

LEED for Homes

December 13, 2007

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Acting Director, LEED for Homes

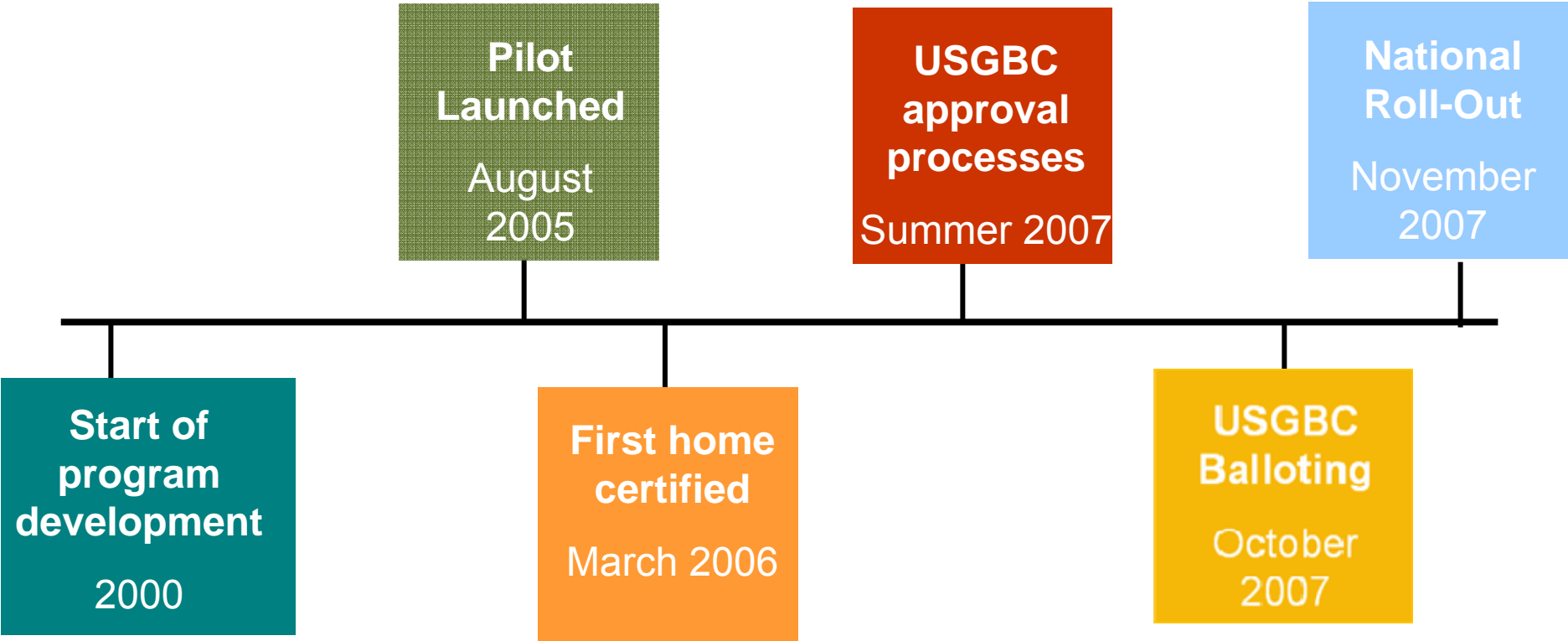


An aerial photograph of a city, likely Los Angeles, showing a dense urban area with a prominent highway system. In the background, a range of mountains is visible under a clear blue sky. The word "Overview" is written in large, bold, blue letters across the top center of the image.

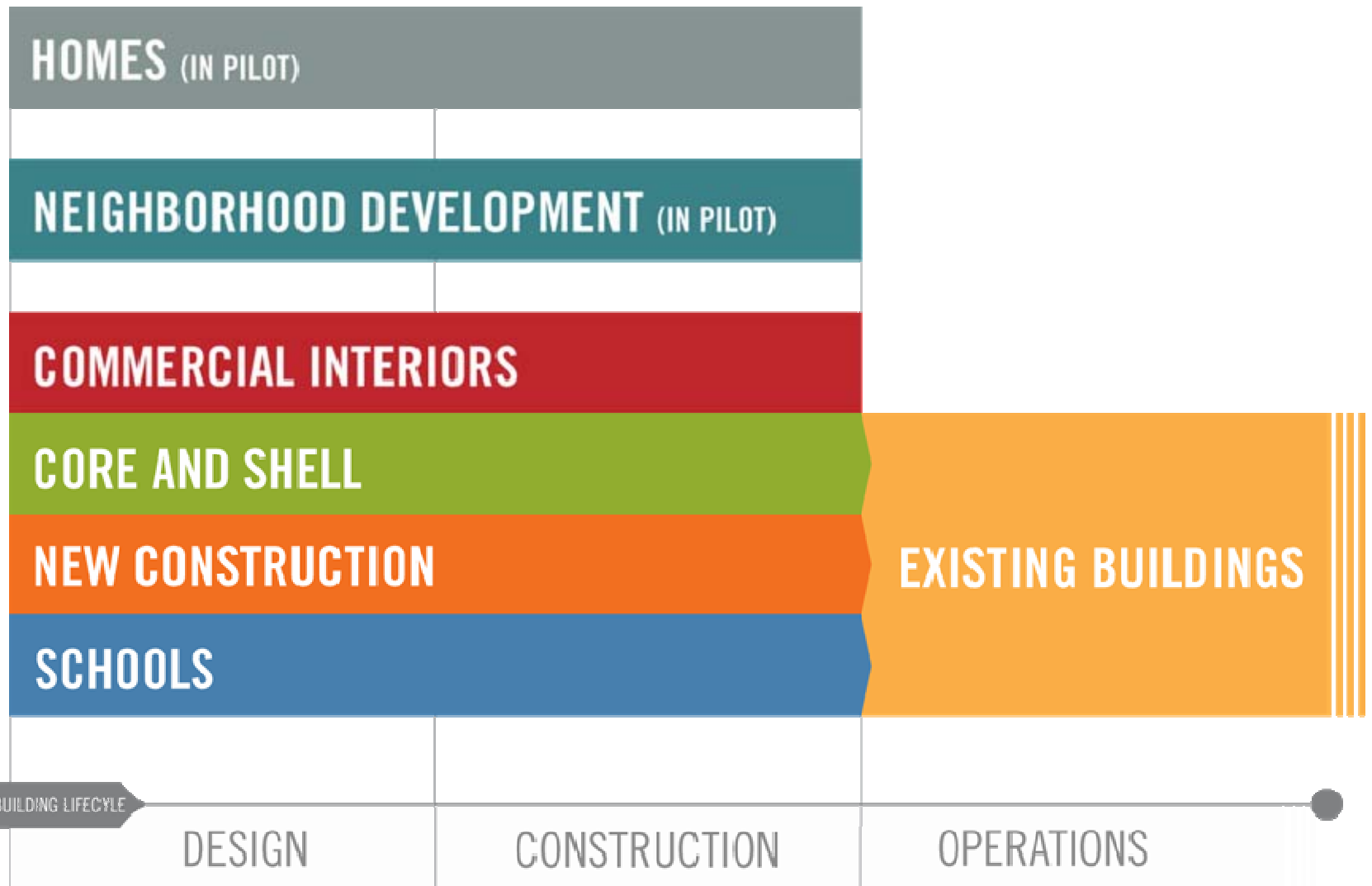
Overview

- 1. Goals**
- 2. The Rating System**
- 3. Participate Process**
- 4. Target Audience**

LEED for Homes Goals

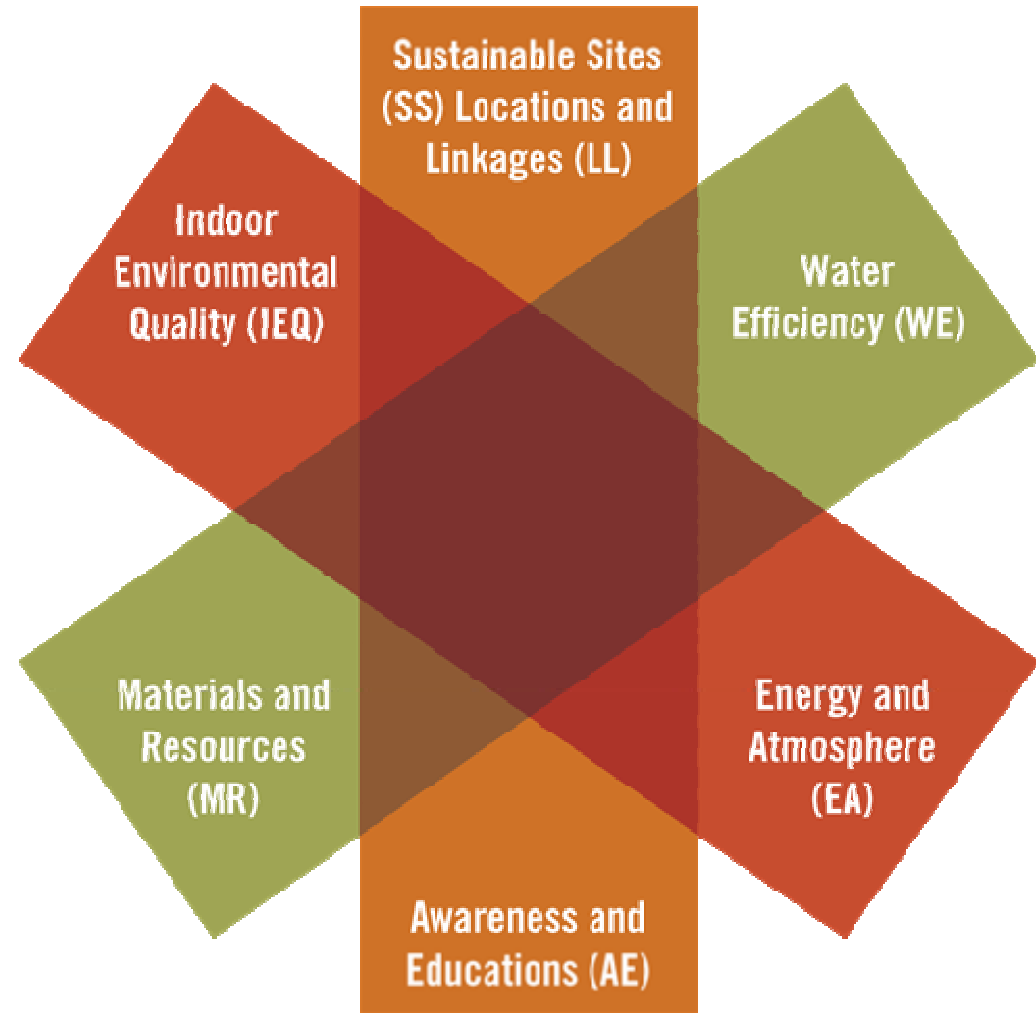


LEED addresses the complete lifecycle of buildings:



Resource Categories

Design and construction practices that meet specified standards reducing the negative impact of buildings on their occupants and on the environment.



Consensus-Based Standards

USGBC has 4 Levels of LEED Certification:



PLATINUM

GOLD

SILVER

CERTIFIED



How do You Define Green?

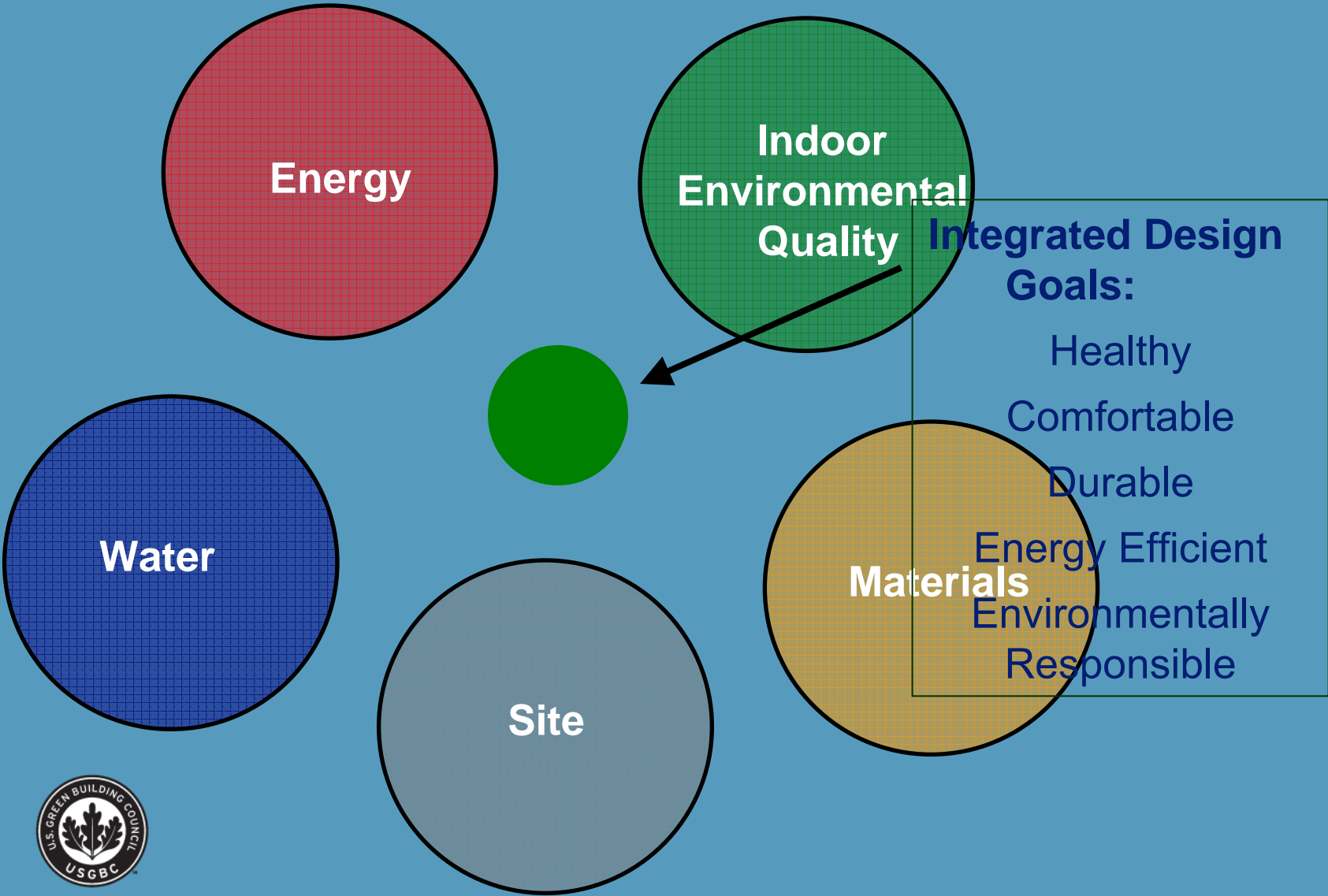


Builder A

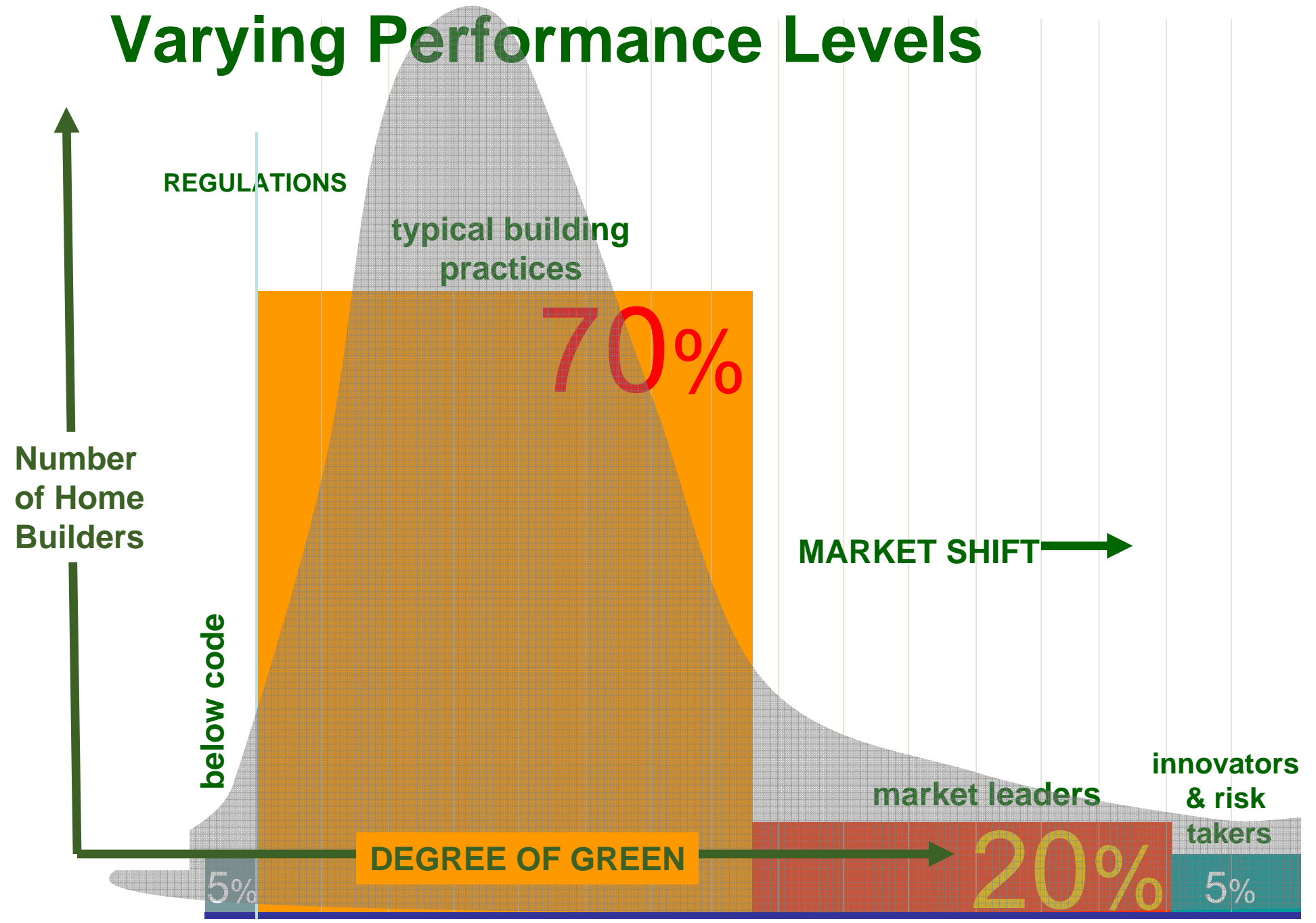
Builder B

Builder C

What is a LEED Home?



Varying Performance Levels



Program Status

12 Certification Providers

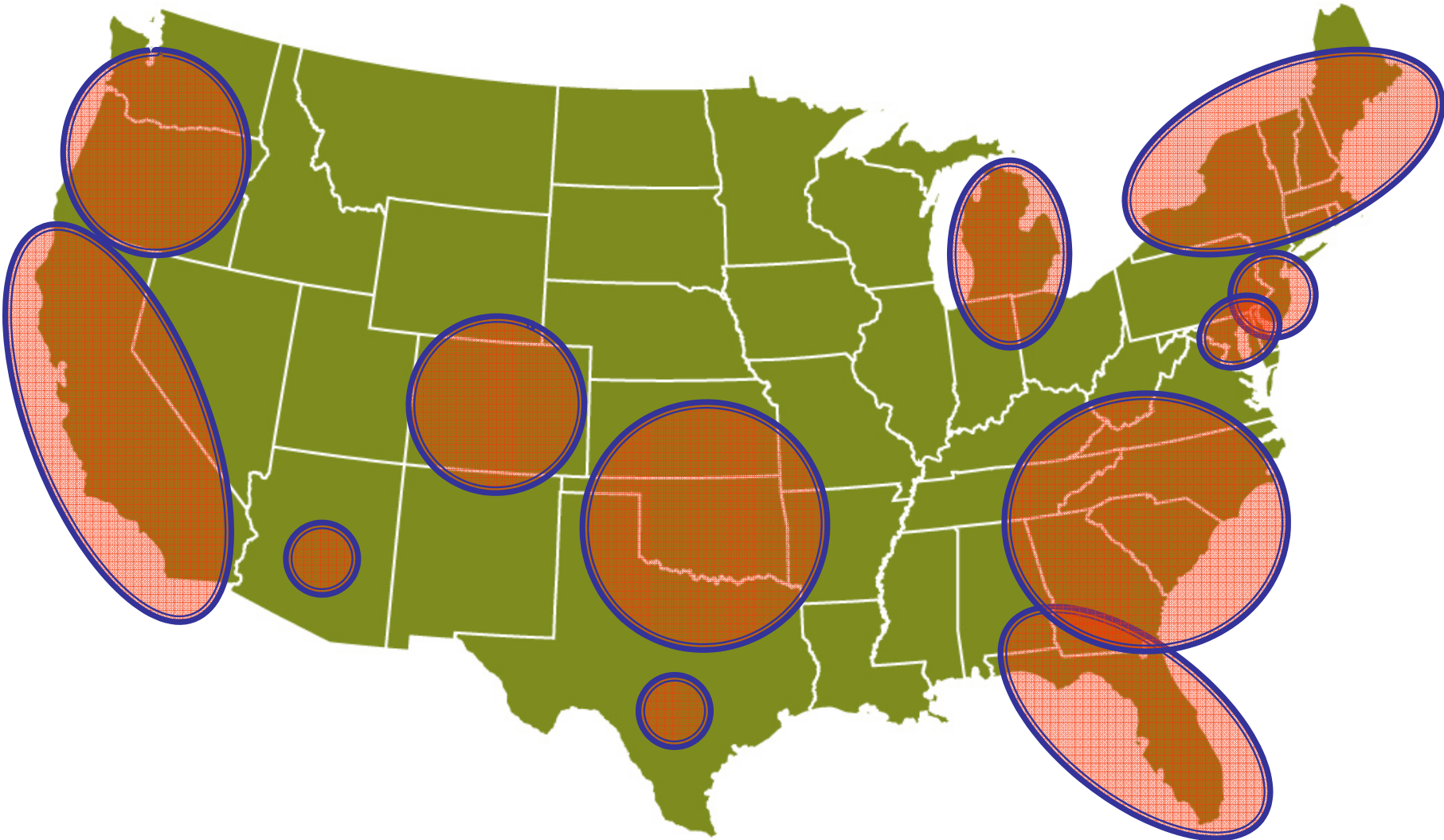
535 Registered Builders

10,250 Registered Homes

391 Certified Homes



Target Markets



LEED for Homes Alliances

National Programs



ENVIRONMENTS FOR **Living**



Local and Regional Programs





LEED® Facts

Grupe Homes
Rocklin CA

LEED for Homes Pilot Program
Certified on: Sept 22, 2006

Certified 31

Locations & Linkages 4

Sustainable Sites 4

Water Efficiency 2

Energy & Atmosphere 13

Materials & Resources 2

Indoor Environmental

Quality 6

Innovation & Design 0

Awareness & Education 1



LEED[®] Facts

Neil Kelly Home
Parkdale, OR

LEED for Homes Pilot Program
Certified on: July 31, 2006

Silver 63

| | |
|---------------------------------|----|
| Locations & Linkages | 4 |
| Sustainable Sites | 14 |
| Water Efficiency | 7 |
| Energy & Atmosphere | 17 |
| Materials & Resources | 12 |
| Indoor Environmental Quality | 5 |
| Innovation & Design | 4 |
| Awareness & Education | 1 |



LEED® Facts

Northeast Natural Homes
Skaneateles, NY

LEED for Homes Pilot Program
Certified on: March 23, 2007

Gold 79

| | |
|---------------------------------|----|
| Locations & Linkages | 4 |
| Sustainable Sites | 14 |
| Water Efficiency | 3 |
| Energy & Atmosphere | 27 |
| Materials & Resources | 9 |
| Indoor Environmental Quality | 15 |
| Innovation & Design | 5 |
| Awareness & Education | 2 |



LEED® Facts

Ferrier Custom Homes
Weatherford, TX


LEED for Homes Pilot Program
Certified on: January 20, 2007

Platinum 90

| | |
|-----------------------|----|
| Locations & Linkages | 5 |
| Sustainable Sites | 14 |
| Water Efficiency | 10 |
| Energy & Atmosphere | 26 |
| Materials & Resources | 15 |
| Indoor Environmental | |
| Quality | 19 |
| Innovation & Design | 0 |
| Awareness & Education | 1 |

2. The Rating System

www.usgbc.org/leed/homes



Project Checklist

LEED for Homes

Builder Name: _____

Home Address (Street/City/State): _____

24
10
Required
2
3
Required
1 3 5
Required
4
Required
2

Input Values:

No of Bedrooms: Floor Area (SF):

Minimum No. of Points Required: Certified: Silver: Gold: Platinum:

Detailed information on the measures below are provided in the companion document "LEED for Homes Rating System" Max Points Available

| T/P/Pr | No | NA | Innovation and Design Process (ID) | (Minimum of 0 ID Points Required) | 9 |
|--------|-----------|----|------------------------------------|-----------------------------------|--------------|
| | 1.1 | | Integrated Project Planning | Preliminary Rating | Prerequisite |
| | 1.2 | | Integrated Project Team | | 1 |
| | 1.3 | | Design Charrette | | 1 |
| | Sub-Total | | | | 2 |

Simple

- ❖ 2 pages
- ❖ 136 points
- ❖ Entry level = 45 pts.

| T/P/Pr | No | NA | Sustainable Sites (SS) | (Minimum of 5 SS Points Required) | OR 21 |
|--------|-----------|----|---|---|--------------|
| | 1.1 | | Site Stewardship | Erosion Controls (During Construction) | Prerequisite |
| | 1.2 | | Minimize Disturbed Area of Site | | 1 |
| | 2.1 | | Landscaping | No Invasive Plants | Prerequisite |
| | 2.2 | | Basic Landscaping Design | | 1 |
| | 2.3 | | Limit Turf | | 3 |
| | 2.4 | | Drought Tolerant Plants | | 2 |
| | 3 | | Shading of Hardscapes | Locate and Plant Trees to Shade Hardscapes | 1 |
| | 4.1 | | Surface Water Management | Design Permeable Site | 4 |
| | 4.2 | | Design and Install Permanent Erosion Controls | | 2 |
| | 5 | | Non-Toxic Pest Control | Select Insect and Pest Control Alternatives from List | 2 |
| | 6.1 | | Compact Development | Average Housing Density \geq 7 Units / Acre | LL1 2 |
| | 6.1 | | OR Average Housing Density \geq 10 Units / Acre | | LL1 3 |
| | 6.3 | | OR Average Housing Density \geq 20 Units / Acre | | LL1 4 |
| | Sub-Total | | | | 108 |

| T/P/Pr | No | NA | Water Efficiency (WE) | (Minimum of 3 WE Points Required) | OR 15 |
|--------|-----------|----|---|--|-------|
| | 1.1 | | Water Reuse | Rainwater Harvesting System | 4 |
| | 1.2 | | Grey Water Re-Use System | | 1 |
| | 2.1 | | Irrigation System | Select High Efficiency Measures from List | 3 |
| | 2.2 | | Third Party Verification | | 1 |
| | 2.3 | | OR Install Landscape Designed by Licensed or Certified Professional | WE 2.2 | 4 |
| | 3.1 | | Indoor Water Use | High Efficiency Fixtures (Toilets, Showers, and Faucets) | 3 |
| | 3.2 | | OR Very High Efficiency Fixtures (Toilets, Showers, and Faucets) | WE 3.1 | 6 |
| | Sub-Total | | | | 18 |

Provider's Name _____

Signature _____

Company _____

Date _____



Guiding Principles

- ❑ **Home Building Industry “Friendly”**
- ❑ **Based on Residential Standards**
- ❑ **Work collaboratively with existing green home building programs**
- ❑ **Built on Successful ENERGY STAR Model**



Mandatory Measures

ENERGY STAR Labeled Home

Health and Safety Measures

Combustion Venting

Controlled Ventilation

Durability Plan

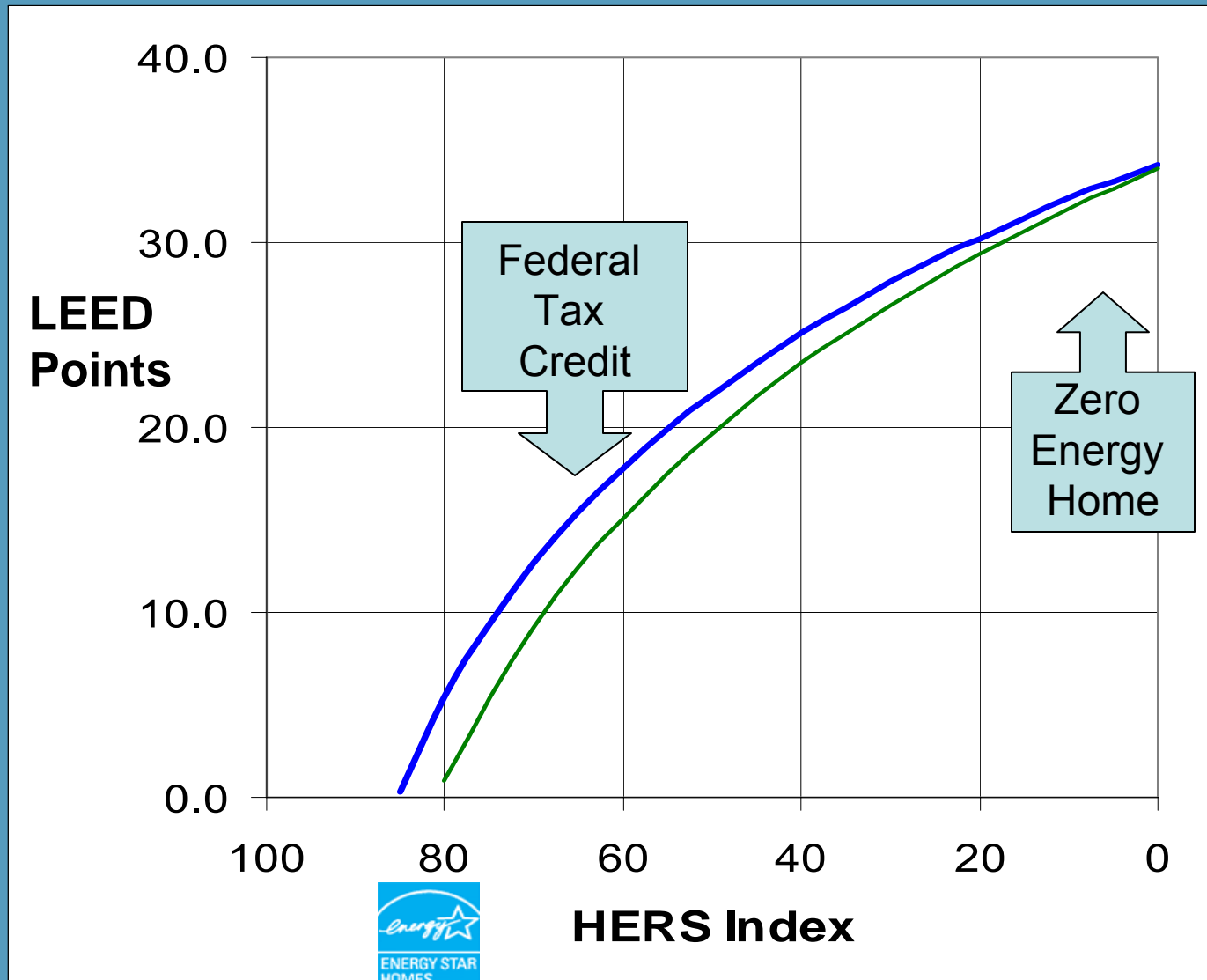
Waste Management Plan

Site Protections

Owner's Manual



LEED for Homes Energy Credit



What's New?

Regional Applicability

Climate Zones

Radon Risk Zones

Termite Risk Zones

ET Zones

Durability

Home Size

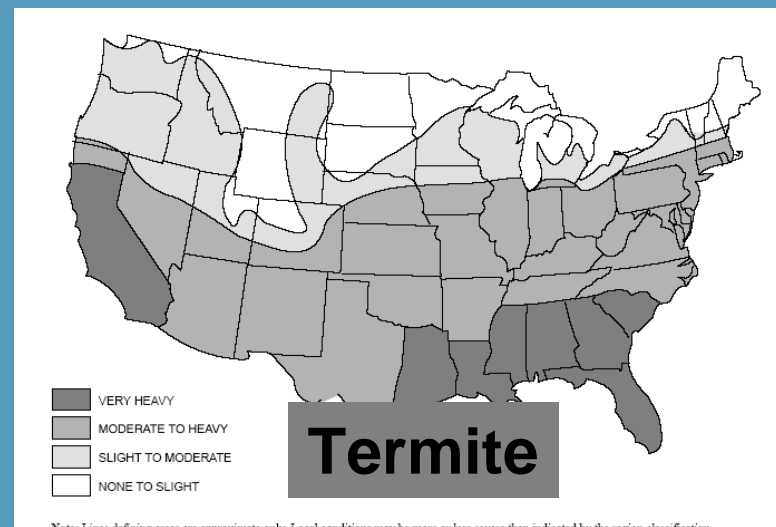
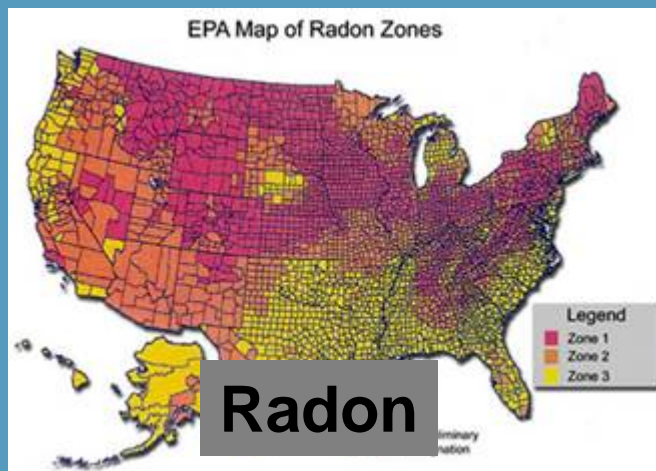
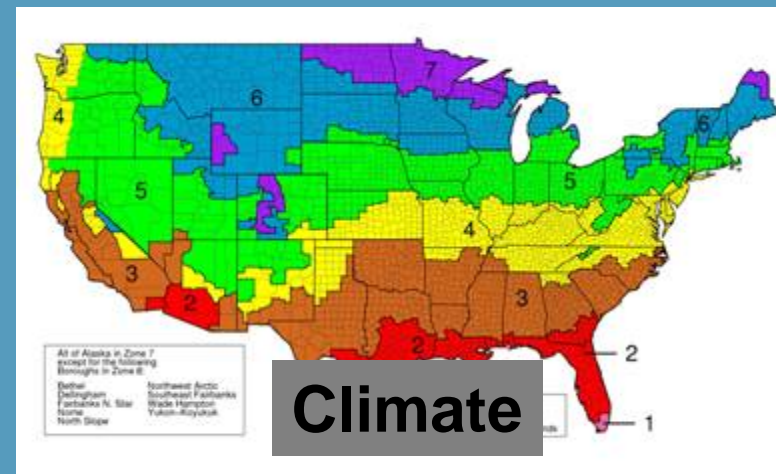
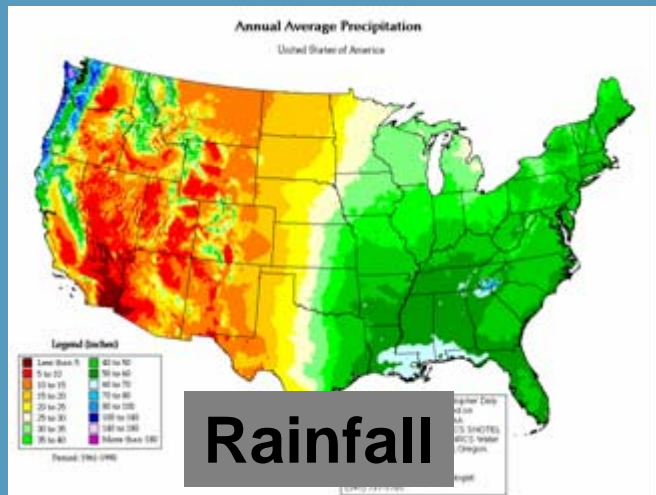
Location and Linkages

LEED for Neighborhood
Developments

Landscaping and Irrigation



Regional Applicability



Durability

Mandatory Measure

- Risk Assessment
- Designed-In Durability Measures
- Construction Checklist

Optional Measure

- 3rd Party Inspection



A Star Tribune special report

Owners of newer homes face water damage risk

Today's homes are built using materials and methods that can lead to rotting walls and huge repair bills.

By Donna Halvorsen,
Karen Youso
and Jim Buchta
Star Tribune Staff Writers

No one could tell that David and Renee Saunders' state-ly Woodbury home was rotting away — not even its owners — until a cluster of mushrooms sprouted from a wall in the master suite.

The couple faces an estimated \$400,000 in repairs to replace mold-infested walls in a house that cost \$550,000 to build seven years ago.

"We see [mushrooms] in numerous homes," said Mike Happ, an investigator for the state building codes and standards division.

The Saunders' home is a local example of a national problem; Moisture is creeping into houses across the country, causing walls to rot and destroying the house's basic structure.

"We're building self-composting houses," said St. Paul microbiologist McGregor Pearce, who has tested the Saunders house and many others.

The houses that have been identified as having problems are merely "the tip of the iceberg," Pearce said.

Nobody has a good handle on the size of the problem, but it's big enough that the federal government has launched studies to look at water problems in new homes, including water that comes from the outside.

HOUSES continues on A14:
— Minnesota builders association says the number of

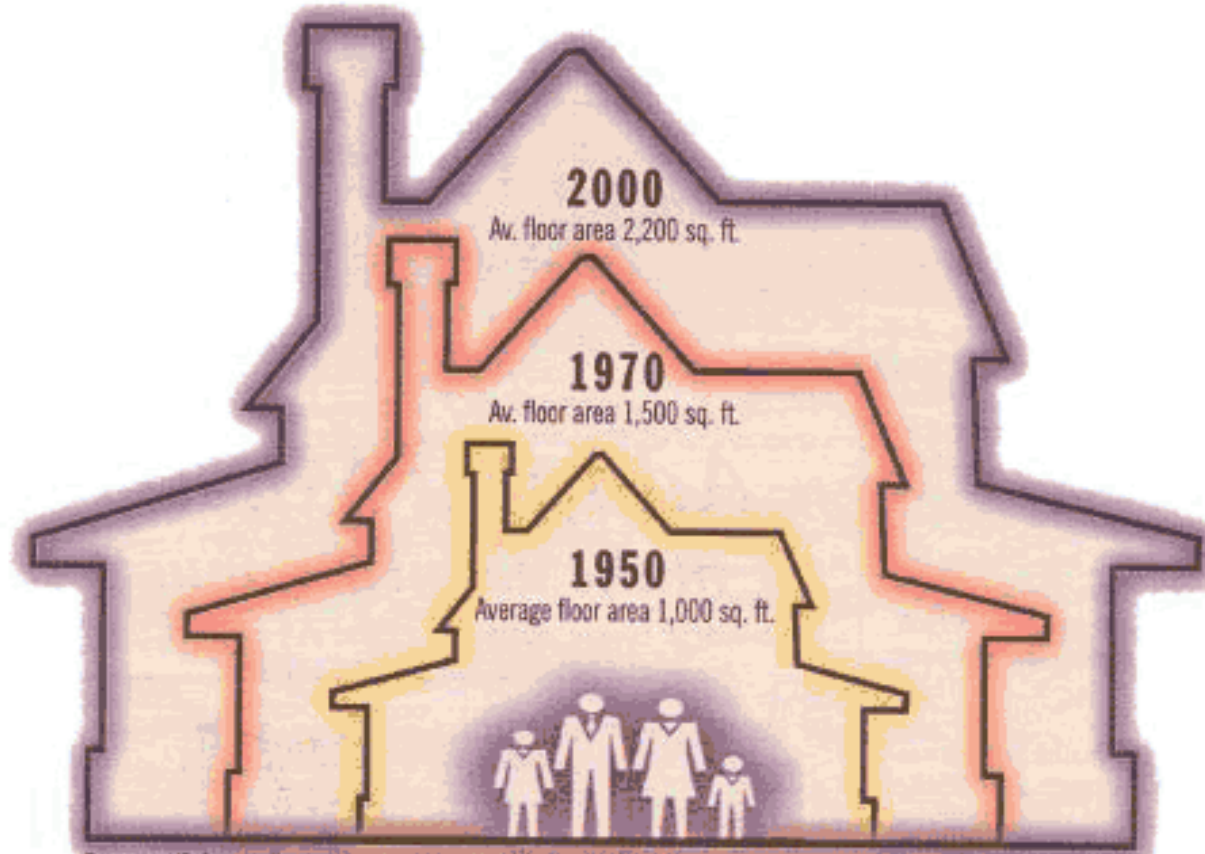


Sunday

JUNE 18, 2000

Home Size

1950 3.37 people per household - 297 s.f. per person
1970 3.14 people per household - 478 s.f. per person
2000 2.62 people per household - 840 s.f. per person



Sources: US Census Bureau, National Association of Home Builders

7/09/08



3. Participation Process

Step 1:

Builder joins
LEED for Homes
program



Step 2:

Rater performs
plan review



Step 3:

Home design
is refined,
as needed

Step 4:

Home is built



Step 5:

Green rater
performs
inspections /
rating



Step 6:

Provider
completes
certification

Guiding Principles

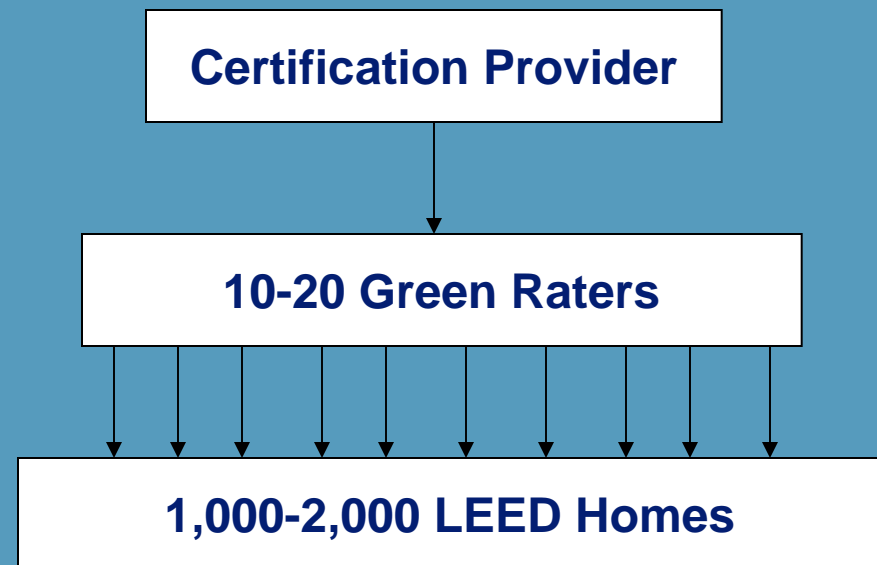
- 1. Decentralized, On-Site Verification**
 - Built on Existing ENERGY STAR / HERS Model:
- 2. Streamlined Process**
 - \leq \$1,000 per home
- 3. Minimal Documentation**
 - 3 Forms



Verifying LEED Homes

Certification Providers:

1. Select, Train, and Manage a Team of Green Raters
2. Official Certifiers of LEED Homes



Certification Fees

USGBC

- Builder Registration \$150 for Pilot
- Certification Fee \$50 / Home

Provider (Ask Your Local Provider)

- Design Review \$ 300 - 600
- Certification \$ 600 - 1,200
- With Sampling \$200 - 400

Other Support

- Design Assistance \$ Variable
- Training \$ Variable



Builder Benefits

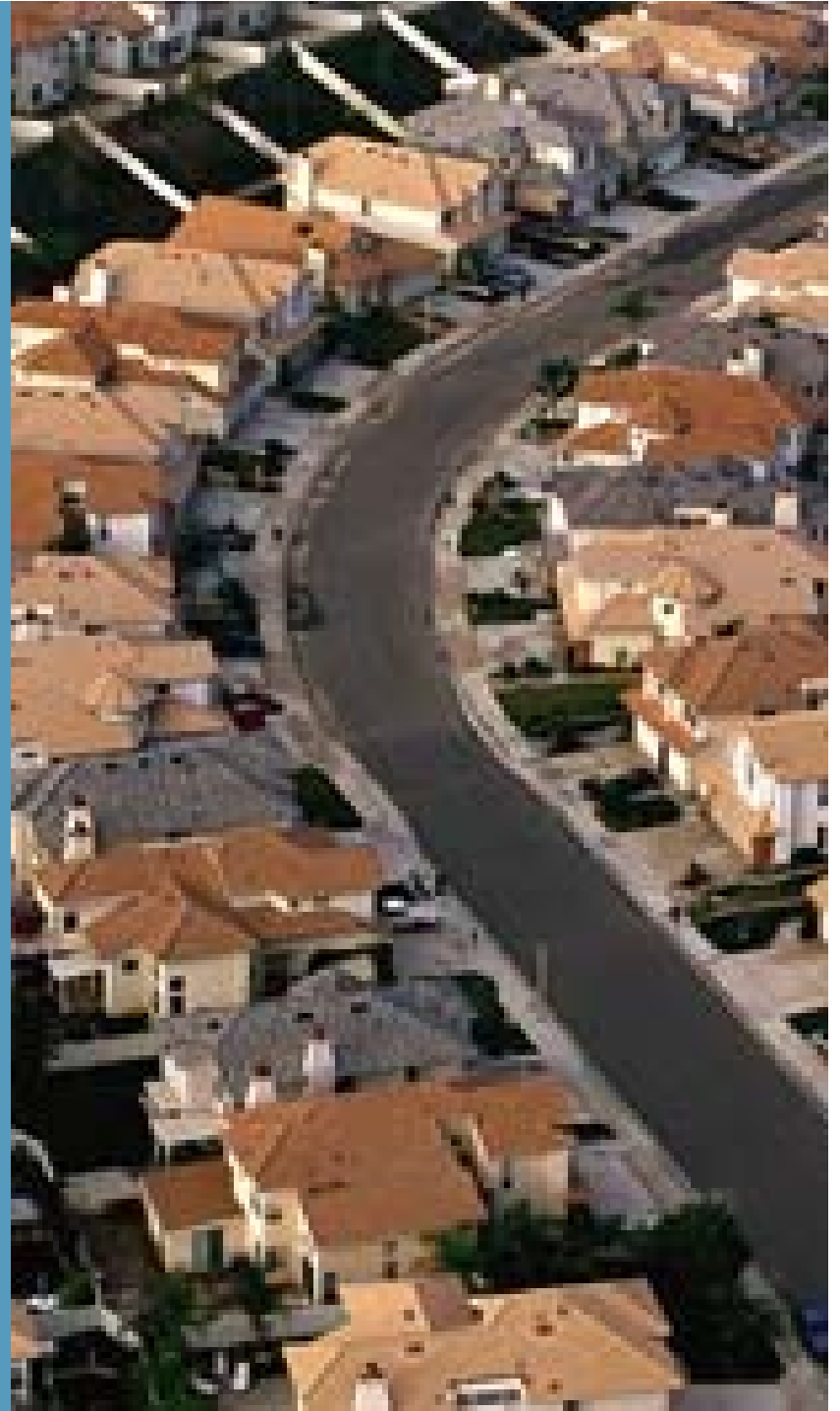
Reduced Costs

- Reduced Call-Backs
- Increased Customer Satisfaction
- Increased Referral Rate
- Reduced Marketing Costs

Increased Revenue

- Faster Close Rate
- More Sales

Higher Profits



How Much Does a LEED Home Cost?

| Comparison Criteria | Code Home | LEED Home | Difference | |
|---------------------|------------|------------|------------|----------|
| | | | (\$/Month) | (\$/Day) |
| Sticker Price | \$ 300,000 | \$ 308,500 | | |



Benefits of a LEED Home

| List of Features / Benefits | LEED Home | Other Home |
|---|-----------|------------|
| Higher quality | ☒ | |
| 30-50% more energy efficient | ☒ | |
| More comfortable living environment | ☒ | |
| 30-50% more water efficient | ☒ | |
| More durable home design and materials | ☒ | |
| 100 cfm of fresh air every hour | ☒ | |
| 50% better air filtration | ☒ | |
| 30-50% of building materials are environmentally preferable | ☒ | |
| Non-toxic pest management | ☒ | |
| Ozone safe refrigerant | ☒ | |
| 50% less waste to landfill (during construction) | ☒ | |
| 30% less storm water run-off (less pollution into watersheds) | ☒ | |
| Higher resale | ☒ | |

Other Cost Issues

More Cost Savings:

- \$100 / Barrel Oil
- \$10K - Construction Waste
- \$5K - Smaller Home
- \$30K - Durability

Mandates:

- LEED - Not Recommended
- NAHB Standard – Coming Soon

Incentives:

- In NM, OH (soon in NY, OR,...)
- \$10-14 K / LEED Home



4. Target Audience

Single Family



Multi-Family



Gut Rehab



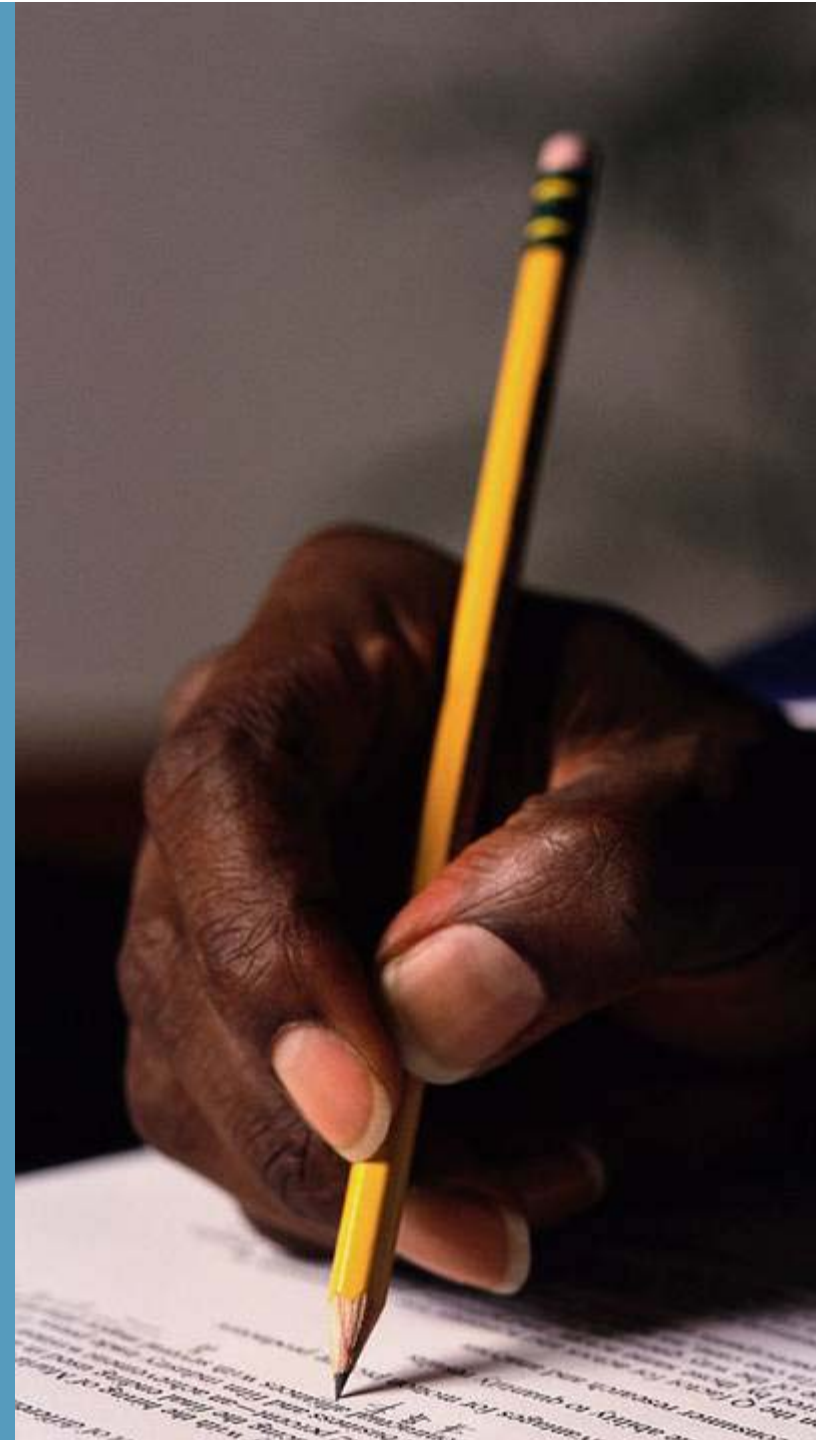
**Market Rate &
Affordable**

**Up to 3 Stories
and Mid Rise**

**Strip to Studs
on One Side**

Education

- 1. Introductory course**
for public (on-line)
- 2. Intermediate course**
for builders
- 3. Advanced course**
for raters
- 4. Advanced Course**
for designers and
consultants



Existing Homes

New Guideline:

- Not a Rating System
- Joint Effort: USGBC & ASID
- Available in March, 2008

www.regreenprogram.org



THE GREEN HOME GUIDE

- WHAT MAKES A GREEN HOME
- CLIMATE AND ENVIRONMENT
- GREEN HOME STANDARDS
- LOCAL RESOURCES
- HOME BUYER/RENOVATION GREEN GUIDE
- LIVING GREEN
- NEWS & EVENTS

SEARCH [Green Builder](#) [Green Home](#) [Green Retailer](#) [BOOKSTORE](#)

NEWS

USGBC Introductory PowerPoint Presentation

This high-quality presentation is a great introduction to the benefits of LEED and green building. Download it today to educate yourself, your colleagues, and your clients about the hows and whys of green. By joining USGBC. (2 MB file download.) [Read More...](#)

Green Building by the Numbers

Check out the latest stats on USGBC, LEED, and the green building industry. This high-quality presentation is a great introduction to the benefits of LEED. [Read More...](#)

How You Can Get Involved

By joining USGBC, you'll gain access to wealth of resources to help you leverage the rapidly growing green building industry. This high-quality presentation is a great introduction to the benefits of LEED and green building. Download it today to educate yourself, your colleagues. [Read More...](#)

BASICS



NeoCon
World's Trade Fair 2007

CHICAGO
JUNE 11-13, 2007

FACTS

DID YOU KNOW?

All Facts on Low-VOC Paints

This high-quality presentation is a great introduction to the benefits of LEED and green building. [Read More...](#)

SPOTLIGHT

The Johnson House. This high-quality presentation is a great introduction to the benefits of LEED and greer building. [Read More...](#)

ACT

Calculate your personal carbon footprint and learn how to reduce it. This high-quality presentation is a great introduction to the benefits of LEED. [Read More...](#)

www.greenhomeguide.org

LEED for Homes Initiative for Affordable Housing

Purpose: to recognize and reward the intrinsic resource efficiencies of affordable housing

- Awareness and Education
- Tools
- Technical Support



Summary

- LEED Homes are in demand
- LEED Homes are affordable
- LEED Homes is an new business opportunity
- LEED Homes asks you to be a market leader!



LEED® Facts

Mosier Townhomes
Mosier, OR

LEED for Homes Pilot Program
Certified on: April 24, 2007

Silver 51

| | |
|---------------------------------|----|
| Locations & Linkages | 8 |
| Sustainable Sites | 10 |
| Water Efficiency | 6 |
| Energy & Atmosphere | 19 |
| Materials & Resources | 6 |
| Indoor Environmental Quality | 2 |
| Innovation & Design | 0 |
| Awareness & Education | 0 |

Thank You for Supporting LEED for Homes

LEED® Facts

Living Homes
Santa Monica. CA

LEED for Homes Pilot Program
Certified on: May 12, 2006

Platinum 91

Locations & Linkages 10

Sustainable Sites 14

Water Efficiency 15

Energy & Atmosphere 32

Materials & Resources 8

Indoor Environmental

Quality 9

Innovation & Design 2

Awareness & Education 1



Q&A

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