





LEED EBOM 2012 Rating System!



The LEED EBOM rating system is changing again! Please join the Existing Buildings (EB) Committee to hear from experts about the proposed changes to the LEED EBOM rating system. This is one of the few annual EB committee meetings that are opened to the public in 2011. Take advantage of this opportunity to network with top leaders in the industry that are working to green their existing building operations. Event capacity is 200 and attendees will be seated on a first come first serve basis. We look forward to seeing you there!

Date: Thursday, June 9th, 2011
Time: 12:00-1:30 pm
Speaker: Brightworks

Location: Bank of America Auditorium:
 Concourse Level, 333 South Hope St. Los Angeles, CA 90071
 (T) 213-621-9314

RSVP: at this [Link](#)
Parking: Validation provided

Suggested Donation: \$20 All proceeds benefit the USGBC LA Chapter a 501(c)(3) non-profit organization. Lunch provided with donation. To donate please [Click Here](#)

Questions: ebcommittee@usgbc-la.org

Bank of America Building LEED EBOM Gold

Committee Leaders:
 Co-Chair: Lianelle Horton
 Co-Chair: Kevin Devine
 Research Coordinator: Seth Strongin
 Communications Coordinator: Amanda Briones
 Web Coordinator: Stephanie Watt
 Events Coordinator: Sara Hickman
 Market Analyst: Genaro Bugarin

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LEED 2012 EB O+M:

Draft Overview

Brightworks | June 9th, 2011
 Aron Bosworth & Drew Shula





Objectives

Today's presentation will address

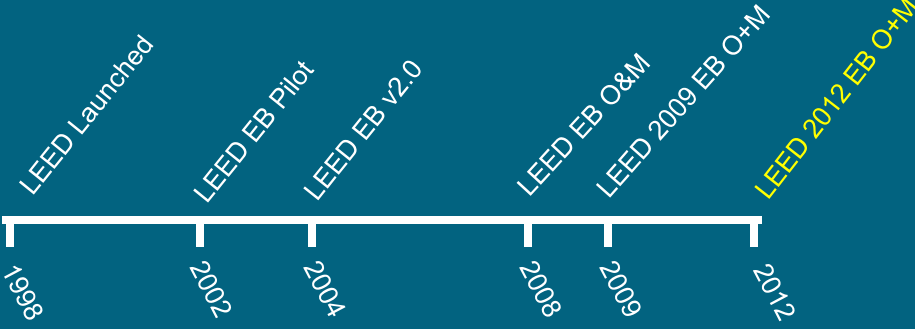
1. Why LEED 2012 -- Another Iteration
2. LEED Rating System Development Process
3. Structure & Scorecard of LEED 2012 System
4. Credit / Prereq Changes from 2009
5. Takeaways







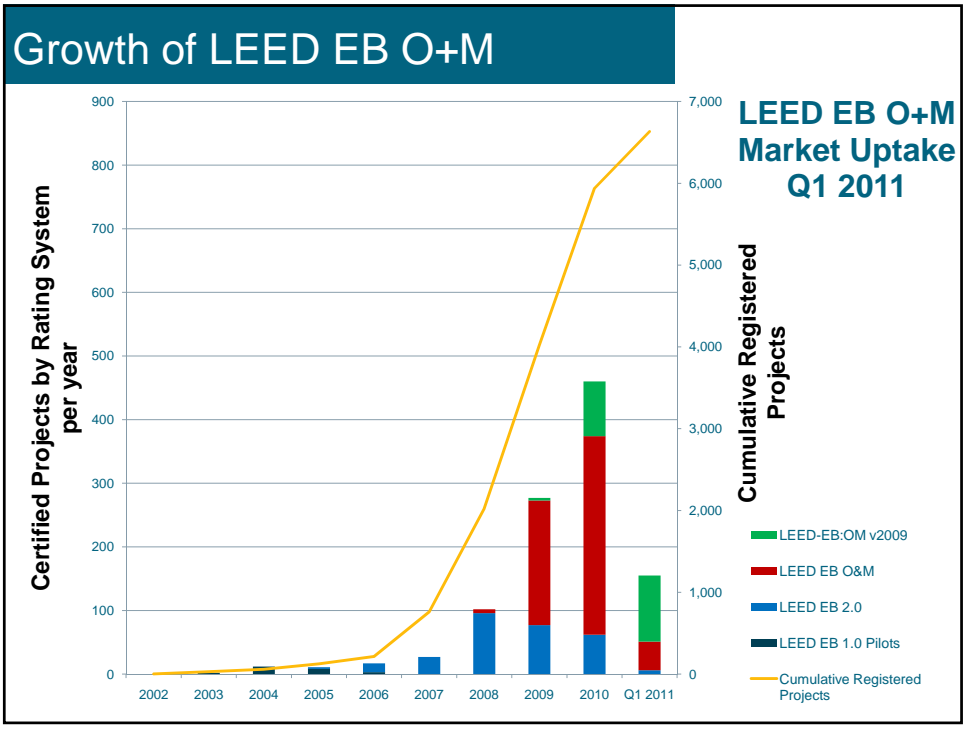
LEED EB Rating Systems

Timeline



Year	Event
1998	LEED Launched
2002	LEED EB Pilot
2004	LEED EB v2.0
2008	LEED EB O&M
2009	LEED 2009 EB O+M
2012	LEED 2012 EB O+M





Why LEED 2012?

LEED 2012

LEED Ultimate Goal: Net Zero Impact and Beyond

Image credit: USGBC






LEED 2009

Focus on Foundational Changes

1. Credit Content Alignment
2. Point System
3. LEED Online v3
4. Credentialing Process
5. Certification Process

Image credit: GBCI

LEED 2012

All 5 LEED rating system areas updated simultaneously

1. Existing Buildings O+M
2. Building Design + Construction
3. Interior Design + Construction
4. Neighborhood Development
5. Homes



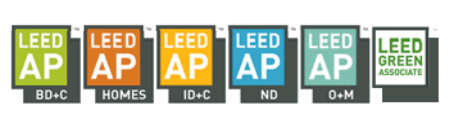


Image credit: USGBC




LEED 2012

Not changing everything!

- LEED Rating System 100 point Structure
- LEED Online v3
- Credentialing Program (GA, LEED AP Specialty, CMP)
- Minimum Program Requirements

LEED 2012

Focus on Performance

Building Performance Partnership

1. Voluntary, anonymous, free data tracking program for LEED building's to track building resource use
2. Phase 1 - **Energy** and **Water** tracking through Energy Star Portfolio Manager
3. Encouraged through LEED Rating Systems - New Performance (PF) category geared toward BPP
4. Addressing disparities between design and performance:
 - Flaws with energy modeling
 - Lack of Cx / Issues missed during Cx process
 - Occupancy changes (# / behavior)
 - Everyday operation



LEED 2012

Focus on Performance

CA Assembly Bill 1103

Requires commercial building owners to report energy usage data at time of sale

- Initially Jan 1, 2011  moved to Jan 1, 2012



Recertification

Transitioning from LEED 2009 to LEED 2012

1. As soon as 1 year following initial certification, as late as 5 years
2. Once initially certified, performance period is ongoing
 - Continuously tracking performance data
3. ½ the fee: \$750 - \$7,500 depending on sf



Recertification

LEED 2009 vs LEED 2012

Planning to Recertify?

- Consider recertification process prior to LEED 2012 release
- Cost/benefit of recertification under LEED 2009 vs 2012
 1. Must comply with new prereqs; new credits
 2. Anticipate additional time, costs with LEED 2012
 3. Workload for recertification under new rating system (2012) is on par with workload for original certification



LEED Automation

Streamlining systems

1. Program released in November 2010
2. Seeks to streamline data tracking for LEED EB cert.
3. Enables LEED Online to interact with third party software such as Energy Star, Building Insights O+M Track, etc.



LEED 2012 Development Process

LEED 2012 Development Process

Rating System Development

1. USGBC grand plan – slowly introduce components of LEED 2009/v3 → allow market to absorb → LEED 2012
2. 1st draft developed by LEED Steering Committee:
 - Released Nov. 2010
 - 2 month public comment period
 - Next round: July-Aug
 - Balloting process for USGBC members
 - Release date: Nov 2012



LEED 2012 Development Process

Rating System Development

Still under development - draft will continue to change prior to release

- Haven't assigned numbers to prerequisites & credits
- Revised point distribution has not yet been released



Pilot Credit Library

USGBC beta testing

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LEED Pilot Credit Library

RESOURCES **USER-GENERATED PILOT CREDITS**

The LEED Pilot Credit Library is a testing ground for new and innovative [User-Generated Pilot Credits](#).

Open

Ne

Pilot Credit 1: Life Cycle Assessment of Building Assemblies and Materials
Pilot Credit 2: PBT Source Reduction, Dioxins and Halogenated Organic Compounds

LEED Next

Commercial Rating System Credits
BD+C, ID+C, EBOM

Pilot Credit 12: LT - Reduced Automobile Dependence
Pilot Credit 13: LT - Bicycle Network, Storage and Changing Rooms
Pilot Credit 14: LT - Walkable Streets
Pilot Credit 15: LT - Parking Reduction
Pilot Credit 16: SG - Rainwater Management
Pilot Credit 7: SS - Light Pollution Reduction
Pilot Credit 10: WE - Sustainable Wastewater Management
Pilot Credit 17: VE - Cooling Tower Makeup Water
Pilot Credit 18: VE - Appliance and Process Water Use Reduction
Pilot Credit 9: EA - Demand Response
Pilot Credit 19: MR - Whole Building Reuse
Pilot Credit 20: MR - Recycled Content
Pilot Credit 21: EQ - Low Emitting Interiors
Pilot Credit 22: EQ - Quality Interior Lighting - Lighting Quality Only
Pilot Credit 23: EQ - Quality Views

Image credit: USGBC

LEED 2012 Structure & Scorecard

LEED 2012 Structure

EB: O+M – Multiple building types

- EB O+M is the generic building type for Existing Building LEED projects.
- Additional EB types called out in 2012 Rating System
 1. Schools
 2. Retail
 3. Hospitality
 4. Data Centers

This credit applies to:

- Existing Buildings: Operations & Maintenance
- EB:O&M Schools
- EB:O&M Retail
- EB:O&M Data Centers
- EB:O&M Hospitality

Image credit: USGBC



LEED 2012 Structure

Differences between LEED EB: O+M 2009 and 2012....



LEED 2009 for Existing Buildings: Operations & Maintenance		Project Name	
Project Checklist		Date	
<input type="checkbox"/>	Sustainable Sites Possible Points: 26	<input type="checkbox"/>	Materials and Resources, Continued
<input type="checkbox"/>	<ul style="list-style-type: none"> Goal 1 LEED Certified Design and Construction 4 Goal 2 Building Exterior and Hardscape Management Plan 1 Goal 3 Integrated Pest, Insect, Erosion Control, and Landscape Mgmt R 1 Goal 4 Alternative Commuting Transportation 3 to 15 Goal 5 Site Development-Protect or Restore Open Habitat 1 Goal 6 Stormwater Quantity Control 1 Goal 7 Heat Island Reduction-Roof 1 Goal 8 Heat Island Reduction-Roof 1 Goal 9 Light Pollution Reduction 1 	<input type="checkbox"/>	<ul style="list-style-type: none"> Goal 4 Solid Waste Management-Waste Stream Audit 1 Goal 5 Solid Waste Management-Ongoing Composites 1 Goal 6 Solid Waste Management-Reuse Goods 1 Goal 7 Solid Waste Management-Facility Alterations and Additions 1
<input type="checkbox"/>	Water Efficiency Possible Points: 14	<input type="checkbox"/>	Indoor Environmental Quality Possible Points: 15
<input type="checkbox"/>	<ul style="list-style-type: none"> Prerequisite Minimum Indoor Plumbing Fixture and Fitting Efficiency Goal 1 Water Performance Measurement 1 to 2 Goal 2 Additional Indoor Plumbing Fixture and Fitting Efficiency 1 to 5 Goal 3 Water Efficient Landscaping 1 to 5 Goal 4 Cooling Tower Water Management 1 to 2 	<input type="checkbox"/>	<ul style="list-style-type: none"> Prerequisite Minimum IAQ Performance Prerequisite Environmental Tobacco Smoke (ETS) Control Prerequisite Green Cleaning Policy Goal 11 IAQ Best Incent Practices-IAQ Management Program 1 Goal 12 IAQ Best Incent Practices-Outdoor 1 Goal 13 IAQ Best Incent Practices-Increased Ventilation 1 Goal 14 IAQ Best Incent Practices-Reduce Particulates in Air Ducts 1 Goal 15 IAQ Best Incent Practices-IAQ Incent For Facility Alterations and Additions 1 Goal 16 Occupant Comfort-Occupant Survey 1 Goal 17 Controllability of Systems-Lighting 1 Goal 18 Occupant Comfort-Thermal Comfort Monitoring 1 Goal 19 Daylight and Views 1 Goal 20 Green Cleaning-High Performance Cleaning Program 1 Goal 21 Green Cleaning-Custodial Effectiveness Assessment 1 Goal 22 Green Cleaning-Sustainable Cleaning Products, Materials Purch 1 Goal 23 Green Cleaning-Sustainable Cleaning Equipment 1 Goal 24 Green Cleaning-Indoor Chemical and Pollutant Source Control 1 Goal 25 Green Cleaning-Indoor Integrated Pest Management 1
<input type="checkbox"/>	Energy and Atmosphere Possible Points: 35	<input type="checkbox"/>	Innovation in Operations Possible Points: 6
<input type="checkbox"/>	<ul style="list-style-type: none"> Prerequisite Energy Efficiency Best Management Practices Prerequisite Minimum Energy Efficiency Performance Prerequisite Fundamentals Refrigerant Management Goal 1 Optimize Energy Efficiency Performance 1 to 18 Goal 2 Existing Building Commissioning-Investigation and Analysis 2 Goal 3 Existing Building Commissioning-Implementation 2 Goal 4 Existing Building Commissioning-Ongoing Commissioning 2 Goal 5 Performance Measurement-Building Automation System 1 Goal 6 Performance Measurement-System Level Metering 1 to 2 Goal 7 On-site and Off-site Renewable Energy 1 to 6 Goal 8 Enhanced Refrigerant Management 1 Goal 9 Emissions Reduction Reporting 1 	<input type="checkbox"/>	<ul style="list-style-type: none"> Goal 11 Innovation in Operations-Specific Title 1 Goal 12 Innovation in Operations-Specific Title 1 Goal 13 Innovation in Operations-Specific Title 1 Goal 14 Innovation in Operations-Specific Title 1 Goal 15 LEED Accredited Professionals 1 Goal 16 Documenting Sustainable Building Cost Impacts 1
<input type="checkbox"/>	Materials and Resources Possible Points: 10	<input type="checkbox"/>	Regional Priority Credits Possible Points: 4
<input type="checkbox"/>	<ul style="list-style-type: none"> Prerequisite Sustainable Purchasing Policy Prerequisite Solid Waste Management Policy Goal 1 Sustainable Purchasing-Ongoing Composites 1 Goal 2 Sustainable Purchasing-Electric 1 Goal 3 Sustainable Purchasing-Furniture 1 Goal 4 Sustainable Purchasing-Facility Alterations and Additions 1 Goal 5 Sustainable Purchasing-Reduced Mercury in Lamps 1 Goal 6 Sustainable Purchasing-Food 1 	<input type="checkbox"/>	<ul style="list-style-type: none"> Goal 11 Regional Priority-Specific Credit 1 Goal 12 Regional Priority-Specific Credit 1 Goal 13 Regional Priority-Specific Credit 1 Goal 14 Regional Priority-Specific Credit 1
Total Possible Points: 110		Total Possible Points: 110	



LEED 2012 Structure

3 New Categories



1. Integrated Process (IP)
2. Location & Transportation (LT)
3. Performance (PF)

LEED 2012 Structure

2012 EB O+M Scorecard

Integrated Process		Possible Points: TBD
Credit 1	Integrated Process	
Credit 2	LEED Accredited Professional	
Location and Transportation		Possible Points: TBD
Credit 1	LEED Certified Design and Construction	
Credit 2	Alternative Commuting Transportation	
Sustainable Sites		Possible Points: TBD
Credit 1	Fundamental Green Site Management	
Performance		Possible Points: TBD
Y	Prereq 1 Ongoing Occupant Experience Survey	Required
Y	Prereq 2 Building-Level Energy Metering	Required
Y	Prereq 3 Energy Efficiency Best Management Practices—Planning, Documentation, and Opportunity	Required
	Credit 2.1 Existing Building Commissioning—Investigation and Analysis	
	Credit 2.2 Existing Building Commissioning—Implementation	
	Credit 2.3 Existing Building Commissioning—Ongoing Commissioning	
	Credit 3.1 Performance Measurement—Advanced Building Energy Metering	
	Credit 3.2 Performance Measurement—System-Level Energy Metering	
	Credit 4 Water Performance Measurement	

Multiple Scorecards

For specific building types....

LEED for Existing Buildings

LEED for Schools EB O+M

LEED for Retail EB O+M

LEED for Hospitality EB

LEED for Data Centers

LEED for Schools Existing Buildings: Operations & Maintenance
 Project Checklist

Project Name: _____
Date: _____

<input type="checkbox"/>	Integrated Process		Possible Points: 150
<input type="checkbox"/>	Team 1: Integrated Process		
<input type="checkbox"/>	Team 2: LEED Accredited Professional		
<input type="checkbox"/>	Location and Transportation		Possible Points: 150
<input type="checkbox"/>	Team 1: LEED Certified Design and Construction		
<input type="checkbox"/>	Team 2: Alternative Commuting Transportation		
<input type="checkbox"/>	Sustainable Sites		Possible Points: 150
<input type="checkbox"/>	Team 1: Fundamental Green Site Management		
<input type="checkbox"/>	Team 2: Advanced Green Site Management - Site Assessment and Improvement Plan		
<input type="checkbox"/>	Team 3: Site Development - Protect or Restore Open Habitat		
<input type="checkbox"/>	Team 4: Rainwater Management		
<input type="checkbox"/>	Team 5: Heat Island Reduction		
<input type="checkbox"/>	Team 6: Light Pollution Reduction		
<input type="checkbox"/>	Team 7: Joint Use of Facilities		
<input type="checkbox"/>	Water Efficiency		Possible Points: 150
<input type="checkbox"/>	Team 1: Minimum Fixtures and Fitting Water Use Reduction		Required
<input type="checkbox"/>	Team 2: Landscape Water Use Reduction		Required
<input type="checkbox"/>	Team 3: Appliance and Process Water Use Reduction		Required
<input type="checkbox"/>	Team 4: Additional Landscape Water Use Reduction		
<input type="checkbox"/>	Team 5: Additional Fixtures and Fitting Water Use Reduction		
<input type="checkbox"/>	Team 6: Cooling Tower Makeup Water		
<input type="checkbox"/>	Team 7: Additional Appliance and Process Water Use Reduction		

LEED 2012 Credit Changes

Integrated Process (IP)

Overview

- Provides requirements to guide the collaborative process amongst individuals of the team.
- Addresses how one strategy or related strategies can impact multiple areas of building performance



Integrated Process (IP)

Overview

IP Credit:

1. Seems difficult!
2. 5 credits across 3 categories
3. Example strategy: rainwater harvesting & reuse

Water Efficiency

credit: Additional Landscape Water Use Reduction
 credit: Additional Fixture and Fitting Water Use Reduction
 credit: Additional Appliance and Process Water Use Reduction

Sustainable Sites

credit: Rain Water Management
 credit: Site Development—Protect or Restore Open Habitat

Performance

credit: Water Performance Measurement

LEED AP Credit moved

4. 1 LEED AP with specialty (EB O+M)
5. 2 of any other type of LEED AP, or GA



Location and Transportation (LT)

Overview

2 credits pulled from Sustainable Sites category:

- LEED Certified Design and Construction
- Alternative Commuting Transportation



Sustainable Sites (SS)

Overview

Most credits stay the same. A few minor changes:

1. SSc2: "Building Exterior and Hardscape Management Plan" has been renamed to **Fundamental Green Site Management**
2. SSc3: "Integrated Pest Management, Erosion Control and Landscape Management Plan" has been renamed to **Advanced Green Site Management**
3. SSc7: Heat Island Effect combines both "Non-Roof" and "Roof" credits into single credit



Water Efficiency (WE)

Overview

WEp1: MORE STRINGENT THAN 2009!!:

Baseline changed from 120% to 100% for plumbing fixtures installed in 1993 or later; from 160% to 120% if prior to 1993.

WEp2: **New** Landscape Water Use Reduction Prerequisite:

Water use for irrigation must be 20% below baseline for site's peak watering month

- defined by the EPA's WaterSense Water Budget Tool.

*WaterSense Water Budget Tool is new baseline definition for LEED 2012.



Water Efficiency (WE)

Overview

WEp3: **New** Appliance and Process Water Use" prereq / credit:

1. Establishes new appliance and process water use reduction
2. Examples: dishwashers, clothes washers, pre-rinse spray valves
3. Currently LEED Pilot credit



Energy & Atmosphere (EA)

Overview

Moved to **Performance** category:

- EAp1: Energy Efficiency Best Management Practices prerequisite
- EAc3.1: Performance Measurement: Building Automation System
- EAc3.2: System level energy metering
- All 3 Cx credits

New Credit: **Demand Response:**

- Addresses “peak load”
- Requires program in place that reduces the building’s demand for electricity during peak conditions OR periods of high market power costs
- Pilot Credit



Materials & Resources (MR)

Overview

No major changes



Indoor Environmental Quality (EQ)

Overview

- Deleted **Increased Ventilation** credit
- Occupant Comfort Survey credit moved to Performance category

New Credit:

- **Office Ergonomics Strategy:**
 1. Requires a comprehensive ergonomics plan for 75% of FTE by providing education and equipment
 2. Requires survey to determine occupancy satisfaction
- Possible credit: **Zone Relative Humidity Control**



Performance (PF)

Overview

Composed of prereqs / credits from the EA & WE categories

1. Highlights: on-going operational performance of building
2. Tie-in to BPP program
3. New prereq: **Building-Level Energy Metering**
 - To meter/track all types of energy resources supplied to the building
 - Requires participation in BPP or data reporting to USGBC
 - Includes: electricity, natural gas, chilled water, steam, propane, etc.
 - Utility owned meters are acceptable



Performance (PF)

Overview

Performance category also includes:

- Metering – ENERGY + WATER
- Suite of Commissioning credits
- Occupant comfort/satisfaction survey now called Ongoing Occupant Experience Survey



Innovation

1. "Innovation in Operations" category name has been shorted to "Innovation"
2. AP credit has been moved to IP Category, so only 5 possible Innovation points now.
3. Otherwise, no major changes







Takeaways

LEED 2012

Takeaways

- This iteration of LEED is making certification more technically rigorous
- Working towards LEED goal of net zero impact (and beyond)
- If plan to recertify consider starting the recertification process prior to 2012 release (**have till Nov 2012**)
 - Cost/benefit of recertification under LEED 2009 vs 2012



Resources

For further information, the following links will be emailed to the EB Committee:

1. LEED EB O+M Rating System Redlined Draft, Nov. '10
2. LEED Rating System Development FAQ
3. LEED Rating System Development
4. New Scorecard prototype
5. LEED Pilot Credit Library
6. BuildingGreen v2012 writeup
7. LEED Automation
8. BPP
9. AB 1103
10. EPA's WaterSense Water Budget Tool



Thank you!
Questions?

