LEED Homes v4 Rating System Review







IMPACT CATEGORIES AND WEIGHTINGS

- Revised impact categories more closely reflect USGBC's values and mission
- The point allocation process developed for LEED 2009 has been used
- Every point has an equivalent impact



IMPACT CATEGORIES AND WEIGHTINGS

What do we want LEED projects to accomplish?

- Reverse Contribution to Global Climate Change
- Enhance Human Health, Wellbeing, and Vitality
- Protect and Restore Water Resources
- Protect, Restore, and Enhance Biodiversity and Ecosystem Services
- Conserve and Renew Natural Resources
- Build a Greener Economy
- Enhance Community: Social Equity, Environmental Justice, and Quality of Life



CREDIT CATEGORIES

Integrative Process

Existing LEED

- Location and Transportation
- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality



ENHANCED ENGAGEMENT

Public Comments

Early and extended (6 public comments over 2+ years!)

Pilot Credit Library

Pilot testing feedback used to inform development

Stakeholder Forum

Ideas generated become official public comments



DEVELOPMENT PRIORITIES

Align requirements between single family and multifamily; Homes and Midrise; Homes and NC

Focus on performance based credits with consumption metrics (water budget and energy budget)

Eliminate Paperwork Heavy Credits (no more Accountability Forms, Durability Evaluation, Durability Management, Framing Order Waste Factor



Program Scope and Applicable Building Types



Single-Family Homes



Mid-Rise



Single-Family Production



Gut Rehab



Low-Rise Multifamily

RATING SYSTEM SELECTION

For predominantly residential projects:

- •1 3 stories* must use LEED for Homes
- •5 8 stories must use LEED Multifamily Midrise (BIG CHANGE)
- •9 12(ish) stories may use Midrise or LEED NC
 •12(ish) stories and up must use LEED NC

* A story is defined as an occupiable floor above grade. So below grade floor's don't count, nor do garages.





DESIGN AND CONSTRUCTION RATING SYSTEMS





LOCATION & TRANSPORTATION



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Highlights:

- •Point floor: Projects must earn at least 8 points in the combined LT and EA sections (No point floor in v2008)
- •New Prerequisite on Floodplain Avoidance
- •Combined v2008 credits LL2, LL3, & LL6 with some language updates
- •Minor change to thresholds in LT4: Compact Development
- •Minor language and structure in LT5: Community Resources and LT6: Access to Transit
- •More points 15 vs 10



LT PREREQ 1 FLOODPLAIN AVOIDANCE







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SUSTAINABLE SITES



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Highlights:

- Removed point floor
- 7 points from 22
 8 of 22 moved to LT (Compact Development and Alternative Transportation)
 4 moved to WE (Landscaping)
- Heat Island Reduction & Rainwater Management new calculations cover entire site (lot and area under roof)



DESIGN AND CONSTRUCTION RATING SYSTEMS







WATER EFFICIENCY



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Figure 1. Optional Pathways through the WE Category



Highlights:

New prerequisite requiring water metering
New performance pathway (Total Water Use)
In prescriptive pathway, Indoor Water Use credit increased in stringency
In prescriptive pathway, Outdoor Water Use credit has been restructured and stringency increased
Testing for water leaks is required, as is testing for water pressure in single family homes





Changes

•WE Performance Path

•New credit that combines indoor and outdoor water calculator -For indoor use LEED Water Reduction Calculator -For outdoor use the EPA WaterSense Water Budget Tool

•Test to ensure no water leaks, and single family homes test for -water pressure (must be below 60 psi)





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DESIGN AND CONSTRUCTION RATING SYSTEMS





ENERGY & ATMOSPHERE



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Highlights:

ENERGY STAR for Homes v3 & HERS 70, OR Use LEED Annual Energy Metric Must use less annual energy than similar ENERGY STAR Reference Home

ENERGY STAR Multifamily Highrise commissioning, insulation/air sealing inspection required, 5% over ASHRAE 90.1-2010

Energy and water meters required







Single Family

Updated to new ENERGY STAR version 3 requirements

Midrise

 Updated to 5% improvement over ASHRAE 90.1-2010 from 15% improvement over ASHRAE 90.1-2007





Implications/Change Rationale:

- ENERGY STAR version 3 focuses on building failures from a building science approach, better ensuring an efficient, comfortable, lasting home. AND we can't be weaker than E*
- ASHRAE 90.1-2010 is roughly 5-20% more stringent than 2007



EA CREDIT Annual Energy Use

PATH 1: HERS Scoring

- Must achieve HERS 70 or better
- New point distribution to give more points at smaller initial % improvements
- Linear scoring of Home Size Adjuster, 1 point per 4% change in home size

PATH 2: LEED Energy Budget

- Starts with ENERGY STAR Reference Home, defines all aspects of reference home. Only location, number of bedrooms, and fuel source varies. Provides projects with a target Mbtu/year.
- Every 3 bedroom all electric home in Savannah has the same energy budget. (3 bedroom apt, 3 bedroom SF, big house, small house)
- No changes to energy modeling, new report in REM/Rate
- *Add in non-modeled end uses (pools, heated driveways)





Implications/Change Rationale:

- Annual energy consumption metric allows for better comparisons between building/units; better rewards smart design',eliminates HERS bias for large homes & interior MF units.
- Allows for better transition into existing homes communityvaluable when comparing metric vs. actual energy usage
 - As an industry, we care about reducing energy consumption, not 'improving efficiency'
 - Large projects can now "buy their way in" with PV using
 - LEED energy budget, but still must meet E*v3 requirements





	Changes:								Г
	 Earn 1 point for every 4% decrease in conditioned floor area compared with the ENERGY STAR for Homes v3 reference home For multifamily buildings, home size includes only the in-unit space 								
Bedrooms		1	2	3	4	5	6	7	8 or more
Floor Area (sf)		1,000	1,600	2,200	2,800	3,400	4,000	4,600	+600 sf per add'l bedroom



DESIGN AND

CONSTRUCTION

RATING

SYSTEMS





MATERIALS AND RESOURCES



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Highlights:

- Durability management prerequisite is adapted from v2008 Durability Management prerequisite & credit and ENERGY STAR v3 Water Management Systems Checklists requirement added.
- Material Efficient Framing requirements are changed to be prescriptive and eliminated paperwork prerequisite/credit.
- Changed local production threshold for Environmentally Preferable Products credit, low-voc credit moved to IEQ section



MR CREDIT Construction Waste Management



Changes:

- Modified to give credit for total waste reduction rather than a percentage reduced or recycled
- Allowable construction waste is determined relative to the reference home of comparable bedrooms and can be measured by weight or volume.



DESIGN AND CONSTRUCTION RATING SYSTEMS







INDOOR ENVIRONMENTAL QUALITY



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Highlights - Still require:

- •Ventilation to ASHRAE 62.2-2010 and 62.1-2010
 - -whole house ventilation, bath and kitchen fans exhausted to outside
- Combustion Venting
- •Garage Pollutant Protection
- Radon-Resistant Construction
- •Air Filtering
- •Environmental Tobacco Smoke Control (for all Multifamily)
 - -ban smoking in common areas
- •Compartmentalization (for all Multifamily)
 - -air seal each unit to minimize air/odor/sound transfer

IMPORTANT DATES

LEED v4 is currently open for registration

Projects may register for LEED v2008 until June 2015



GREEN PROGRAM COMPARISON

Rule #1) Look for programs that *require* ENERGY STAR Homes v3 Not give points, not as a compliance path, but *require*

Rule #2) Look at ventilation requirements Must require ASHRAE 62.2 and 62.1

Results:

LEED for Homes v4 Enterprise Green Communities* EarthCraft (Platinum)

Who is not on this list?



