

Standards, Sustainability and Project Review

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General Plan Committee Presentation

Belvedere, CA

October 28, 2009



In this Presentation:

- Sustainability Issues in Preservation and Local Policy Response
 - The need for energy use reduction
 - The means of energy use reduction
 - Model city ordinances
- Review of Local Preservation Options
 - Surveys
 - CEQA
 - Secretary of the Interior's Standards

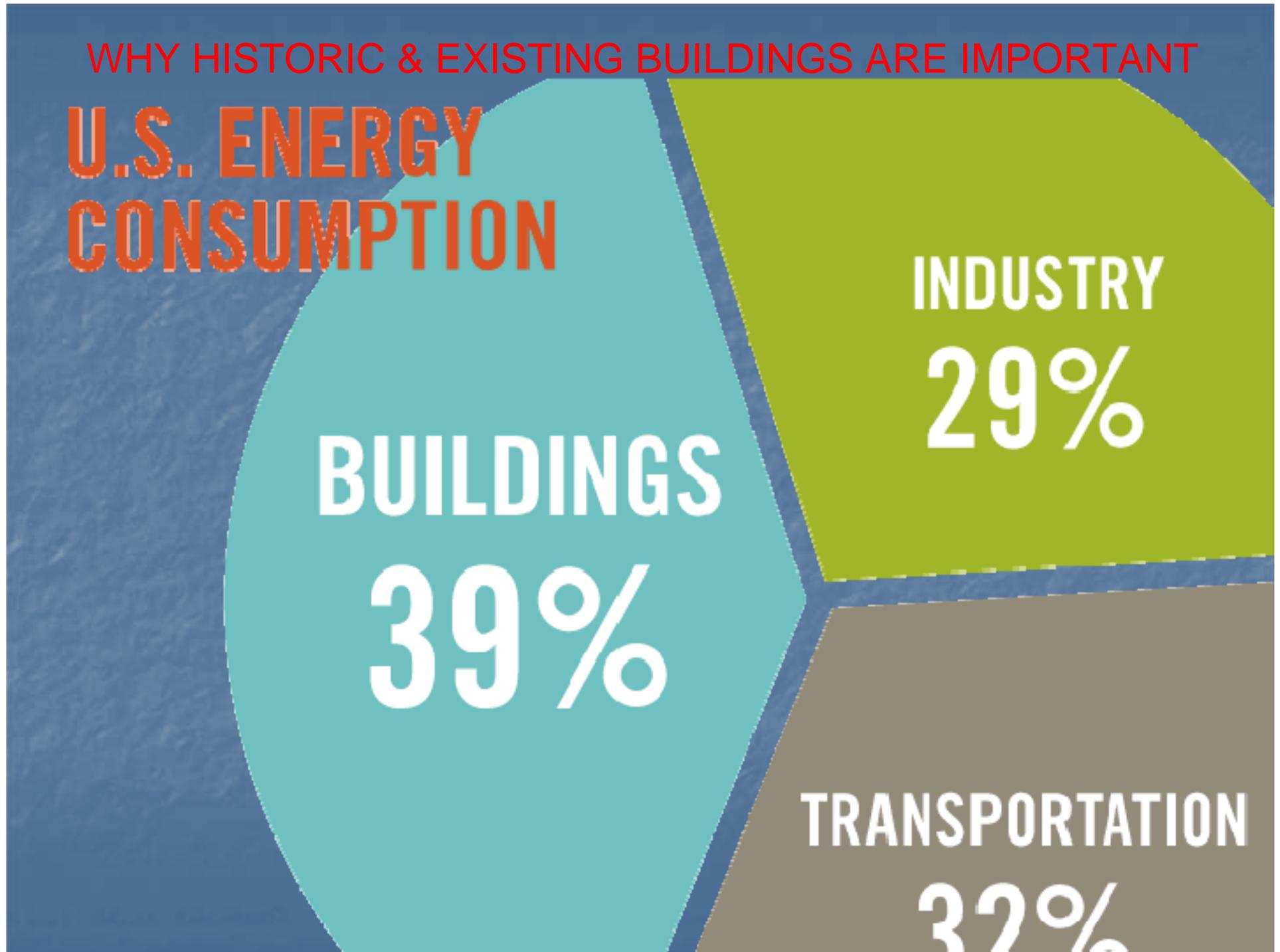
WHY HISTORIC & EXISTING BUILDINGS ARE IMPORTANT

U.S. ENERGY CONSUMPTION

BUILDINGS
39%

INDUSTRY
29%

TRANSPORTATION
32%



WHY HISTORIC & EXISTING BUILDINGS ARE IMPORTANT

Historic Buildings Nationally

AREA: Residential Buildings



California 17%

Residential Building Inventory
U.S. Census Bureau

WHY HISTORIC & EXISTING BUILDINGS ARE IMPORTANT

Source: Total Energy Consumption in US Households by Year of Construction
<http://www.eia.doe.gov/emeu>

Average annual energy consumption units/Household

Decade built	kWh	kcf (gas)
Before 1949	8,332	82
1950 – 1959	9,533	71
1960 – 1969	9,586	63
1970 – 1979	11,971	61
1980 – 1989	12,534	63
1990 – 2001	10,656	70

**PERCEIVED ENERGY
INEFFICIENCY**

WHY HISTORIC & EXISTING BUILDINGS ARE IMPORTANT

The New York Times

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July 30, 2009

Efficiency Drive Could Cut Energy Use 23% by 2020, Study Finds

By [KATE GALBRAITH](#)

The biggest opportunity to improve the nation's energy situation is a major investment program to make homes and businesses more efficient, according to a study released Wednesday by the consulting firm McKinsey. An investment of \$520 billion in improvements like sealing ducts and replacing inefficient appliances could produce \$1.2 trillion in savings on energy bills through 2020, the study found.

The [report](#) said such a program, if carried out over the next decade, could cut the country's projected energy use in 2020 by about 23 percent, a savings that would be "greater than the total of energy consumption of Canada," Ken Ostrowski, a senior partner in McKinsey's Atlanta office, said at a forum in Washington on Wednesday. It would also more than offset the growth in energy use that would be expected otherwise.

"The scale is vast if we can put together the means to pursue it," Mr. Ostrowski said.

Homes account for about 35 percent of the potential efficiency gains, according to McKinsey, while the industrial sector accounts for 40 percent and the commercial sector 25 percent. The report included only

WHY HISTORIC & EXISTING BUILDINGS ARE IMPORTANT

Green Building Climate Calculator

The GreenPoint Rated Climate Calculator

June 2008

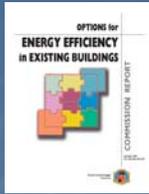


“Green remodeling reduces net CO₂e emissions, while constructing new homes (whether green or conventional) increases net CO₂e emissions.”

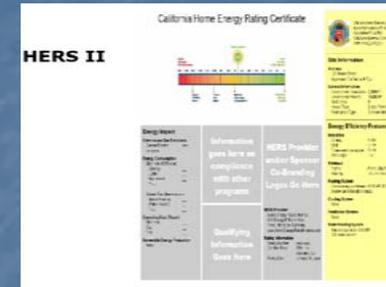
“ When a new home is built that doesn’t replace an existing building, there is inevitably a net increase in GHG emissions because the construction has added another building to the state’s building stock.”

OPTIONS FOR ENERGY EFFICIENCY IN EXISTING BUILDINGS

5 RESIDENTIAL STRATEGIES



- Time of Sale Information Disclosure by 2010
 - Includes Home Energy Ratings System score
- Information Gateway
 - Utility efficiency information clearinghouses that
 - inform homeowners of energy efficiency actions, programs and services
 - Targets high peak demand and high energy-use homes
 - Facilitates residential benchmarking
- Integrated Whole Building Diagnostic Testing and Repair
 - Finds and corrects flaws in construction or operation
 - Increases energy efficiency and health and comfort
- Assistance to Affordable Housing
 - Triggered at rehabilitation and equipment replacement
- Equipment Tune-Ups
 - Increased frequency and effectiveness of HVAC system tune-ups



OPTIONS FOR ENERGY EFFICIENCY IN EXISTING BUILDINGS

Figure ES-1

Cumulative Energy Savings of California Standards and Energy Efficiency Program:

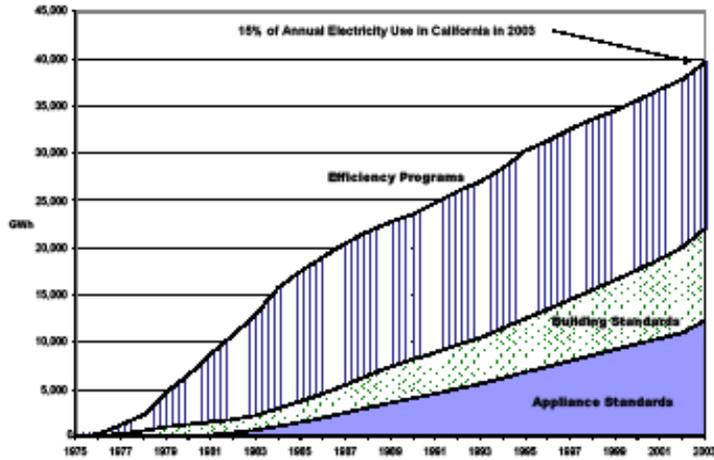


Figure ES-2

Total Electricity Use, per capita, 1960 - 2001

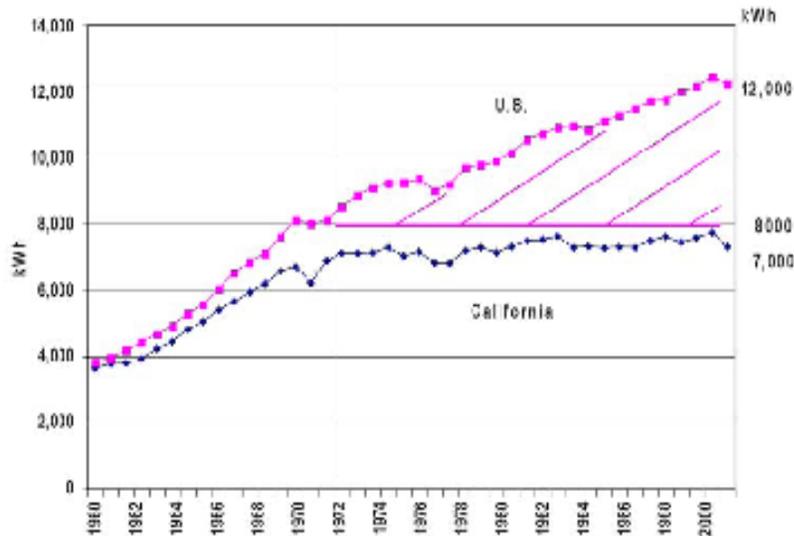


Figure 2-1

Annual Spending by PG&E, SCE, and SDG&E For Energy Efficiency Programs

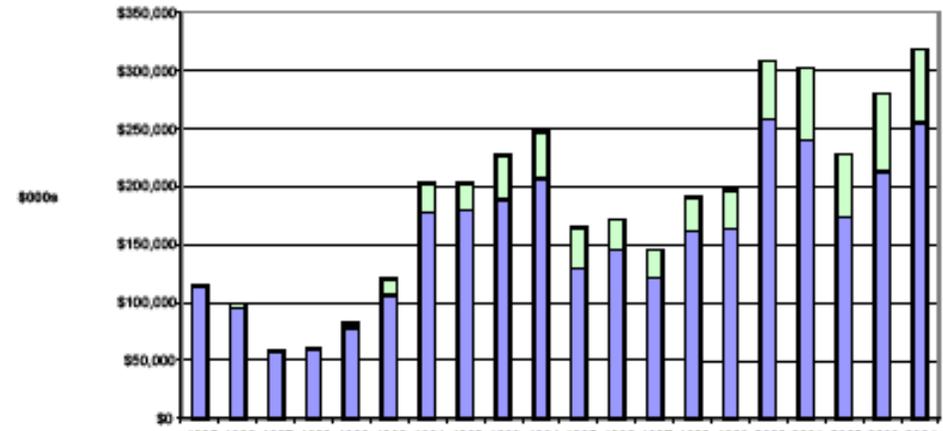
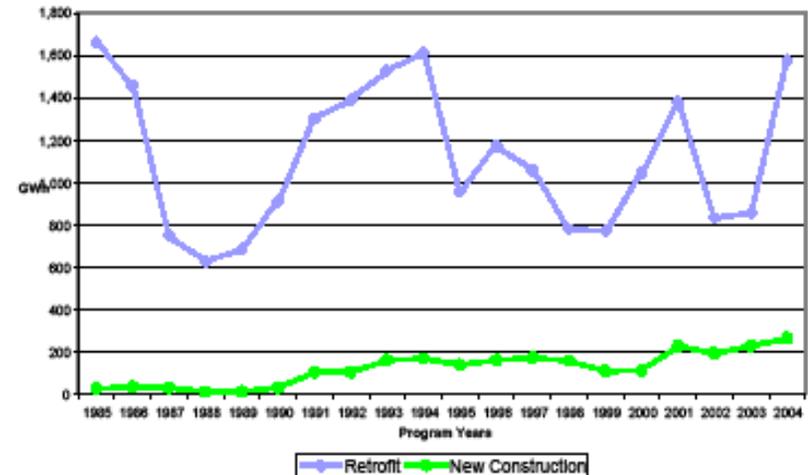
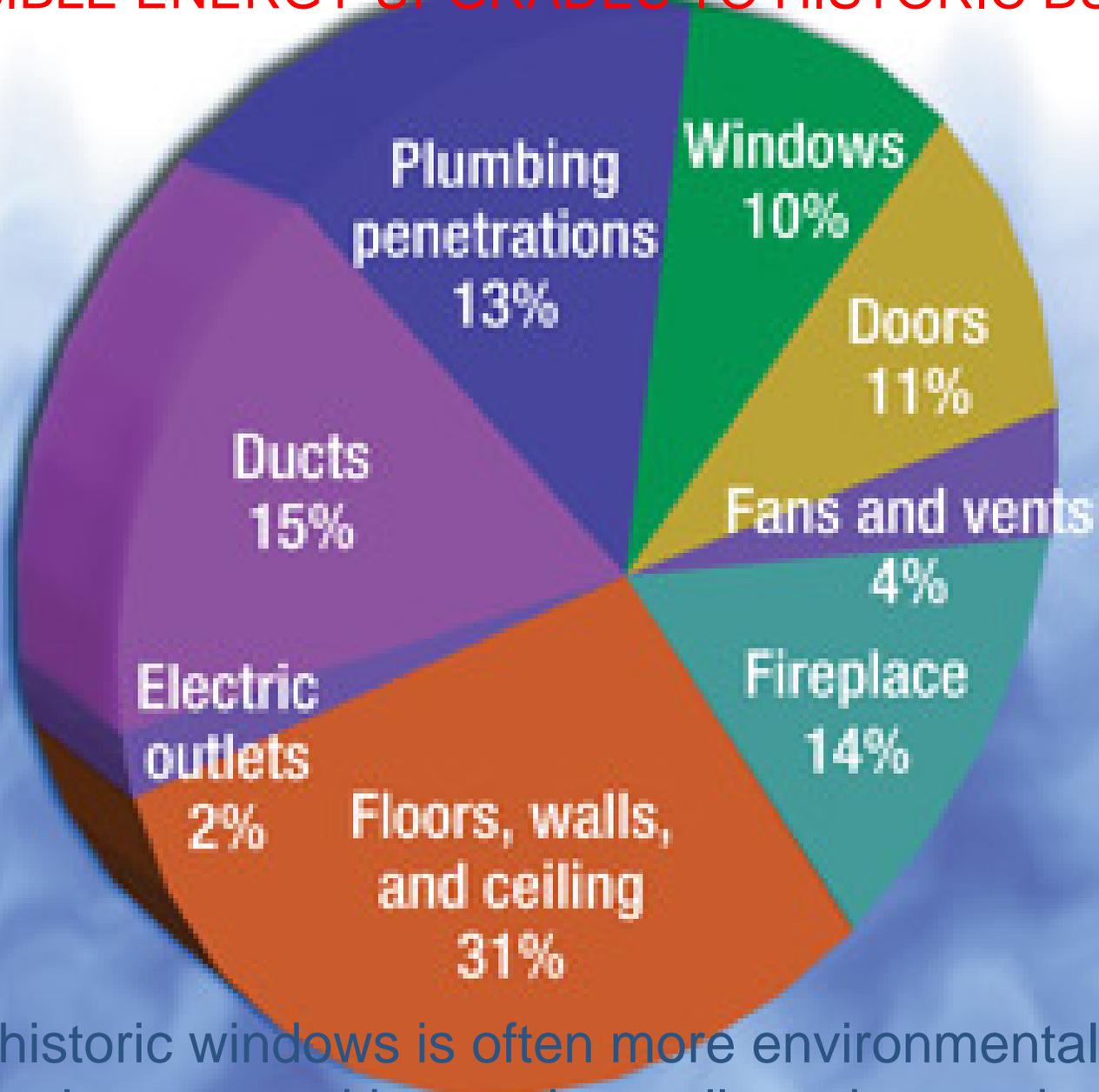


Figure 2-2

First Year Savings for Retrofit and New Construction Sectors for PY 1985-2004



RESPONSIBLE ENERGY UPGRADES TO HISTORIC BUILDINGS

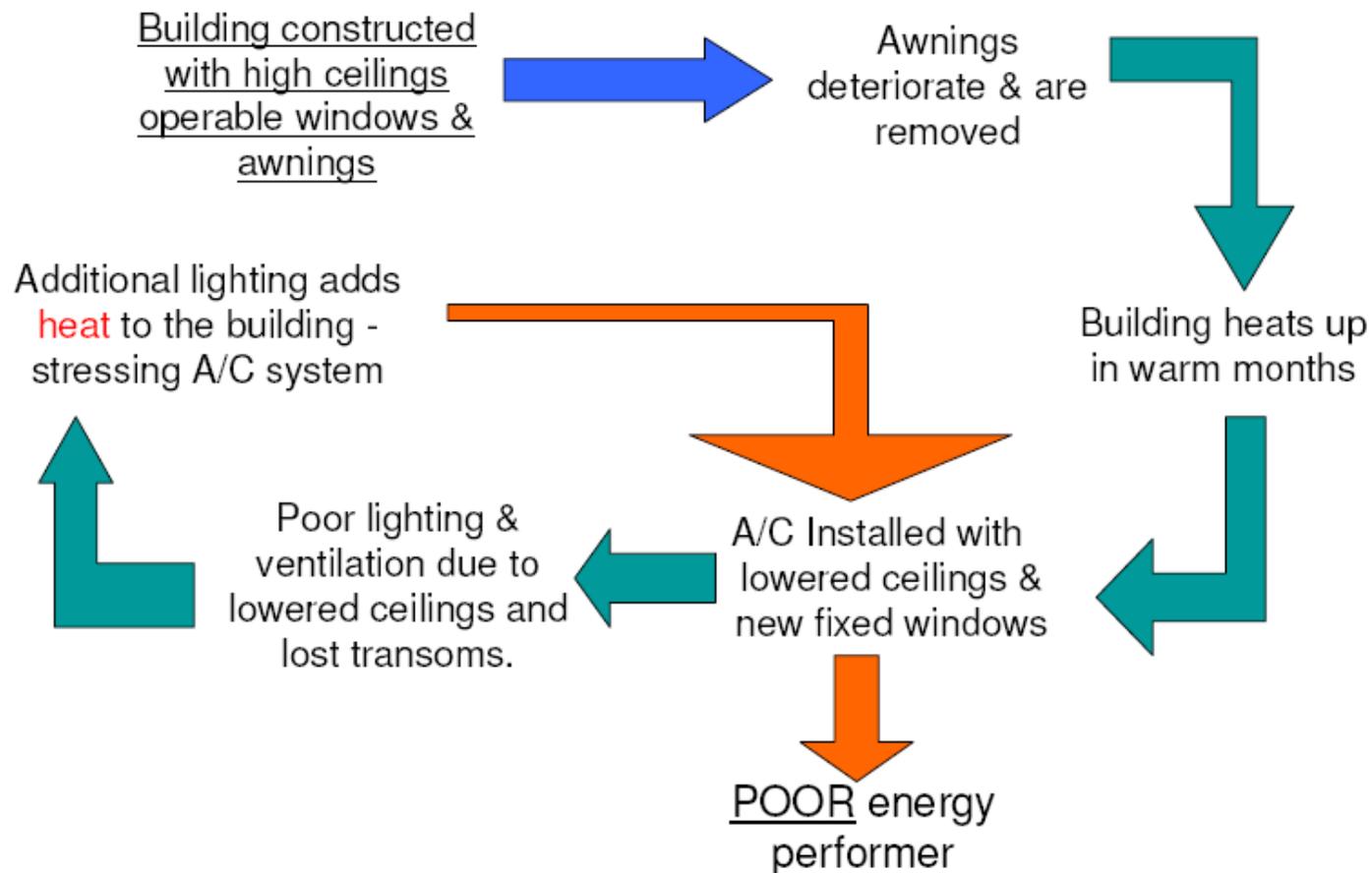


Retaining historic windows is often more environmentally friendly than replacement with new thermally resistant windows.

RESPONSIBLE ENERGY UPGRADES TO HISTORIC BUILDINGS

Historic Energy & Atmosphere

Minimum Energy Performance:



RESPONSIBLE ENERGY UPGRADES TO HISTORIC BUILDINGS

Step 1: Quantification

California Building Performance
Contractors Association

cbpca

**CABEC** California Association of
Building Energy Consultants



February 24, 2009

Environment

Weathering The Times: Stimulus Boosts Green Jobs

by Christopher Joyce

 [Listen Now](#) [4 min 49 sec] + add to playlist



John W. Poole/NPR

The stimulus funds should boost business for people like Bob Logston. His company, Home Energy Loss Professionals, retrofits homes to save energy and money.

Weatherizing Your Home

Check out tips from the Maryland Energy Administration for saving energy and money by [weatherizing your home](#).

Learn more about getting financial assistance to weatherize your home from the [U.S. Department of Energy](#).

All Things Considered, February 23, 2009 · People in the business of weatherizing homes are expecting to profit from the new economic stimulus plan. The federal aid package sets aside \$5 billion worth of spending for making homes and buildings more energy efficient. The idea is to save energy, create jobs — and even perhaps slow global warming.

That's good news for people like Malcolm Woolf, who runs the Maryland Energy Administration. It's a small office with a small staff, and they've started a new program to train people in need of work how to weatherize homes, such as installing weatherstripping around doors, insulating attics and basements, or making heating and cooling systems more efficient.

"We are training folks every week to become home energy retrofit professionals," says Woolf. "Construction workers can be easily retooled to be air-duct or insulation installers and meet our current needs."

Maryland has also spent hundreds of thousands of dollars over the past 10 months helping low- and moderate-income homeowners pay for retrofitting. The state's energy department will pay up to \$5,000 for qualified families to weatherize.

Woolf expects the federal stimulus package to boost his budget tenfold. That means new work for Bob Logston, whose company, Home Energy Loss Professionals, does a lot of the Maryland program's retrofit work.

"Back in the day, real estate people didn't want people to know that their homes weren't energy efficient," says Logston. "Now, they want people to be more energy efficient."

New homeowner Princess Moorman is one of about 50 Marylanders who has qualified for retrofitting for her north Baltimore three-story house. It was built in the 1920s, and although it's been renovated, it's drafty. Moorman says her January heating bill was \$500.

Logston and his three-man crew recently spent a day going over Moorman's house. By running a big exhaust fan that pulls air out of the house, they create a low-pressure zone inside that draws cold air into the house through cracks



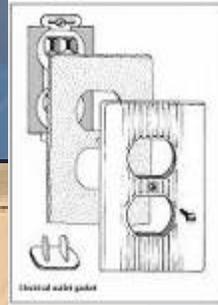
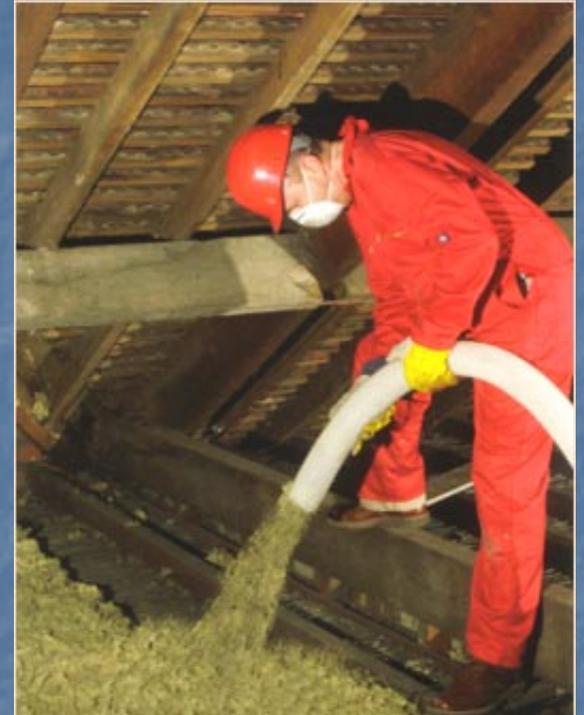
RESPONSIBLE ENERGY UPGRADES TO HISTORIC BUILDINGS

Step 1: Quantification



RESPONSIBLE ENERGY UPGRADES TO HISTORIC BUILDINGS

Step 2: Installation



Local Ordinances

SAN FRANCISCO MODEL GREEN ORDINANCE

The [San Francisco Green Building Ordinance Chapter 13c](#) is notable in that:

- It discourages demolition by increasing subsequent construction to increase the required LEED points by 10% or increases GreenPoint Rated™ points by 25.
- It further discourages demolition by adding one credit to certification threshold for LEED MR3, MR4, MR5, MR6, or MR7; two credits in 2012.
- Additional points or credits are granted towards certification for retention and in-situ reuse or restoration of certain character-defining features that conform to the SOIS.
- Exemptions are granted if the Director determines that compliance would impair the structure's integrity.

Local Ordinances

PALO ALTO MODEL GREEN ORDINANCE

The [Palo Alto Green Building Ordinance](#) is notable in that:

- It recognizes the embodied energy in existing buildings.
- It reduces the number of GreenPoint Rated™ checklist points by up to 20 points in residential projects that are designated on the City's Historic Inventory, and for structures eligible for the National Register of Historic Places, provided the proposed construction is found consistent with the Secretary of the Interior's Standards for Rehabilitation.
- Exemptions for compliance may be granted based on a demonstrated conflict between historic preservation goals and sustainability goals.
- Provides for future reports to be written by the Architectural Review Board and others to evaluate the results of the implementation of this ordinance.

JURISDICTIONS PROMOTE BETTER ENERGY PERFORMANCE



EIP - Palm Desert Energy Improvement Program

AB 811 amends Sections 5898.12, 5898.20, 5898.22, and 5898.30 of the Streets and Highways Code, and adds Sections 5898.14 and 5898.21 relating to contractual assessments, allowing local jurisdictions to raise and disburse funds to finance energy equipment and conservation measures.

Loan document that describes the loan for a renewable energy system or energy efficient equipment as an assessment to the property pursuant to Section 5898.30 of the California Streets and Highway Code.

Assessment or from the administration or registration of any associated bonds or reserve or other related funds (the "Annual Administrative Assessment"). The Annual Administrative Assessment shall not exceed _____ Dollars (\$ _____) per year. **The Assessment** and the Annual Administrative Assessment, and the interest and any penalties thereon shall constitute a lien on the Property until they are paid. The installments of the Assessment and the Annual Administrative Assessment (including principal and interest) shall be collected on the property tax bill pertaining to the Property, and shall be subject to the same penalties, remedies, and lien priorities as for property taxes in the event of non-payment. The Borrower hereby expressly consents to the levy of the Assessment and the Annual Administrative Assessment and the imposition of the lien on the Property as described herein and in the Act.

(e) The amount of assessment installments that will be placed on the Property each year is set forth in Exhibit "C" attached hereto and incorporated herein by this reference.

(f) The Assessment may be prepaid, in whole or in part, at any time upon the payment of a premium in an amount equal to three percent (3%) of the amount of the Assessment to be prepaid.

2. Use of Proceeds.

All proceeds of the Loan shall be used by Borrower for the sole purpose of paying for the reasonable costs and expenses of the Work on the Property, and in connection therewith the Borrower shall comply with all requirements set forth herein, in the Application and in the Report.

3. Disbursement Procedures.

(a) Notwithstanding anything to the contrary contained herein, the City shall have no obligation to disburse the Loan Amount hereunder unless and until each of the following conditions is satisfied, or any such condition is expressly waived by the Director:

(i) The receipt by the Director of a written certification from Borrower, and the contractor(s), if any, that performed the Work, stating that the Work for which disbursement is requested is complete, and the actual cost of such Work. Such certification shall be in form and substance acceptable to the Director.

(ii) An inspection of the Work by the OEM, and a determination by the Director that the Work has been completed in full compliance with the requirements of the Loan Documents.

(iii) The receipt by the Director of such other documents and instruments as the Director may require, including but not limited to, if applicable, the sworn statements of contractor(s) and releases or waivers of lien, all in compliance with the requirements of applicable law.

Berkeley FIRST: The Basics

- **Enables property owners to install energy projects w/ no upfront cost**
- **City provides financing thru issuing bond**
- **Cost repaid on property tax bill over 20 years**
- **Based on 'voluntary assessment district' concept (Mello-Roos Community Facilities Act of '82)**
- **Start w/ PV, then move to thermal & efficiency**



JURISDICTIONS PROMOTE BETTER ENERGY PERFORMANCE

RECO – Berkeley Residential Energy Conservation Ordinance

- Adopted in 1985 with the intent of increasing the energy and water efficiency in existing Berkeley residences. This long-standing goal contributes to the Berkeley Climate Action goal of reducing Berkeley's overall greenhouse gas emissions by 80% by the year 2050.
- **When does RECO apply?** RECO applies to all homes, residential areas of mixed-use buildings, tenants-in-common, condominiums, multi-family properties, live-work spaces and boarding houses
- **Renovation:** All homes or apartment buildings undergoing renovations with a combined permit value of \$50,000 or more **must** demonstrate compliance with RECO requirements
- **Sale or Transfer of Property:** All homes or apartment buildings, sold or transferred **must** demonstrate compliance with RECO requirements by being inspected and filing "Form A - Certificate of RECO Compliance" with the City of Berkeley.

BUILD IT GREEN



2007 Edition

HOME REMODELING GREEN BUILDING GUIDELINES



BUILD IT GREEN

REMODELING

2007 Home Remodeling GreenPoints Checklist

Page 2

The green building practices listed below are described in the Home Remodeling Green Building Guidelines, available at www.BuildItGreen.com

	Community	Energy	IAQ/Health	Resources	Water
D. STRUCTURAL FRAME & BUILDING ENVELOPE					
1. Apply Optimal Value Engineering					
a. Place Rafters and Studs at 24-inch On Center Framing					
b. Size Rafters and Studs to Meet Design Load					
4. Use Solid Wall Systems (includes core, joist, & any non-wood frame assembly)					
a. Floors					
b. Walls					
c. Roofs					
5. Reduce Pollution Entering the Home from the Garage					
a. Tightly Seal the Air Barrier between Garage and Living Area					
b. Install Garage Exhaust Fan OR Build a Detached Garage					
6. Design Energy Heels on Roof Trusses					
7. Install Overhangs and Gutters					
8. Install Reflective Roof and Radiant Barrier					
9. Replace Single-Pane Windows with High Performance Windows (U-factor ≤ 0.40 & SHGC ≤ 0.40)					
10. Retrofit with Storm Windows					
11. Install Low-SHGC Window Film on Single-Pane Windows					
12. Retrofit Structure for Earthquakes					
E. EXTERIOR FINISH					
1. Use Recycled-Content (No Virgin Plastic) or FSC-Certified Decking					
2. Install Rain Screen Wall System					
3. Use Durable and Noncombustible Siding Materials					
4. Use Durable and Noncombustible Roofing Materials					
F. INSULATION					
1. Install Insulation with 75% Recycled Content					
a. Walls and/or Floors					
b. Ceilings					
2. Install Insulation that is Low-Emitting (Certified Section 01350)					
a. Walls and Floors					



BUILD IT GREEN

REMODELING

2007 Home Remodeling GreenPoints Checklist

Page 4

The green building practices listed below are described in the Home Remodeling Green Building Guidelines, available at www.BuildItGreen.com

	Community	Energy	IAQ/Health	Resources	Water
c. Install Kitchen Range Hood Vented to the Outside					
9. Install Mechanical Ventilation System for Cooling					
a. Install ENERGY STAR Ceiling Fans & Light Kits in Living Areas & Bedrooms					
b. Install Whole House Fan with Variable Speeds					
10. Install Mechanical Ventilation for Fresh Air					
a. Install Air-to-Air Heat Exchanger (Heat or Energy Recovery Ventilator)					
11. Install Carbon Monoxide Alarm(s)					
I. RENEWABLE ENERGY					
1. Install Solar Water Heating System					
2. Install Photovoltaic (PV) System that offsets electric energy use by:					
a. .30% of electric needs OR 1.2 kw					
b. 60% of electric needs OR 2.4 kw					
c. 90% of electric needs OR 3.6 kw					
J. BUILDING PERFORMANCE					
1. Whole House Inspection/Diagnostic Testing & Improvements Made					
a. Duct Testing and Improvements Made so that Leakage is < 15%					
b. Blower Door Testing and Improvements Made so that Air Change per hour is < 0.35					
c. House Passes Combustion Safety Backdraft Test					
K. FINISHES					
1. Design Entryways to Reduce Tracked in Contaminants					
2. Use Low/No-VOC Paint					
a. Low-VOC Interior Wall/Ceiling Paints (Flat <50 g/L VOC; Non-Flat <150 g/L VOC)					
b. Zero-VOC: Interior Wall/Ceiling Paints (<5 g/L VOC)					
3. Use Low VOC, Water-Based Wood Finishes (<250 g/L VOC)					
4. Use Low-VOC Caulks & Construction Adhesives (<70 g/L VOC for All Adhesives)					
5. Use Recycled-Content Paint					
6. Use Environmentally Preferable Materials for Interior Finish: A) FSC Certified Wood, B) Reclaimed Materials, C) Rapidly Renewable D) Recycled-Content or E) Finger-Jointed					
a. Cabinets (50% Minimum)					
b. Interior Trim (50% Minimum)					
c. Shelving (50% Minimum)					
d. Doors (50% Minimum)					
e. Countertops (50% Minimum)					
7. Reduce Formaldehyde in Interior Finish (CA Section 01350)					
a. Subfloor (50% Minimum)					
b. Cabinets (50% Minimum)					
c. Interior Trim (50% Minimum)					
d. Shelving(50% Minimum)					
8. After Installation of Finishes, Test of Indoor Air Shows Formaldehyde Level <27 ppb					
L. FLOORING					

BUILD IT GREEN

GreenPoint Rated Existing Home Energy Vintage Thresholds

A home qualifying for the Whole House label must meet or beat the Energy Budget based on a Vintage Threshold for its age.

	Pre-1980	1980 - 2000	2001 - 2005	2005 +
Conditioned Floor Area	Actual	Actual		
Single or Two Story	Actual	Actual		
Floor (Raised Floor or Slab)	Actual	Actual		
Average Ceiling Height	Actual	Actual		
Insulation				
Roof/Attic	R-30 / R-38 ¹	R-30 / R-38 ¹		
Walls	Actual	R-13		
Raised Floors	R-19	R-19		
Slab	Actual	Actual		
Glazing				
Percentage (floor area)	Actual	Actual		
U-Factor	0.99	0.79		
SHGC	0.74	0.70		
HVAC				
Heating				
Gas (AFUE)	0.90	0.90		
Electric (HSPF)	8.8	8.8		
Cooling (if any)				
SEER	14.0	14.0		
EER	11.5	11.5		
Ducts (if ducted system)				
Insulation	R-6 or 8 ²	R-6 or 8 ²		
Leakage (% airflow)	15%	15%		
Water Heating	Actual	Actual		
Infiltration (ACH)	0.5	0.5		
Other Conservation Features				
Thermostat	Programmable	Programmable		

10% Better than House with 2001 Prescriptive Package Measures

10% Better than House with 2005 Prescriptive Package Measures

GreenPoint Rated for Existing Homes

Performance method

37% energy efficiency upgrade over pre-1980 existing conditions to qualify for the GreenPoint Rated Whole House Label

1. Attic Insulation: R-30 Climate Zones 2 - 10, R-38 Climate Zones 1, 11-16

2. Duct Insulation: R-6 Climate Zones 2 - 10, R-8 Climate Zones 1, 11-16

BUILD IT GREEN

GreenPoint Rated

j) Windows Upgraded to Current Code Requirements, Which are Typically Dual Pane

Prescriptive method

Window upgrades are placed in building Performance as part of the envelope performance. Places windows in the context of overall envelope performance where it belongs.

Project Name	Points Achieved	Community	Energy	Indoor Air Quality	Resource	Water
J. BUILDING PERFORMANCE						
Possible Points						
1. Energy Survey and Education (Includes blower door test) (Required for Elements or Meet J3a)			R			
2. Energy Upgrades (Available for Elements Rating Only, Mutually exclusive with J3a. Two points minimum for credit, maximum 6 points)			R			
TIER 1: Practices in Tier 1 Are Worth Full Value (1 point)						
a) Attic Insulation up to or Exceeding Current Code			1			
b) Crawl Space Insulation up to or Exceeding Current Code			1			
c) Wall Insulation up to or Exceeding Current Code			1			
d) High Efficiency Furnace (50% AFUE Minimum)			1			
e) Seal Ducts and Duct Leakage Is <15%			1			
f) 14 SEER, 11.5 EER Air Conditioning Unit (In climate zones 2,4,8-15)			1			
g) House Passes Blower Door Test With <0.5 ACH or a 50% Improvement			1			
Total Points Available in Building Performance = 31+						
K. FINISHES						
Possible Points						
1. Entryways Designed to Reduce Tracked in Contaminants			1			
2. Low/No-VOC Paint						
a. Low-VOC Interior Wall/Ceiling Paints (<50 gpl VOCs regardless of sheen)				1		
b. Zero-VOC Interior Wall/Ceiling Paints (<5 gpl VOCs (flat))				2		
3. Coatings Meet SCAQMD Rule 1113 for Low VOCs				2		
4. Low-VOC Caulks & Construction Adhesives (Meet SCAQMD Rule 1168)				2		
5. Recycled-Content Paint					1	
6. Environmentally Preferable Materials for Interior Finish: A) FSC Certified Wood B) Reclaimed Materials C) Rapidly Renewable D) Recycled-Content E) Finger-Jointed or F) Local						
a. Cabinets					1	
b. Interior Trim					1	
c. Shelving					1	
d. Doors					1	
e. Countertops					1	
7. Formaldehyde Reduced in Interior Finish (CA Section 01350)						
a. Subfloor & Stair Treads				1		
b. Cabinets & Countertops				1		
c. Interior Trim				1		
d. Shelving				1		
8. After Installation of Finishes, Test of Indoor Air Shows Formaldehyde Level <27ppb				3		
Total Points Available in Finishes = 22						
L. FLOORING						
Possible Points						
1. Environmentally Preferable Flooring: A) FSC-Certified Wood B) Reclaimed or Refinished C) Rapidly Renewable D) Recycled-Content, E) Exposed Concrete F) Local Flooring Adhesives Must Have <70 gpl VOCs and sealer must meet SCAQMD Rule 1113.					4	
2. Thermal Mass Floors			1			
3. Flooring Meets CA Section 01350 or CRI Green Label Plus Requirements				2		
Total Points Available in Flooring = 7						

Health and Safety Code, Division 13, Part 2.7, Sections 18950-18961

•**18951.** It is the purpose of this part to provide alternative regulations and standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of qualified historical buildings or structures, as defined in Section 18955. These alternative standards and regulations are intended to facilitate the rehabilitation, restoration, or change of occupancy so as to preserve their original or restored architectural elements and features, to encourage energy conservation and a cost-effective approach to preservation, and to provide for the safety of the building occupants.

Changes from the 2001 *Code*

Mechanical, Plumbing and Electrical Requirements

2007 8-901.5 Energy conservation. Qualified historical buildings or properties covered by this part are exempted from compliance with energy conservation standards. When new non-historical lighting and space conditioning system components, devices, appliances and equipment are installed, they shall comply with the requirements of Title 24, Part 6, *The California Energy Code*, except where the historical significance or character-defining features are threatened.

2001 8-901.5 Energy conservation. Historical buildings covered by this part are exempted from compliance with energy conservation standards. When appliances and equipment are added, they should comply with the regular code.

ENERGY ISSUES FOR HISTORIC BUILDINGS

Secretary of the Interior's 10 Standards for Rehabilitation

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

ENERGY ISSUES FOR HISTORIC BUILDINGS

Issues: Landscaping

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
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ENERGY ISSUES FOR HISTORIC BUILDINGS

Issues: Rehabilitation of original finishes

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

ENERGY ISSUES FOR HISTORIC BUILDINGS

Issues: Removal of original or addition of inappropriate features

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
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ENERGY ISSUES FOR HISTORIC BUILDINGS

On-Site Energy Options



Solar Rights Act

Civil Code Section 714:

714. (a) Any covenant, restriction, or condition contained in any deed, contract, security instrument, or other instrument affecting the transfer or sale of, or any interest in, real property that effectively prohibits or restricts the installation or use of a solar energy system is void and unenforceable. (b) This section does not apply to provisions that impose reasonable restrictions on solar energy systems. However, it is the policy of the state to promote and encourage the use of solar energy systems and to remove obstacles thereto. Accordingly, reasonable restrictions on a solar energy system are those restrictions that do not significantly increase the cost of the system or significantly decrease its efficiency or specified performance, **or that allow for an alternative system of comparable cost, efficiency, and energy conservation benefits.**

(e) Whenever approval is required for the installation or use of a solar energy system, **the application for approval shall be processed and approved by the appropriate approving entity in the same manner as an application for approval of an architectural modification to the property, and shall not be willfully avoided or delayed.**

Off-Site Energy Options

A wide-angle photograph of a large-scale solar farm under construction. The foreground and middle ground are filled with rows of solar panels mounted on metal frames. Several workers wearing hard hats and safety vests are visible, some standing and others working on the panels. The background shows a clear sky, some trees, and a large industrial building or warehouse. The overall scene is bright and sunny.

SMUD solar shares

<http://www.smud.org/community-environment/solar/solarshares.html>



BENEFITS OF A COMPREHENSIVE PRESERVATION PROGRAM

- **CREDIBILITY**

- Consistency with federal and state laws that have stood the test of time
- Insulates the preservation program from charges of being *arbitrary* and *capricious*

- **PREDICTABILITY**

- Know ahead of time how properties will be treated in regulatory procedures and code enforcement

Historic Contexts and Surveys **Foundation** for Preservation Planning



Tell what resources are significant
...and why

Surveys/Inventory

Need to Know

- Where are they?
- What are they?
- Why are they significant?
- What are the character-defining features?
- How do they need to be treated?



**Zoning
&
Planning**

**Historic
Preservation**

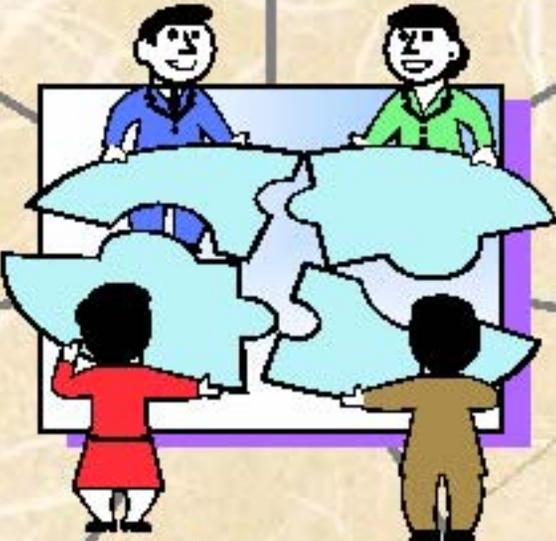
**Disaster
Planning
&
Response**

**Heritage
Tourism**

**Transportation
&
Infrastructure**

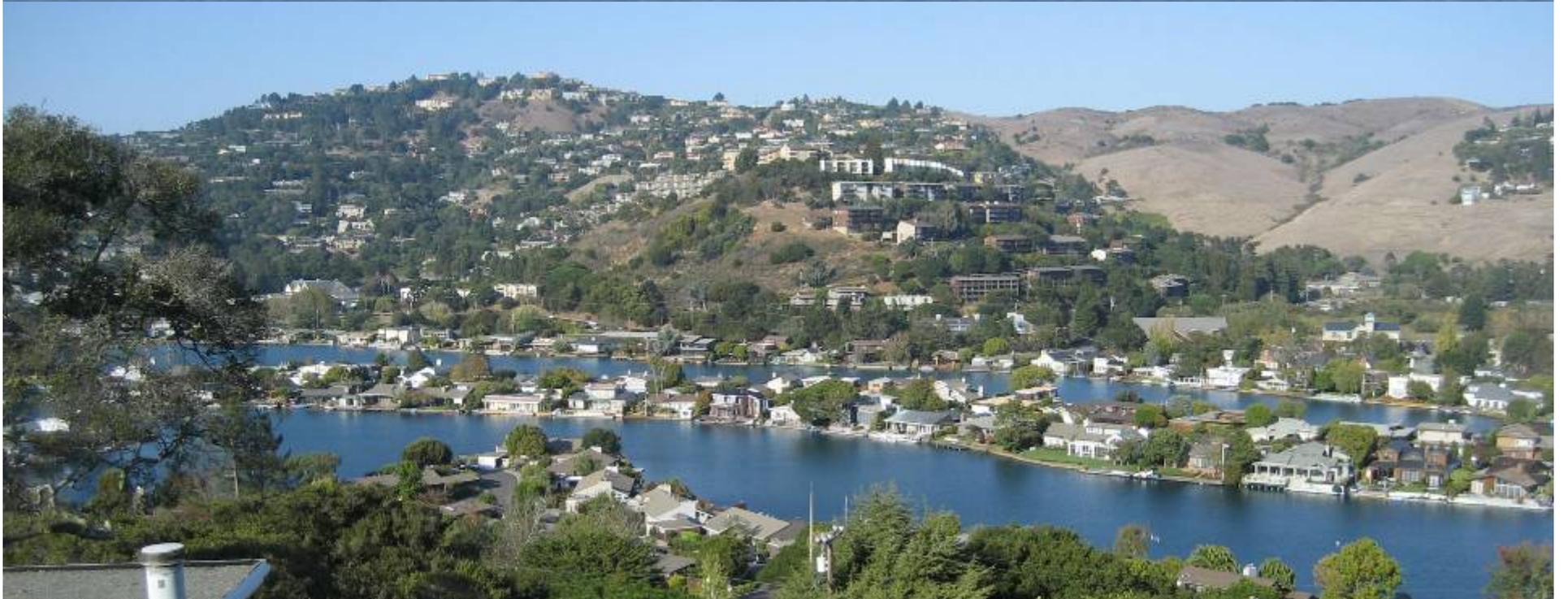
**Community
Development**

**Affordable
Housing
&
Adaptive
Reuse**









STATUTES

- **Public Resources Code**
- **Historical Resources**, 5020 - 5029
- **State Landmarks**, 5031 - 5033
- Heritage Fund, 5079 - 5079.65
- Archeological Sites, 5097, 5097.6. Appropriations
- Native American Heritage, 5097.9 - 5097.991
- **California Environmental Quality Act**, 21083.2 - 21084.1

- **Government Code**
- Public Records, 6254 - 6254.10
- Capitol View Protection, 8162.5 - 8162.9
- State Capitol Commission, 9149 - 9149.17
- California Main Street Program, 15399 - 15399.8
- Local Government, 25373 - 27288.2
- City Property, 37361 - 37361.1
- **Mills Act: Historical Property Contracts**, 50280 - 50290
- **General Plans**, 65303
- Health and Human Safety Code
- Human Remains, 7050.5
- Hazardous Buildings, 17922.2
- **State Historic Building Code**, 18950 - 18961
- Marks Act: Historical Rehabilitation, 37600 - 37662

- **Civil Code**
- Easements, 815 - 816
- Revenue and Taxation Code
- Historic Property Restriction, 439 - 439.4

- **Penal Code**
- Destruction of Historical Properties, 6221/2

REGULATIONS

- **California Code of Regulations**
- California Register of Historical Resources (Title 14, Chapter 11.5), 4850 - 4858
- CEQA Guidelines (Title 14, Chapter 3), 15064.5 - 15331
- State Historic Building Code Regulations (Title 24, Part 8)

- **ADMINISTRATIVE POLICIES**
- Executive Order W-26-92

STATE OF CALIFORNIA - THE RESOURCES AGENCY

GRAY DAVIS, Governor

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
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California Office of Historic Preservation Technical Assistance Series #10

California State Law and Historic Preservation: Statutes, Regulations and Administrative Policies Regarding Historic Preservation and Protection of Cultural and Historical Resources

CEQA:

Does a significant historical resource exist?

- Listing in, or determined eligible for listing by the State Historical Resources Commission, in the CA Register of Historical Resources.
- Listing included in a local register or identified as significant in a historical resource survey, shall be presumed to be historically significant.
- Any resource which a lead agency determines to be historically significant may be considered a historical resource, provided the determination is supported by substantial evidence, i.e., meets the criteria for listing in the California Register.
- The fact that a resource is not listed in, or determined eligible for listing in the California Register, not included in a local register nor identified in a historical resources survey does not preclude the lead agency from determining that the resource may be a historical resource.

CEQA:

Would the project cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?

Initial Study provides the basis to determine whether the project results in substantial adverse changes to the resource

- CEQA criteria 15064.5 (b) defines the threshold for “substantial adverse change” as demolition, destruction, relocation or alteration/remodeling activities.
- The Secretary of the Interior’s Standards provide the standard guide to the Treatment of Historic Properties.
- Where projects conform with the Secretary of the Interior’s Standards, a Mitigated Negative Declaration could be adopted.

Where the Initial Study shows mitigation measures cannot avoid a “substantial adverse change”, an EIR must be prepared.

Secretary of the Interior's Standards

STANDARD 2 1. The distinguished original qualities or character of a structure and its environment should not be destroyed. The removal or alteration of any distinctive architectural features should be avoided when possible.

STANDARD 5 2. Distinctive stylistic features or examples of skilled craftsmanship that characterize a structure shall be treated with sensitivity.

STANDARD 3, 9 3. Contemporary design for alterations and additions to existing structures shall not be discouraged when such alterations and additions do not destroy significant historical and/or architectural material and such design is compatible with the size, scale, color, material and character of the property.

STANDARD 10 4. Wherever possible, new additions or alterations to structures shall be made in such a manner that, if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

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§ 67.7 Standards for Rehabilitation Preamble

(a) The following Standards for Rehabilitation are the criteria used to determine if a rehabilitation project qualifies as a certified rehabilitation. The intent of the Standards is to assist the long-term preservation of a property's significance through the preservation of historic materials and features.

(b) The following Standards are to be applied to specific rehabilitation projects in a reasonable manner, *taking into consideration economic and technical feasibility*.

§ 68.3 Standards for Treatment Preamble

One set of standards—preservation, rehabilitation, restoration or reconstruction— will apply to a property undergoing treatment, depending upon the property's significance, existing physical condition, the extent of documentation available and interpretive goals, when applicable. The standards will be applied *taking into consideration the economic and technical feasibility* of each project.

**A Path to Parity
Adopting a Historic Preservation Element to the General Plan**



**A Professional Report
Petree A. Knighton
University of California-Berkeley
Department of City and Regional Planning
Fall 2002**

<http://www.ohp.parks.ca.gov/pages/1072/files/path-parity.pdf>

OHP RESOURCES



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GREEN PRESERVATION
IN THE NEWS



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ORDINANCES



LIFE CYCLE COST
ACCOUNTING



PRESERVATION CASE
STUDIES



SOLAR RIGHTS ACT



SUSTAINABILITY
INFORMATION
RESOURCES



WINDOW REPAIR &
RETROFIT: STUDIES &
RESEARCH



SUSTAINABILITY

SUSTAINABILITY

The accepted definition of sustainability from the U.N. World Commission on Environment and Development's 1987 report, "Our Common Future" is that sustainability involves "meeting the needs of the present without compromising the ability of future generations to meet their own needs." The intersection of sustainable design and historic preservation would seem a natural alliance.

Older and historic buildings comprise more than half of the existing buildings in the United States. Retention and adaptive reuse of these buildings preserves the materials, embodied energy, and human capital already expended in their construction. The recycling of buildings is one of the most beneficial "green" practices, and stresses the importance and value of historic preservation in the overall promotion of sustainability.

OHP promotes energy and resource conservation in historic buildings and believes this can be accomplished responsibly without compromising the qualities that define their intrinsic historic

OHP RESOURCES



Office of Historic Preservation
CALIFORNIA STATE PARKS

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State Parks OHP Home Workshops CEO CHRIS/IC Sustainability THPO Landmarks Newsletter



TRAINING and WORKSHOPS

www.ohp.parks.ca.gov

PRESENTATIONS FROM PAST WORKSHOPS

2008 CALIFORNIA PRESERVATION FOUNDATION (CPF) CONFERENCE PRESENTATIONS

RIVERSIDE COUNTY Cultural Resources Pro-Seminars & Orientation Classes

Riverside County requires all professional-level archaeologists certifying reports submitted to the County of Riverside to be certified as having attended an orientation/professional topics training session once very two years. Sessions are open to those not seeking certification, space permitting. For more information, contact Julie Urias jurias@rctlma.org or Leslie Mouriquand lmouriqu@rctlma.org or visit Riverside County's [Cultural Resource Review](#) website.

March 20, 2009 – Archaic Period Archaeology (Melinda Horne and Donn Grenda)(register by March 6, 2009)

