



Toronto Green Standard Version 3 - Review of Potential Incentives and Results of Additional Consultation

Date: May 2, 2018

To: Planning and Growth Management Committee

From: Chief Planner and Executive Director, City Planning Division

Wards: All

SUMMARY

On December 5, 6, 7 and 8, 2017 City Council adopted the Toronto Green Standard Version 3 performance measures to be applied to new development applications under the Planning Act commencing May 1, 2018. Council also directed staff to report back to the Planning and Growth Management Committee in the second quarter of 2018 on:

- proposals which may strengthen the Bird Collision Deterrence, Bird Friendly Glazing and Energy Efficiency Building Energy performance measures;
- cost and technical implications of requiring and implementing additional Electric Vehicle infrastructure performance measures for Tier 2; and
- additional financial and non-financial incentives to encourage developers to meet Tier 2 of the Toronto Green Standard Version 3.

This report responds to Council's direction and recommends that City Planning continue to work with other City Divisions and external partners to explore additional financial and non-financial incentives in order to encourage improved building performance through the Toronto Green Standard and contribute to the City's goal as set out in the Council adopted TransformTO report to reduce City-wide greenhouse gas emissions by 80% by 2050.

RECOMMENDATIONS

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

1. The Planning and Growth Management Committee direct the Chief Planner and Executive Director, City Planning, in consultation with the Director, Environment and Energy, the Interim Chief Financial Officer, the Ministry of Environment and Climate Change and other relevant stakeholders to continue to explore additional financial and non-financial incentives to support market transformation for new development in order

to achieve the Toronto Green Standard Tier 2, 3 and 4 higher levels of performance and near zero emissions projects.

FINANCIAL IMPACT

There are no financial implications resulting from this report.

DECISION HISTORY

On December 5, 6, 7 and 8, 2017 City Council adopted the Toronto Green Standard Version 3 performance measures with the following amendments for Mid to High-Rise Residential and All Non-Residential construction:

Bird Collision Deterrence EC4.1 (Tier 1) and EC4.4 (Tier 2) Bird Friendly Glazing Performance Measures:

a. commencing January 1, 2020 the application of performance measures 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 for all building types will be required; and

b. commencing January 1, 2022 where visual markers are utilized, all building types are required to apply visual markers to the first surface of glass.

Energy Efficiency GHG1.1 (Tier 1) Buildings Energy Performance:

Commencing January 1, 2020: design the buildings to meet or exceed the Tier 1 TEUI, TEDI and GHGI targets by building type as provided in Table 1.

City Council also directed the Chief Planner and Executive Director, City Planning to report back to the Planning and Growth Management Committee in the second quarter of 2018 on the following:

- consultation and proposals which may strengthen the Bird Collision Deterrence, Bird Friendly Glazing and Buildings Energy Efficiency performance measures;
- the cost and technical implications of requiring and implementing additional Electric Vehicle infrastructure performance measures for Tier 2 of the Toronto Green Standard Version 3; and
- the exploration of additional financial and non-financial incentives to encourage developers to meet Tier 2 of the Toronto Green Standard Version 3.

The City Council decision can be accessed at the following link:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.PG23.9>

COMMENTS

The Toronto Green Standard (TGS) is a set of performance measures that facilitate sustainable new development in Toronto and is a key component of the City's achievement of a healthy prosperous City. The TGS plays an important role in transforming and influencing the market and provincial regulation by consistently raising the bar for performance. It has been responsible for creating capacity among developers and demonstrating that the industry can and will build higher performance buildings.

Bird Collision Deterrence and Bird Friendly Glazing

City Council's amendment to the TGS Version 3 performance measures related to bird collision deterrence and bird friendly glazing will increase the height to which buildings must be treated (from 12 metres to 16 metres) and decrease the density of spacing of visual markers (from 100mm x 100mm to 50mm x 50mm) effective January 1, 2020. Council's amendments also require that visual markers are placed on the first surface of exterior glass effective January 1, 2022.

City Planning undertook extensive consultation with stakeholders in preparing the updated TGS performance standards including those with expertise and interest in bird friendly performance standards. City Planning convened a meeting of a select group of building industry representatives in November 2017 to obtain preliminary feedback on the enhanced measures that City Council ultimately adopted in December 2017. Attendees explained that the placement of visual markers requires an in-depth knowledge of the glass manufacturing process to determine the feasibility of achieving first surface glass treatments.

The City of Toronto has been a leader in setting out building performance requirements that reduce bird collisions from reflective glass. The City's Bird Friendly Guidelines and the TGS have influenced the Greater Toronto Area municipal requirements and the development of bird friendly glass production. Through an initiative of the Ontario Ministry of the Environment and Climate Change (MOECC) the Canadian Standards Association has been retained by the province to develop a voluntary standard for bird friendly design. A technical committee of experts including City staff have been engaged to consider research and technical issues that include glass types and visual characteristics, reflection and transparency of windows, characteristics, warranty and location of visual markers on glass and surface of treatment.

These standards are targeted for completion in the spring of 2019, following which there will be a 90 day public comment period. City Planning will consider and, if appropriate, recommend revisions to the City's bird friendly performance measures resulting from this work.

Building Energy Efficiency Requirements

City Council's amendment to the building energy performance requirements will require all new mid to high-rise and non-residential buildings to meet absolute performance targets for energy efficiency effective January 1, 2020. This amendment shortens the

transition time of moving from the current requirements of achieving a 15% improvement over Ontario Building Code requirements to specific targets by building type for the three metrics of total building energy use (TEUI), heating demand (TEDI) and greenhouse gas intensity (GHGI).

Some speakers at and communications submitted to the October 12, 2017 Planning and Growth Management Committee on the TGS Review and Update report did request the removal of the percentage improvement in energy efficiency above the Ontario Building Code option on the basis that it was desirable to more quickly transition to better metrics and better buildings performance using the absolute performance targets.

In adopting the TransformTO report in July 2017, City Council recommended several long term goals to realize a low-carbon Toronto in 2050, including the recommendation that 100 percent of new buildings are designed and built to be near zero greenhouse gas emissions by 2030. The TransformTO report identified that buildings (new and retrofits) have the greatest potential to reduce greenhouse gas emissions to achieve the City's long term 80% reduction by 2050 goal.

City Planning undertook consultation with technical experts and the building industry as part of the Zero Emissions Building Framework study that was undertaken in 2016 and 2017 to identify a pathway to near-zero emissions building construction by 2030. This study informed the TGS Version 3 recommendations for building energy performance measures. City Planning has also consulted with the Building Land Development Industry (BILD) and energy consultants on several occasions over the past year to share information, gain feedback and develop energy modelling guidelines. A focussed consultation session was held with select industry representatives in November 2017. The outcome was a general preference to move to the absolute performance targets in reasonable stages.

Improving building energy performance is necessary for the City to be able to realize its low-carbon goals. The shorter transition time to the applied use of absolute performance targets will require further engagement with the building industry and energy modelling experts to increase their understanding. This will be an ongoing process of education, training and working through specific case studies and development applications. City Planning will continue to work in collaboration with the Environment and Energy Division on engagement and education to support the January 2020 deadline for requiring the use of absolute performance targets.

Electric Vehicle Performance Requirements

City Council's motion to review and report on the cost and technical implications of requiring and implementing additional Electric Vehicle (EV) infrastructure would require either an increase in the new performance requirements above the Ontario Building Code or make the TGS Tier 2 EV requirement a 'core' requirement (required for Tier 2 instead of optional for Tier 2). The TGS first introduced EV requirements in Version 2, 2014.

The Provincial Climate Change Action Plan (2016-2020) calls for measures to increase and encourage the use of electric vehicles. Toronto's Climate Change Action Plan, Transform TO, identified that the electrification of transportation, including public transit, the City's fleet and personal vehicles, would have the second biggest impact, next to energy efficient buildings, on City-wide emissions reductions targets by 2050.

To help implement the Provincial Climate Change Action Plan objectives, the Ontario Building Code amendment (O. Reg. 332/12), came into effect on January 1, 2018 and for the first time requires all homes and 20% of the parking spaces in large non-residential buildings be equipped with electric vehicle supply equipment in accordance with the Electrical Safety Code (chargeable spaces). The remaining 80% of parking spaces must be equipped with rough-in conduits. In addition the Province has consulted on a similar requirement for residential multi-unit buildings to come into effect in 2019, which the City has provided input to.

The TGS Version 3 supports and reflects these changes and is a significant increase in performance requirements from TGS Version 2. Tier 1 now requires 20% of all parking spaces (all uses, residential and non-residential spaces) in large buildings to be provided with level 2 (240 V) charging and the remaining parking spaces to be provided with rough-in conduits. Tier 2 sets out higher voluntary performance requirements including 25% as charged parking spaces and the remaining spaces with rough-in conduits. The standard for new City-owned facilities also includes a Tier 3 voluntary level of performance of 50% charged parking spaces and the remaining with rough-in conduits.

These requirements are new to Ontario and Toronto and there are several technical barriers to the rapid uptake and adoption of electric vehicles such as: cost, load management, load sharing, energy storage and sufficient electrical power capacity for individual development projects. The Province is consulting on these issues to identify solutions for new buildings. The City of Toronto is also developing an Electric Vehicle Strategy to identify barriers and opportunities to electric vehicle adoption. The results of the City's Strategy and the Code consultations in multi-unit residential buildings will inform ways to support developer implementation of the performance requirements.

City Planning will continue to consult with Toronto Building and the Environment and Energy Division on changes to electric vehicle requirements and, if necessary, recommend changes to performance measures as part of the next TGS review.

Financial and Non-financial Incentives for Achieving Tier 2

City Council directed City Planning to explore additional financial and non-financial incentives to encourage developers to meet Tier 2 of the TGS.

The City has operated a Development Charge Refund program for Tier 2 building projects since 2010. The program is implemented through the Development Charges By-law and offers a capped refund rate or 20% of development charges paid, whichever is less.

The 2018 Development Charges By-law adopted by Council at its meeting of April 25, 26 and 27, 2018 continues the program and includes Tier 2, as well as Tier 3 or Tier 4 buildings to reflect the adjustments to the TGS Version 3 performance levels. The objective of the program is to encourage the design-build of higher energy performing buildings and innovations by lowering the upfront capital cost impact.

High performing buildings are efficient, less resource intensive, conserve energy, water and waste and contribute to a healthy, prosperous and sustainable City. Since the initiation of the program in 2010, 22 development projects have been certified and received refunds. The average annual pay out of refunds since 2010 is approximately \$1.7 million; the number of buildings certified each year varies.

The restructuring of the performance levels of the TGS Version 3 to introduce a four-tiered framework provides a clear pathway to achieve near zero greenhouse gas emissions buildings by 2030. While ambitious, this shift is considered necessary by the City to achieve the objectives set out in TransformTO. The shift to developing low energy emission buildings will require new technologies, products and knowledge. The City has benefitted from leaders in the building industry who have chosen to construct to the Tier 2 performance standard and, in so doing, contributed to market change, best practices and precedents for others to follow.

The work undertaken as part of the Zero Emissions Building Framework Study included a capital cost analysis that identified the cost premium associated with increasingly greater building performance targets. The level of financial support offered by the Development Charges Refund Program will function less as an incentive than it did historically. For example, it is estimated that a Tier 2 high-rise residential building constructed under the TGS Version 3 would receive approximately 23% of the energy related construction cost premium, versus approximately 52% for a Tier 2 building constructed under TGS Version 2 (based on 2016 Tier 2 cap rates).

New buildings lead the market place in terms of quality and durability of construction. City Planning is exploring potential ways to incentivise developers to meet Tier 2, 3 and 4 of the TGS with other Divisions, levels of government and external stakeholders. The types of incentives being explored include: grants, such as from provincial cap and trade dollars (Green On) or federal climate change programs; an increase to the development charge refund cap and by performance tier; expedited development review and approvals, and fee reductions. These types of financial and non-financial incentives are considered to have the greatest potential to reduce the upfront capital costs and risk incurred by the builder.

This report recommends that City Planning continue to work with the Environment and Energy Division, Corporate Finance, the Ministry of Environment and Climate Change and other partners to identify the best approach to support and deliver high performance, low emissions new construction incentives.

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SIGNATURE

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