments:

- Affordability cited as the main concern, given current market conditions
- Grid capacity also noted as a concern, particularly when fuel switching is combined with other potential requirements such as EV-ready parking

#### BILD Toronto Forum Meeting (October 8, 2024)

Presentation on Phase 1 Study, consultation and cost analysis results 34 BILD attendees