



U.S. Department of Energy
Energy Efficiency and Renewable Energy

federal energy management program

The Greening of Historic Properties National Summit Summit Report 2006





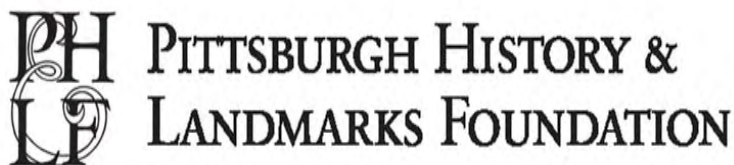
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The Greening of Historic Properties National Summit

**First national summit to formalize a relationship between
preservation and sustainability during the
2006 National Trust Annual Meeting in Pittsburgh, PA**

**Sponsored by The Heinz Endowments, the Roy A. Hunt Foundation,
and the Massaro Corporation**





Areas of Focus

- HVAC Systems
- Building Envelope
- Materials
- Lighting
- Policy





HVAC Systems

Get to know your client and building

Conduct and sponsor more HVAC research (produce tech reports: develop more data on embodied energy and life cycle analysis)

Create a system for collecting case studies on new and old buildings

Use evidence-based research and development for HVAC decisions

Capitalize on a building's opportunities

Apply passive systems and properties

Consider separating ventilation from heating and cooling

Use radiant heat and displacement ventilation





Envelope

Technical

- Improve understanding and analysis of historic materials assemblies, *then* incorporate performance of historic assemblies into energy modeling tools
- Windows/walls: Choose 15 assemblies to test and publish performance review
- Windows: develop full methodology for full Life Cycle Cost Analysis (LCCA) of window restoration vs. replacement windows

Aesthetics

- Mutual Respect of historic preservation and green building guidelines for each other
- Roofs: When not visible, green roofs, white roofs and photo-voltaic panels are acceptable
- Under certain circumstances, photo-voltaic panels and wind turbines are acceptable, as long as they are reversible and are located on non-primary elevations or accessory buildings



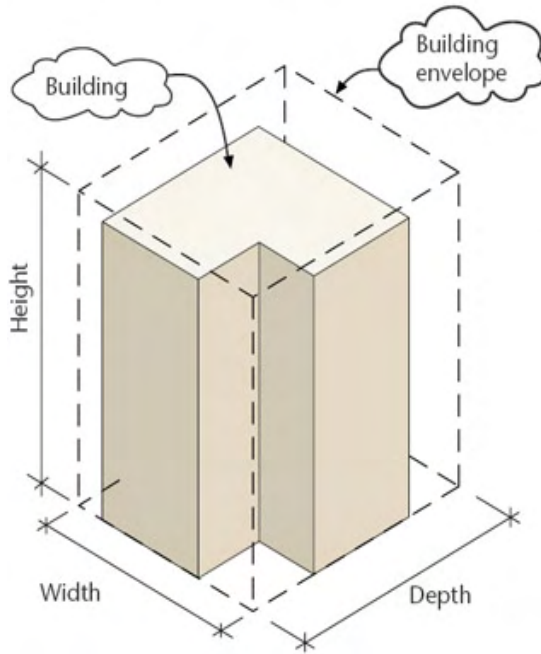
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Additional steps

For small projects, create a list of prescriptive energy efficiency measures

Work with USGBC to develop embodied energy technology for LEED credit

Preservation community should engage with USGBC in the development of the new LEED "Version 3"





Materials

Educate the public, practitioners and architecture and vocational school students

- Reach out to major distributors by advertising successes of green buildings
- Sponsor apprenticeships in restoration manufacturing and construction
- Sponsor apprenticeships at vocational schools in preservation while educating them in green technologies
- Educate on the health impact of materials

Gain more information on life-cycle costs or green material appropriate for historic preservation

- Implement ASTM standards and testing of cleaning products
- Consider maintainability and sustainability of materials



Materials *-continued*

Define and certify products

- Materials must become readily available
- Build a network (provider/consumer) to raise awareness of products and reuse opportunities
- Materials must be ranked comparably
- Products must be available and suitable for the lay audiences
- Establish a point system for building materials tied to historic restoration





Lighting

- Preservation needs to utilize a professional lighting expertise to meet the basis of design regarding historic character, function, use, energy conservation, and passive lighting technologies
- Keep it simple and manageable—educate users on how an energy efficient lighting system should work
- Incorporate modern technology, such as bulbs, fixtures, and lighting control technology (new products) appropriate for historic properties





Policy

Develop application guidelines and standards for sustainable design and historic preservation

- Encourage early consultation with designers and materials manufacturers to develop products that address historic preservation requirements
- Increase national awareness through development of policy briefs on green issues, cyclical maintenance, HVAC and energy use
- Create federally certified product ratings
- Develop a list of current policy initiatives

Increase sustainable design at historic preservation review agencies

- Cross train and develop communication materials targeted at multiple user levels
- Offer economic incentives for coordinated initiatives
- Develop case studies to demonstrate sustainable preservation



Policy *-continued*

Implement life cycle assessments and embodied energy elaboration tools

- Develop a multifaceted approach for innovation (government, corporate developers, and foundations)

Emphasize the value of energy embodied in existing structures through all levels of education

- Create user-friendly language for life cycle assessment and embodied energy credit for better project marketability





The White Paper

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or.....

www.phlf.org/events/preservationconference/greenhistpres.html





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