



*We envision a future in which glass is the material of choice to enhance spaces where people live, play, learn, work and heal.*

September 25, 2023

Sarah Stoner

Contracts and Procurement Director

Colorado Department of Personnel and Administration Contracts & Purchasing Section

sarah.stoner@state.co.us

**Re: RFI AAAA 2024\*0014**

On behalf of the National Glass Association (NGA), thank you for the opportunity to provide input on the request for information in RFI AAAA 2024\*0014 "Creating a List of Eligible Decarbonizing Building Materials/Products for Colorado Sales and Use Tax Exemptions."

NGA has over 1800 member companies from across North America and the globe. Member companies represent the entire supply chain of the glazing and glass building products industry, from primary glass manufacturers, glass and metal fabricators, insulating glass manufacturers, fabricators/manufacturers of completed glass products and systems, spacers, sealants and other component suppliers, window and door dealers, to the final retail glass businesses and installers/contract glaziers.

Flat Glass vs. Processed Glass

In implementation of the Buy Clean Colorado Act and the Sales and Use Tax Exemption program, we appreciate and fully agree with the decision to base the Global Warming Potential (GWP) limits on flat glass, and not processed glass. Regional Environmental Product Declarations (EPDs) are available for the primary flat glass, both from NGA's industry wide EPD ([https://www.glass.org/sites/default/files/2019-12/NGA\\_EPD\\_2019\\_12\\_16\\_signed.pdf](https://www.glass.org/sites/default/files/2019-12/NGA_EPD_2019_12_16_signed.pdf)) as well as from our primary glass manufacturer members. The member companies that participated in the industry wide EPD are AGC Glass North America (now part of Cardinal Glass Industries), Guardian Glass, NSG Pilkington North America, and Vitro Architectural Glass.

In contrast, industry-wide EPDs for processed glass and glazing assemblies do not exist at this time, given the infinite combinations of annealed glass, heat strengthened glass, tempered glass, laminated glass with different thicknesses and interlayers, coated glass with hundreds of different coating products, fire-rated glazing, ballistic / blast resistant / security glass with different configurations, bird-friendly glass, acoustic glass, patterned / fritted / etched glass, decorative glass, dynamic glass, vacuum insulating glass, and insulating glass unit (IGU) configurations with different numbers of panes, glass types, glass thicknesses, spacers, sealants,



*We envision a future in which glass is the material of choice to enhance spaces where people live, play, learn, work and heal.*

and desiccants. For this reason, GSA has also made the same decision to base their GWP limits on flat glass rather than processed glass.

### Product Identification

The RFI for the proposed sales and use tax exemption program is focused on gathering information on final products (e.g. individual SKU numbers). In this case, it is impossible to track every downstream product where flat glass may be used. The flat glass EPDs cover clear and tinted glass products, and the intent is that any low-e glass products, fabricated glass products, and insulating glass units using these flat glass products would qualify. Therefore, it should suffice for the party seeking the tax exemption to specify those flat glass manufacturers' glass being used in the project in order to reference the appropriate EPD. Additionally, a manufacturer-specific EPD would be impractical and overly burdensome for the glass supply chain to track the source of glass because any project can be sourced from multiple glass manufacturing and fabrication locations.

### (In reference to Excel file)

For flat glass, clarification should be provided regarding which materials and/or products should be included in the RFI Submission and how this data will be used to generate the list that'll be used by retailers to determine eligible materials. Do only the fenestration assembly manufacturers (e.g., window, glazed door, skylight, storefront, or curtain wall) need to complete the form and/or do flat glass manufacturers need to complete it? If flat glass manufacturers need to complete the form, do they:

- List each clear and tinted product covered by the flat glass EPD as a separate line item? Or can they be merged into one line item?
- List each product size/thickness available as a separate line item? Or can they be merged into one line item?

Clarification on when submissions will be accepted, how often the data needs to be updated, etc. should also be provided.

### Proportional Sales Tax Exemption Amount

It has been suggested that the sales and use tax exemption be related to the flat glass portion of a fenestration assembly (window, glazed door, skylight, storefront, or curtain wall). It would be extremely challenging to determine the value of just the flat glass in a fenestration assembly due to the wide range of product types, different value-added fabrication processes, and varied mark-ups. Moreover, as a trade association with competitive members, we do not have access nor can provide information on product costs. Basing the proportionate tax exemption on mass



*We envision a future in which glass is the material of choice to enhance spaces where people live, play, learn, work and heal.*

might work, although still difficult to calculate and track. We do believe the suggestion to use percentage glazed area is the most feasible. While every product will vary, there are some general percentages based on product type. As a precedent, California uses the following glazing area percentages in their Title 24 energy code when calculating default visible light transmittance numbers:

- 53% for projecting windows, such as casement and awning windows
- 67% for operable or sliding windows
- 77% for fixed or non-operable windows
- 88% for curtain wall/storefront, site-built

We believe these are actually too low, especially in larger windows and curtain walls where the real glazing percentage will be higher. Nonetheless, California set these to be very conservative, and we wanted to point out the precedent. A possible solution would be to use these values as default percentages, but optionally also allow users to submit the actual glazing percentage for the actual product. Also note that California's list lacks a percentage for glazed doors – we would suggest using the same as storefront (88%) for fully glazed swinging or sliding doors, and 45% for half-glazed doors.

Thank you again for the opportunity to comment, and please reach out with any questions or requests for further information. Please note that as NGA has such a diverse membership, we encourage you to also review any detailed comments that have been submitted by individual members. We look forward to continued partnership in improving the built environment in the public interest.

Sincerely,

A handwritten signature in black ink that reads "Urmilla Sowell". The signature is fluid and cursive, with a long horizontal stroke at the end.

Urmilla Sowell  
NGA Vice President of Technical Services and Advocacy

CC: Nicole Harris, NGA President and CEO