

Comparison of the Criteria for the New Release of Green Globes® for New Construction (GG NC), LEED 2009, and LEED v4 (As of 02/02/15)

Overview of GG and LEED Certification Requirements

- Both versions of LEED have prerequisites for certification, and certification is based upon meeting all of those prerequisites and scoring of additional criteria within a 110 point scale. No verification on-site of actual performance required. Allows minimal interaction with reviewers during process.
- Green Globes has no prerequisites. Criteria are weighted relational to environmental impact/benefit. Certification is based upon scoring of all criteria within a 1000 point scale. Certification process includes on-site visit by a third-party sustainability expert who provides input/feedback and is accessible to the client once assigned.

Green Globes NC and LEED Evaluation Comparison

- Green Globes and LEED cover the evaluation of a wide range of sustainability areas, but there are some differences.
- The tables below compare the areas covered by the evaluation criteria for GG NC, LEED 2009, and LEED v4.

Green Globes NC Criteria Comparison to LEED 2009 and LEED v4						
Green Globes Assessment Area & Sections	Criteria Covered?			Differences in Coverage		
	GG NC	LEED 2009	LEED v4	GG NC	LEED 2009	LEED v4
Project Management						
Integrated Project Management	Yes	Yes	Yes	<ul style="list-style-type: none"> • Allows flexibility to design individual Integrated Project Management Plan • Encourages the use of a credentialed sustainability expert 	<ul style="list-style-type: none"> • Five unspecified criteria under 'Innovation in Design Process' section – up to 5 credits possible • Credit available for LEED AP in same section. 	<ul style="list-style-type: none"> • Prescriptive criteria must be met • Credit given for use of a LEED Accredited Professional
Construction /Environmental Management	Yes	Yes	Yes	<ul style="list-style-type: none"> • Overall Plan; specific issues covered in Site 	<ul style="list-style-type: none"> • Pre-requisite for environmental practices/pollution prevention as related to construction (Site) 	<ul style="list-style-type: none"> • Pre-requisite for environmental practices/pollution prevention as related to construction (Site)

Green Globes NC Criteria Comparison to LEED 2009 and LEED v4

Green Globes Assessment Area & Sections	Criteria Covered?			Differences in Coverage		
	GG NC	LEED 2009	LEED v4	GG NC	LEED 2009	LEED v4
Commissioning	Yes	Yes	Yes	<ul style="list-style-type: none"> Comprehensive Whole Building Commissioning Includes O&M documentation 	<ul style="list-style-type: none"> Includes Basic Commissioning as a prerequisite Includes Enhanced Commissioning - contains preparation for retro-commissioning 	<ul style="list-style-type: none"> Includes Basic Commissioning as a prerequisite Includes Enhanced Commissioning - contains preparation for retro-commissioning
Indoor Air Quality (management practices)	Yes	Yes	Yes	<ul style="list-style-type: none"> Includes specific major renovation criteria for an occupied building 	<ul style="list-style-type: none"> Construction IAQ & Pre-Occupancy Plan 	<ul style="list-style-type: none"> Construction IAQ plan Indoor air quality assessment
Site						
Site/Development Area	Yes	Yes	Yes	<ul style="list-style-type: none"> Looks at fundamental characteristics of the site, e.g. Greenfield captures farm, undeveloped, parkland, etc. 	<ul style="list-style-type: none"> Pre-requisite for construction site environmental plan Looks at fundamental site characteristics as well as development characteristics of the surrounding area 	<ul style="list-style-type: none"> Pre-requisite for construction site environmental plan Looks at fundamental site characteristics as well as development characteristics of the surrounding area
Ecological Impacts	Yes	Yes	Yes			
Heat Island Effect	Yes	Yes	Yes			
Bird Collisions	Yes	No	No			
Watershed Features	Yes	Yes	Yes			
Landscaping	Yes	Yes	Yes	<ul style="list-style-type: none"> Comprehensive coverage 		<ul style="list-style-type: none"> Limited coverage, but with Habitat Restoration
Exterior Light Pollution	Yes	Yes	Yes	<ul style="list-style-type: none"> Uses BUG (backlight-uplight-glare) method 		<ul style="list-style-type: none"> Uses BUG (backlight-uplight-glare) method
Energy						

Green Globes NC Criteria Comparison to LEED 2009 and LEED v4

Green Globes Assessment Area & Sections	Criteria Covered?			Differences in Coverage		
	GG NC	LEED 2009	LEED v4	GG NC	LEED 2009	LEED v4
Energy Performance	Yes	Yes	Yes	<ul style="list-style-type: none"> Four Paths: ANSI Path A; Energy Star Target Finder; ASHRAE 90.1, Appendix G; ASHRAE bEQ Additional prescriptive criteria for energy performance (e.g. Building Envelope & Orientation and HVAC Systems and Controls etc.) 	<ul style="list-style-type: none"> Pre-requisite – Minimum Energy performance Methods: ASHRAE 90.1 – 2007 or optionally ASHRAE Design Guide 	<ul style="list-style-type: none"> Pre-requisite – Minimum Energy performance Three Options: Whole Building Energy Simulation: Cost Savings + Source Energy; Prescriptive Compliance: based on ASHRAE Energy Design Guide – restricted to smaller buildings based on occupancy; Prescriptive Compliance: based on 'Advanced Buildings Core Performance Guide' (C&S only). <ul style="list-style-type: none"> Minimum threshold of energy performance design is a prerequisite for certification Ability to earn energy performance credits within the three options based upon three factors related to project type: whole building, major renovations and core & shell
Energy Demand	Yes	No	Yes	<ul style="list-style-type: none"> Comprehensive coverage 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Limited to two options: <ul style="list-style-type: none"> Demand Response Program Permanent Peak Load Shifting
Energy Measurement and Verification	Yes	Yes	Yes	<ul style="list-style-type: none"> Encourages the use of the Continual Improvement of Existing Buildings (CIEB) program after 18 months of occupancy CIEB requires 12 months of operational data 	<ul style="list-style-type: none"> Pre-requisite - building level metering 	<ul style="list-style-type: none"> Pre-requisite - Building level metering Expectation to provide reconciliation of design versus actual energy performance Credit for advanced metering

Green Globes NC Criteria Comparison to LEED 2009 and LEED v4

Green Globes Assessment Area & Sections	Criteria Covered?			Differences in Coverage		
	GG NC	LEED 2009	LEED v4	GG NC	LEED 2009	LEED v4
Renewable Energy	Yes	Yes	Yes	<ul style="list-style-type: none"> On-site includes ground source 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Ground source not included Off-site renewable energy farms allowed if owned by project
Transportation	Yes	Yes	Yes			<ul style="list-style-type: none"> Includes parking reduction and low emitting/fuel efficient vehicles
Water						
Building Water Performance	Yes	Yes	Yes	<ul style="list-style-type: none"> Whole building water performance Additional prescriptive criteria for water performance (e.g. fixture & equipment performance) 	<ul style="list-style-type: none"> Partial whole building water performance (water use reduction) Enhanced water use reduction 	<ul style="list-style-type: none"> Whole building water performance Two prerequisites: indoor and outdoor water use Three advanced criteria; one each for landscape; fixture and fitting; appliance and process loads
Alternative Sources of Water	Yes	Yes	Yes	<ul style="list-style-type: none"> Wastewater measures include greywater only Additional measures addressing rainwater, drainwater, HVAC and other process water, backwash water, and treated wastewater 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Specific wastewater management, rainwater systems and reuse options
Water Metering	Yes	Yes	Yes			<ul style="list-style-type: none"> Requires minimum metering as prerequisite plus advanced metering for credit.
Landscape and Irrigation	Yes	Yes	Yes	<ul style="list-style-type: none"> Comprehensive criteria 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> See building water performance above
Materials & Resources						

Green Globes NC Criteria Comparison to LEED 2009 and LEED v4

Green Globes Assessment Area & Sections	Criteria Covered?			Differences in Coverage		
	GG NC	LEED 2009	LEED v4	GG NC	LEED 2009	LEED v4
Materials – Building Structural	Yes	Yes	Yes	<ul style="list-style-type: none"> Two Paths for material and product selection: <ul style="list-style-type: none"> Whole Building Life Cycle Assessment Multi-Attribute select method 	<ul style="list-style-type: none"> Includes four (4) single attributes 	<ul style="list-style-type: none"> Whole building life cycle – 4-options including LCA Criteria requires environmentally preferable materials and products with a focus on a single attribute product selection process Raw materials sourcing
Materials – Furnishings and Fit-Outs	Yes	Yes	Yes	<ul style="list-style-type: none"> Specific furnishing and fit outs included 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Pilot credit available - refers to “whole building”, meaning the assembly (shell, core, and envelope) No furnishing and fit-out distinction
Reused and Salvaged Materials	Yes	Yes	Yes			
Construction/Demo Waste Management	Yes	Yes	Yes		<ul style="list-style-type: none"> Pre-requisite – Recycling construction waste 	<ul style="list-style-type: none"> Construction waste recycling a pre-requisite Construction site management plan is a pre-requisite plus advanced credit available
Building Durability, Adaptability and Disassembly	Yes	No	No	<ul style="list-style-type: none"> Unique to Green Globes Includes performance and Building Life Service Plan 		
Building Envelope, Roof, Foundation	Yes	No	No	<ul style="list-style-type: none"> Enhancing building service life 		
Emissions and Other Impacts						
Heating	Yes	No	No	<ul style="list-style-type: none"> Includes two paths for measuring emissions determined by circumstances of the heating system: <ul style="list-style-type: none"> Building Level District Heating 		

Green Globes NC Criteria Comparison to LEED 2009 and LEED v4

Green Globes Assessment Area & Sections	Criteria Covered?			Differences in Coverage		
	GG NC	LEED 2009	LEED v4	GG NC	LEED 2009	LEED v4
Cooling (Refrigerants)	Yes	Yes	Yes	<ul style="list-style-type: none"> Incorporated best practices based upon GreenChill covering ODP (Ozone Depleting Potential) and GWP (Global Warming Potential) <ul style="list-style-type: none"> Available for use by building types other than Foodstores 	<ul style="list-style-type: none"> Fundamental Management – pre-requisite Advanced Management credit 	<ul style="list-style-type: none"> Fundamental Management – pre-requisite Advanced Management credit Includes Prescriptive and Performance Options Requires GreenChill certification for Foodstores Specific District Energy Systems Requirements
Source Control-Asbestos/Radon	Yes	No	No	<ul style="list-style-type: none"> Asbestos – Major Renovations 	<ul style="list-style-type: none"> 	
Indoor Environment						
Ventilation	Yes	Yes	Yes	<ul style="list-style-type: none"> Comprehensive coverage – ASHRAE 62 Natural Ventilation Management plan not included 	<ul style="list-style-type: none"> Minimum air quality performance – pre-requisite Credit for Enhanced Air Quality 	<ul style="list-style-type: none"> Two prerequisites for certification <ul style="list-style-type: none"> Minimum Air Quality IAQ Management Plan Credit for Enhanced Air Quality
Indoor Pollutants	Yes	Yes	Yes	<ul style="list-style-type: none"> Comprehensive pollutant source controls IAQ monitoring ventilation intakes, mold and smoking 	<ul style="list-style-type: none"> Prerequisite to prohibit smoking Includes pollutant source controls 	<ul style="list-style-type: none"> Prerequisite to prohibit smoking Includes pollutant source controls IAQ monitoring, but does not include mold and ventilation intakes
Lighting Systems	Yes	Yes	Yes		<ul style="list-style-type: none"> Includes criteria for quality views 	<ul style="list-style-type: none"> Includes criteria for quality views
Thermal Comfort	Yes	Yes	Yes			
Acoustics	Yes	No	Yes		<ul style="list-style-type: none"> Not in BD+C – only Hospital and School modules 	

Additional LEED 2009 and LEED v4 Criteria Comparison to Green Globes NC

LEED v4 Criteria	GG NC	Criteria Covered		Differences in Coverage		
		LEED 2009	LEED v4	GG NC	LEED 2009	LEED v4
Occupant Experience Survey	No	No	Yes	<ul style="list-style-type: none"> Continual Improvement of Existing Buildings (CIEB) program includes EMS (Environmental Management Systems) criteria for occupant feedback and encourages occupant participation in environmental management 	<ul style="list-style-type: none"> 	
Regional Priority	No	Yes	Yes		<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Criterion is unique and specific to the region of the country the project is located
Innovation	No	Yes	Yes	<ul style="list-style-type: none"> Criteria include state of the art, cutting edge technologies, approaches, and best practices 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Optional criteria for credit designed by the user and submitted to GBCI for approval