NATIONAL GLASS ASSOCIATION | ADVOCACY

Strengthening the National Energy Grid with High-Performance Glazing

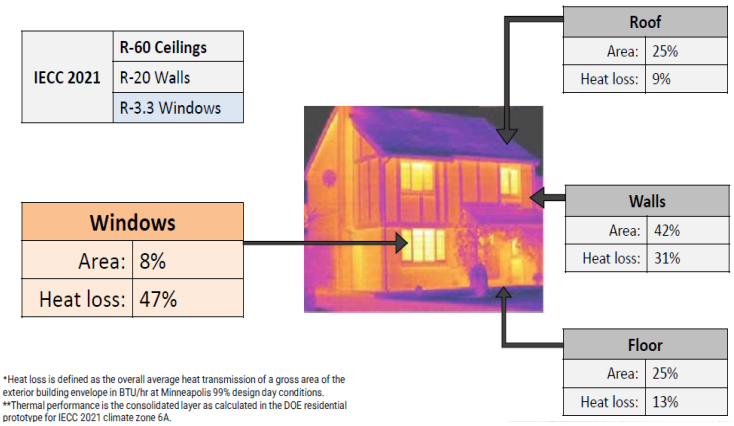
The request:

- Support tax credits and other incentives for building owners to modernize building envelopes with high-performance glazing. This strategy provides **immediate grid capacity**, protects **public safety**, and supports **American energy independence and promotes domestic manufacturing**.
- Allocate Department of Energy funds for high-performance window implementation within the Office of Critical Material and Energy Innovation (CMEI) and Building Technology Office (BTO).
- Support continued funding for the EnergyStar program.

The issue: The Infrastructure Bottleneck

Building Load

Residential and commercial buildings account for 40% of all energy usage in North America.



*Heat loss is defined as the overall average heat transmission of a gross area of the exterior building envelope in BTU/hr at Minneapolis 99% design day conditions.
**Thermal performance is the consolidated layer as calculated in the DOE residential prototype for IECC 2021 climate zone 6A.

Grid Strain

Rising technological energy demands are outstripping current U.S. electrical grid capacity. Building new power plants is 2x to 4x more expensive and takes years longer than recovering grid capacity through building envelope efficiency.

The Thermal Gap

Glazing is the most critical area for envelope improvement, as it typically accounts for **47% of total building heat loss** due to legacy glazing systems (such as single-pane or non-Low-E double pane glass) in the majority of existing buildings.

The strategy: Glazing as "Passive Infrastructure"

Take advantage of upgrades in glazing technology over the last 20 years that have significantly improved energy performance for residential and commercial structures.

Addressing the building envelope with high-performance windows leads to long-term energy efficiency, lowers building operational costs and occupant utility costs, create skilled-labor positions, and improves building and grid resiliency.

Instant "Negawatts"

Modernizing legacy glazing is the fastest way to "buy back" grid capacity. Improving energy performance by at least 20% reduces the immediate need for new, taxpayer-funded power generation.

Grid Peak Shaving

High-performance glazing acts as a thermal battery, maintaining interior temperatures and smoothing out the demand "spikes" that cause grid instability and blackouts.

Extended Habitability

High-performance glazing provides essential life-safety protection and maintains safe, habitable temperatures during extended power disruptions or extreme weather events.

Economic & National Security

Domestic Supply Chain

High-performance glass is a foundational component for U.S. window manufacturing as well as solar energy production.

Skilled Job Creation

This initiative supports high-paying, skilled-labor positions in the architectural glass industry and drives urban renewal projects.

Asset Optimization

Investing in the building envelope protects the long-term value of American real estate.

Representing 1,900 company members, the National Glass Association (NGA) is the largest trade association serving the glazing and glass building products industry. We develop standards, create technical resources, promote and advocate for glass in the built environment, and advance the industry as a viable, thriving and exciting career path. Learn more at glass.org/advocacy. For further information, please contact NGA Technical Staff at technicalsvcs@glass.org.

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References:

- Buildings & Built Infrastructure, Environmental and Energy Study Institute
- Pathway to Zero Energy Windows: Advancing Technologies and Market Adoption, U.S. Department of Energy 2022
- Partnership for Advanced Window Solutions
- Triple Glazing and Embodied Energy: Yes, the Juice is Worth the Squeeze, Culp 2022

The National Glass Association (NGA) represents America's building glass manufacturers, suppliers, fabricators, and installers. NGA's 1,900 member companies employ 71,000 Americans who produce and install glass for homes and commercial buildings and who generate more than $10.3 billion in annual revenue. NGA promotes and defends the use of glass in the built environment. Our advocacy and technical initiatives respond to the relentless, ever-changing challenges to our industry.