Welcome to

LEED for Homes
And
Green Point Rated

Cabrillo College

16 March 2010
U.S. Green Building Council

- Founded in 1993
- Non-profit: 501(c) 3
- Mission-based organization
- Committed to expanding sustainable building practices
- Headquarters in Washington D.C.
  (Residential: San Diego, CA)
USGBC’s Mission

To transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy and prosperous environment that improves the quality of life.
STEWARDS market transformation
PROVIDES tools and expertise
EDUCATES the industry and the public
BUILD community
FORUMS for industry dialog
Tonight’s Agenda

• Green Point Rated & BIG

• What is LEED for Homes?
  • Program Overview
  • Existing Homes
  • Affordable Housing
  • Statistics

• LEED for Homes - Sims / Differences with LEED 2009
  • Categories
  • Process
  • Verification

• Residential Green Building Committee (RGBC) and Residential advocacy Campaign Intro
LEED FOR HOMES

Southern Living Idea Home
Photo by Rob Moody
LEED address the complete lifecycle of buildings:

- Homes
- Neighborhood Development (in pilot)
- Commercial Interiors
- Core & Shell
- New Construction
- Schools, Healthcare, Retail
- Existing Buildings, Operations & Maintenance

How Do You Define Green?

- **Builder A**: Energy Efficient, Healthy & Safe
- **Builder B**: Energy Efficient, Healthy & Safe, Durable, Water Efficient
- **Builder C**: Energy Efficient, Healthy & Safe, Durable, Water Efficient, Environmentally Responsive, Sustainable Community
How Does LEED Define a Green Home?

- Energy
- Indoor Air Quality
- Water
- Sites
- Materials

- Healthy
- Comfortable
- Durable
- Energy Efficient
- Environmentally Responsible
Program Scope and Applicable Building Types

- Detached/Attached single-family
- Existing Homes
- Manufactured and Modular
- Low-rise/Mid-rise multifamily
- Mixed-use buildings
- Dormitories and assisted living facilities
Remodeling vs. Gut Rehab

Major, “gut” rehab projects can participate in LEED for Homes, but partial rehab or renovation projects cannot.
Renovation / Remodel

REGREEN Guidelines

• Jointly developed: USGBC & ASID

• Partial renovations or general remodeling. (i.e. kitchen or bath remodel, additions, etc.)

• Not a rating system

• Available for download:

  regreenprogram.org
REGREEN REVOLUTION WEBINAR SERIES

HOME PERFORMANCE AUDITS
ONLINE TRAINING

Learn the ABC’s of Home Performance Audits:
Join us to discuss the value of an audit, what
exactly an audit consist of and how audit results
lay the foundation for meaningful retrofits.

This Thursday, March 18th at 1:00PM ET
Only $39.00 to register

https://video.webcasts.com/events/pmny001/viewer/index.jsp?eventid=33787
Affordable Housing

- Home Depot Foundation grant can help offset:
  - Registration Fees
  - Certification Fees
  - Verification Costs

- Who Qualifies?
  - 501(c)3 affordable housing developers

- Projects should contact Provider to apply
Program Status

Certified Stats

5,476 Certified Units
37% Affordable Housing
51% Silver-level
2,729 2009
1,443 Units 2010 YTD

- Certified: 368 projects / 478 homes
- Silver: 1500 projects / 2215 homes
- Gold: 417 projects / 1111 homes
- Platinum: 327 projects / 618 homes

Photo: Bernard C. Meyers

UPDATED Mar 2010
Registration Stats

Top 10 States:
1. CA  3,102 units
2. NY  1,454
3. TX  1061
4. NC  787 (Mil)
5. MS  738 (Mil)

Certification Stats

Top 10 States:
1. CA  485 units
2. MS  394 (Mil)
3. NM  169
4. OR  143
5. SC  140 (Aff)
Building a Program for Scale and Speed
Credit Categories

- Sustainable Sites (SS)
- Location & Linkages (LL)
- Indoor Environmental Quality (IEQ)
- Water Efficiency (WE)
- Materials & Resources (MR)
- Energy & Atmosphere (EA)
- Awareness & Education (AE)
- Innovation & Design Process (ID)
The Rating System: Simple & Streamlined

18 prerequisites
8 categories
136 points available
Ferrier Custom Homes
Weatherford, TX
LEED for Homes Pilot Program
Certified on: January 20, 2007

LEED® Facts

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
LEED® Facts
Bazzani Associates
Grand Rapids, MI

LEED for Homes Pilot Program
Certified on: February 7, 2007

Certified: 40

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locations &amp; Linkages</td>
<td>9</td>
</tr>
<tr>
<td>Sustainable Sites</td>
<td>3</td>
</tr>
<tr>
<td>Water Efficiency</td>
<td>6</td>
</tr>
<tr>
<td>Energy &amp; Atmosphere</td>
<td>9</td>
</tr>
<tr>
<td>Materials &amp; Resources</td>
<td>6</td>
</tr>
<tr>
<td>Indoor Environmental Quality</td>
<td>7</td>
</tr>
<tr>
<td>Innovation &amp; Design</td>
<td>0</td>
</tr>
<tr>
<td>Awareness &amp; Education</td>
<td>0</td>
</tr>
</tbody>
</table>
Commonwealth Property Fund  
Cambridge, MA

**LEED® Facts**

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locations &amp; Linkages</td>
<td>8</td>
</tr>
<tr>
<td>Sustainable Sites</td>
<td>5</td>
</tr>
<tr>
<td>Water Efficiency</td>
<td>3</td>
</tr>
<tr>
<td>Energy &amp; Atmosphere</td>
<td>13</td>
</tr>
<tr>
<td>Materials &amp; Resources</td>
<td>3</td>
</tr>
<tr>
<td>Indoor Environmental Quality</td>
<td>4</td>
</tr>
<tr>
<td>Innovation &amp; Design</td>
<td>0</td>
</tr>
<tr>
<td>Awareness &amp; Education</td>
<td>0</td>
</tr>
</tbody>
</table>

Certified on: August 15, 2006
How Much Does a LEED Home Cost?  
An Example

<table>
<thead>
<tr>
<th>Comparison Criteria</th>
<th>Code Home</th>
<th>LEED Home</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>($.Month)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>($/Day)</td>
</tr>
<tr>
<td>Sticker Price</td>
<td>$300,000</td>
<td>$308,500</td>
<td>+ $55</td>
</tr>
<tr>
<td>Mortgage Payment</td>
<td>$1,890</td>
<td>$1,945</td>
<td>+ $55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+ $1.80</td>
</tr>
<tr>
<td>Energy Bill</td>
<td>$150</td>
<td>$105</td>
<td>- $45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- $1.50</td>
</tr>
<tr>
<td>Water Bill</td>
<td>$30</td>
<td>$20</td>
<td>- $10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- $0.30</td>
</tr>
<tr>
<td>Net Cost of Ownership</td>
<td>$2,070</td>
<td>$2,070</td>
<td>- $0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- $0</td>
</tr>
</tbody>
</table>
Next Steps

Visit www.usgbc.org/leed/homes for:

✓ Rating system
✓ List of Homes Providers
✓ Reference guide
✓ Project checklist
✓ Education workshops
✓ Affordable housing info
Next Steps

Visit www.thegreenhomeguide.org for:

- Project case studies
- Consumer resources
Similarities and Differences from LEED (NC) 2009

**Similarities:**
- Credit Categories
- Performance Thresholds
- Approx. ¼ of credits
- Credit Categories: SS, EA, IEQ, MR & WE

**Differences:**
- EnergyStar / HERS
- Credit Categories: AE, ID LL (LEED ND link)
- Delivery System Providers (Reviewers) Raters (Commissioning)
- QA Procedures
LEED for Homes vs LEED 2009

Administration:

LEED-H
- A Provider coordinates the testing and verification, ensures quality assurance of the raters providing the testing and verification, and submits paperwork to USGBC for project certification. GreenRaters and HERs raters provide the field verification.
- Compared to LEED-NC, the required documentation is minimal. An Accountability Form is signed by each of the respective design professionals to attest to the completion of LEED measures/credits.
- The award level point thresholds are adjusted based on the size of the home. Therefore, smaller homes are rewarded.

LEED-NC
- Typically the Contractor is responsible for submitting all the required documentation for each credit.
  • Required documentation is extensive and labor intensive.

Innovation and Design Process

LEED-H
- Credits available for having an integrated project team, holding a design charrette, and orientating the building for solar design.

LEED-NC
- Similar credits as LEED-H.

Locations and Linkages

LEED-H
- Credits available for project being located in LEED-ND Neighborhood; being on an infill site, previously developed site, or on edge of existing development; and being near existing infrastructure.

LEED-NC
- This section of credits does not exist for LEED-NC.
LEED for Homes vs LEED 2009

Sustainable Sites

LEED-H
- Credits available for high density development.

LEED-NC
- Credits available for building on a Brownfield site; providing preferred parking or refueling stations for alternative fuel vehicles; and minimizing/eliminating parking.

Water Efficiency

Both LEED-H and LEED-NC have similar credits

Energy and Atmosphere

LEED-H
- Project can follow either a performance-based approach (by complying with Energy Star for Homes and obtaining a HERS Index value) or a prescriptive approach. The LEED-H energy-efficient requirements are geared more towards residential buildings as opposed to the LEED-NC energy-efficient requirements (see below).
- Testing and verification by a third-party rater is required to verify credits are met.

LEED-NC
- Requires that each project obtain at least a 14% energy savings compared to the baseline building performance rating per ASHRAE/IESNA Standard 90.1-2004. This can be accomplished through energy modeling or a prescriptive approach (currently under development). ASHRAE/IESNA Standard 90.1-2004 establishes minimum energy-efficient requirements for buildings, except low-rise residential.
- Commissioning is required on all of the buildings energy related systems. This is typically the responsibility of the Contractor.
- Credit available for engaging in at least a two-year renewable energy contract.
LEED for Homes vs LEED 2009

Materials and Resources
Both LEED-H and LEED-NC have similar credits

Indoor Environmental Quality
Both LEED-H and LEED-NC have similar credits

Awareness and Education
LEED-H
  o Credits available for educating homeowners/tenants and building managers
LEED-NC
  o This section of credits does not exist for LEED-NC

Conclusion
The LEED-H program was originally geared towards production homebuilders, and as a result is much simpler and straightforward than LEED-NC. LEED-H requires less documentation to justify each credit and the Provider is responsible for overseeing the raters, submitting the paperwork to USGBC, and is available to answer questions and provide guidance. It is also anticipated that the testing and verification costs for LEED-H will be less than commissioning costs associated with LEED-NC. Accordingly, for three-story, wood-framed residential buildings, LEED-H is the more appropriate LEED rating system.
Delivery Differences from LEED (NC)

**Delivery System**

- Local Provider
- Green Rater
- HERS Rater
- Accountability Forms
- Reduced Submittal Documentation
- Designed w/ Home Builders in mind inc. production and small SFR builders
LEED for Homes Delivery Team

- Provider
- Green Rater
- LEED AP Homes (optional)
- Design & Construction Team
- USGBC
LEED for Homes Delivery Team: USGBC

Roles

- Inform and educate builders
- Train Providers
- Maintain national standards for best practice green homebuilding
- Maintain database of registered projects
- Review and certify the home, maintain database of certified LEED homes
- Provide marketing materials to project team
LEED for Homes Delivery Team: Provider

Roles

- Delivers the program on behalf of USGBC
- Conducts preliminary rating with project team
- Provides technical support around the LEED for Homes rating system
- Coordinates and provide quality management services over a network of Green Raters
- Submits final certification documents to USGBC
Quality Assurance Processes

1. Third Party Verification Process

2. Auditing of Raters by Provider
   - 3rd party 10% paper review of all LEED Home ratings for each rater, conducted by a third party on an annual basis.
   - 1% in-field 3rd party re-rating of all LEED Home ratings for each rater

3. Auditing of Provider by USGBC
LEED for Homes Provider Locations

Nationwide:
36 Provider Organizations

California:
5 Providers (currently):
- Architectural Energy Corporation
- Davis Energy Group
- Energy Inspectors Corp.
- Guaranteed Watt Saver
- Sonoran LEED for Homes

Find a List of providers at:
www.usgbc.org/homes
LEED for Homes Delivery Team: Green Rater

Roles

- Provides field verification services
- Should participate in preliminary rating
- Verifies that project submittal package is complete and turns it into Providers
- If Green Rater is not a HERS rater, a HERS rater is needed to perform the energy-related performance testing
Raters
Nationwide RESNET accredited HERS raters

The provider organizations have established networks of raters
Registration

- Register online, or contact USGBC for volume registration
- Pay fee online or by check

<table>
<thead>
<tr>
<th></th>
<th>Members</th>
<th>Non Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family</td>
<td>$150</td>
<td>$225</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>$450</td>
<td>$600</td>
</tr>
</tbody>
</table>

- Volume Registration Fee Breaks kick in at 10 SF homes
Certification

- Documentation true 3rd party verified
- If Credit Interpretation Requests are issued, a fee may be associated with each CIR
- Provider is notified of certification
- Press materials are made available to a certified project
- Volume Price Breaks based on model types

<table>
<thead>
<tr>
<th></th>
<th>Members</th>
<th>Non Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family</td>
<td>$225</td>
<td>$300</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>$0.035/sq ft.</td>
<td>$0.045/sq ft.</td>
</tr>
</tbody>
</table>
Differences from LEED 2009 (NC)

Rating System

- Home Size Adjuster
- Integrated Design
- Durability
- LL / ND Category
- Landscape and Irrigation
- AE Category
# Project Checklist

## LEED for Homes Project Checklist

<table>
<thead>
<tr>
<th>Builder Name:</th>
<th>Project Team Leader:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Address (Street/City/State):</td>
<td></td>
</tr>
</tbody>
</table>

### Project Point Total
- **Prelim:** 0 + 0 maybe pts
- **Final:** 0

### Certification Level
- **Prelim:** Not Certified
- **Final:** Not Certified

### Final Credit Category Point Totals
- ID: 0
- SS: 0
- EA: 0
- EQ: 0
- LL: 0
- WE: 0
- MR: 0
- AE: 0

### Innovation & Design Process (ID)

<table>
<thead>
<tr>
<th>Max Pts.</th>
<th>Preliminary Rating</th>
<th>Project Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available</td>
<td>Y/ Y/ Maybe/ No</td>
<td>Notes</td>
</tr>
</tbody>
</table>

#### 1. Integrated Project Planning
- **1.1 Preliminary Rating**
  - Target performance tier: 
- **1.2 Integrated Project Team (meet all of the following)**
  - a) Individuals or organizations with necessary capabilities
  - b) All team members involved in various project phases
- **1.3 Professional Credentialed with Respect to LEED for Homes**
  - 

#### Notes
- unavailable until further notice

---

**Adjusted Certification Thresholds**

- **Certified:** 45.0
- **Gold:** 75.0
- **Silver:** 60.0
- **Platinum:** 90.0
# Durability Evaluation Form

## LEED for Homes

### Durability Evaluation Form
(for prerequisite ID 2.1)

<table>
<thead>
<tr>
<th>Builder Name:</th>
<th>Project Team Leader:</th>
<th>Home Address (Street/City/State):</th>
</tr>
</thead>
</table>

### Home

<table>
<thead>
<tr>
<th>Building type:</th>
<th>Floor Area:</th>
<th>Structure type:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project type:</td>
<td># of Bedrooms:</td>
<td>Exterior roofing:</td>
</tr>
<tr>
<td>Number of stories:</td>
<td>Number of full bathrooms:</td>
<td>Garage:</td>
</tr>
</tbody>
</table>

### Site

<table>
<thead>
<tr>
<th>EPA Radon Zone:</th>
<th>Type of soil:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrain / topography:</td>
<td>Depth of soil to bedrock:</td>
</tr>
<tr>
<td>Predominant landscaping:</td>
<td>Depth of ground water below structure:</td>
</tr>
<tr>
<td>Common regional pests:</td>
<td>Proximity to bodies of water?:</td>
</tr>
<tr>
<td>Other significant features:</td>
<td>Above FEMA 100-year floodplain?:</td>
</tr>
</tbody>
</table>

**Additional comments:**

### Climate

<table>
<thead>
<tr>
<th>IECC 2004 Climate Zone:</th>
<th>Annual rainfall (inches/yr):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating degree days (HDD):</td>
<td>Annual maximum wind speed (mph):</td>
</tr>
</tbody>
</table>
Anticipated Effort for Verification

<table>
<thead>
<tr>
<th>Typ of Verification Activity</th>
<th>No. of Hours Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ENERGY STAR</td>
</tr>
<tr>
<td></td>
<td>Typical</td>
</tr>
<tr>
<td>Preliminary Rating</td>
<td>4</td>
</tr>
<tr>
<td>Intermediate Inspections</td>
<td>4</td>
</tr>
<tr>
<td>Final Review</td>
<td>6</td>
</tr>
<tr>
<td>Travel Time</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>10.5</strong></td>
</tr>
<tr>
<td>w/o Preliminary Rating</td>
<td><strong>6.5</strong></td>
</tr>
<tr>
<td>w/ Preliminary Rating</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Credit</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Energy</td>
<td>1. ENERGY STAR Home</td>
</tr>
<tr>
<td></td>
<td>3. Envelope Air Leakage</td>
</tr>
<tr>
<td></td>
<td>5. Duct Leakage</td>
</tr>
<tr>
<td></td>
<td>6. Refrigerant Charge</td>
</tr>
<tr>
<td>IEQ</td>
<td>4.3. Outdoor Air Flow Test</td>
</tr>
<tr>
<td></td>
<td>5.3 Exhaust Air Flow Test</td>
</tr>
<tr>
<td></td>
<td>6.2 Supply Air Flow Test</td>
</tr>
<tr>
<td></td>
<td>8.3 Contaminant Testing</td>
</tr>
</tbody>
</table>
Location and Linkages

- Avoid environmentally sensitive areas
- Near green space
- Near public transportation

- Higher density housing
- Near Jobs
- Near schools, grocery stores, banks, churches, etc etc
Home Size Adjuster

- 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
## Home Size Adjuster

### Project Checklist
**LEED for Homes**

**Builder Name:**

**Home Address (Street/City/State):**

<table>
<thead>
<tr>
<th>Input Values:</th>
<th>Minimum No. of Points Required:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Bedrooms:</td>
<td>Certified: 45</td>
</tr>
<tr>
<td>Floor Area (SF):</td>
<td></td>
</tr>
<tr>
<td>2400</td>
<td></td>
</tr>
</tbody>
</table>

---

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

### Innovation and Design Process (ID)

<table>
<thead>
<tr>
<th>YR-R</th>
<th>No</th>
<th>N/A</th>
<th>Innovation and Design Process (ID)</th>
<th>(Minimum of 0 ID Points Required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td></td>
<td></td>
<td>Integrated Project Planning</td>
<td>9</td>
</tr>
<tr>
<td>1.2</td>
<td></td>
<td></td>
<td>Preliminary Rating</td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td></td>
<td></td>
<td>Integrated Project Team</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Design Charrette</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td></td>
<td></td>
<td>Quality Management for Durability</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td></td>
<td></td>
<td>Durability Planning; (Pre-Construction)</td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td></td>
<td></td>
<td>Wet Room Measures</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td></td>
<td></td>
<td>Third-Party Durability Inspection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quality Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td></td>
<td></td>
<td>Innovative/Regional Design</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td></td>
<td></td>
<td>Provide Description and Justification for Specific Measure</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td></td>
<td></td>
<td>Provide Description and Justification for Specific Measure</td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td></td>
<td></td>
<td>Provide Description and Justification for Specific Measure</td>
<td></td>
</tr>
</tbody>
</table>

---

0 Sub-Total
Durability

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

Optional Measure
- 3rd Party Inspection
Integrated Design

ID 1: Integrated Project Planning

ID 2: Durability Management Process

ID 3: Innovative and Regional Design

37 Design-Related Credits that require a design sign-off
# Durability Inspection Checklist Template

**Durability Inspection Checklist Template**

(for prerequisite ID 2.1 & 2.2 and credit ID 2.3)

<table>
<thead>
<tr>
<th>Builder Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Team Leader:</td>
<td></td>
</tr>
<tr>
<td>Home Address:</td>
<td></td>
</tr>
</tbody>
</table>

For each risk type below, list the durability strategies used in the home to help mitigate those risks. For each of the high and moderate risk areas indicated in the Risk Evaluation Form, please include at least three strategies. Where necessary, add additional rows. Refer to the Example Durability Strategies page for sample strategies that may be applicable.

Have the builder or trade indicate where the strategy is included in the drawings, specification, or scopes of work, and then sign-off that the durability strategies were incorporated into the home. If ID 2.3 is being pursued, have the Green Rater sign-off that the strategies were verified in the home.

## Durability Strategies by Issue Type

<table>
<thead>
<tr>
<th>Exterior Water / Moisture</th>
<th>Location in Drawings, Specifications, and/or Scopes of Work</th>
<th>Sign-off by Responsible Party (initial below)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prerequisite ID 2.2 (Builder/Trade)</td>
<td>Credit ID 2.3 (Green Rater)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interior Water / Moisture</th>
<th>Location in Drawings, Specifications, and/or Scopes of Work</th>
<th>Sign-off by Responsible Party (initial below)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prerequisite ID 2.2 (Builder/Trade)</td>
<td>Credit ID 2.3 (Green Rater)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Air Infiltration</th>
<th>Location in Drawings, Specifications, and/or Scopes of Work</th>
<th>Sign-off by Responsible Party (initial below)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prerequisite ID 2.2 (Builder/Trade)</td>
<td>Credit ID 2.3 (Green Rater)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interstitial Condensation</th>
<th>Location in Drawings, Specifications, and/or Scopes of Work</th>
<th>Sign-off by Responsible Party (initial below)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prerequisite ID 2.2 (Builder/Trade)</td>
<td>Credit ID 2.3 (Green Rater)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Residential Green Building Committee

Link between:
• Chapters
• USGBC National
• Branches
• Practitioners
• Public

• Monthly Meetings
• Quarterly Educational Events
• West Coast Green
• Advocate Speakers
• Coordination w/ Advocacy Committees
• Education & Outreach

RGBC meets the 4th Wednesday of every month from 5:30-7pm
Heffernan Insurance Brokers
120 Howard Street, Suite 500 (Enter btwn. Spear & Main)
San Francisco, CA  94105
Transportation:
2 Blocks South of Embarcadero BART, exit Spear
2 Blocks South, 2 Blocks West of Ferry Building

Conference Call #:
1-800-567-5900 (US & Canada)
1-702-835-5025 (Outside US & Canada)
Access Code: 411578
USGBC -NCC’s Chapterwide
RESIDENTIAL GREEN BUILDING COMMITTEE

The RGB Committee provides a forum for Collaboration and Outreach within the Residential Market. With help from the USGBC, the committee also develops ideas for reaching out to home builders, architects, realtors, city departments and all parties involved in the design and construction of residential buildings and neighborhoods. The goal of the Residential Green Building Committee is to drive market transformation by delivering a consistent message about green building practices and streamlining the process of making greener homes.
Regional Collaborative Model
Green Home Building Rating Programs

- LEED for Homes
- ENERGystar
- Builders Challenge
- ICC700 – NAHB Green Building Standard
- Over 70 local green building programs

For more information, go to www.buildingamerica.gov/challenge
## California Green Building Programs

<table>
<thead>
<tr>
<th></th>
<th>GreenPoint Rated</th>
<th>CA Green Builder</th>
<th>NAHB</th>
<th>LEED for Homes</th>
<th>BSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community and Design</td>
<td>✓</td>
<td>na</td>
<td>✓</td>
<td>✓+</td>
<td>na</td>
</tr>
<tr>
<td>Site / Landscaping</td>
<td>✓</td>
<td>na</td>
<td>✓</td>
<td>✓+</td>
<td>na</td>
</tr>
<tr>
<td>Water Efficiency</td>
<td>✓</td>
<td>✓−</td>
<td>✓</td>
<td>✓−</td>
<td>✓−</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>✓</td>
<td>✓+</td>
<td>✓</td>
<td>✓+</td>
<td>✓−</td>
</tr>
<tr>
<td>Renewable Energy</td>
<td>✓</td>
<td>na</td>
<td>✓</td>
<td>✓</td>
<td>na</td>
</tr>
<tr>
<td>Resource Conservation</td>
<td>✓</td>
<td>✓−</td>
<td>✓</td>
<td>✓+</td>
<td>✓−</td>
</tr>
<tr>
<td>Indoor Air Quality</td>
<td>✓</td>
<td>✓−</td>
<td>✓</td>
<td>✓+</td>
<td>✓−</td>
</tr>
<tr>
<td>Durability/Moisture Control</td>
<td>✓</td>
<td>na</td>
<td>✓</td>
<td>✓+</td>
<td>✓−</td>
</tr>
<tr>
<td>Innovation</td>
<td>✓</td>
<td>na</td>
<td>✓</td>
<td>✓</td>
<td>na</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Available points in this category</th>
<th>Some or all points are less than GreenPoint Rated or just meet Ca Code</th>
<th>Requirements are more rigorous than GreenPoint Rated</th>
<th>No available points in this category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Type:</td>
<td>Utility EE RNC</td>
<td>ENERGY STAR®</td>
<td>New Solar Homes</td>
<td>GreenPoint Rated</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>--------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Geography:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administered/ Implemented:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Type:</td>
<td>SF + MF</td>
<td>SF + MF</td>
<td>SF + MF</td>
<td>SF + MF</td>
</tr>
<tr>
<td>Program Cost:</td>
<td>Afford. &amp; Mkt Rate</td>
<td>Afford. &amp; Mkt Rate</td>
<td>Afford. &amp; Mkt Rate</td>
<td>Afford. &amp; Mkt Rate</td>
</tr>
<tr>
<td>Verification:</td>
<td>HERS Rater/EC cost</td>
<td>HERS Rater/EC cost</td>
<td>HERS Rater/EC Cost</td>
<td>GPR Rater Cost</td>
</tr>
<tr>
<td>Logo use:</td>
<td>NA</td>
<td>No Cost</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Incentives:</td>
<td>$150-500/u; $60/u HERS; NA</td>
<td>$2.50/watt ($3.50 afforde)</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Baseline:</td>
<td>15%&gt;T-24 and/or ESTARappl.</td>
<td>15%&gt;T-24 + Duct Test or OUI/TBC + AC sttma</td>
<td>ENERGY STAR appl.</td>
<td>Tier II: 15%&gt;T-24 + PVsys+ESTAR® appl.</td>
</tr>
<tr>
<td>Process (proj phase):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(design) 1</td>
<td>Submit app + plans + T-24</td>
<td>Submit MOU</td>
<td>Expect to hire HERS*</td>
<td>Submit app + supp. docs</td>
</tr>
<tr>
<td>(cost estimating) 2</td>
<td>Undergo/pass plan rev.</td>
<td>Meet reqs.</td>
<td>Expect to hire HERS*/PV</td>
<td>Undergo/pass utility prog EE plan + solar rev.</td>
</tr>
<tr>
<td>(Permitting) 3</td>
<td>Undergo/perm plan rev.</td>
<td>Meet reqs.</td>
<td>Expect to hire HERS*/PV</td>
<td>Undergo/perm plan rev.</td>
</tr>
<tr>
<td>(Completion) 5</td>
<td>Coord. w/utility on final</td>
<td>NA</td>
<td>Coord. w/utility on final</td>
<td>Coord. w/utility on final</td>
</tr>
<tr>
<td>Program Website Resources:</td>
<td>flexyourpower.com</td>
<td>energystar.gov</td>
<td>gosolarcalifornia.ca.gov</td>
<td>greenpointrated.org</td>
</tr>
<tr>
<td>(www):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Resources:</td>
<td>h-m-g.com</td>
<td>energy.gov</td>
<td>goolarcalifornia.ca.gov</td>
<td>documents.ashx.html</td>
</tr>
</tbody>
</table>

**KEY:** EE = Energy Efficiency
MF = multifamily
U = unit
HERS = Home Energy Rating System
HG = Heating Group
EC = Energy Consultant
DEG = Davis Energy Group
BIS = Build it Green
MOU = Memorandum of Understanding

**Find A:** HERS www.energy.ca.gov/HERS
EE www.cabec.ca.gov/censor.txt.php
EC www.consumerenergycenter.org/energydatabase
GPR www.buildgreen.org/greenpoint-rated/find-rater
LEED-H Rtr thru DEG
California Residential Green Building Program Decision Tree

START
New Construction/Gut Rehab or Existing Building?

>50% non-residential space?

Yes

No

Single or Multifamily?

Number of above grade occupiable floors including commercial, excluding garages?

≤3 floors

4-6 floors

≥7 floors

Core, Shell, ≤50% Interior

Interior Space

Whole Building

Single Family

Multifamily

Single or Multifamily?

>50% non-residential space?

Yes

No

Single or Multifamily?

Single

Multifamily

≤3 floors

4-6 floors

≥7 floors

Single Family

Multifamily

GPR SF EH
Home Performance with Energy Star

GPR MF EH

LEED CS
Green Globes CALgreen

LEED NC
GPR SF NH CALgreen CalGreen Builder Energy Star New Homes

LEED H
GPR MF NH CALgreen Energy Star New Homes

LEED H
GPR MF NH CALgreen Energy Star High-Rise Pilot

LEED NC
GPR MF NH CALgreen Energy Star High-Rise Pilot

LEED CI
Green Globes CALgreen

New Construction or Gut Rehab

Existing Building

Scope of project?

New Construction or Gut Rehab or Existing Building?
Residential Market Development Team

• Nate Kredich, VP, Residential Market Development
• Kelsey Mullen, Director, Residential Business Development
• Courtney Baker, Residential Operations Manager
• Jennifer Owens, Residential Education Manager
• Matt Libby, Residential Alliances Manager
• Tom Flanagan, Residential Coordinator
• Clare Rosenberger, Residential Program Assistant
• Batya Metalitz, Asst. Manager, LEED Technical Development

• Consultants
  • Jay Hall – Technical
  • Doug King – Certification
  • Stace McGee – Chapter Advocacy
QUESTIONS?

**USGBC-NCC Residential Green Building advocate (RGBa):**
Michael Kloefkorn, Van Meter Williams Pollack, LLP
michael@vmwp.com

**USGBC-NCC Residential Green Building Committee (RGBC) Co-Chairs:**
Alan Heikkinen, Branagh Construction
Brendan Bloom, Brookstone Builders
http://groups.usgbc-ncc.org
RGBAdvocacyCommittee@groups.usgbc-ncc.org

- **USGBC-NCC Silicon Valley Branch Liaison:** Tadas Narauskas
- **USGBC-NCC Monterey Bay Branch Liaison:** Rick William/ Alfred Seccombe
- **USGBC-NCC Diablo East Bay Branch Liaison:** Cheryl O’Conner
- **USGBC-NCC Sacramento Branch Liaison:** Pepper Smith

Contact the team: Homes@usgbc.org
Residential Green Building Priority 2010

Introducing the new U.S. Green Building Council’s Green Home Guide.com

Connecting you to ideas, advice and green home professionals

GreenHomeGuide Local Landing Page

LEAD YOUR MARKET
- Blog
- Calendar
- Ask a Pro
- Local Directory
Tools, Resources & Education

- Case Studies
- Green Strategy Generator
- Green Product Checklist
- Webinars
- Presentations
- Workshops / Certificate Program

www.REGREENprogram.org
LEED for Homes Green Rater Certificate

- The LEED for Homes Green Rater certificate process, which includes qualifications, education, assessment, and mentorship, ensures that all LEED for Homes Green Raters demonstrate a minimum level of knowledge and skills.

Beginning January 1, 2011:

*All LEED for Homes projects must utilize a LEED for Homes Green Rater certificate-holder*
LEED for Homes Delivery Teams

Project Team
- Developer / Owner
- Builder / GC
- Architect / Designer
- Trades
- Subs / Crew
- Green Consultant* / LEED AP Homes* (*optional)

Verification Team
- Provider QAD
- Provider Support Staff
- Green Rater
- Energy Rater

USGBC

Green Rater Certificate and LEED AP Homes Credential

- Verification Services on Verification Team
- Implementation Services on Project Team

USGBC
U.S. GREEN BUILDING COUNCIL
NORTHERN CALIFORNIA CHAPTER
www.usgbc-ncc.org
Green Rater Workshop Scheduling

<table>
<thead>
<tr>
<th>Location (Event)</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raleigh, NC (RESNET)</td>
<td>2/20-2/21</td>
</tr>
<tr>
<td>California</td>
<td>April</td>
</tr>
<tr>
<td>Florida</td>
<td>April</td>
</tr>
<tr>
<td>Austin, TX (ACI)</td>
<td>4/19-4/20</td>
</tr>
<tr>
<td>Atlanta, GA</td>
<td>5/10-5/11</td>
</tr>
<tr>
<td>Portland, OR</td>
<td>October</td>
</tr>
<tr>
<td>Chicago (Greenbuild)</td>
<td>November</td>
</tr>
<tr>
<td>Northeast- Boston</td>
<td>3rd Quarter</td>
</tr>
</tbody>
</table>

Conventional Track

**FIRST:** Submit Application [www.usgbc.org/greenrater](http://www.usgbc.org/greenrater)

1. Complete LEED for Homes Green Rater Training
   *Online modules / In-Person workshop*

2. Pass LEED for Homes Green Rater Exam

3. Complete Mentorship through LEED for Homes Provider Org.
   *2 years to complete mentorship*