GC3 Exploring Climate Solutions Webinar Series

Green Building Rating Systems

Ross Spiegel, FAIA, FCSI, CCS, CCCA, LEED AP BD+C, Specifications Coordinator – The SLAM Collaborative

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Green Building Rating Systems

Agenda

1	Overview of Green Building Rating Systems.
2	USGBC Leadership in Energy & Environmental Design (LEED).
3	Impact on Sustainability, Energy Efficiency, and Resiliency.
4	Connecticut Impact.
5	Addressing Climate Change.
6	Thank you & contact information.

Overview of Green Building Rating Systems

History of Rating Systems

Sustainable Design Demand Rose in the 1990s Resulting in the Creation of the First Green Building Rating System in the U.K.

- 1990s: BREEAM Green Building Rating System Created
- 2000: USGBC Leadership in Energy & Environmental Design (LEED) Launched
- 2004: Green Globes Rating System Launched in US
- 2009: Third Version of LEED Rating System Released
- 2009: Connecticut Building Standard Guidelines for High Performance Buildings Released
- 2014: LEED v4 Becomes Latest Version of Rating System to Certify Buildings

Overview of Green Building Rating Systems

Available Rating Systems

Rating Systems currently available and in use around the country:

- USGBC Leadership in Energy & Environmental Design (LEED)
- Green Globes Rating System
- BREEAM Green Building Rating System
- Connecticut Building Standard Guidelines for High Performance Buildings
- Living Building Challenge
- Energy Star
- Passive House
- SITES

Impact on Sustainability, Energy Efficiency, and Resiliency

How Green Building Rating Systems Fit In

Green Building Rating Systems Are Geared Toward Impacting Water Use, Energy Efficiency, Indoor Environmental Quality, Material Usage, and Site Impacts.

- LEED is in Use Throughout North America and More Than 30 Countries
- Over 21,000 Projects Registered Under LEED
- Over 6,300 Projects Currently LEED-Certified Across the Globe
- LEED Credits Earn Points in 7 Categories
- Aims to Promote Transformation of Construction Industry Through Strategies Designed to Achieve Specific Goals
- Designed to Address Environmental Challenges While Responding to Needs of Competitive Market

Impact on Sustainability, Energy Efficiency, and Resiliency

How Green Building Rating Systems Help

LEED Rating Systems Have Seven Goals:

- Reverse Contribution to Global **Climate Change**
- Enhance Individual **Human Health** and Well-Being
- Protect and Restore **Water Resources**
- Protect, Enhance, and Restore **Biodiversity** and Ecosystem Services
- Promote Sustainable and Regenerative **Material Resources** Cycles
- Build a **Greener Economy**
- Enhance Social Equity, Environmental Justice, **Community** Health, and Quality of Life

Impact on Sustainability, Energy Efficiency, and Resiliency

How Green Building Rating Systems Help

LEED v4 Rating Systems Impact Categories and Components:

- Reverse Contribution to Global **Climate Change**
  - Target Building Operations Energy Use Reduction to Effect GHG Emissions
  - Target Energy Use Reduction Associated with Transportation of Building Occupants, Employees, Customers, Visitors, Etc.
  - Target GHG Emissions Reduction from Embodied Energy of Materials and Water Use
  - Target GHG Emissions Reduction from Cleaner Energy Supply
  - Address Non-Energy Related Climate Change Drivers (e.g. Albedo, Carbon Sinks, Etc.)

Impact on Sustainability, Energy Efficiency, and Resiliency

How Green Building Rating Systems Help

LEED-Certified Buildings Are Designed to Deliver These Benefits:

- Lower Operating Costs and Increased Asset Value
- Reduced Waste Sent to Landfills
- Energy and Water Conservation
- More Healthful and Productive Environments for Occupants
- Reductions in Greenhouse Gas Emissions
- Qualification for Tax Rebates, Zoning Allowances, and Other Incentives in Many Cities

How Has This Impacted Projects in Connecticut?

LEED and Connecticut Building Standard Guidelines for High Performance Buildings

High Performance Building Guidelines Apply to State-Funded Buildings. LEED and Green Globes Certification is an Option to Demonstrate Compliance.

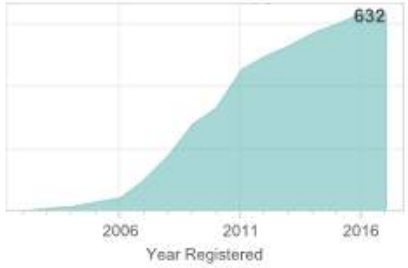
- Guidelines Contain Some Requirements That are Not Included in LEED or Green Globes
- Guidelines Contain Both Mandatory and Optional Requirements
- Guidelines Apply to Construction of Both New and Renovated State Agency Facilities
- LEED/Green Globes Certification Can Be Used to Demonstrate Compliance With Optional Requirements
- Guidelines Last Updated in September 2011
- Energy Performance Guidelines Recently Updated to Comply with Current State Building Code

How Has This Impacted Projects in Connecticut?

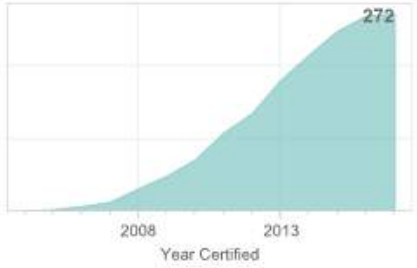
LEED and Connecticut Building Standard Guidelines for High Performance Buildings

State Market Brief: Connecticut

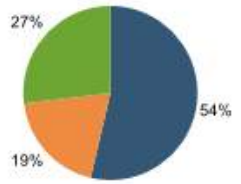
Cumulative LEED® Registrations



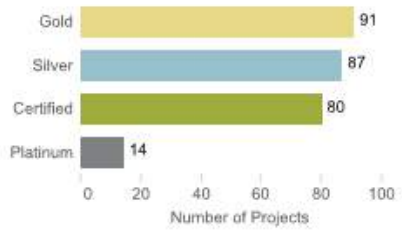
Cumulative LEED® Certifications



LEED® Rating System



LEED® Achievement



Summary
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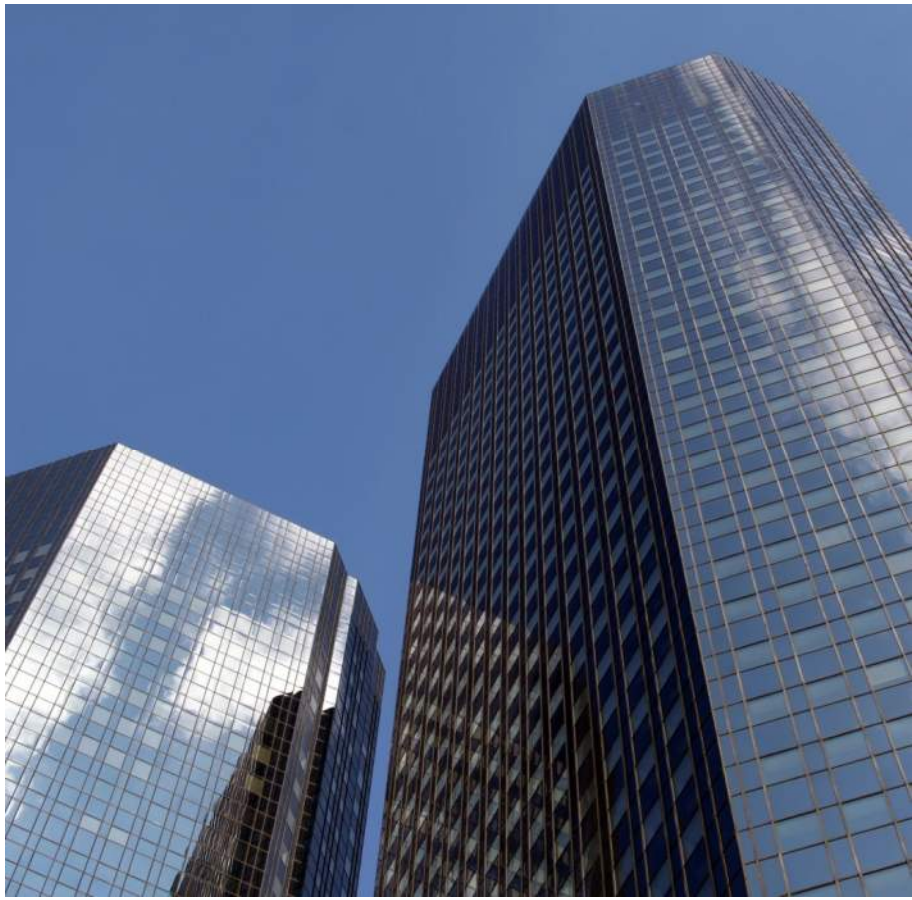
Project Status	Number of Projects	Gross Square Footage
Certified	272	22,765,156
Registered	360	35,483,534
Grand Total	632	58,248,690

Certified square footage equivalent to Empire State Buildings.

Space Type	
Office & Office: Mixed Use	174
Retail	158
Education	122
Residential (commercial rating syste..	36
Laboratory	35
Public Assembly & Religious Worship	30
Health Care	20
Service	13
Industrial Manufacturing	11
Other	9
Public Order and Safety	9
Military Base	6
Lodging	5
Warehouse and Distribution	4

Owner Sector	
Corporate & Investor	358
Higher Ed	100
K-12	58
Non-Profit & Religious	41
Federal Government	25
Local Government	19
State Government	16
Other	15



How Green Buildings Address Climate Change

Green Building Rating Systems Help Fight Climate Change and Reduce Greenhouse Gas Emissions

Buildings Affect Climate

Buildings account for more than 1/4 of all greenhouse gas emissions (GHGs).

Building green reduces impact of buildings have on contributing to climate change.

Also builds resilience into homes and communities.

Generates Less Greenhouse Gas

Green building covers planning, design, construction, operations and end-of-life recycling or renewal.

Reduces landfill waste, enables alternative transportation use.

Generates Less Greenhouse Gas

2014 UC Berkley study found that LEED buildings contributed 50 percent fewer GHGs than conventionally constructed buildings due to water consumption, 48 percent less due to solid waste and 5 percent less due to transportation.

Reduces Carbon Footprint

Green building strategies reduce carbon footprint beyond what energy efficiency alone does.

By providing inhabitant feedback, showcases building's environmental performance, driving further reductions.

Thank you for attending today!

Questions and answers

Contact information

Ross Spiegel, FAIA, FCSI, CCS, CCCA, LEED AP BD+C
The SLAM Collaborative
80 Glastonbury Boulevard
Glastonbury, CT 06033
(860) 368-2394
rspiegel@slamcoll.com