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

U.S Department of Energy
iracodes@hq.doe.gov

April 25, 2023

Re: RFI DE-FOA-0003054

On behalf of the National Glass Association (NGA), thank you for the opportunity to provide input on the request for information in DE-FOA-0003054 regarding Section 50131 of the Inflation Reduction Act: **Technical Assistance for Latest and Zero Building Energy Code Adoption.**

NGA has over 1700 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.

Our association is very active in energy code development at ASHRAE and ICC as well as with adopting jurisdictions through our Glazing Industry Code Committee and our representatives on the IECC, ASHRAE 90.1, and ASHRAE 189.1 consensus committees.

We participated and provided input on the webinar on April 18, and would like to focus our additional comments on a few key questions in the RFI.

Category 1: Selection Criteria

1.2. What guidance should DOE provide applicants around "equivalent or greater energy savings" and

1.7. How can DOE incentivize rapid adoption of codes or standards with long-term commitment to robust compliance activities?

In response to both these questions, we support wider and faster adoption of the most currently published energy codes across *all* states and territories. Focusing resources on broad adoption across *all* states will likely have a larger overall energy reduction impact than narrow efforts 'preaching to the choir' such as stretch codes that will only be adopted in certain locations that already have good use of energy codes.

Additionally, we have noted issues with some of the current stretch codes when they are written by a few individuals or a single organization, as opposed to being developed through a consensus-based process with broad and balanced interests. Non-consensus based inputs bring a much greater risk of technical mistakes, personal biases, and favoring of certain material interests – which then leads to resistance to adoption process, delays, questions about cost effectiveness and feasibility, poor compliance, and ultimately a slower path to deep energy and carbon savings.

As such, we recommend DOE encourage applicants, review applications, and apply selection criteria that:

- Cover all parts of the country, not just states and cities that are likely to adopt newer energy codes anyway.
- Tie adoption to consensus-based processes or standards, both for the $330M dedicated to adoption of the latest building energy codes, and the $670M dedicated to adoption of zero-energy codes. The IRA already references the 2021 IECC and ASHRAE 90.1-2019, which we support as strong consensus-based standards.
- Base any 'stretch codes' on underlying consensus standards such as ASHRAE 90.1-2022 and the 2021 IECC (or 2024 IECC once available), and make any modifications subject to consensus-based peer review to ensure technical integrity and impartiality.

Regarding the last point, the new extra efficiency and load management credits approach in both IECC and ASHRAE 90.1 enables a good methodology for easily creating a stretch code by simply requiring an increased amount of points while relying on measures that have already been vetted through the consensus committee and public review. DOE could suggest this as an example approach in the FOA.

Category 3: Compliance Plan

3.6. What resources, including tools, could DOE provide to facilitate streamlined applications that address the requirement for a compliance plan?

To assist with full compliance, industry stakeholders need technical resources to show cost-effectiveness of new codes and code enforcement. We support continued and enhanced funding to the national labs to provide technical assistance in this regard. As part of this, DOE should continue funding the development of EnergyPlus, COMcheck, REScheck, COMFEN, WINDOW, THERM and other software tools that help demonstrate improved energy code compliance and assessment of the impact of glazing on building performance.

3.7. What equity considerations should DOE incorporate into any guidance or plans, especially surrounding workforce and training?

To increase equity in code-related policies and planning, DOE should consider the following when reviewing applications:

- Make broad adoption of energy codes across *all* states the primary focus. This will provide more equity and access to energy efficient buildings everywhere and will have a greater impact than more narrow efforts in areas that are already doing well.
- Encourage applications that implement energy code compliance incentives in areas that are not enforcing energy conservation policies.
- Encourage applications that implement initiatives prioritizing domestic vs imported energy efficient solutions. Domestic supply creates local manufacturing jobs, uses local skilled labor, and more readily engages and supports underserved communities.

Category 4: Existing-Building Opportunities

4.1. What types of existing-building codes or standards (e.g., building performance standards) should be considered? Should these existing-building codes or standards be encouraged to focus on particular types of buildings?

NGA strongly supports continued expansion of Building Energy Performance Standards and policies for existing buildings. Our industry has developed many unique solutions for updating the glass and glazing to increase energy efficiency and lower carbon emissions in existing buildings.

The adoption of newer versions of the IECC and ASHRAE 90.1 will only help address a subset of existing buildings doing more significant alterations or additions. In contrast, true building performance standards addressing actual energy use of existing buildings such as those being implemented in New York City, St. Louis, Boston, Washington DC, Washington state, and Colorado will have a much more significant impact across much more of the existing building stock. Both adoption of new energy codes *and* building performance standards are needed to work together for the greatest impact.

The different locations implementing building performance standards are experimenting with different formats of carrot vs. stick (incentives vs. fines) and energy limits vs. carbon emission limits. It is as yet uncertain what the best approach is, and the most appropriate fit may vary for each location. We encourage the DOE be flexible in this regard, but we do encourage building performance standards to apply broadly across all building types. Some exemptions may be appropriate such as for smaller buildings <25,000 ft^2, places of worship, and lowrise residential, but otherwise, the standards should apply to all building types.

However, we strongly encourage an increased focus in building performance standards to include criteria for building envelopes in addition to shorter term fixes such as lighting and

mechanical systems. All systems need to be analyzed together to maximize cost effectiveness and longevity of improvements to the existing building stock.

4.5. What resources and tools should DOE provide, as well as those that DOE can leverage that already exist, to support existing-building codes and standards?

Estimating the energy savings of different measures in existing buildings is very challenging, especially for envelope upgrades. We encourage DOE to fund the national lab network to develop targeted tools to help both adopting jurisdictions and building owners to easily estimate energy savings from envelope retrofit measures, as well as continue to support groups such as the Partnership for Advanced Windows Solutions (PAWS) to develop supporting data and narratives to convey the benefits of such retrofit solutions.

As NGA has such a diverse membership, we encourage DOE to also review any detailed comments that have been submitted by individual members. NGA is in strong support of DOE's initiatives to implement updated building energy codes, promote and deploy energy efficient solutions available today, and collectively take meaningful steps towards improving the built environment in the public interest.

Sincerely,

Urmilla Sowell
NGA Vice President of Technical Services and Advocacy

CC: Nicole Harris, NGA President and CEO