

LEED for Homes: Where We Stand

Presented By

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Overview

- LEED for Homes
 - Current Statistics
 - General info
 - Checklist
 - Points
 - Categories
 - Website
- LEED for Homes Case Study



Current Statistics

- As of 12/23/08, over 13,700 units are registered
- 1,285 units have been certified
 - Certified: 271 certified
 - Silver: 547 certified
 - Gold: 267 certified
 - Platinum: 200 certified
- Colorado Statistics – 6 Certified Homes
 - Certified: 1
 - Silver: 2
 - Gold: 2
 - Platinum: 1



General Info

- Started 2005 as pilot, launched as full program on 11/08/2007 at Green Build
- National green building rating system
- Homes can be certified at 4 levels
 - Certified (lowest)
 - Silver
 - Gold
 - Platinum (highest)



General Info: Categories

- Innovation and Design Process (ID)
- Location and Linkages (LL)
- Sustainable Sites (SS)
- Water Efficiency (WE)
- Energy and Atmosphere (EA)
- Materials and Resources (MR)
- Indoor Environmental Quality (EQ)
- Awareness and Education (AE)



Checklist

- 8 total categories
- 18 mandatory prerequisites
- 4 categories require minimum points
- 3 categories have 2 paths
- 136 maximum points available



Points

- Points scale:
 - Certified 45
 - Silver 60
 - Gold 75
 - Platinum 90
- For a 4-bedroom 2,600 sq. ft. home
- Required points threshold for each level changes based on the home size adjuster



Categories

- Innovation and Design Process (ID)
 - Prereq: Preliminary Rating
 - Prereq: Durability Planning & Durability Management
 - Integrated project planning
 - Durability management
 - Innovative design
 - Design item that is not on the checklist and measurable benefit can be proven
 - Exceeding the performance requirements of existing credits



Categories

- Location and Linkages (LL) – 2 paths, LEED – ND or a prescriptive type path
 - Infill or previously developed
 - Existing infrastructure
 - Community resources and public transportation
 - Access to open space



Categories

- Sustainable Sites (SS)
 - Prereq: Erosion
 - Prereq: No Invasive Plants
 - Landscaping (drought-tolerant plants, non-invasive plants, reducing irrigation demand)
 - Surface water management
 - Pest control
 - Compact development



Categories

- Water Efficiency (WE)
 - Water reuse
 - Irrigation system
 - Indoor water use



Categories

- Energy and Atmosphere (EA) – 2 paths, Energy Star or prescriptive path
 - Prereq: Energy Star for Homes
 - Prereq: Refrigerant Charge Test
 - Insulation
 - Infiltration
 - Windows
 - Duct tightness
 - Water heating
 - Lighting
 - Appliances
 - Renewable energy



Categories

- Materials and Resources (MR)
 - Prereq: Framing Order Waste Factor Limit
 - Prereq: FSC-Certified Tropical Wood
 - Prereq: Construction Waste Management Planning
 - Material efficient framing
 - Environmentally preferable products
 - Waste management



Categories

- Indoor Environmental Quality (EQ) – 2 paths, Energy Star IAP or a prescriptive path
 - Prereq: Basic Combustion Venting
 - Prereq: Basic Outdoor Air Ventilation
 - Prereq: Basic Local Exhaust
 - Prereq: Room-by-Room Load Calculations
 - Prereq: Good Filter
 - Prereq: Radon-resistant Construction
 - Prereq: No HVAC in Garage
 - Moisture control
 - Distribution of space heating
 - Contaminant control
 - Garage pollutant protection



Categories

- Awareness and Education (AE)
 - Prereq: Basic Operations Training
 - Education of homeowner and/or tenants
 - Education of building managers



Website

- LEED for Homes:
www.usgbc.org/LEED/Homes
- USGBC has a new green home building website: <http://www.greenhomeguide.org/>
- Great resource for green home building, I suggest you check it out!





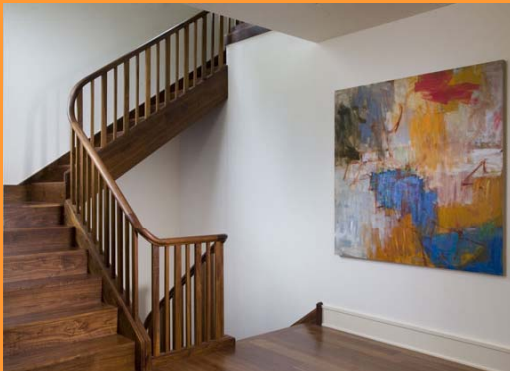
Case Study





Case Study

- Designed by: Jim Logan Architects
- Built by: Hughes Construction
- Custom home in Boulder
- Received LEED Platinum Certification in September 2008
- First LEED-H Platinum home in Colorado





Case Study

- 2-story home with full basement
- Officially a net zero home achieving a HERS Index of 0
- Basement: ICF's
- AGW: Half SIPS panels and half framed with blown closed cell foam
- Geothermal Ground Source Heat Pump supplying radiant floor heating and cooling
- Very tight construction (0.07 NatACH)
- 10kW PV System



Innovation & Design Process

- 5 ID Points Achieved
 - Integrated Project Team
 - Design Charrette
 - Third-Party Durability Inspection



Location & Linkages

- 10 LL Points Achieved
 - Avoid Environmentally Sensitive Sites and Farmland
 - Infill and Previously Developed Site
 - Close to Outstanding Community Resources
 - Close Access to Open Space



Sustainable Sites

- 15.5 SS Points Achieved
 - Basic Sustainable Landscape Design
 - Limit of Conventional Turf
 - Drought Tolerant Plants
 - Ultimate Shading of Hardscapes
 - Permeable Site
 - Non-Toxic Pest Control



Water Efficiency

- 7 WE Points Achieved
 - Grey Water Re-Use System
 - High Efficiency Irrigation System
 - High Efficiency Indoor Fixtures



Energy & Atmosphere

- 37 EA Points Achieved
 - Max Points Achieved for HERS Index of 0
 - Efficient Hot Water Distribution System
 - Minimize Ozone Depletion and Global Warming Contributions with Ideal Refrigerant Management



Materials & Resources

- 9 MR Points Achieved
 - Advanced Framing Techniques
 - Use of Environmentally Preferable Products
 - Waste Diversion



Indoor Environmental Quality

- 16 EQ Points Achieved
 - Moisture Control Loads Analyzed
 - Outdoor Air Ventilation System
 - Performed Efficient Duct Design Calculations
 - Supply Air Filter
 - Indoor Contaminant Control
 - Garage Pollutant Protection



Awareness & Education

- 2 AE Points Achieved
 - Comprehensive Occupant's Manual and Multiple Walkthroughs/Trainings
 - Public Awareness of LEED Home



Questions?