

# Green Building Past, Present and Future

2010 State Bar of Arizona Annual Convention  
Renaissance Glendale Hotel & Spa

Current Environmental And Natural Resources Law Developments – The Year In Review

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# Why Green Building?

## IMPACTS OF U.S. BUILDINGS ON RESOURCES

**40%** primary energy use\*

**72%** electricity consumption\*

**39%** CO<sub>2</sub> emissions\*

**13.6%** potable water consumption\*\*

Sources:

\*Environmental Information Administration (2008). EIA Annual Energy Outlook.

\*\* U.S. Geological Survey (2000). 2000 data.

# What is the LEED System?

**LEADERSHIP in  
ENERGY and  
ENVIRONMENTAL  
DESIGN**

A leading-edge system for certifying  
**DESIGN, CONSTRUCTION, & OPERATIONS**  
of the greenest buildings in the world

**Created by U.S. Green Building Counsel**  
[www.usgbc.org](http://www.usgbc.org)



# Levels of LEED Ratings

**Green Buildings worldwide are certified with a voluntary, consensus-based rating system. USGBC has four levels of LEED.**



# LEED – 5 Areas Of Focus

## What Is Green Building?

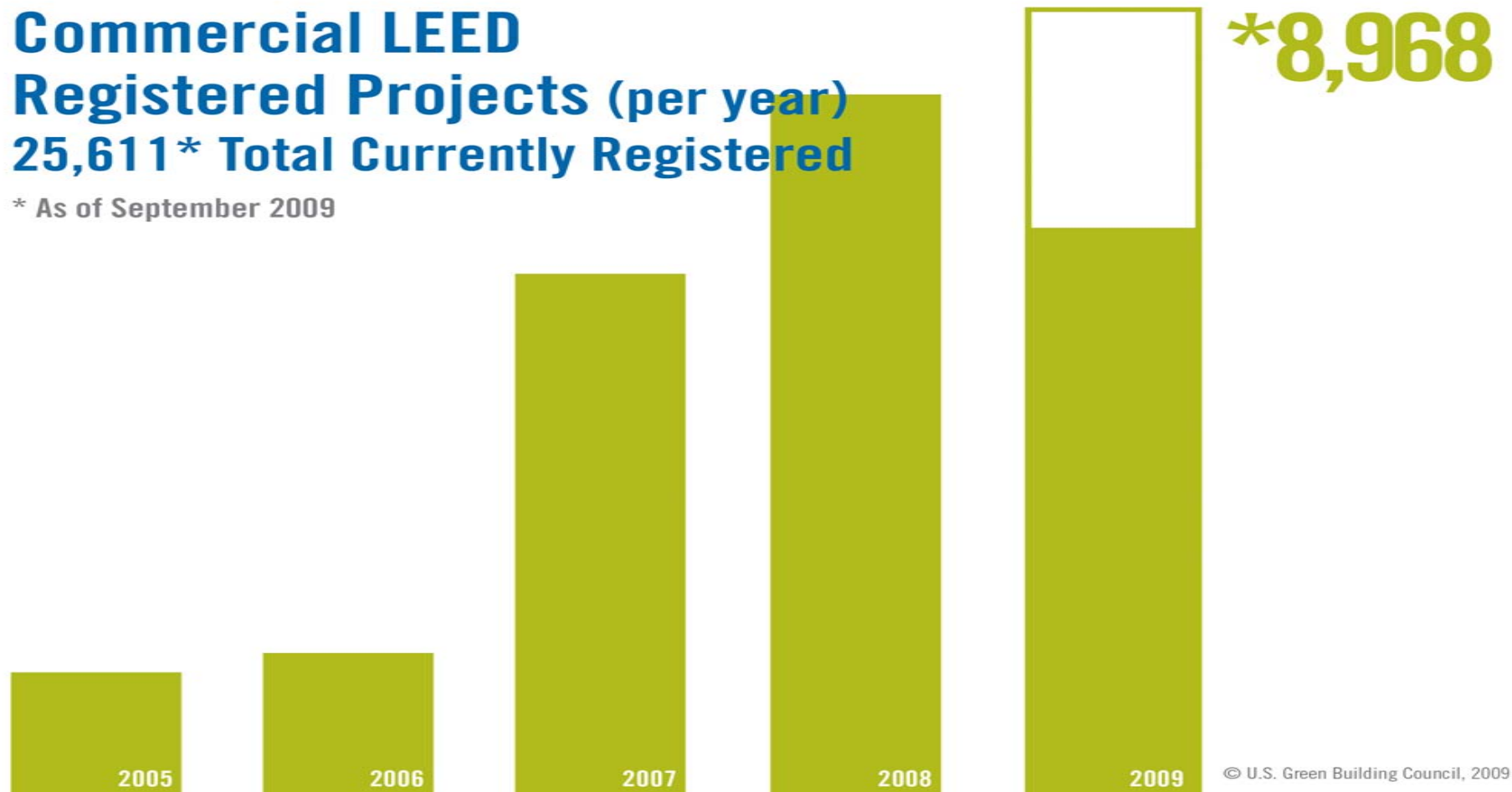


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# Look At The Growth (Registered Projects)

**Commercial LEED  
Registered Projects (per year)  
25,611\* Total Currently Registered**

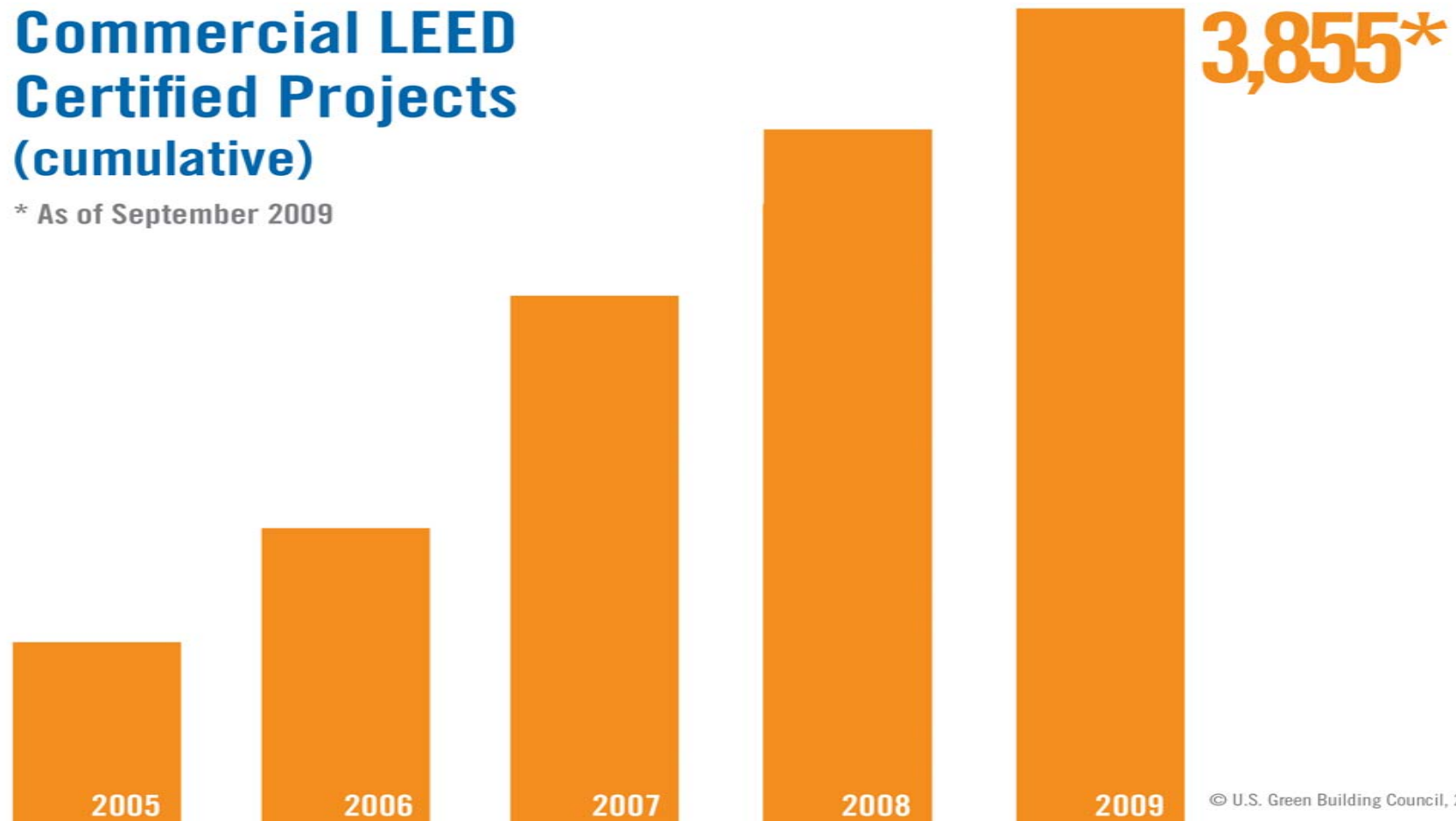
\* As of September 2009



# Look At The Growth (Certified Projects)


## Commercial LEED Certified Projects (cumulative)

\* As of September 2009



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A photograph of the Phoenix Convention Center - Exp Phase 1, a large, modern building with a complex, angular design. The building features a mix of materials, including light-colored panels, dark metal grates, and a section with horizontal stone or brickwork. Several palm trees are planted in front of the building. A street sign for "2nd St" and a "WELCOME TO THE NEW PHOENIX" sign are visible in the foreground. The sky is clear and blue.

# **Case Study**

## **Phoenix Convention Center – Exp Phase 1**

**City of Phoenix  
Phoenix, AZ**

**Public Meeting Facility  
630,000 SF**

**LEED Silver**

**42%**  
*energy cost savings*

**56%**  
*Savings of potable water  
for irrigation*

**42%**  
*savings of potable water  
for domestic uses*



# Phoenix Convention Center

- West Building – LEED Silver
- North Building – “Built to LEED Standards”
- The Phoenix Convention Center has a reputation as one of the most green convention facilities in North America.
- Phoenix established a 17-point plan to make Phoenix the first carbon-neutral city in the country.
- “While still fairly new, being “green” is seen as an added benefit and amenity to our new and existing clients. Some of our “green” bookings include: the Green Summit in September 2008, Build It Green Expo in March 2009, SAP TechEd in October 2009, National Apartment Association Green Conference in April 2009 and U.S. Green Building Council in November 2009.”

# **Case Study**

## **ASU Biodesign Institute – Building B**

**Arizona State University  
Tempe, AZ**

**Laboratory/Office Building  
175,000 SF**

**LEED Platinum**

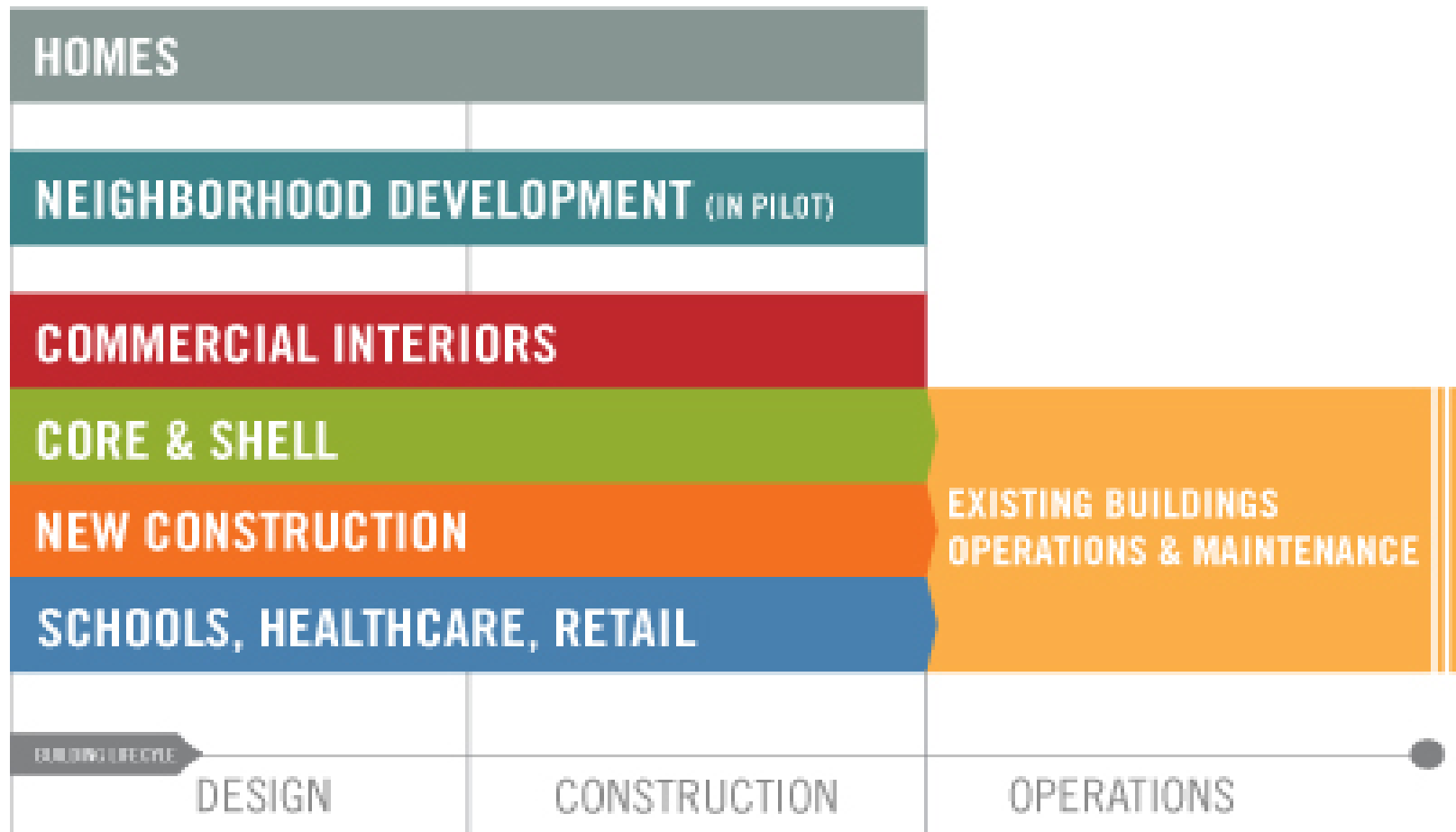
**59%**  
*energy cost savings*

**100% / > 40%**  
*Savings of potable water for  
irrigation / domestic uses*

**>80%**  
*waste diverted  
from landfill*



# LEED Addresses The Complete Building Lifecycle



# LEED-Existing Building 2009 Point Distribution

▪ Sustainable Sites	26	Possible Points
▪ Water Efficiency	14	Possible Points
▪ Energy & Atmosphere	35	Possible Points
▪ Materials & Resources	10	Possible Points
▪ <u>Indoor Environmental Quality</u>	15	<u>Possible Points</u>
<b><u>Sub-Total LEED-EB Points</u></b>	<b>100</b>	<b><u>Possible Points</u></b>
▪ Innovations in Operations	6	Possible Points
▪ <u>Regional Priority Credits</u>	4	<u>Possible Points</u>
<b>Total LEED-EB Points</b>		<b>110</b>
<b>Points</b>		<b>Possible</b>

# Certification Levels

## *4 Levels of LEED-EB Certification*

<u><b>Certification Level</b></u>	<u><b>Points Required</b></u>
<b>Platinum Level</b>	<b>80 – 110</b>
<b>Gold Level</b>	<b>60 – 79</b>
<b>Silver Level</b>	<b>50 – 59</b>
<b>LEED Certified</b>	<b>40 – 49</b>





# Professional Accreditation



**The Green Associate credential serves as the first step for professionals pursuing a LEED AP specialization.**



**The LEED AP credential signifies an advanced depth of knowledge in green building practices; it also reflects the ability to specialize in a particular LEED Rating System.**

# LEEDigation

In May 2010, owners of a condominium unit filed a lawsuit for the recovery of \$1.5 million in damages from the project's developer for a variety of alleged construction defects.

Purchasers claim that “the building’s much-heralded ‘green’ heating system consistently fails to provide adequate heat” to their unit and that this failure is a condition which is “is materially different from those represented by the project sponsor and its principals in the condominium offering plan.”

- Riverhouse development located at One Rockefeller Park in Battery Park City



# LEEDigation

- Failure to Get LEED Certification
  - Failure to Get Available Incentives (Shaw School Case)
  - Misrepresentations or Guarantees
  - Failure of Green Product to Perform
  - Delays (Product Availability, 3<sup>rd</sup> Party Cert)
  - Failure to meet statute or ordinance
  - Health Issues (Gray Water; Air Quality)
- 
- New Insurance Products Available to Insure Against these Risks

# LEED Certification Challenges

- LEED Certification Challenge Policy creates new risks for all parties involved in a LEED-certified project:
  - (a) Any person can challenge a building's LEED certification;
  - (b) Any and all LEED points can be challenged; and
  - (c) A LEED certification challenge can be brought at any time.

Ripe for abuse:

- Environmental groups could challenge a corporations' achievement of LEED certification in order to protest corporate actions.
- Rival companies/developments could challenge each other's LEED certification in order to develop a business advantage.

# Arizona – Green Building

## The Carrot & The Stick

### **Mandatory**

Some county,  
city and/or state-owned  
and state-funded buildings

### **Incentives**

Corporate tax credit  
Priority permitting  
Reduced permit  
Personal tax credit  
Property tax assessment  
and exemptions  
Sales tax exemption  
Utility loan and rebate  
programs



## Arizona Financial Incentives

- Corporate Tax Credit
  - Non-Residential Solar & Wind Tax Credit (Corporate)
  - Renewable Energy Production Tax Credit (Corporate)
- Green Building Incentive
  - Chandler - Expedited Plan Review and Certification Fee Reimbursement for Green Buildings
  - Scottsdale - Green Building Incentives
  - Town of Buckeye - Green Building Incentive
  - Tucson - Permit Fee Credit for Solar Energy Systems
- Industry Recruitment/Support
  - Renewable Energy Business Tax Incentives
- Personal Deduction
  - Qualifying Wood Stove Deduction
- Personal Tax Credit
  - Non-Residential Solar & Wind Tax Credit (Personal)
  - Renewable Energy Production Tax Credit (Personal)
  - Residential Solar and Wind Energy Systems Tax Credit

## Arizona Financial Incentives

- Property Tax Incentive
  - Energy Equipment Property Tax Exemption
  - Property Tax Assessment for Renewable Energy Property
- Sales Tax Incentive
  - Solar and Wind Equipment Sales Tax Exemption
- Utility Loan Program
  - Sulphur Springs Valley EC - SunWatts Loan Program
- Utility Rebate Program
  - APS - Renewable Energy Incentive Program
  - SRP - EarthWise Solar Energy Incentive Program
  - Sulphur Springs Valley EC - SunWatts Rebate Program
  - TEP - Renewable Energy Credit Purchase Program
  - Trico Electric Cooperative - SunWatts Incentive Program
  - UES - Renewable Energy Credit Purchase Program

# Rules, Regulations & Policies

## Building Energy Code

- Tucson - Solar Design Requirement for Homes (Solar Ready Homes – City Ordinance 10549)

## Contractor Licensing

- Solar Contractor Licensing

## Energy Standards for Public Buildings

- Solar Design Standards for State Buildings
- Renewable Energy and Green Building Standards in New State Buildings
- Chandler - Green Building Requirement for City Buildings
- Scottsdale - Green Building Policy for Public Buildings

## Equipment Certification

- Solar & Wind Equipment Certification

## Green Power Purchasing

- Scottsdale - Green Power Purchasing

## Interconnection

- Interconnection Guidelines

## Line Extension Analysis

- Mandatory Photovoltaic System Cost Analysis

## Net Metering

- Arizona & SRP - Net Metering

## Renewables Portfolio Standard

- Renewable Energy Standard

## Solar Access Law/Guideline

- Solar Energy Covenant Restrictions

## Solar/Wind Permitting Standards

- Maricopa Assn. Of Governments - PV and Solar Domestic Water Heating Permitting Standards
- Solar Construction Permitting Standards

# GREEN-WASHING



**Green·wash** (grēn'wōsh', -wōsh') – *verb*: the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service.

[WWW.SINsofGREENWASHING.ORG](http://WWW.SINsofGREENWASHING.ORG)

terrachoice   
environmental marketing

# 1<sup>st</sup> Sin

## SIN OF THE HIDDEN TRADE-OFF

A claim suggesting that a product is 'green' based on a narrow set of attributes without attention to other important environmental issues.

**Example:** Paper is not necessarily environmentally preferable just because it comes from a sustainably-harvested forest. Other important environmental issues in the paper-making process, such as greenhouse gas emissions, or chlorine use in bleaching may be equally important.





## 2<sup>nd</sup> Sin

### SIN OF IRRELEVANCE

An environmental claim that may be truthful but is unimportant or unhelpful for consumers seeking environmentally preferable products.

**Example:** 'CFC-free'. This is a frequent claim despite the fact that CFCs are banned by law.



## 3<sup>rd</sup> Sin

### SIN OF NO PROOF

An environmental claim that cannot be substantiated by easily accessible supporting information or by a reliable third-party certification.

**Example:** Facial tissues or toilet tissue products that claim various percentages of post-consumer recycled content without providing evidence.



## 4<sup>th</sup> Sin

### SIN OF FIBBING

Environmental claims that are simply false.

**Example:** Products falsely claiming to be Energy Star certified or registered.



## 5<sup>th</sup> Sin

### SIN VAGUENESS

A claim that is so poorly defined or broad that its real meaning is likely to be misunderstood by the consumer.

**Example:** 'All-natural.' Arsenic, uranium, mercury, and formaldehyde are all naturally occurring, and poisonous. 'All natural' isn't necessarily 'green'.



## 6<sup>th</sup> Sin

### SIN OF LESSER OF TWO EVILS

A claim that may be true within the product category, but that risks distracting the consumer from the greater environmental impacts of the category as a whole.

**Example:** Organic cigarettes and fuel-efficient sport-utility vehicles.





# 7<sup>th</sup> Sin

## SIN OF WORSHIPING FALSE LABELS

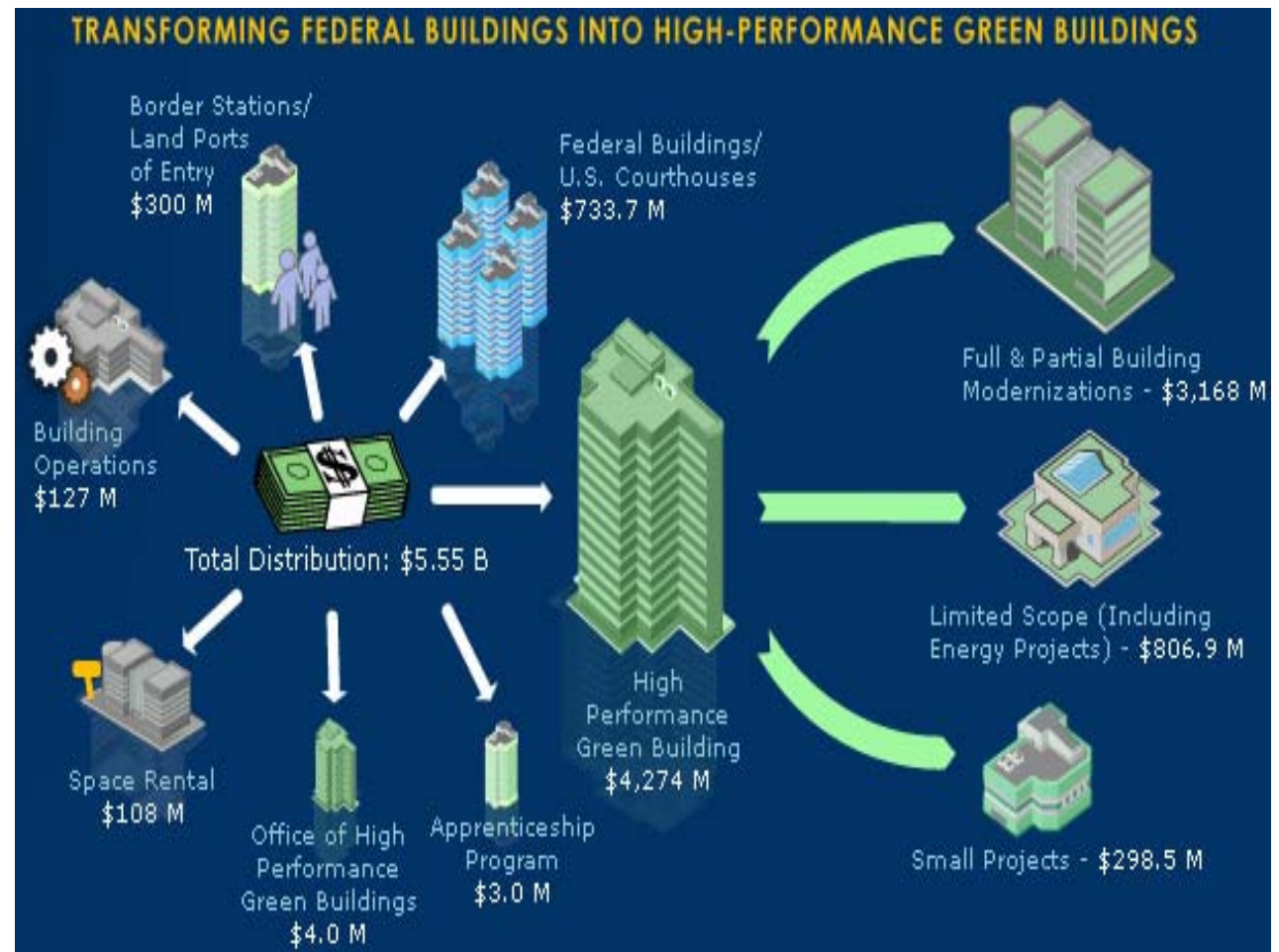
A product that, through either words or images, gives the impression of a third-party endorsement where no such endorsement actually exists; fake labels, in other words.

**Example:** Manufacturers who add their own label to a product with images and statements such as, 'this product fights global warming'.



# Federal Buildings – Stimulus Funds

- Federal Buildings Fund - \$5.55 billion
  - \$4.3 billion to convert facilities to “high-performance green buildings” (LEED Silver as a Goal)
  - 4 million to establish Office of High Performance Buildings
  - \$5 billion must be obligated by Sept. 30, 2010
- Remainder obligated by



# Weatherization of Homes

- **HUD and Dept. Energy provide \$16 billion to retrofit existing homes.**
- HUD's programs:
  - \$4.5 billion to renovate and upgrade public and Native American housing
  - \$250 million for energy retrofits of privately owned federally assisted housing.
- DOE residential programs:
  - \$5 billion in weatherization funds;
    - \$57.0 million - Arizona
  - \$3.2 billion for a new Energy and Environment Block Grant that can use to retrofit homes;
    - \$63.7 million - Arizona
  - \$3.1 for the State Energy Program and other programs.
    - \$55.4 million - Arizona
- HUD & DOE formed an intra-agency task force to coordinate this, including:
  - Provide guidance to public and assisted housing by creating set of guidelines and specifications for retrofitting housing
  - Coordinate spending **in an effort to catalyze a home performance/energy retrofit industry in the U.S.**

# Inconsistent Messages

*Building Industry Association of Washington et al. v. Washington State Building Code Council*, W.D. Wash (filed May 25, 2010)

alleges that certain amendments to the Washington State Energy Code (originally slated to take effect on July 1, 2010) are preempted by various federal regulations, including the National Appliance Energy Conservation Act of 1987 and the Energy Policy Act of 1992, on the basis that they require homes to have HVAC, plumbing, or water heating equipment whose efficiency exceeds the standards set by the federal government in applicable legislation.

“Plaintiffs, in reliance on the federal energy efficiency and energy use standards, have valuable investments in inventories of equipment and home designs which comply with federal standards but which do not comply with the [disputed amendments to the state energy code]. The state code will disrupt sales of HVAC products, water heaters and plumbing products intended for use in the state due to confusion of manufacturers, distributors and contractors about which standards they must adhere to. Distributors and contractors in neighboring states which have not adopted the same regulatory provisions challenged in this action will not suffer the same or similar adverse effects on their businesses. Those effects place Washington distributors and contractors with a uniquely affected class harmed by the regulations challenged here.”

# Stimulus - New Energy Building Codes?

- DOE May Allocate Additional Discretionary Grants to States, only if the governor certifies the following in writing:

...

(2) Will adopt building codes and implement the following:

(A) Building energy code(s) for residential buildings that meets or exceeds the most recently published International Energy Conservation Code, or achieves equivalent or greater energy saving;

(B) Building energy code(s) for commercial buildings throughout the State that meets or exceeds the ANSI/ASHRAE/IESNA Standard 90.1-2007, or achieves equivalent or greater energy savings; and

(C) achieve above building energy code requirements within 8 years of the date of enactment of this Act in at least 90 percent of new and renovated residential and commercial building space.

# Renewable Energy & Energy Transmission

- May provide financial assistance to an electric utility for up to 50% of qualifying advanced grid technology investments to carry out a “demonstration project”.
- Secretary may make guarantees under temporary Program for Rapid Deployment of Renewable Energy & Transmission only for the following categories of projects that commence construction not later than September 30, 2011.
  - (1) Renewable energy systems, including . . .
  - (2) Electric power transmission systems, . . .
  - (3) Leading edge biofuel projects . . .