

What's Old is New Again: Preservation as the Modern Sustainable Solution

Mark Huck, AIA, LEED AP

California Office of Historic Preservation

*CAMSA
San Diego, CA*

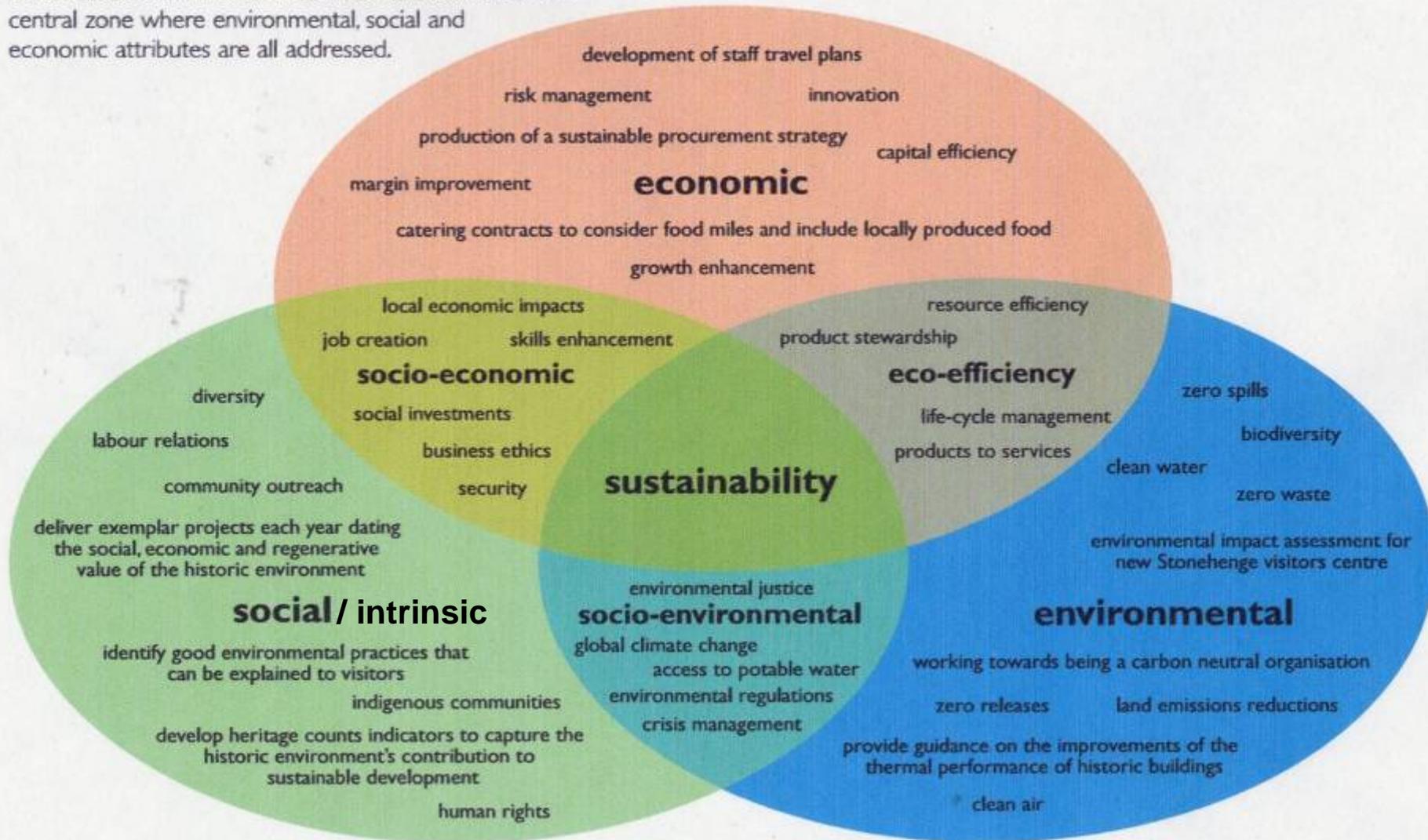
February 22, 2010



HISTORIC RESOURCE AS INTRINSIC VALUE

THE MODEL OF SUSTAINABILITY

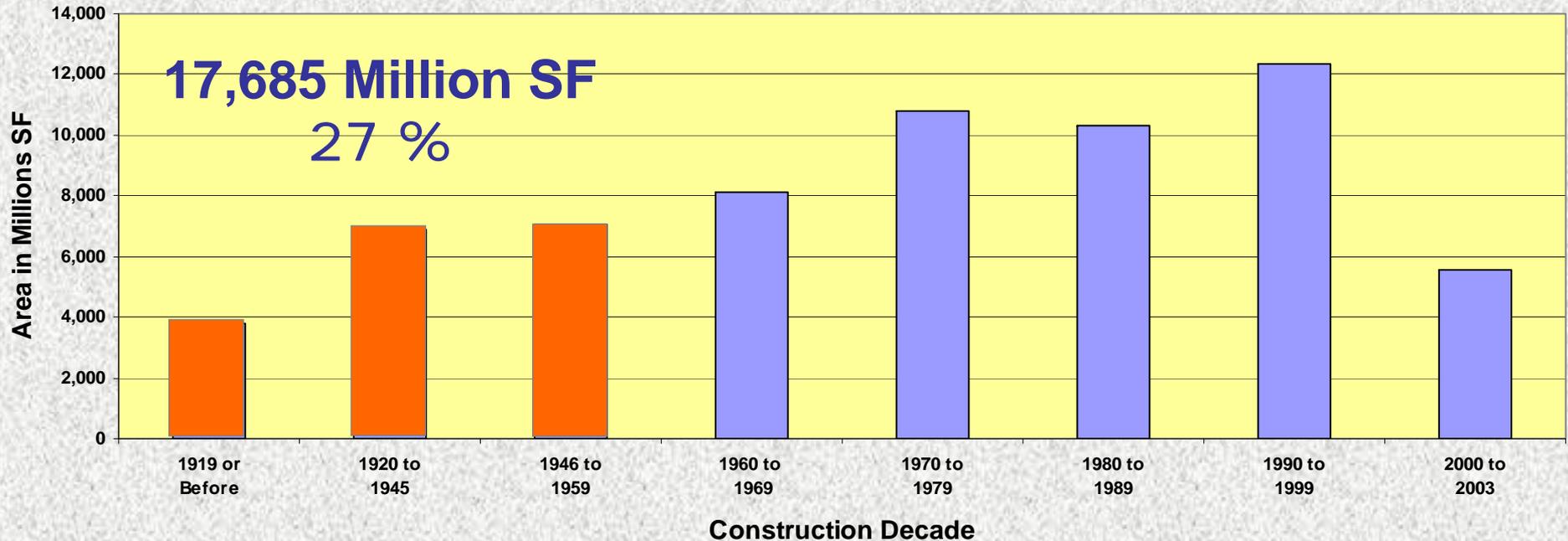
Sustainable conditions are met when decisions sit in the central zone where environmental, social and economic attributes are all addressed.



HISTORIC RESOURCE AS INTRINSIC VALUE

National Historic Building Inventory

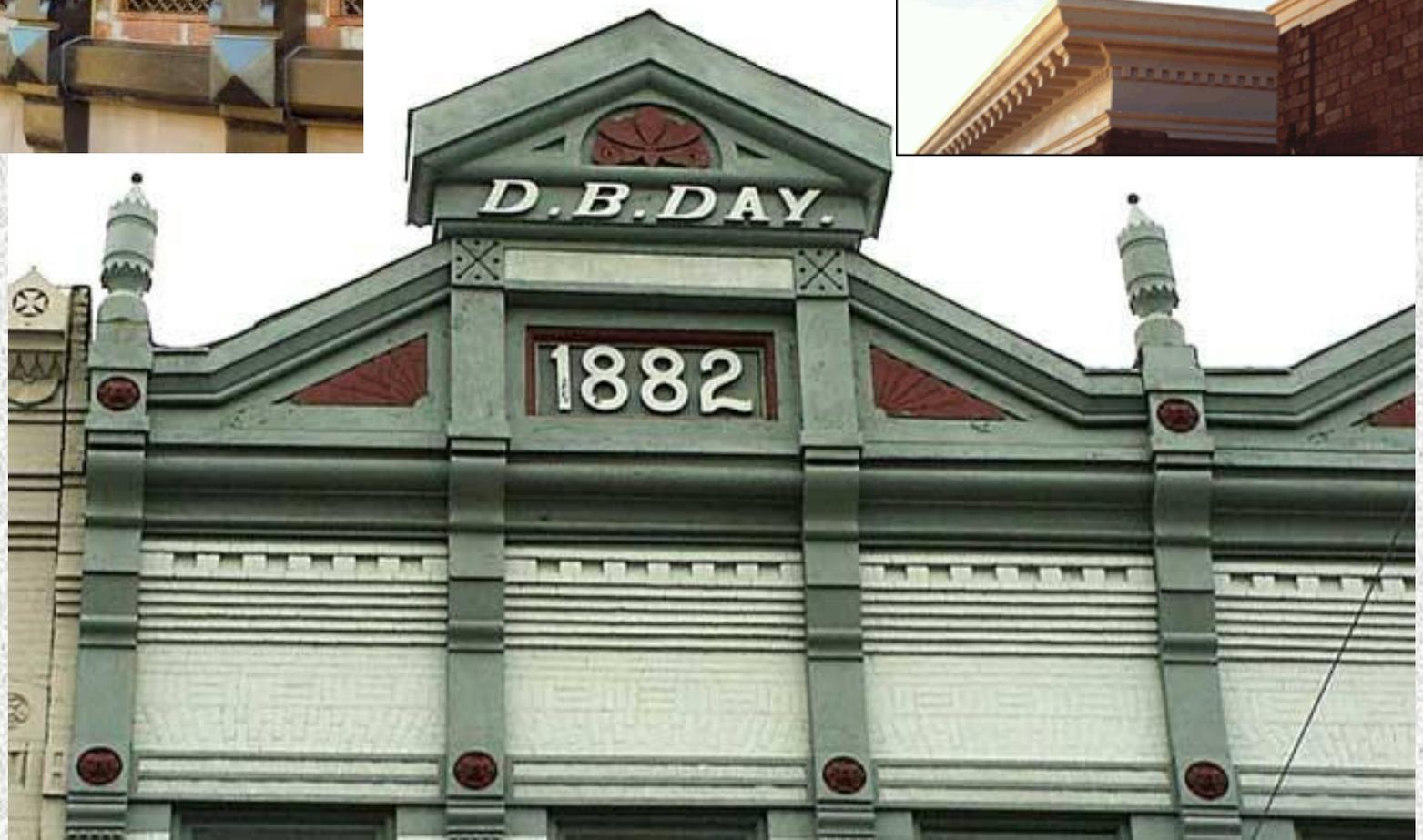
AREA: Non-Residential Buildings



California +/- 21%

Commercial Building Inventory
Department of Energy

HISTORIC RESOURCE AS INTRINSIC VALUE





HISTORIC RESOURCE AS INTRINSIC VALUE



HISTORIC RESOURCE AS INTRINSIC VALUE



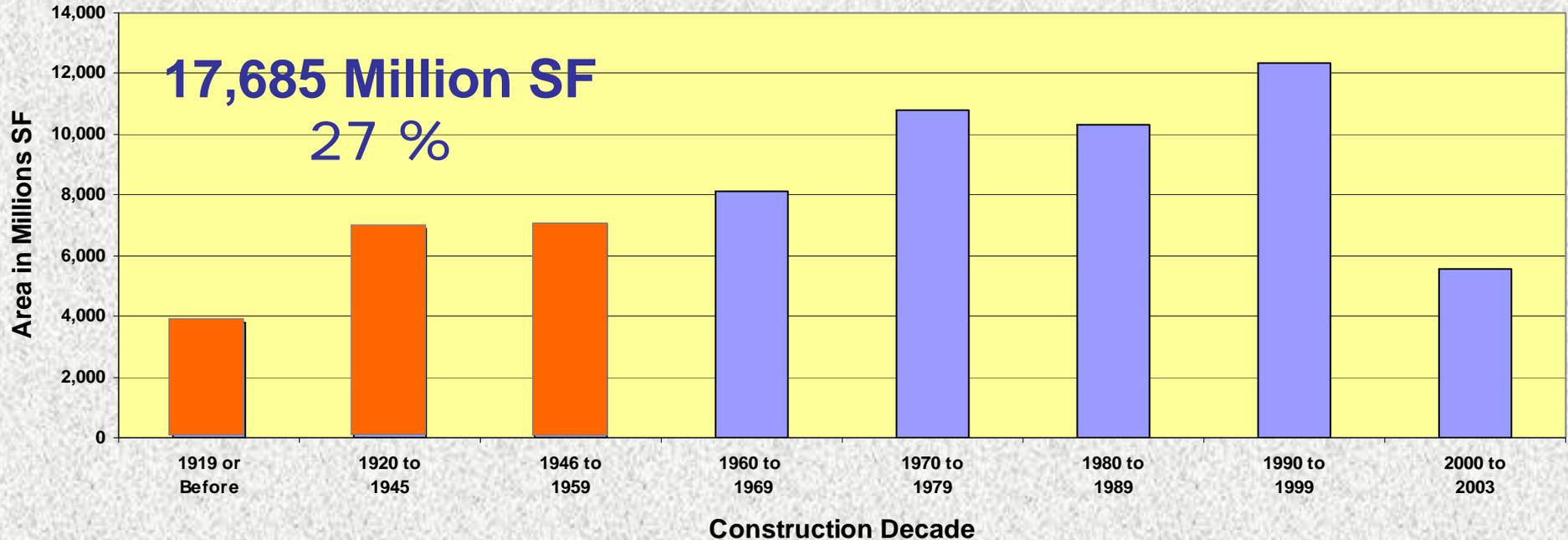
HISTORIC RESOURCE AS INTRINSIC VALUE



HISTORIC RESOURCE AS ENVIRONMENTAL VALUE

National Historic Building Inventory

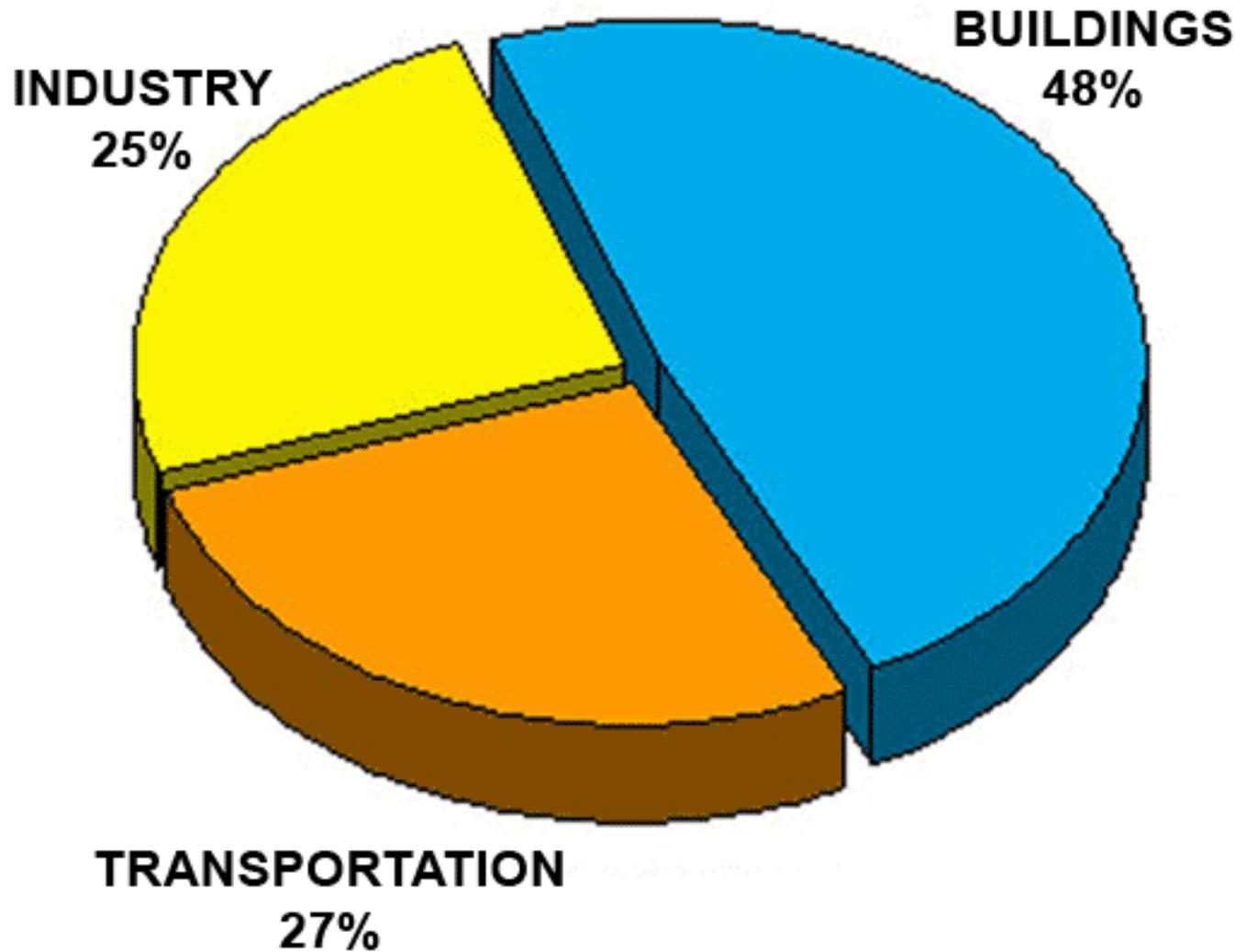
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HISTORIC RESOURCE AS ENVIRONMENTAL VALUE



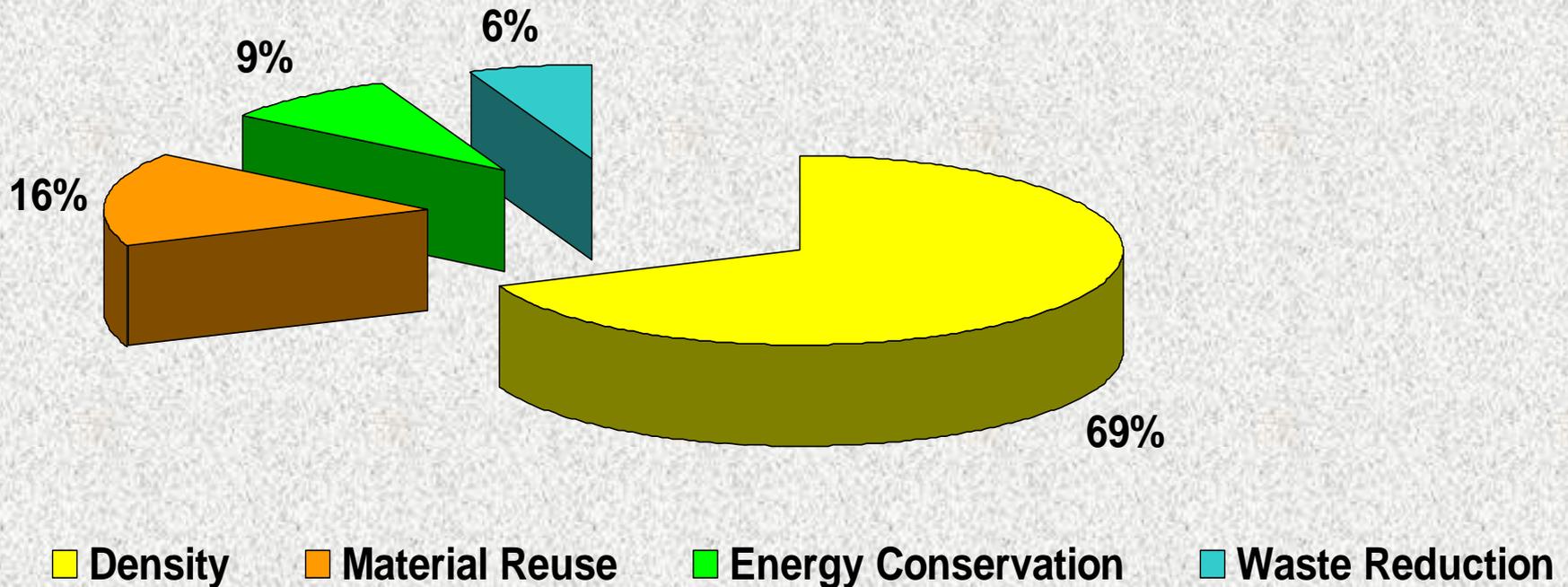
US ENERGY CONSUMPTION

HISTORIC RESOURCE AS ENVIRONMENTAL VALUE

Green Building Climate Calculator

Preliminary Impact of selected parameters on CO₂ contribution

Developed by Build It Green



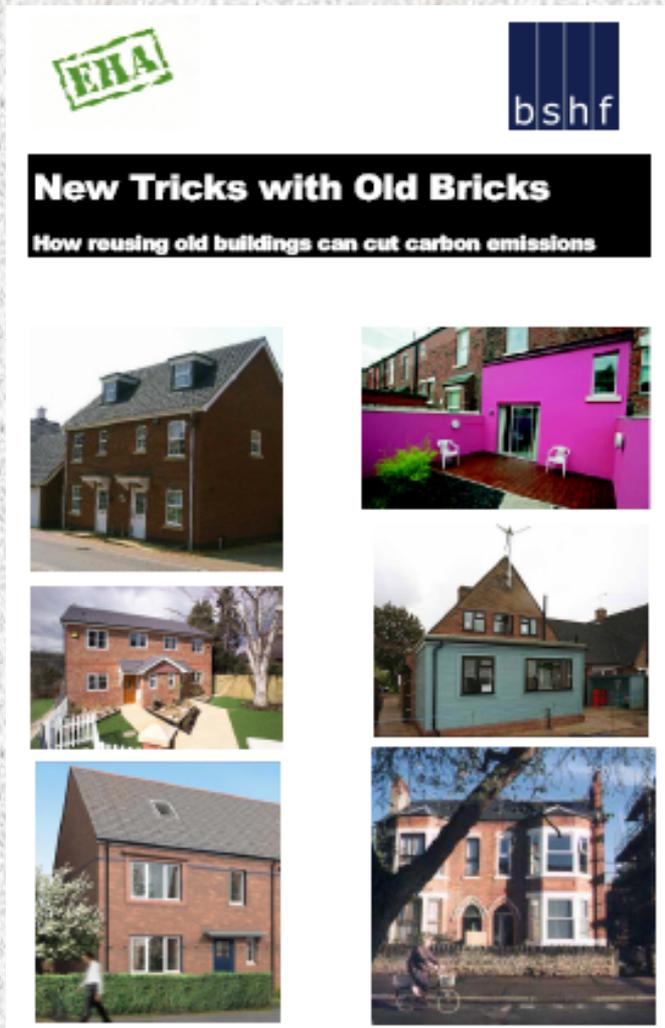
HISTORIC RESOURCE AS ENVIRONMENTAL VALUE



Buildings with zero lot lines, shared party walls and multiple stories have far less exposed perimeter than buildings in more suburban locations.

HISTORIC RESOURCE AS ENVIRONMENTAL VALUE

new tricks with old bricks

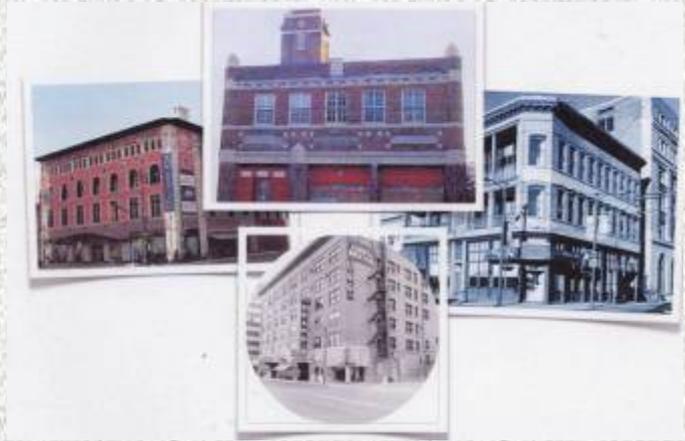


Key finding:
Reusing an existing building has an initial savings of 35 tons of CO² over new construction.
50 Years to recoup before any net energy savings is realized.

www.emptyhomes.com

HISTORIC RESOURCE AS ENVIRONMENTAL VALUE

Parks Canada Study

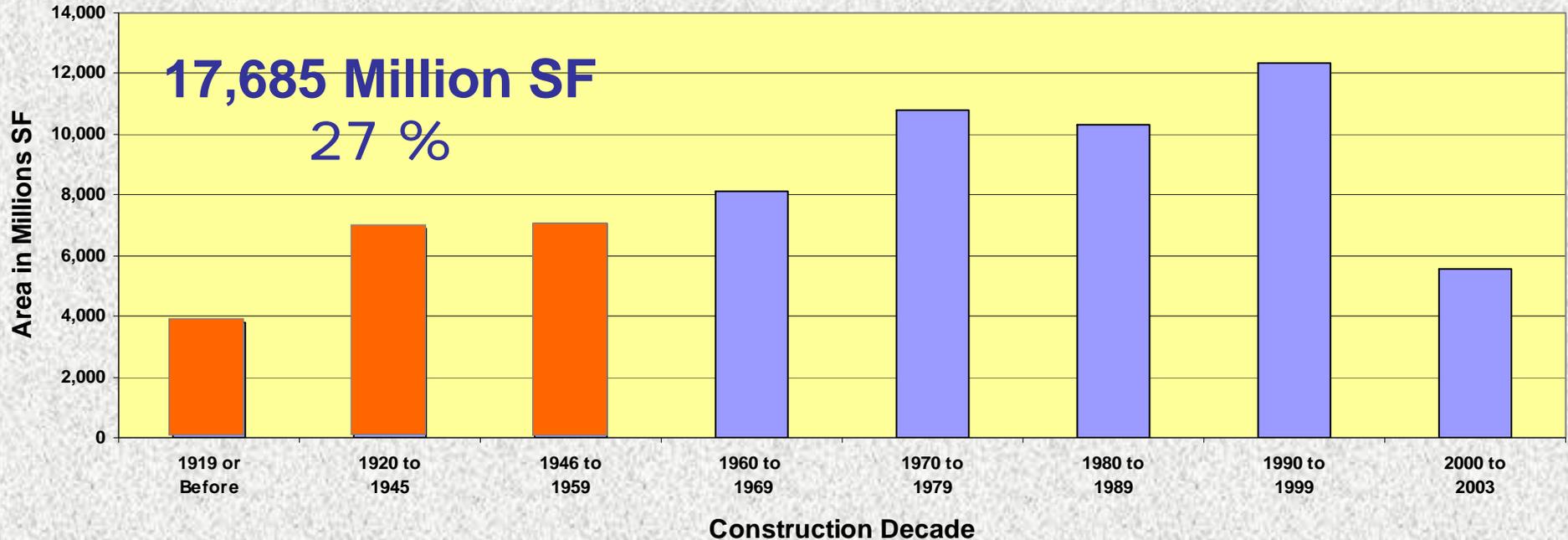


Building	Whole Building Total Avoided Impacts Primary Energy GJ	Total Avoided GWP Impact CO2 equivalent tonnes	Equivalent CO2 Emissions From
Ottawa Parkdale Fire Station	2550151.08	184.76	Energy use of 85.2 homes for one year
Winnipeg Birks Building	27434748	1,561.6	Energy use of 473 homes for one year
Calgary Lougheed Building	41800928	3,449	Energy use of 1,591 homes for one year
Vancouver Chinese Freemasons Building	6766376.8	484.48	Energy use of 224 homes for one year

HISTORIC RESOURCE AS ECONOMIC VALUE

National Historic Building Inventory

AREA: Non-Residential Buildings



California +/- 21%

Commercial Building Inventory
Department of Energy

HISTORIC RESOURCE AS ECONOMIC VALUE

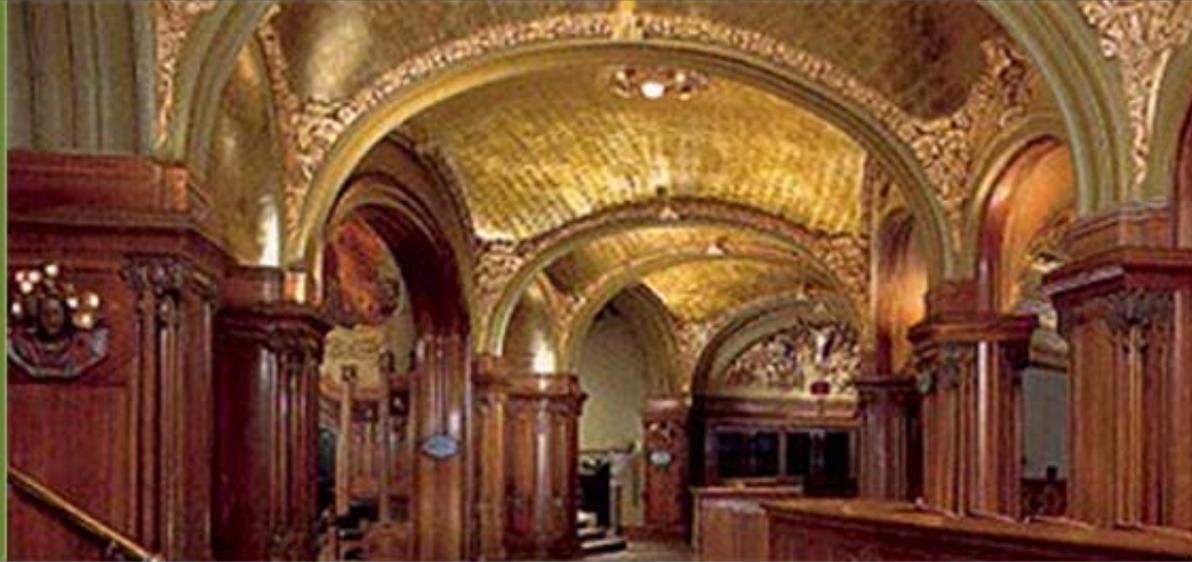
National Park Service

National Park Service
U.S. Department of the Interior



Historic Preservation Tax Incentives

Technical Preservation Services



About the Tax Incentives

PDF format **NEW**

Incentives!

Guide to Federal
Historic Preservation
Tax Incentives Program

The Federal Historic Preservation Tax Incentives program encourages private sector rehabilitation of historic buildings and is one of the nation's most successful and cost-effective community revitalization programs. It generates jobs and creates moderate and low-income housing in historic

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[Standards and
Guidelines](#)

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HISTORIC RESOURCE AS ECONOMIC VALUE



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National Historic
Preservation
Program

Working with
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Tribal Programs

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Impacts of Preservation Tax Credits

The Economic Benefits of State Historic Preservation Investment Tax Credits (2007)

http://www.historichawaii.org/State_Tax_Credit_Rept_Jan20_2008.pdf

This 15-page study of state preservation investment tax credits nationwide was prepared for the Historic Hawaii Foundation as the Hawaii State Legislature was considering creation of a state historic preservation tax credit.

Prosperity Through Preservation: Virginia's Historic Rehabilitation Tax Credit Program (2008)

http://www.dhr.virginia.gov/pdf_files/Prosperity%20through%20Preservation.pdf

This 42-page, full-color, illustrated report summarizes effects of the program after a decade in operation.

Rhode Island Historic Preservation Investment Tax Credit Economic and Fiscal Impact Analysis (2005)

<http://www.ncshpo.org/current/pdfinitiatives/RhodeIsland.pdf>

A 16-page report that discusses employment impact, fiscal impact, the necessity for tax credits, and return on state investment.

State of Maryland Heritage Structure Rehabilitation Tax Credits: Economic and Fiscal Impacts (2002)

Maryland Heritage Structure Tax Credit Program Economic and Fiscal Impacts (2003)

Final Report of the Governor's Task Force on Maryland's Heritage Structure Rehabilitation Tax Credit Program (2004)

Economic and Fiscal Analysis of Changes to the Historic Preservation Tax Credit Program in Maryland (2006)

<http://www.preservemd.org/html/resources.html>

A series of studies of Maryland historic rehabilitation tax credits.

More Studies:

[General Studies](#)

[Statewide Studies](#)

[General Community and Resource Studies](#)

[Impacts of Historic Designation](#)

[Impacts on Property Values](#)

Posted October 9, 2008

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The Perfect Storm



The Perfect Storm

- ▶ [Stimulus 101: What it Means for Preservation](#)
- ▶ [State-by-State Storm Tracker](#)
- ▶ [Weathering the Storm: Case Studies](#)
- ▶ [Historic Preservation as Stimulus](#)
- ▶ [Protecting Places in a Stimulus Environment](#)
- ▶ [Storm Fighter Tool Kit](#)
- ▶ [Other Storm Watchers](#)

Other Public Policy Resources

- ▶ [Advocacy Center](#)
- ▶ [Center for State & Local Policy](#)
- ▶ [Advocacy Partners](#)

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Mills Act

Office of Historic Preservation



Mills Act Property Tax Abatement Program

READ THIS FIRST!

The Mills Act Program is administered and implemented by local governments. Mills Act contracts are between the property owner and the local government granting the tax abatement. OHP is **not** a signatory to Mills Act contracts.

Each local government establishes their own criteria and determines how many contracts they will allow in their jurisdiction. For answers to specific questions such as local eligibility criteria, application procedures, and contract terms, contact the city or county official for your jurisdiction.

GENERAL MILLS ACT QUESTIONS and ANSWERS

Q: *My property or a property I am considering buying is already under a Mills Act contract. What does that mean to me as a property owner?*

Mills Act Staff Contact

[Shannon Lauchner](#)

Mills Act/CLG Coordinator

State Historian II

916-653-5649

AB 811

- Assembly Bill 811 was signed into law by Governor Schwarzenegger in July of 2008. It amends Chapter 29 of the 1911 Assessment Act.
 - It allows cities and counties to create AB 811 Assessment Districts, land-secured finance districts that provide the upfront cost of solar installations and energy efficient improvements through financing provided by the sale of Clean Energy Bonds.
 - Loans are repaid by property owners over 20 years through a new line item on participants' property tax bills. In the event the property is sold, the loan stays with the property.
- Only property owners within an Assessment District who choose to participate receive loans. Property tax expense remains unchanged for those not participating.

www.walkscore.com

Walkscore is a planning and marketing tool that provides a rating for pedestrian access to essential goods and services.

SACRAMENTO'S MOST walkable neighborhoods

[Prev City](#) | [Next City](#) | [View All](#)

Neighborhood	Score
1 Richmond Grove	95
2 Downtown	94
3 Midtown	94
4 Boulevard Park	92
5 Marshall School	89
6 Poverty Ridge	89
7 Mansion Flats	89
8 Southside Park	88
9 Alkali Flat	85
10 Old North Sacramento	82
11 Newton Booth	82
12 North Oak Park	80
13 New Era Park	79
14 Point West	78
15 Curtis Park	78
16 Richards	76
17 Medical Center	76
18 Woodlake	75
19 Swanston Estates	74
20 Elmhurst	74

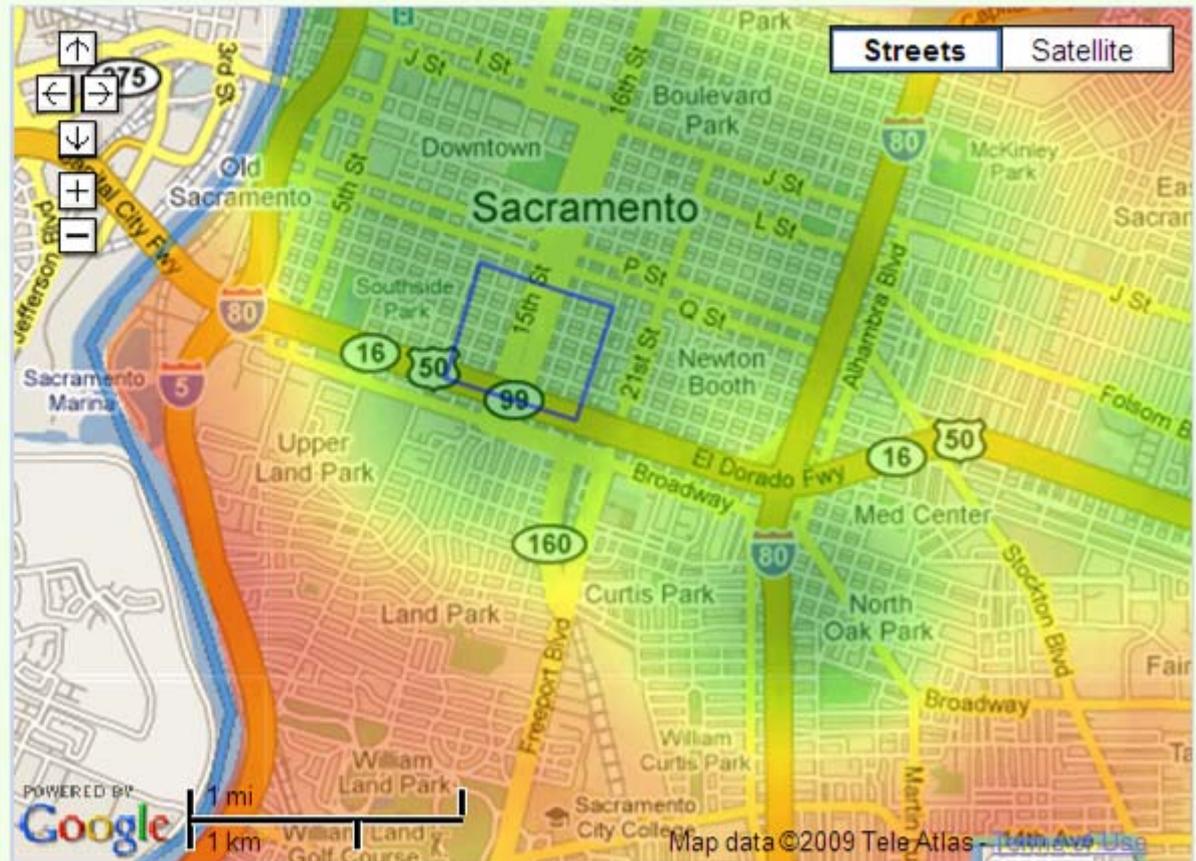


#1 Richmond Grove

Walk Score: 95

Population: 2,251

Walk Score Distribution



Right-click to get Walk Score (Ctrl-Click on Mac)

[View Big Map](#)

www.walkscore.com

Walkscore is a planning and marketing tool that provides a rating for pedestrian access to essential goods and services.

How It Works

Walk Score calculates the walkability of an address based on the distance from your house to nearby amenities. Walk Score measures how easy it is to live a car-lite lifestyle—not how pretty the area is for walking.

Walk Score uses a patent-pending system to measure the walkability of an address. The Walk Score algorithm awards points **based on the distance to the closest amenity in each category**. If the closest amenity in a category is **within .25 miles (or .4 km)**, we assign the maximum number of points. The number of points declines as the distance approaches 1 mile (or 1.6 km)—**no points are awarded for amenities further than 1 mile**. Each category is weighted equally and the points are summed and normalized to yield a score from 0–100. The number of nearby amenities is the leading predictor of whether people walk.

How It Doesn't Work: Known Issues with Walk Score

We'll be the first to admit that Walk Score is just an approximation of walkability. There are a number of factors that contribute to walkability that are not part of our algorithm:

- Street width and block length:** Narrow streets slow down traffic. Short blocks provide more routes to the same destination and make it easier to take a direct route.
- Street design:** Sidewalks and safe crossings are essential to walkability. Appropriate automobile speeds, trees, and other features also help.
- Safety from crime and crashes:** How much crime is in the neighborhood? How many traffic accidents are there? Are streets well-lit?
- Pedestrian-friendly community design:** Are buildings close to the sidewalk with parking in back? Are destinations clustered together?
- Topography:** Hills can make walking difficult, especially if you're carrying groceries.
- Freeways and bodies of water:** Freeways can divide neighborhoods. Swimming is harder than walking.
- Weather:** In some places it's just too hot or cold to walk regularly.

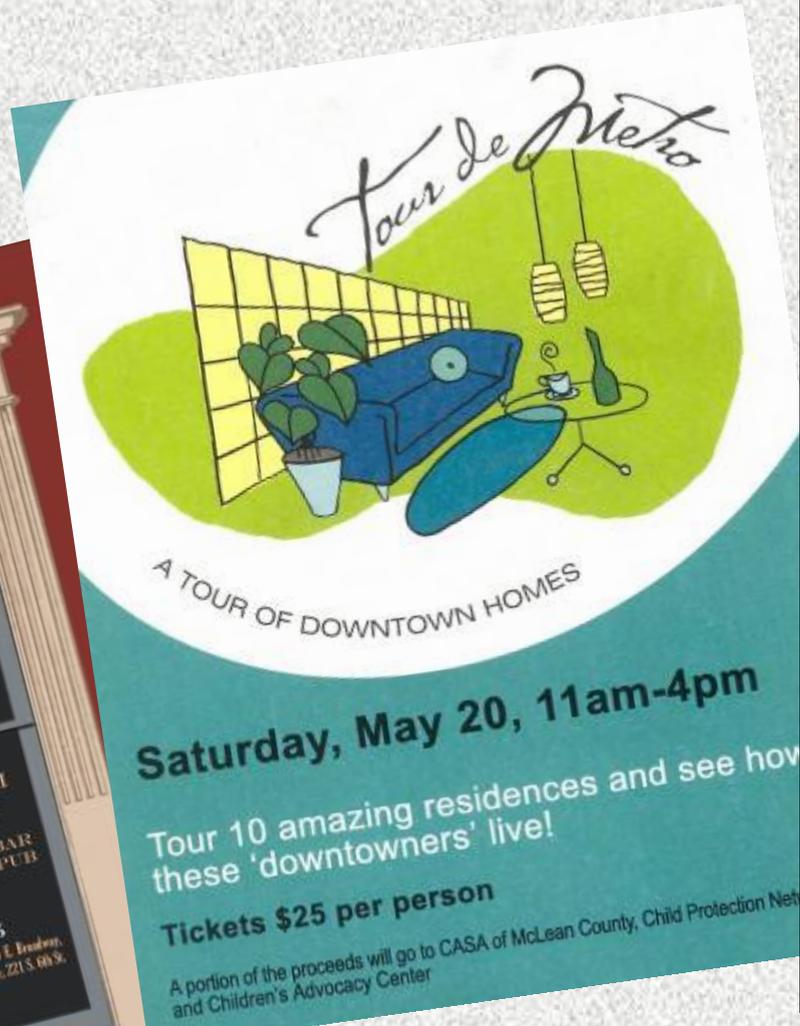
Building Tours



Downtown Springfield
Upper Story
APARTMENT TOUR
FRIDAY, MAY 17th
4pm-7pm

RECEPTION 6PM
AT
"11 WEST"
THE NEW MARTINI BAR
NEXT TO MARLY'S PUB

TICKETS \$5
Available in advance at DSI office, 200 E. Broadway,
or the day of the tour at City Arts Venue, 221 S. 6th St.



Tour de Metro

A TOUR OF DOWNTOWN HOMES

Saturday, May 20, 11am-4pm

Tour 10 amazing residences and see how these 'downtowners' live!

Tickets \$25 per person

A portion of the proceeds will go to CASA of McLean County, Child Protection Network and Children's Advocacy Center



UP

Downtown is looking

Downtown Springfield, Inc.
7th Annual Upper Story Tour

Thursday, May 4, 2006
4:30pm to 7:30pm

Reception at the Inn at 835
835 S. Second Street

Sponsored by Conn's Catering & Events
Illinois Times

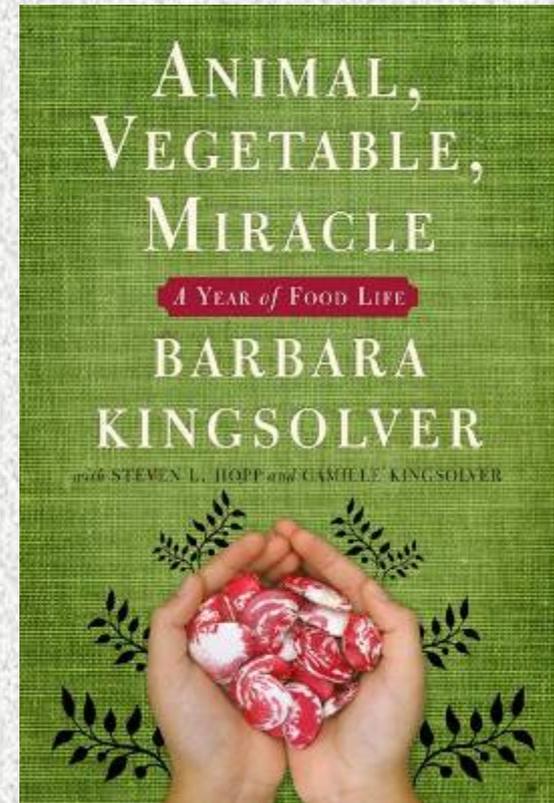
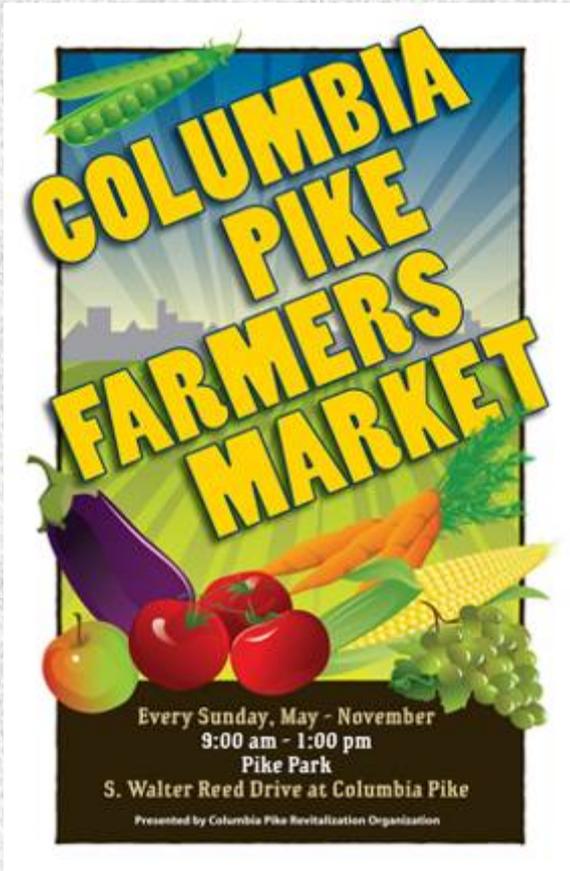
\$5 for members
\$7 for non-members

Tickets available in advance at DSI office
and during the tour at the Buck's Building.

For more information:
217.544.1723
www.downtownspringfield.org

Locavore:*

The future is more local



*2007 word of the year

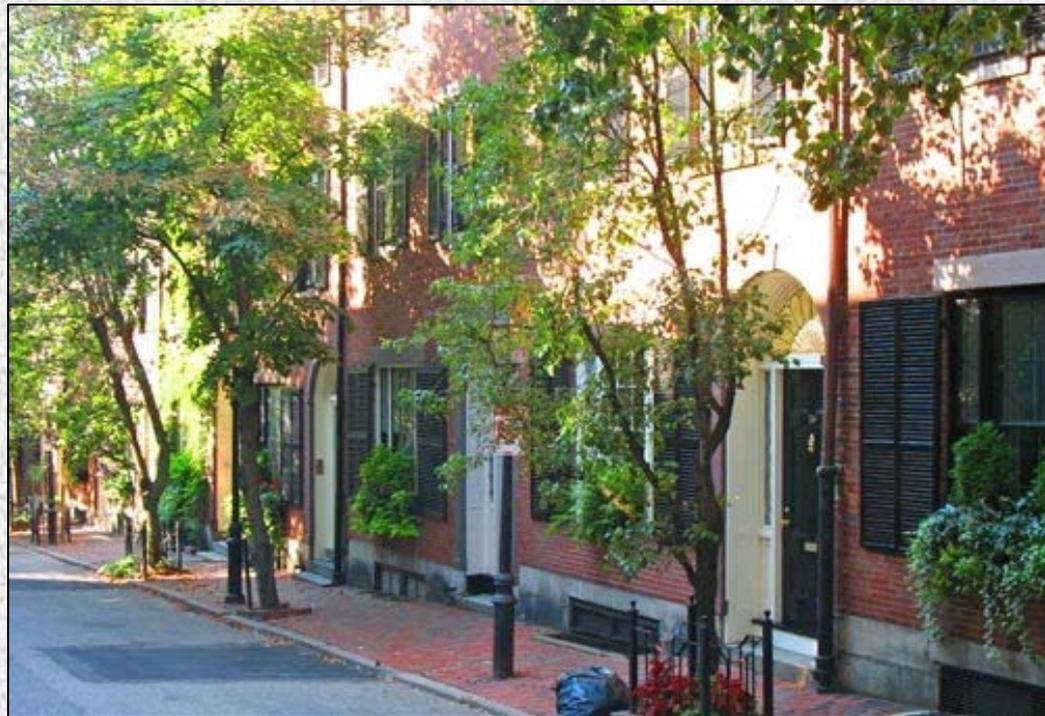
Historic downtown districts have compact land use



Historic downtown district street furniture



Historic downtown district landscaping



Historic downtown districts Wi Fi



The screenshot shows the Houston WiFi website. At the top left is the "HOUSTON WiFi" logo. A navigation bar contains links for "Home", "Access Locations", "Help Center", "About Houston WiFi", and "News". The main banner features a city skyline and a green box with the text: "DOWNTOWN is now the best place for FREE Outdoor Wireless ACCESS!". Below the banner are three columns: "What is Houston WiFi?" with a photo of a man using a laptop and text about the pilot program; "Access Locations" with an icon of people and a Wi-Fi symbol; and "Sponsored By" with logos for the City of Houston and City of Houston Parking Management. A "Help Center" section with a laptop icon is also visible.

What is Houston WiFi?



The City of Houston and Downtown District are partnering to launch a free WiFi pilot program. We hope you will take advantage of this service and if successful, FREE WiFi will become a permanent amenity to downtown workers, residents and visitors!

Connecting is easy.

Access Locations



Help Center



Sponsored By



City of Houston



City of Houston
Parking Management

CEQA AND GENERAL PLANS

ENFORCEABLE MEASURES TO MITIGATE GREENHOUSE GASSES TO BE INCORPORATED INTO GENERAL PLANS

SACRAMENTO 2030 GENERAL PLAN

PUBLIC REVIEW DRAFT

May 2008

GENERAL PLAN POLICIES ADDRESSING CLIMATE CHANGE

APPENDIX
B

HISTORIC AND CULTURAL RESOURCES

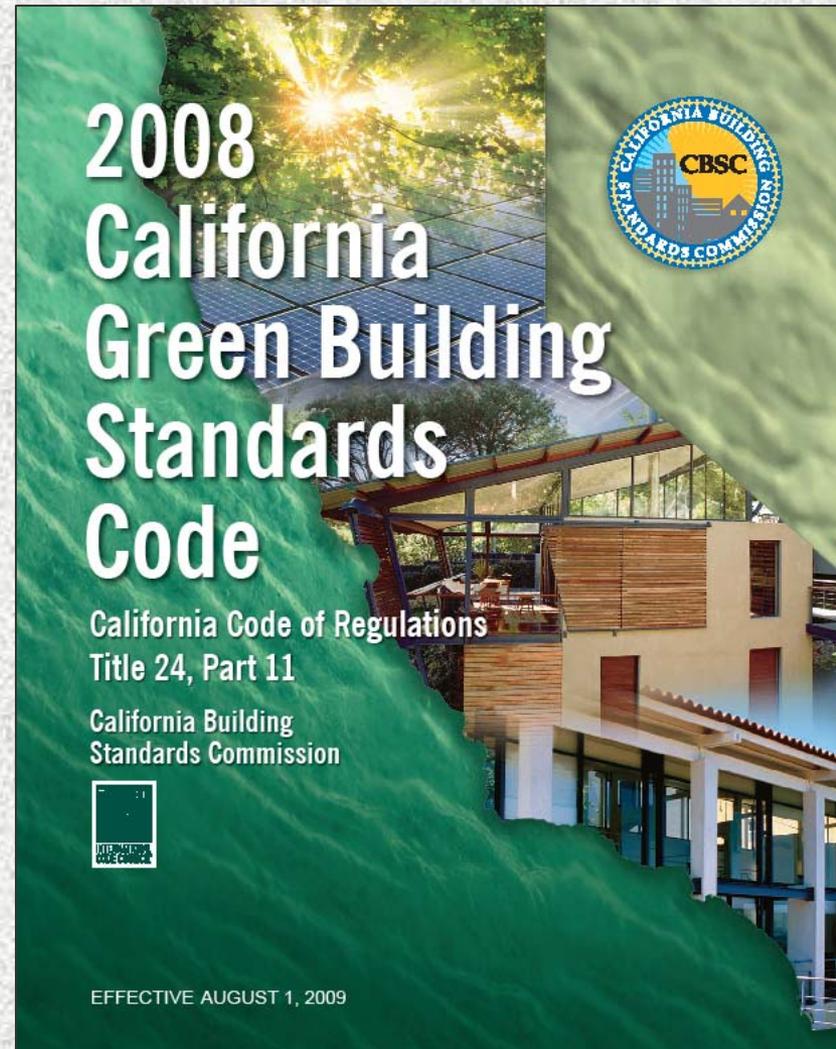
The City of Sacramento recognizes the importance of its historic and cultural resources, which create a distinct sense of place for residents and visitors, as well as tell the story that uniquely differentiates Sacramento from all other cities. These resources reflect the earliest days of prehistoric and historic settlement along the Sacramento and American rivers, the city's role as a catalyst for the Gold Rush and as a key center of the western expansion of the United States, and establishment of the city as California's state capital. Preservation of historic and cultural resources is important because cities with distinctly identifiable places and history are generally more livable for residents and more attractive to new businesses that sustain the economy. Preservation and adaptive re-use of historic structures also promote sustainability by reducing the need for new construction materials.

STOCKTON WAS CITED BY A.G. FOR FAILING TO ADDRESS GREENHOUSE GAS REDUCTION IN A 'MEANINGFUL AND CONSTRUCTIVE MANNER' IN JANUARY 2008

Green Code Overview Title 24 Part 11

• occupancy

- State buildings
- UC, CSU, & CCC
- Existing State-owned Buildings
- Unreinforced masonry Bearing Wall Buildings
- Hotels, Motels, Lodging
- Apartments, condominiums
- Dwellings
- Shelters
- Factory built housing
- Public elementary schools
- Public secondary schools
- Community colleges
- Acute care hospitals
- Acute psychiatric hospitals
- Skilled nursing facilities
- Intermediate care facilities



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- Acute psychiatric hospitals
- Skilled nursing facilities
- Intermediate care facilities
- Qualified Historical Buildings, structures and sites

- agency

BSC

HCD

DSA

OSHPD

SHBSB

- section

103

104

105

106

reserved

Green Code Overview Title 24 Part 11

• Chapters

- Chapter 1 – ADMINISTRATION
- Chapter 2 – DEFINITIONS
- Chapter 3 – GREEN BUILDING
- Chapter 4 – PLANNING AND DESIGN
- Chapter 5 – ENERGY EFFICIENCY
- Chapter 6 – WATER EFFICIENCY AND CONSERVATION
- Chapter 7 – MATERIAL CONSERVATION AND RESOURCE EFFICIENCY
- Chapter 8 – ENVIRONMENTAL QUALITY
- Chapter 9 – REFERENCED STANDARDS
- Chapter 10 – INSTALLER AND THIRD PARTY QUALIFICATIONS
- Chapter 11 – APPLICATION MATRICES AND WORKSHEETS

- Appendix A – COMMENTARY OF ADDITIONAL DESIGN

Green Code Overview Title 24 Part 11

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- section

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RECO – Residential Energy Conservation Ordinance

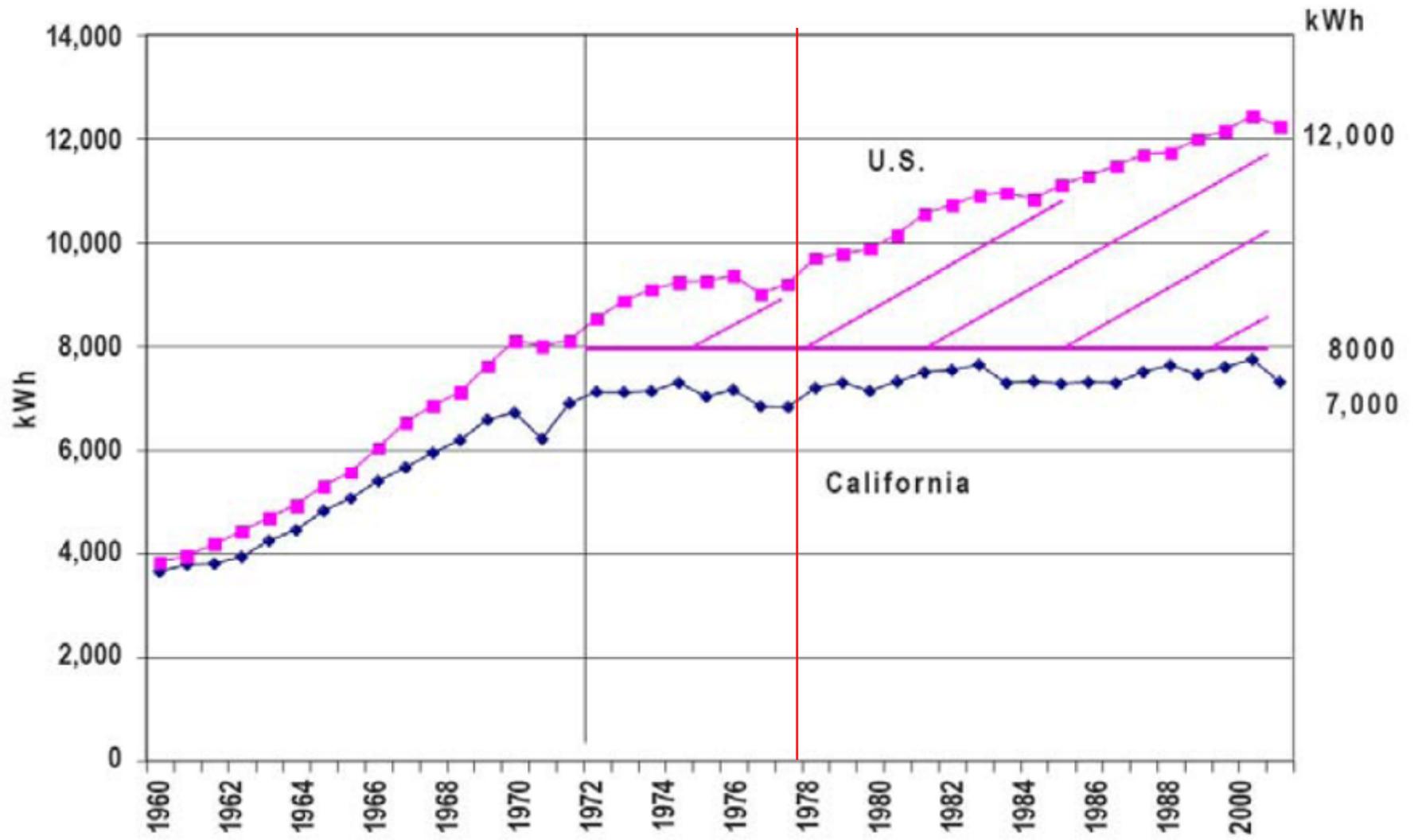
CECO – Commercial Energy Conservation Ordinance

- Adopted in 1985 with the intent of increasing the energy and water efficiency in existing Berkeley buildings. 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/CECO apply?** It applies to all homes, residential areas of mixed-use buildings, tenants-in-common, condominiums, multi-family properties, live-work spaces, boarding houses, retail and office buildings
- **Renovation Trigger:** All buildings undergoing renovations with a combined permit value of \$50,000 or more **must** demonstrate compliance with RECO/CECO requirements
- **Sale or Transfer of Property Trigger:** All buildings, sold or transferred **must** demonstrate compliance with RECO/CECO requirements by being inspected and filing a form with the City of Berkeley.

PAST CALIFORNIA ENERGY EFFICIENCY POLICIES

Figure ES-2

Total Electricity Use, per capita, 1960 - 2001



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 for LEED MR3, MR4, MR5, MR6, or MR7; two credits in 2012.
- Additional points or credits are granted for retention and in-situ reuse or restoration of certain character-defining features that conform to the [Secretary of the Interior's Standards](#).
- Exemptions are granted if the Director determines that compliance would impair the structure's integrity.

2007 California Historical Building Code

California Code of Regulations
Title 24, Part 8

California Building
Standards Commission



Title 24 Part 8

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.

Certifying green



Planning, **buildings**, products, programs

Green Building Rating Systems

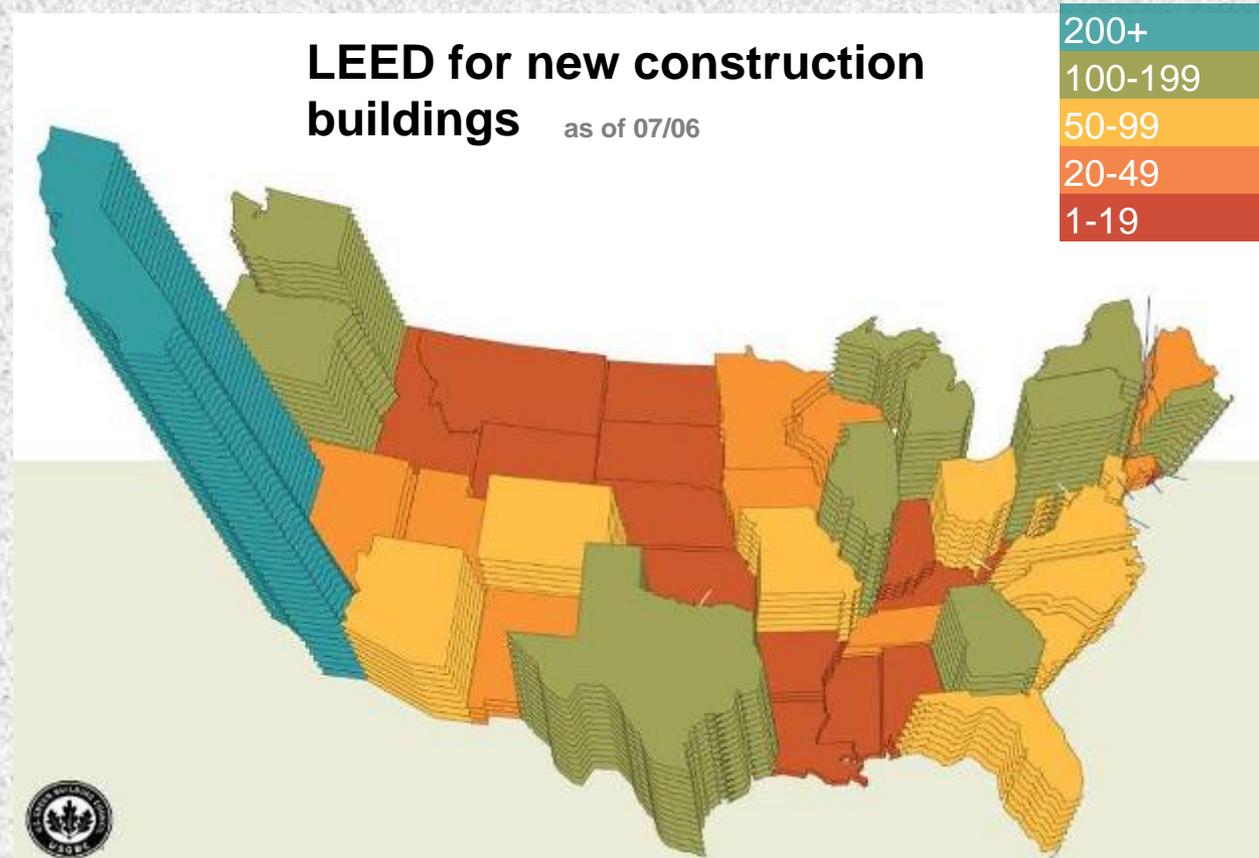
LEED

U.S. Green Building Council

www.usgbc.org



**Green
Rating
Systems**



CALIFORNIA LOCAL GOVERNMENT MEMBERS OF USGBC in March 2007

Alameda County Waste Management

City of Alameda

City of Berkeley

City of Beverly Hills

City of Burbank/ Building Division

City of Calabasas

City of Claremont

City of Costa Mesa Development Services

City of Emeryville

City of Encinitas

City of Fremont

City of Huntington Beach

City of Irvine

City of Livermore

City of Long Beach

City of Los Angeles

City of Lynwood

City of Monterey

City of Oakland

City of Palm Desert

City of Palo Alto

City of Pasadena

City of Pleasanton

City of Rohnert Park

City of Sacramento

City of San Diego

City of San Jose

City of San Leandro

City of Santa Barbara

City of Santa Monica

City of Santa Rosa Utilities Department

City of Santa Rosa

City of Sunnyvale

City of Ventura

County of Alameda

County of Sacramento

County of San Mateo Department of Building
Inspection

Goleta Water District

Los Angeles County

Port of Oakland

Port of San Diego

SF Bay Area Rapid Transit District

San Gabriel River Discovery Center

Cities in red are Main Street Communities

Cities in green are Certified Local Governments

CALIFORNIA LOCAL GOVERNMENT MEMBERS OF USGBC added by March 2008

City of Salinas

City and County of San Francisco

City of Lodi

City of Rocklin

City of Seaside

City of Thousand Oaks

Consumnes Community Services District

Barona Band of Mission Indians

Central Contra Costa Sanitary District

Centre City Development Corporation

Los Angeles Convention Center

Los Angeles World Airports

Monterey Regional Waste Management District

Ontario Redevelopment Agency

Palm Desert Redevelopment Agency

37% increase in one year

CALIFORNIA LOCAL GOVERNMENT MEMBERS OF USGBC added by July 2009

County of Alameda

City of Gilroy

County of Riverside

City of Sonoma

City of Albany

City of Healdsburg

County of San Bernardino

City of Stockton

City of Anaheim

City of Los Altos

County of San Mateo

City of Temecula

City of Brisbane

City of Los Altos Hills

City of San Rafael

City of Union City

City of Campbell

City of Monte Sereno

City of Santa Clara

City of Ventura

City of Cupertino

City of Napa

City of Santa Clarita

City of West

City of Dublin

City of Newark

City of Santa Cruz

Hollywood

City of El Segundo

City of Richmond

City of Solana Beach

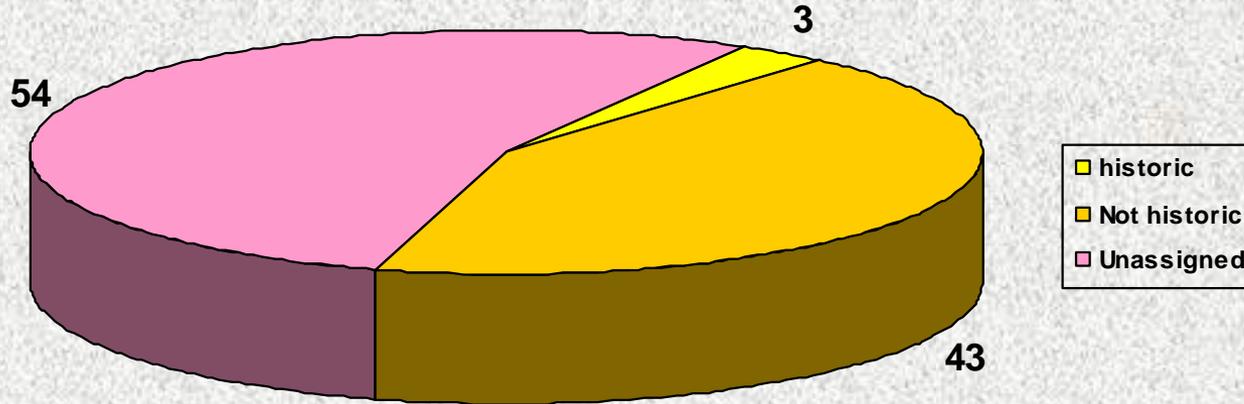
City of Windsor

53% increase over last two years

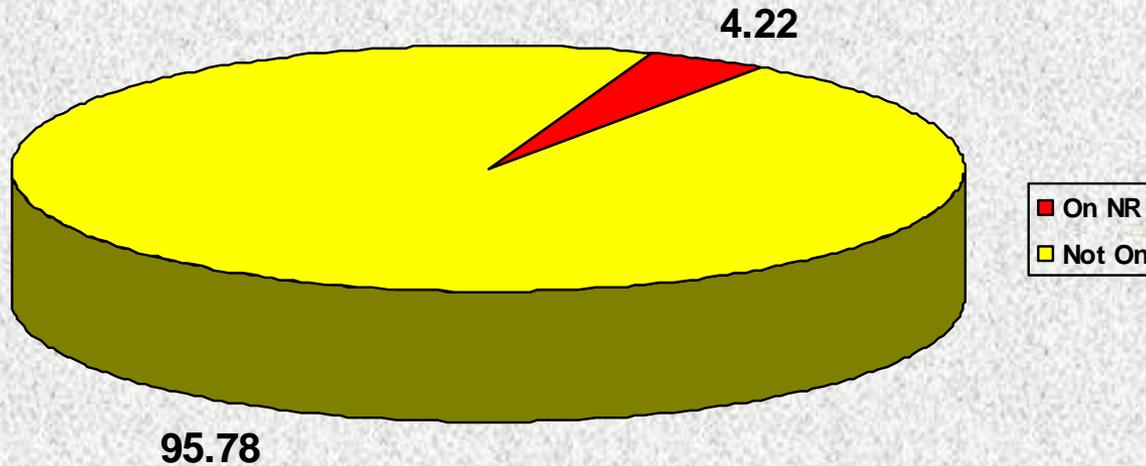
Cities in **red** are Main Street Communities

Cities in **green** are Certified Local Governments

LEED Projects Nationally



LEED historic sites



LEED historic sites on N.R.

Source: USGBC LEED Project List – PUBLIC (2-1-08).xlsx

Build It Green



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Livable Communities

Energy Efficiency

Indoor Air Quality

Resource Conservation

Water Conservation

Safe, pleasant and healthy homes

GREEN BUILDING BENEFITS



TOOLS & RESOURCES



TRAININGS & EVENTS



COUNCILS & GUILDS



Spotlight



[GreenPoint Rated](#)



[Professional Training](#)

Who we are

Build It Green is a non-profit membership organization whose mission is to promote healthy, energy- and resource-efficient building practices in California. We work with mainstream stakeholders in the housing industry to accelerate the adoption of green building practices.

--> [Learn more about Build It Green.](#)

Build It Green is pleased to launch our new &



Explore GreenPoint Rated



News &

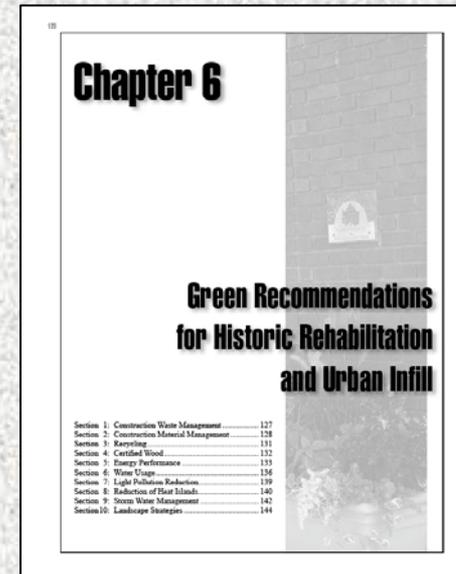
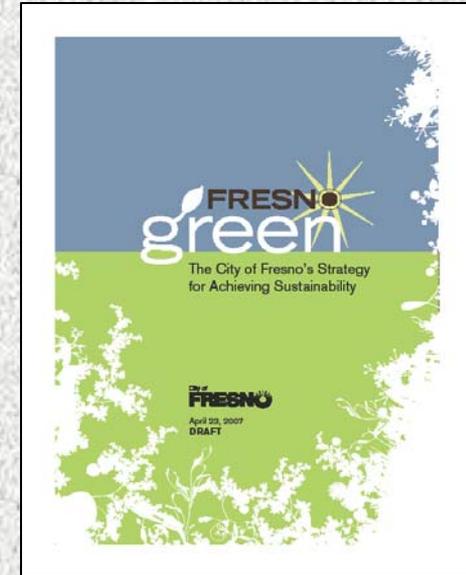
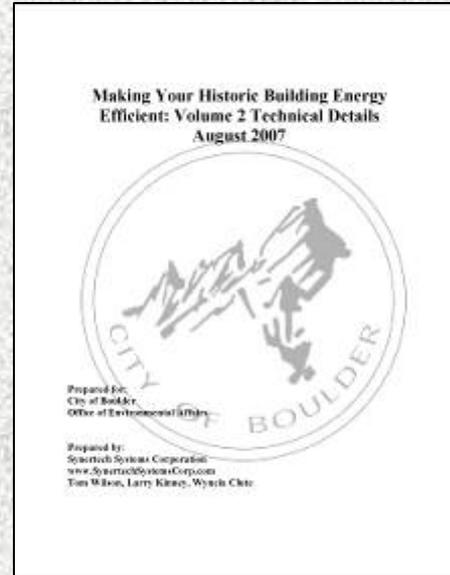
California Building Performance
Contractors Association

cbpca



Voluntary Policies

- **Model Local Standards**
 - **Wabash Valley (IN) Chapter 6**
 - **Fresno Green Guidelines**
 - **Boulder Guidelines**



MATERIALS RESOURCES

breeam ecohomes



“any existing element in the building that is reused in-situ will automatically get an A rating, as the environmental impact of replacing that element is far greater than reusing the element already in place.”

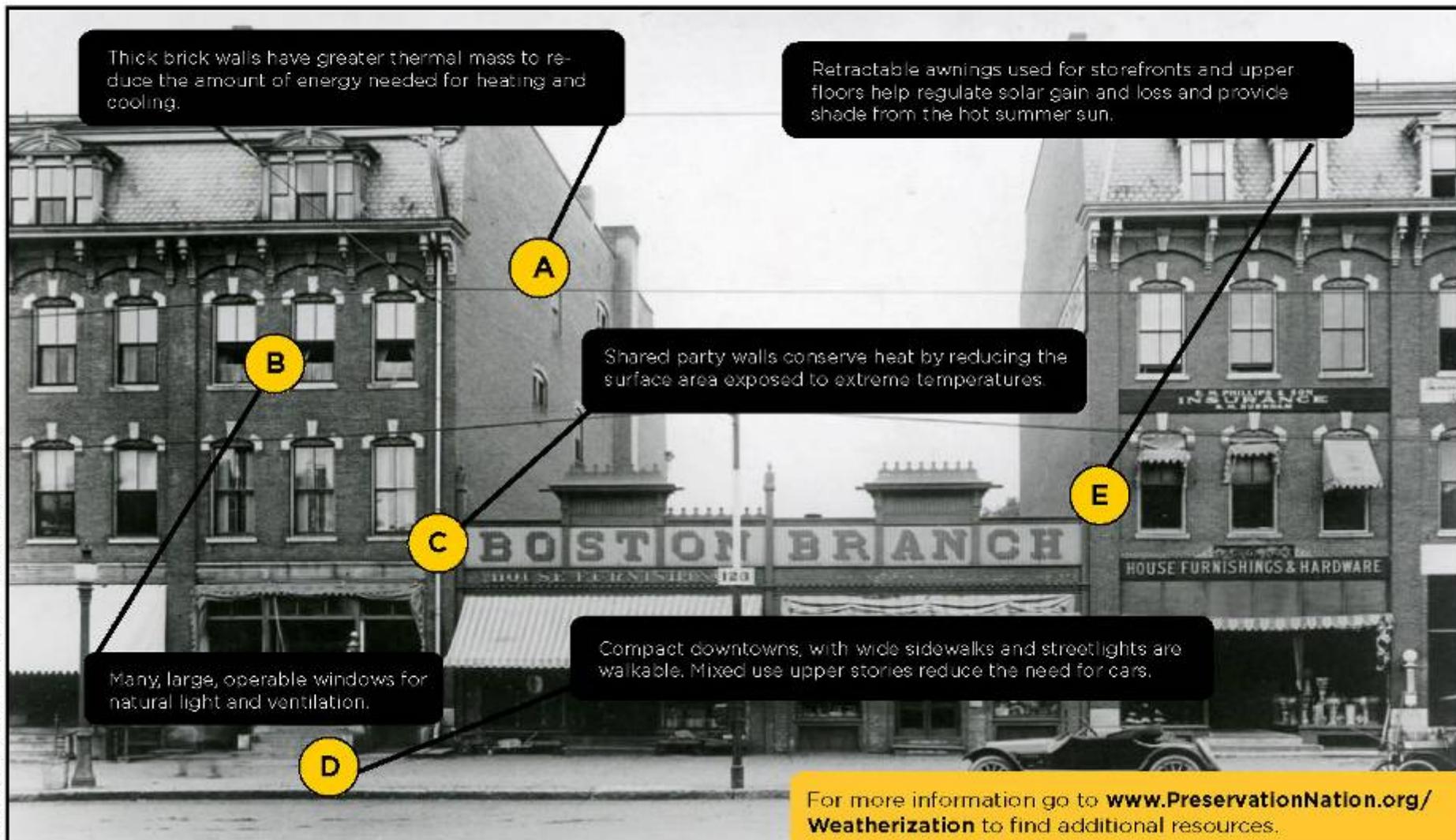
The greenest material is the one that already exists!

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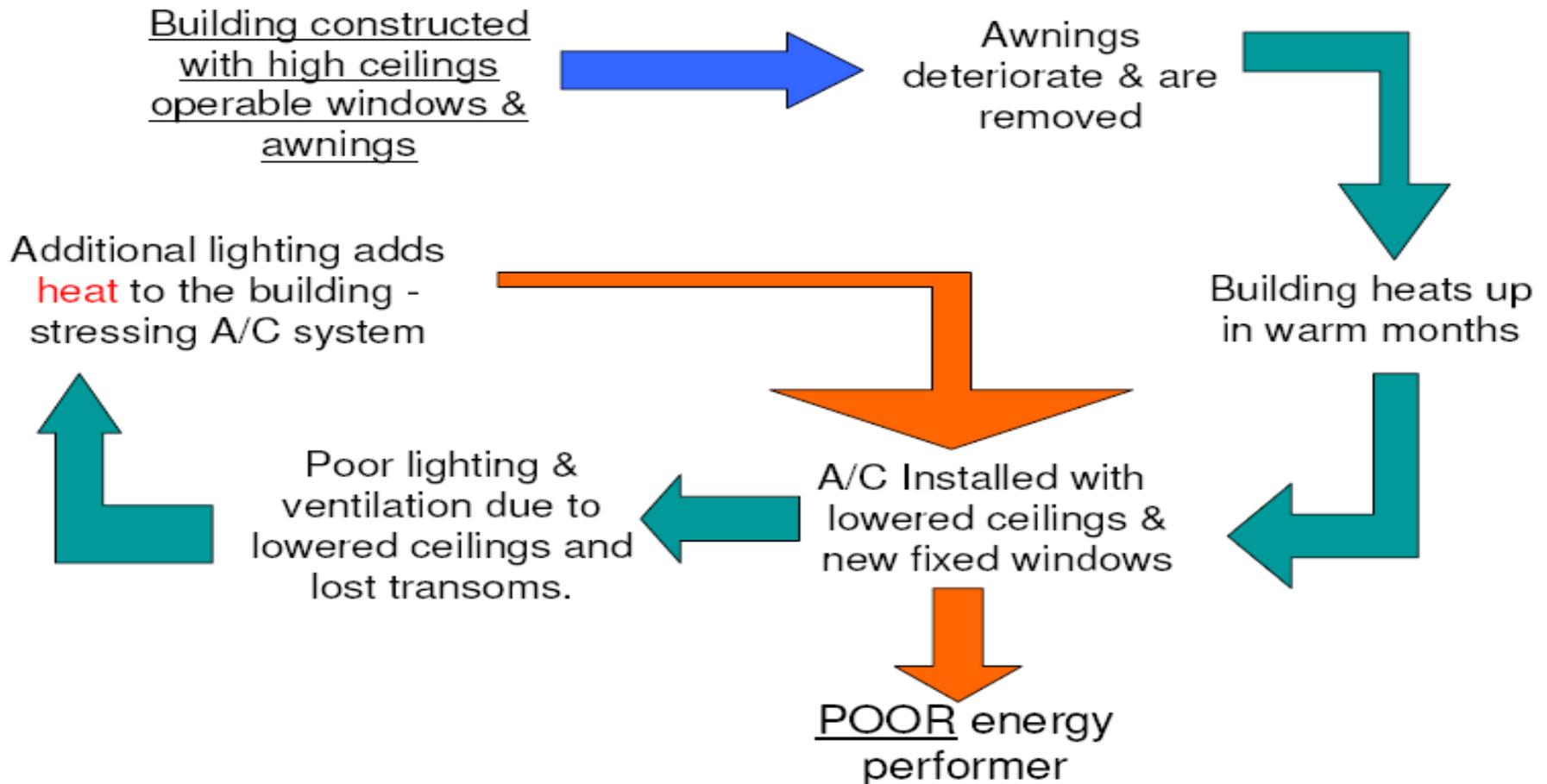
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July 30, 2009

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 efficiency improvements whose long-term savings would outweigh the initial costs. It did not consider the potential environmental benefits of cutting energy use.

The report acknowledged substantial barriers to achieving the savings, foremost among them the initial costs. The \$52 billion annual investment envisioned by McKinsey is four or five times more than the nation currently spends on energy efficiency, and would have to be maintained over a decade. The economic stimulus package passed in February barely makes a dent; by McKinsey's estimate, it contains \$10 billion to \$15 billion in spending on energy efficiency.

Some home or business owners may not have the money to finance efficiency improvements, even if they would pay off in the long run. Other barriers include inertia (a homeowner may simply not feel like replacing an old air-conditioner); and poorly aligned incentives (a landlord who does not pay the electric bill has no

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Sacramento firm hopes efficient air conditioner heats up market

By Jim Downing
jdowning@sacbee.com

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Published: Tuesday, May 19, 2009 - 12:00 am | Page 1B

Here's a bit of innovation sparked by the bad economy: the ultra-efficient AquaChill air conditioner, which Sacramento's Beutler Corp. is now bringing to market.

For the 62-year-old climate-control contractor, it's part of a move to grab a piece of the green tech market. The sector is getting billions in



MANNY CRISOSTOMO mcrisostomo@sacbee.com
Beutler Corp. employees work on AquaChill air conditioners at the company's warehouse Monday. Reeling from the housing bust, the company is trying to reinvent itself by making the water-cooled units based on an update of a design last mass-produced decades ago. Proponents say the technology makes most sense

Living Here

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Surviving Recession: Some Sacramentans ditch the AC

By Anita Creamer
acreamer@sacbee.com

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Published: Tuesday, Sep. 1, 2009 - 12:00 am | Page 2B

Last Modified: Tuesday, Sep. 1, 2009 - 1:57 pm



LEZLIE STERLING / lsterling@sacbee.com

Kara Dobrinski draws the curtains in her Elmhurst home to keep it cooler in the summer heat. She and her husband also leave their air conditioner off to keep their utility bills down. The current economic downturn, she says, "is a great time to be more frugal and live below your means."

One in an occasional series to help guide you through economic troubles

Kara Dobrinski doesn't like to use the air conditioner, because she doesn't want to pay sky-high electricity bills. That's why she sipped a big

The Unchilled Life



LOCAL WARNING Lisa Finkstein lives without air-conditioning in her Folsom cottage, mostly for economic reasons. "It's uncomfortable in it," she said.

By TERI HARUSH ROBERTS
Published: July 27, 2009

TO many Americans, abstaining from air-conditioning is a masochistic folly akin to refusing Novocain or renouncing the dishwasher.

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Surviving Summer on an Air-Conditioning Diet (July 23, 2009)

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Yet as this particular summer finally heats up, even citizens who believe that climate control is a God-given right may be questioning whether it has become a luxury they can no longer afford. They are probably also

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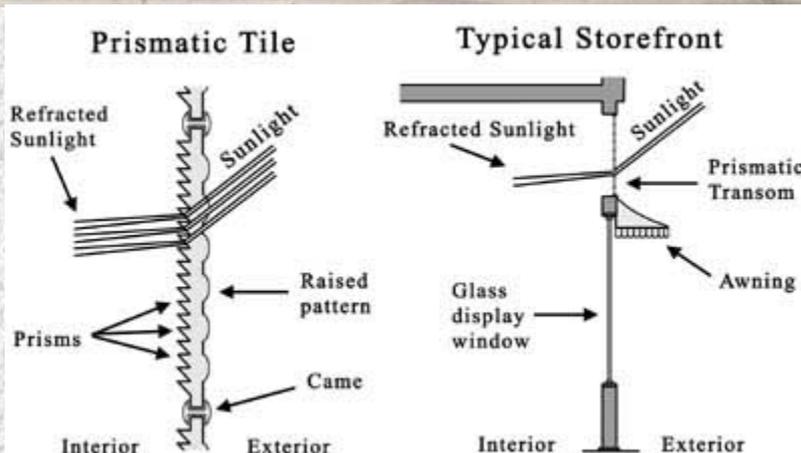


Operable awnings for solar and light control

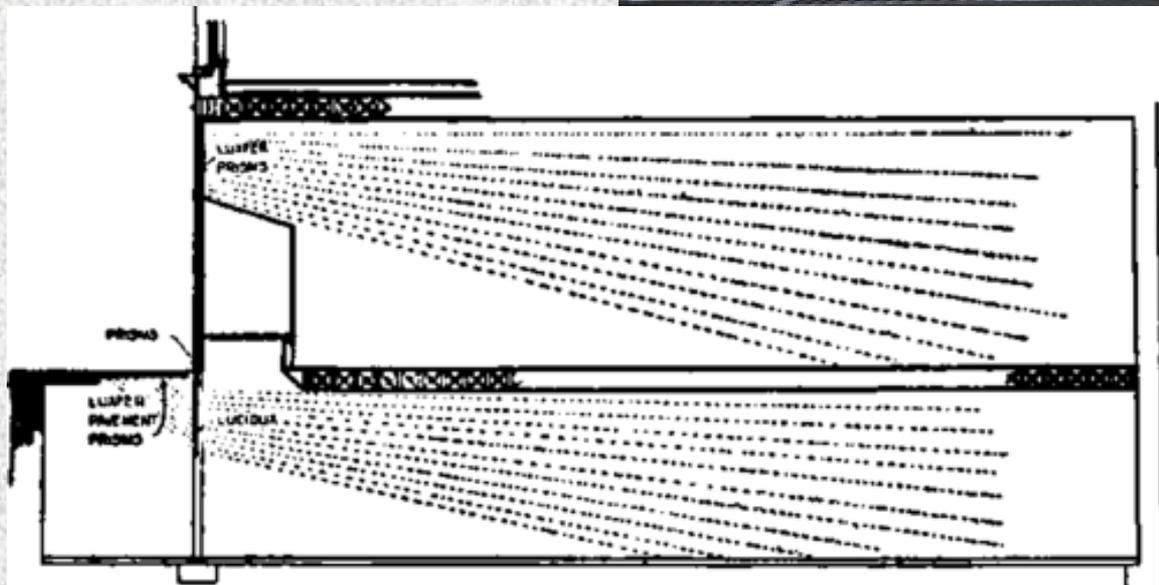
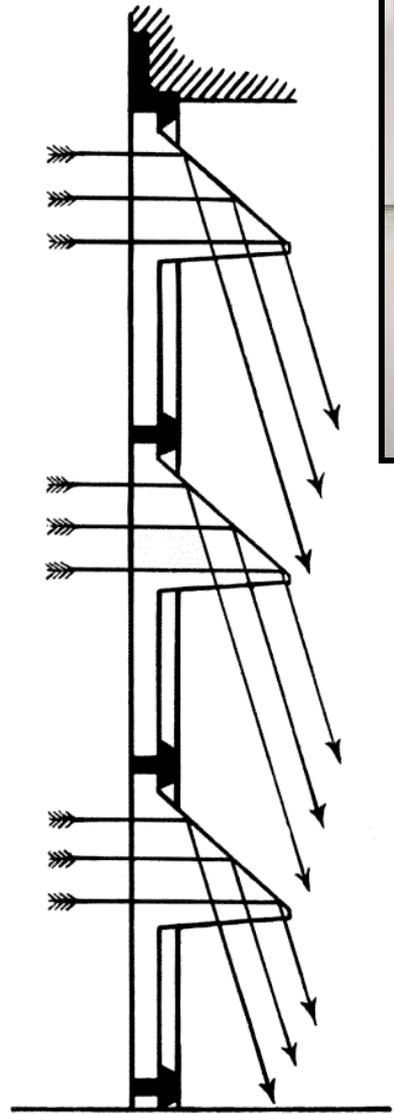
Stores designed for daylight



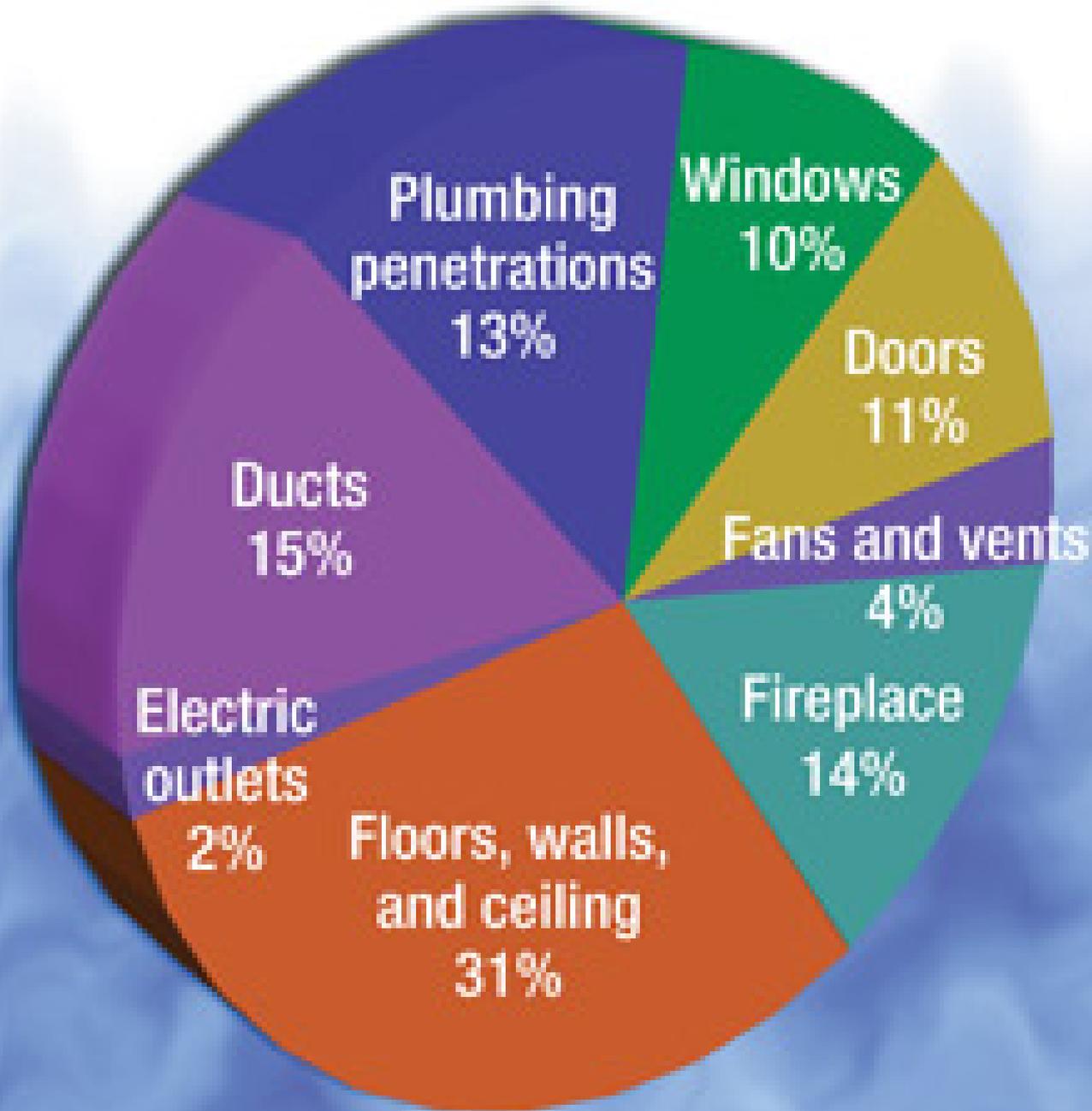
Prism glass transoms were an important device to provide better daylight to store interiors before electricity.



Frank Lloyd Wright
prism glass design







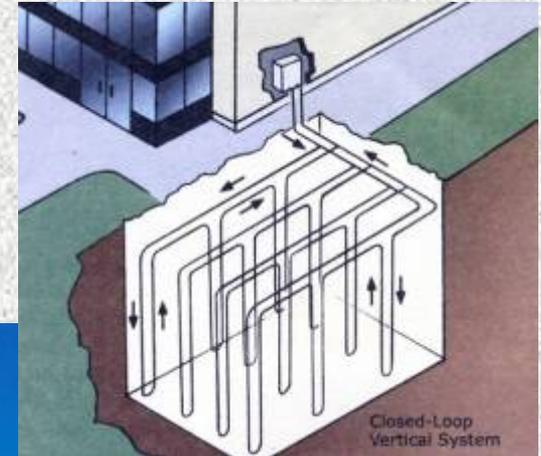
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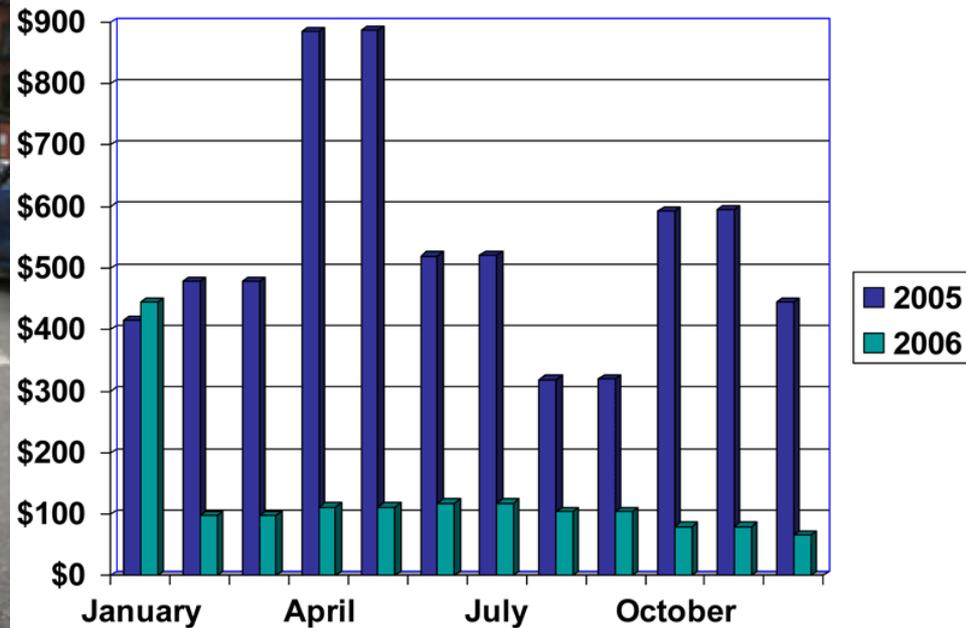
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Geothermal on small footprint



HISTORIC RESOURCE AS ENVIRONMENTAL VALUE



Alliance Center Monthly Water Bills



Solar hot water



World's largest Laundromat uses solar hot water heating

