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PH25.17 Toronto Green Standard Review and Update

Dear Planning and Housing Committee Members,

The Atmospheric Fund (TAF) strongly supports the adoption of the Toronto Green Standard Version 4 (TGS V4). The proposed updates will ensure Toronto remains among the leading jurisdiction in North America for low-carbon new construction. TGS V4 will ensure that Toronto home and business owners benefit from reduced energy costs, improved comfort and air quality, and enhanced resilience to extreme weather events and other shocks and stresses. Most importantly, TGS V4 is critical if Toronto is to achieve its 2030 and 2050 climate targets. With a rapidly growing City, there is simply no path to net-zero that does not require a rapid transition to near-zero new construction.

The TGS is by far Toronto's most important and successful climate policy. We estimate that TGS V4 will reduce Toronto's cumulative carbon emissions by 1.9 megatonnes by 2050, adding to the 3.5 megatonnes of emissions reductions from Versions 1 through 3¹. In addition to being a key element of the TransformTO climate strategy, the TGS is also a key element of the City's [Resilience Strategy](#) and [Electric Vehicle Strategy](#). TAF has been a long-term partner to the City in the development and refinement of the TGS, supporting policy development and implementation through extensive grants and technical assistance over the past decade. We applaud our colleagues at City Planning for bringing forward this update, and we note with approval that it follows the ambitious pathway laid out in the [Zero Emissions Building Framework](#) developed by the City in partnership with TAF and industry stakeholders in 2017.

While we support adopting the TGS V4 as proposed by staff, we have two additional recommendations on how the policy framework could be strengthened to better address the City's objectives and respond to its climate emergency declaration. We emphasize that these concerns should not delay adoption of TGS V4 as proposed by staff.

Electric Vehicle Charging Infrastructure

Staff have proposed increasing the Tier 1 electric vehicle (EV)-ready requirement for parking spaces in mid-to-high rise residential buildings from 20% to 25%. This is a small step in the right

¹ [See Appendix A](#)

direction, but it is insufficient to enable EV adoption at the pace and scale required under TransformTO and Toronto's Electric Vehicle Strategy. In contrast, leading jurisdictions including Richmond and Vancouver, B.C. are already requiring 100% EV-ready parking spaces in new development². Similarly, Waterfront Toronto is now requiring 100%. Clearly a 25% EV-ready requirement does not put Toronto in a leadership position, and it will saddle 75% of future multi-family building residents with significant barriers to adopting EVs.

Retrofitting buildings to enable EV charging is an order of magnitude more expensive than constructing them that way from the beginning. However, we recognize that the City has not yet undertaken cost-benefit analysis of stronger EV charging requirements. As staff have noted, the City is participating in a TAF-funded GTA-wide study on the costs and technical feasibility of stronger EV-ready requirements to be completed later this year³. Thus, **we recommend that City Planning report back in 2022 with recommendations for an interim update to strengthen the Tier 1 EV-Ready requirements.**

If approved in 2022, stronger EV-ready requirements could take effect in 2023, but our climate targets cannot afford to wait until the next scheduled TGS update (2026) to enable EV charging.

Enhanced Incentives for Tiers 2 and 3

It is critical that industry leaders participate in the voluntary Tier 2 and Tier 3 programs. Participation in the higher tiers generates immediate environmental, health, and economic benefits. But more importantly, it builds industry capacity for achieving the performance targets that will be mandatory for all buildings by 2030. We are very concerned to note that participation in the voluntary tiers has collapsed over the past four years since TGS V3 was adopted. The reason for the dramatic reduction in Tier 2/3 participation is crystal clear – the development charge refund incentive has fallen from 20% of development charges in TGS V1, to approximately 7% today. The absolute value of the incentive has been capped, while the stringency of the requirements has increased twice (in 2014 and 2018). Where the incentive used to cover approximately 50% of incremental costs associated with Tier 2, under version 3 it covers less than 25% of incremental costs.

If the City does not enhance incentives for Tier 2, participation under TGS V4 will continue to decline. Further, the lack of any additional incentive for participating in Tier 3 is a glaring omission. Every effort should be made to accelerate and prioritize Tier 3 participation as it corresponds to buildings achieving near-zero emissions. Staff have recommended a report-back on options to encourage higher uptake of Tiers 2 and 3 (staff recommendation #3). However, such a report was completed three years ago at City Council's request, identifying enhancing the development charge refund levels as the only viable option⁴. We recommend that this time the report-back specifically include recommendations for updated development charge refund incentive levels to ensure robust participation in Tiers 2 and 3, in time for the next update to the development charges bylaw. As only a small minority of developments are expected to participate in Tiers 2 and 3, the cost implications of appropriate incentives are minor.

² [Toronto Green Standard Review and Update, June 2021.](#)

³ [Toronto Green Standard Review and Update, June 2021.](#)

⁴ [Toronto Green Standard Version 3, May 2018.](#)

Recommendations

1. **We recommend adopting the Toronto Green Standard Version 4 and applying it to all new developments commencing May 1, 2022.** The timely adoption of this update is critical to achieving the City of Toronto's 2030 and 2050 climate targets by significantly strengthening the energy efficiency and carbon performance requirements of new buildings.
2. **We recommend that City Planning report back in 2022 with recommendations for strengthening the Tier 1 electric vehicle charging infrastructure requirements for mid-to-high rise residential and non-residential through an interim update to TGS V4.** The current proposed requirements are insufficient to support the level of EV adoption called for in TransfromTO and the City's Electric Vehicle Strategy.
3. **We recommend that the City consider increasing the level of the development charge refund provided to projects which meet the new Tier 2 and Tier 3 requirements.** We specifically recommend that staff recommendation #3 be amended to explicitly include consideration of enhancing the development charge refund levels.

Conclusion

TAF recommends the Planning and Housing Committee vote in favour of passing the Toronto Green Standard Version 4. The proposed update follows the pathway laid out in the City's Zero Emissions Building Framework, through which the industry has been provided five years notice of the timing and substance of the update. We work with surrounding municipalities in the Greater Toronto and Hamilton Area such as Whitby, Halton Hills, and others in Peel and York Regions that are exploring and adopting new Green Development Standards. Toronto's leadership sets a strong example in this sector. Continued leadership will help Toronto and others in the region stay on the pathway towards reducing carbon pollution from buildings, the largest source emissions in the city and across the broader region.

Sincerely,



Bryan Purcell, VP of Policy and Programs
The Atmospheric Fund

About the Atmospheric Fund

The Atmospheric Fund (TAF) is a regional climate agency that invests in low-carbon solutions for the Greater Toronto and Hamilton Area (GTHA) and helps scale them up for broad implementation. Please note that the views expressed in this submission do not necessarily represent those of the City of Toronto or other GTHA stakeholders. We are experienced leaders and collaborate with stakeholders in the private, public and non-profit sectors who have ideas and opportunities for reducing carbon emissions. Supported by endowment funds, we advance the most promising concepts by investing, providing grants, influencing policies and running programs. We're particularly interested in ideas that offer benefits in addition to carbon reduction such as improving people's health, creating local jobs, boosting urban resiliency, and contributing to a fair society.

Appendix A

TORONTO GREEN STANDARD GHG REDUCTION POTENTIAL ASSESSMENT

TAF has developed a model to estimate the avoided GHG emissions when applying Toronto Green Standard (TGS) versions 1 to 4. The avoided GHG emissions are approximate and estimated by comparing TGS's requirements to the Ontario Building Code (OBC). The combined versions 1 to 4 of the TGS will result in at least 169,000T CO₂e of avoided emissions annually, equivalent to removing more than 42,000 vehicles off the road each year. Cumulative avoided emissions add up to more than 5.43MT CO₂e between 2010 and 2050. TGS V4 alone will avoid more than 68,000 T CO₂e annually once fully implemented (equivalent to 17,000 vehicles off the road each year). Cumulative effects between 2010 and 2050 add up to more than 1.8MT CO₂e.

Annual Avoided GHG Emissions

Using past and forecasted city growth, the avoided GHG emissions generated by different versions of the TGS are summarized in Table 1.

Table 1: Annual avoided GHG emissions to 2050

	Total V1	Total V2	Total V3	Total V4	All 4 versions
Avoided GHG emissions (TCO ₂ e)	26,010	26,110	49,172	68,092	169,383
Equivalences					
Vehicles off the road	6,502	6,527	12,293	17,023	42,346

Cumulative Avoided GHG Emissions

Cumulative avoided GHG emissions between 2010 and 2050 is in total 5.4 MT CO₂e, and a breakdown is shown in Table 2. **V4 is expected to be responsible for 34% of all avoided emissions** in this period.

Table 2: Cumulative avoided GHG emissions to 2050

	Total V1	Total V2	Total V3	Total V4	All 4 versions
Avoided GHG emissions (TCO ₂ e)	1,040,394	939,956	1,548,911	1,896,061	5,425,322
Equivalences					
Vehicles off the road	260,098	234,988	387,227	474,015	1,356,330

Methodology

GHG emissions reductions have been estimated by comparing energy and emissions requirements of each TGS version compared to the applicable OBC for each year. Emissions and energy efficiency improvement are on average 13% for V1 and 15% for the other versions compared to the OBC of the same year. Details on standard and code version used in the comparisons as well as GHG intensities are shown in Table 1 and 2, respectively. It should be noted that for Version 3 and 4 in particular, the comparison to OBC is approximate as these versions feature absolute targets which are fundamentally different than OBC requirements.

Table 3: TGS and OBC standards year of implementation

Year	Applicable TGS	Baseline: Applicable SB-10
2010	V1	OBC 2006
2011	V1	OBC 2006
2012	V1	OBC 2006
2013	V1	OBC 2012
2014	V2	OBC 2012
2015	V2	OBC 2012
2016	V2	OBC 2012
2017	V2	OBC 2017
2018	V3	OBC 2017
2019	V3	OBC 2017
2020	V3	OBC 2017
2021	V3	OBC 2017
2022	V4	OBC 2017
2023	V4	OBC 2017
2024	V4	OBC 2024
2025	V4	OBC 2024

Table 4: TGS and OBC GHG intensities for each version and year

GHG intensities (assuming Tier 1 in all cases)				
TGS				
Building Type: GHG Intensity (kg CO2e/m2)	TGS V1	TGS V2	TGS V3	TGS V4
All Residential	30.59	26.00	20.00	15.00
Commercial Office	30.59	26.00	20.00	15.00
Commercial Retail	30.59	26.00	20.00	10.00
OBC				
Building Type: GHG Intensity (kg CO2e/m2)	OBC 2006	OBC 2012	OBC 2017	OBC2024
All Residential	35.16	30.59	26.00	20.00
Commercial Office	35.16	30.59	26.00	20.00
Commercial Retail	35.16	30.59	26.00	20.00

The following assumptions are used to estimate the avoided GHG emissions:

- City of Toronto's growth is estimated using Hemson's forecast.ⁱ to estimate future growth.
- City of Toronto's report "How does the city grow?" Displays the number of Built, Active and Under review non-residential gross floor area and residential units. To avoid double counting emissions every year, only constructed buildings are considered in the model.
- To be conservative, only Tier 1 emissions intensity is considered in each version of the TGS. Voluntary adoption of more stringent tiers will increase the GHG emissions reduction potential stated here.
- Correlations between energy intensity and emission intensity are assumed to stay constant (e.g., changes in grid GHG intensity are not considered).
- A new version of the OBC is assumed to be implemented in 2024 with requirements similar to TGS V3 Tier 1 (consistent with Enbridge projections in Multi-Year Demand Side Management Plan 2022 to 2027ⁱⁱ). Any delays in implementing the new OBC version will increase the avoided emission potential of TGS V4.
- The average residential unit area used to estimate total building area is 80 m².
- Specific GHG intensities are not prescribed in TGS V1 or V2, or in any version of the OBC to date. For these standards, the approximate GHG intensity is estimated based on published research on typical designed performance levels.

ⁱ <https://www.hemson.com/wp-content/uploads/2020/08/HEMSON-GGH-Growth-Outlook-Report-26Aug20.pdf>

ⁱⁱ <https://www.rds.oeb.ca/CMWebDrawer/Record/714266/File/document>