



Proposed Improvements for Commercial Windows and Glazing in the Building Star Energy Efficiency Rebate Act of 2010

This paper addresses the concerns of the glass and glazing industry regarding the proposed Building Star Energy Efficiency Rebate Act of 2010 (the “Act”). While the industry strongly supports the energy efficiency and jobs objectives of the Act, this paper is intended to provide improved tax rebate criteria with supporting rationale.

The following industry organizations all support the objectives of the Act and the changes to the Act’s rebate criteria as proposed in this White Paper:



Glass Association of North America (GANA)
American Architectural Manufacturers Association (AAMA)
Aluminum Extruders Council (AEC)
Insulating Glass Manufacturers Alliance (IGMA)
National Glass Association (NGA)



There are flaws in the draft legislation that need to be corrected in order to properly define what commercial fenestration qualifies for rebates. Commercial fenestration and residential windows are significantly different, and the proposed language and requirements must be revised to reflect these differences. Commercial fenestration includes a much larger range of product types, ranging from traditional windows all the way to “curtainwall glazing” in glass office towers. Commercial fenestration also has significantly different structural and durability requirements, which also result in different energy performance criteria.



The Act’s Tier I and Tier II rebate classifications each propose a single U-factor and Solar Heat Gain Coefficient (SHGC) for each climate zone. While residential fenestration systems typically require only a single U-factor and SHGC per climate zone, commercial fenestration systems require more than one, based on the product type. This is because commercial fenestration applications are more varied, often much larger, and experience wind and other loads that residential window applications never experience. With that in mind, the industry organizations listed above propose the following changes to the Act’s Tier I and Tier II rebate criteria:

- 1. The current draft of the Building Star legislation only references “windows.”**

Proposed change: Where the term “qualified window” appears, add the phrase “including curtainwall and storefront.”

Rationale: The building industry typically interprets the word “window” standing alone as NOT including curtainwall and storefront, which are simply fixed windows in commercial applications. Curtainwall and storefront can account for as much as 70% of total glazing area in existing commercial buildings. It is important to ensure these vast glass and glazing applications are included within the Building Star legislation to maximize the impact in terms of both energy efficiency and job creation.

- 2. The draft legislation refers to a single U-factor for each climate zone, rather than accounting for different product types of commercial fenestration. Additionally, the U-factor values in the Act are not based upon requirements that have been approved by either ASHRAE or IECC and are, therefore, not consistent with any industry standard.**

Proposed change: Refer to appropriate sections of ASHRAE or IECC approved standards.





Rationale: Over 80% of commercial construction uses metal framing for fenestration to satisfy structural and durability requirements, yet the criteria proposed seem to only account for non-metal products. It is necessary for the legislation to account for all the different product types. This is the reason both ASHRAE and IECC include separate U-factor categories for different non-metal and metal product types. Rather than listing all the criteria for each category, the simplest solution is to incorporate by reference the appropriate ASHRAE and IECC approved standards (see below). It is also important to be consistent with recognized industry standards. Otherwise, enforcement will be difficult.

3. **The draft legislation only addresses whole assembly replacement (including both glazing and frame), and does not address the most common methods to retrofit commercial glazing.**



Proposed change: Refer to appropriate sections of ASHRAE and IECC approved standards, as indicated below.

Tier 1 criteria:

- Replacement of complete assemblies (including both frame and glazing) shall comply with Table 502.3 of the 2009 IECC using the appropriate climate zone, as certified by NFRC. The equivalent Tables 5.5-1 through 5.5-8 of ASHRAE 90.1-2007 could also be referenced, using the appropriate climate zone and non-residential or residential occupancy type.
- Replacement of glazing or addition of a glazing panel (without replacing the frame) shall include at least one low-emissivity coating, as certified by the manufacturer and verified by the auditor.



Tier 2 criteria:

- Replacement of complete assemblies (including both frame and glazing) shall comply with Tables A-1 through A-8 of ASHRAE 189.1-2010 using the appropriate climate zone and nonresidential or residential occupancy type.



Rationale: NFRC certification is required in the proposed language. This is appropriate for new products when the entire assembly is replaced, including both glazing and frame. However, for curtainwall and storefront, replacing the entire framing system is often prohibitively expensive and/or difficult. The more common method used within the glass and glazing industry in these retrofit situations is to either replace the glazing or add an additional glazing panel. Unfortunately, NFRC cannot currently provide a certified rating for glazing-only replacements. Therefore, the requirement for NFRC certification would prevent the most common and cost effective methods for retrofitting commercial glazing from participating in this program. Another method, not currently provided for in the draft legislation, is required to verify these products.



The members of the Glass Association of North America (GANA), American Architectural Manufacturers Association (AAMA), Aluminum Extruders Council (AEC), Insulating Glass Manufacturers Alliance (IGMA) and the National Glass Association (NGA) respectfully propose the above substitute criteria for consideration.