

# Window Realities

## HISTORIC WINDOWS VS. REPLACEMENT WINDOWS


Historic windows are often maligned as energy wasters while replacement windows are touted as money savers.

Here are some facts that reveal a different story.


### MATERIALS & DESIGN

HISTORIC WINDOWS	REPLACEMENT WINDOWS
 <p>Old growth wood</p> <p>Historic muntin profile</p> <p>Historic windows can be maintained, repaired, and refurbished.</p> 	 <p>Vinyl, new wood, or aluminum</p> <p>Failures of individual components typically require replacement of the entire window unit.</p> 

Old growth cypress → Higher resistance to rot and insects than new growth cypress!



← New growth cypress Found in replacement windows & vulnerable to outdoor exposure.



### EMBODIED ENERGY & LIFE CYCLE

#### Historic



Made up of existing materials that require no use of energy to produce.



Maintenance and restoration involves minimal resource and energy consumption.



With maintenance, the historic window continues functioning indefinitely for the purpose it was made.

#### Replacement



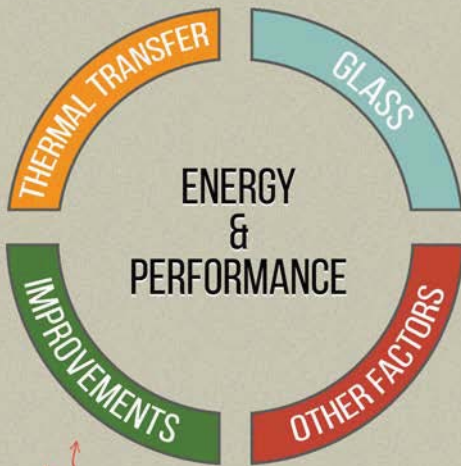
Require manufacturing of new materials, consuming new resources and energy.



They also must be transported to site, consuming more energy.

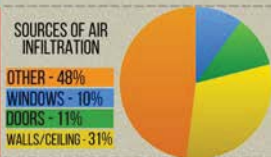


When a component of a new window fails, the whole window unit will typically be sent to the landfill.



The primary place of thermal transfer for BOTH historic and replacement windows is where sashes meet each other and their casings.<sup>2</sup>

While a glass pane of a replacement window is superior to that of a historic window, an entire window need not be replaced to improve performance.



Typically, more heat is lost through the roof of a building than through the windows.<sup>3</sup>

Storm windows and lamination are effective thermal improvements for historic windows.

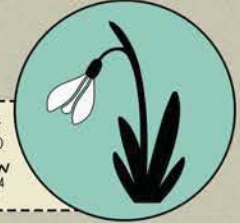
Curtains and awnings are simple, traditional means of curtailing solar gain and thermal transfer.



## LIFE EXPECTANCY



Historic windows can last for centuries.



Up to one third of all windows being replaced are less than 10 years old. Typically, new window warranties are just 20 years.<sup>4</sup>

“Some more established historic districts are now seeing replacement windows actually lower property values.”  
- AARON LUBECK, GREEN RESTORATION SPECIALIST

## TAX INCENTIVES

For HISTORIC WINDOWS

For REPLACEMENT WINDOWS



Historic Rehabilitation Tax Credits (Federal)

20% for substantial projects on income-producing properties.

+ more credits at state level.



Energy Star (Through the EPA.)

10% of window cost capped at \$200.<sup>5</sup>

Does NOT apply to installation costs.

## THE BOTTOM LINE

Retaining your historic windows can save money, natural resources, and a valued part of your historic building and neighborhood.

### SOURCES

- <http://thecraftsmanblog.com/choosing-rot-resistant-wood/>
- Walter Sedovic and Jill H. Gotthelf, "What Replacement Windows Can't Replace: The Real Cost of Removing Historic Windows," *APT Bulletin: The Journal of Preservation Technology* 36, no.4 (2005), 27.
- Aaron Lubeck, *Green Restorations: Sustainable Building and Historic Homes* (British Columbia: New Society Publishers, 2010), 157.
- Lubeck, 175.
- [http://www.energystar.gov/index.cfm?c=windows\\_doors.pr\\_taxcredits](http://www.energystar.gov/index.cfm?c=windows_doors.pr_taxcredits)

# Windows

## Recommended

Maintaining windows on a regular basis to ensure that they function properly and are completely operable.

Retaining and repairing historic windows when deteriorated.

Weather stripping and caulking historic windows, when appropriate, to make them weather tight.

Installing interior or exterior storm windows or panels that are compatible with existing historic windows.

Installing compatible and energy-efficient replacement windows that match the appearance, size, design, proportion and profile of the existing historic windows and that are also durable, repairable and recyclable, when existing windows are too deteriorated to repair.

Replacing missing windows with new, energy-efficient windows that are appropriate to the style of historic building and that are also durable, repairable and recyclable.

Retrofitting historic windows with high-performance glazing or clear film, when possible, and only if the historic character can be maintained.

Retrofitting historic steel windows and curtain-wall systems to improve thermal performance without compromising their character.

Installing clear, low-emissivity (low-e) glass or film without noticeable color in historically-clear windows to reduce solar heat gain.

Installing film in a slightly lighter shade of the same color tint when replacing glazing panels on historically-dark-tinted windows to improve daylighting.

Maintaining existing, reinstalling or installing new, historically-appropriate shutters and awnings.

Repairing or reopening historically-operable interior transoms, when possible, to improve air flow and cross ventilation.

## Not Recommended

Neglecting to maintain historic windows and allowing them to deteriorate beyond repair with the result that they must be replaced.

Removing repairable historic windows and replacing them with new windows for perceived improvement in energy performance.

Replacing repairable historic windows with new insulated windows.

Installing incompatible or inefficient replacement window units that are not durable, recyclable or repairable when existing windows are deteriorated beyond repair or missing.

Retrofitting historically-clear windows with tinted glass or reflective coatings that will negatively impact the historic character of the building.

Introducing clear glazing or a significantly lighter colored film or tint than the original when replacing historically-dark-tinted windows.

Removing historic shutters and awnings or installing inappropriate ones.

Covering or removing existing transoms.