# Sustainability & Historic Preservation

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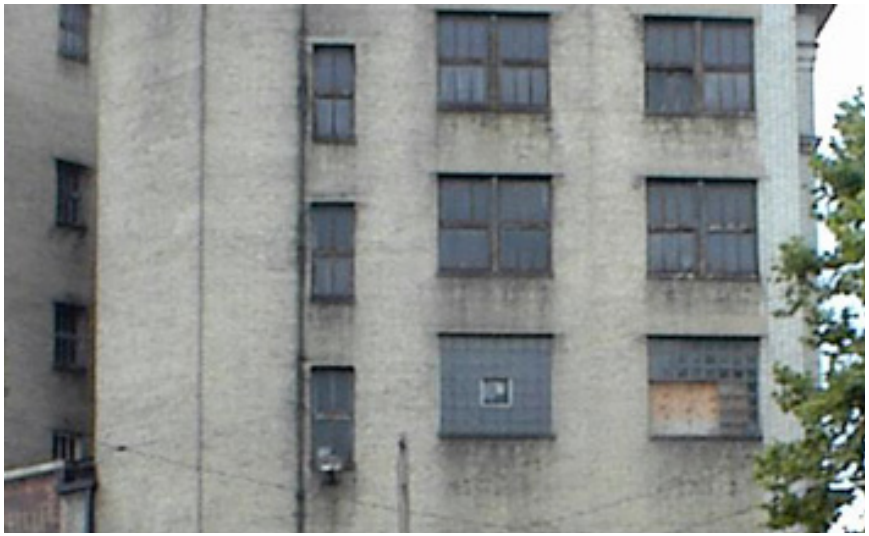
AUSTIN CHAPTER, TEXAS ASSOCIATION OF ENVIRONMENTAL PROFESSIONALS (TAEP)
NOVEMBER 11, 2009 MEETING


**CLEVELAND ENVIRONMENTAL CENTER,** CLEVELAND, OHIO


PHOTOS: DOTY AND MILLER ARCHITECTS

PHOTOS: ECOCITY CLEVELAND



PHOTOS: DOTY AND MILLER ARCHITECTS, ECOCITY CLEVELAND

ARCHITECT: MINSUK CHO OF MASS STUDIES

BC CANCER RESEARCH CENTER, VANCOUVER, LEED GOLD

BANK OF AMERICA TOWER, NYC, LEED PLATIUNUM

HERITAGE-LISTED HOME, AUSTRALIA, NEWS.COM.AU

PHOTO: MIKE JACKSON, NATIONAL PARK SERVICE


PHOTO: FLICKR USER DR. JIBBA

**DEMOLITION OF THE EXPERIMENTAL SCIENCE BUILDING,** UT AUSTIN

In 2030 *half* of the buildings in America will have been constructed after 2000.

ARTHUR C. NELSON. "TOWARD A NEW METROPOLIS: THE OPPORTUNITY TO REBUILD AMERICA," BROOKINGS INSTITUTION REPORT (DECEMBER 2004), HTTP://WWW.BROOKINGS.EDU/REPORTS/2004/12METROPOLITANPOLICY_NELSON.ASPX

Between 2000 and 2030, over 28 billion square feet of non-residential building stock will be constructed, and over 54 billion square feet will be rebuilt.

ARTHUR C. NELSON. "THE BOOM TO COME." ARCHITECT 95, NO. 11 (OCTOBER 15, 2006): 92-97.

83% of non-residential buildings in the United States will be significantly refurbished before 2030.

NUMBER GIVEN IS EXCLUDING MALLS. INCLUDING MALLS, THE NON-RESIDENTIAL SQUARE FOOTAGE IN 2003 WAS 71.6 BILLION.
ENERGY INFORMATION ADMINISTRATION "2003 COMMERCIAL BUILDINGS ENERGY CONSUMPTION SURVEY—
OVERVIEW OF COMMERCIAL BUILDINGS CHARACTERISTICS,"
HTTP://WWW.EIA.DOE.GOV/EMEU/CBECS/CBECS2003/INTRODUCTION.HTML

In order to improve and protect the natural environment and human health and culture and to promote social equity through design, *sustainable design must address existing buildings.*

## SUSTAINABLE SITES CREDIT 2:
## DEVELOPMENT DENSITY & COMMUNITY CONNECTIVITY

*increased* potential number of points from 1 to 5

Provides two compliance paths based on density and community connectivity.

## SUSTAINABLE SITES CREDITS 4.1-4.4:
## ALTERNATIVE TRANSPORTATION

*increased* potential number of points from 1 to 6

## PILOT CREDIT 1: LIFE-CYCLE ASSESSMENT (LCA) OF BUILDING ASSEMBLIES AND MATERIALS

*for* LEED for New Construction

Proposed as 5 post-pilot base points reallocated from MR Credit 1.1, MR Credit 4, and MR Credit 5. (Pilot projects will only receive 1 point total for this credit.)

**Intent:** To encourage the use of environmentally preferable building materials and assemblies.

Use an USGBC approved Environmental Impact Calculator to:
1. Identify and calculate environmental impact estimates for generic assemblies used in the project from the following assembly groups: columns and beams, floors, exterior walls, windows, interior walls, and roofs.
2. Transfer those impact estimates to the USGBC Credit Calculator to produce the LCA impact score and subsequent LEED points to be awarded.

http://www.usgbc.org/ShowFile.aspx?DocumentID=6350

Uses terminology established by the National Historic Preservation Act of 1966.

Allows for the exemption of historic districts if the historic design does not follow the guidelines outlined in Neighborhood Pattern & Design: Prerequisite 1-Walkable Streets

Prohibiting the demolition of part or all of any federal-, state-, or locally-listed historic building unless the demolition has been approved by the local historic preservation review board, or similarly-empowered entity.

## GIB CREDIT 5: EXISTING BUILDING REUSE

*in* LEED 2009 for Neighborhood Development

**Intent:** To extend the life cycle of existing building stock to conserve resources, reduce waste, and reduce adverse environmental effects of new buildings related to materials manufacturing and transport.

**Requirements:** Reuse the existing habitable building stock, achieving the greater of the following two benchmarks (based on surface area):
a. 50% of one existing building structure (including structural floor and roof decking) and envelope (including exterior skin and framing but excluding window assemblies and nonstructural roofing material).
b. 20% of the total existing building stock (including structure and envelope, as defined above).

**AND FOR ALL PROJECTS** Do not demolish any historic buildings, or portions thereof, or alter any cultural landscapes as part of the project. An exception is granted only if such action has been approved by an appropriate review body. For buildings listed locally, approval must be granted by the local historic preservation review board, or equivalent. For buildings listed in a state register or in the National Register of Historic Places, approval must appear in a programmatic agreement with the State Historic Preservation Office.

## GIB CREDIT 6: HISTORIC RESOURCE PRESERVATION AND ADAPTIVE USE

*in* LEED 2009 for Neighborhood Development

**Intent:** To encourage the preservation and adaptive use of historic buildings and cultural landscapes that represent significant embodied energy and cultural value, in a manner that preserves historic materials and character-defining features.

**Requirements:** To achieve this credit, at least one historic building or cultural landscape must be present on the project site. Do not demolish any historic buildings, or portions thereof, or alter any cultural landscapes as part of the project.

If any historic building in the project site is to be rehabilitated, rehabilitate in accordance with local review or federal standards for rehabilitation, whichever is more restrictive.

## H.R. 3715 AND S. 1743
## COMMUNITY RESTORATION AND REVITALIZATION ACT

*reintroduced* 1 October 2009

Changes to the federal rehabilitation tax credit and provide a greater incentive for the reuse of historic and older buildings.

Encourage building owners to achieve substantial energy savings in building rehabilitations with graduated increases in the historic tax credit based on the level of efficiency achieved.

## MAKING HISTORIC BUILDINGS ENERGY-EFFICIENT
## SECTIONS 8 AND 10

Encourage building owners who are rehabilitating historic buildings to achieve substantial energy savings and allow graduated increases in the credit based on the scale of energy efficiencies achieved.

The amendment would provide a boost in the historic credit of *an additional $2.00 to $5.00 per square foot* depending on a range of energy savings starting at 30% and graduating up to 50% - up to half of a building's total rehabilitation expenditures.

Section 10 of the bill would allow for twinning of the Renewable Energy Tax Credit with the historic tax credit to achieve the highest possible energy reductions. It would employ a methodology for their coordination that is similar to the way in which the historic tax credit is allow to be used with the Low-Income Housing Tax Credit.

NATIONAL TRUST FOR HISTORIC PRESERVATION

"The skills of preservationists in understanding the value and durability of the built environment and their ability to extend a building's future are some of the strongest contributions preservationists can make to the rapidly evolving field of sustainable design."

MIKE JACKSON. "BUILDING A CULTURE THAT SUSTAINS DESIGN," APT BULLETIN VOL. 36, NO. 4 (2005): 2.

# Resources & Additional Information

WEB RESOURCES

PODCASTS

PROFESSIONAL DEVELOPMENT


2010
OCTOBER 27–30
AUSTIN
NATIONAL PRESERVATION
CONFERENCE

Trust for Architectural Easements' Sustainability Page
www.architecturaltrust.org/

The American Institute of Architects' Committee on the Environment www.aia.org/cote_default

Association for Preservation Technology's Technical Committee on Sustainable Preservation at
www.apti.org/about/technical.cfm#A5A3

General Services Administration at
www.gsa.gov/historicpreservation

National Trust for Historic Preservation's Sustainability Initiative at www.preservationnation.org/issuessustainability/

Whole Building Design Guide: Sustainable Historic Preservation
http://www.wbdg.org/resources/sustainable_hp.php

THANK YOU.