Rating & Certification Tool: **Green Globes**

www.greenglobes.com & www.thegbi.org

Summary

A building environmental design and management tool. It incudes an online assessment protocol, rating system and guidance for green building design, operation and management. The system is used in both the US and Canada in different forms.

Certifying body: Green Building Initiative (USA), Building Owners and Managers Association (Canada - existing buildings), ECD ENERGY and Environment Canada Ltd (Canada - other)

Applicable sectors					Award types				
General civil	Transport only	**Buildings**	Public realm	Community / precinct	Design*	As built	Operation	Planning	Other

Country

Canada and USA

Deployment & developments

Similar to other rating systems, the Green Globes has roots in BREEAM. Development began in 1996. In 2000, it became an online assessment and rating tool: "Green Globes for Existing Buildings". A scheme for new buildings followed. The family of Green Globes assessment tools includes: Design of new buildings or significant renovation, existing building management and operation, building emergency management, building intelligence, fit-ups for commercial interiors.

Some specialised modules for building types are available within the existing building tool. In the US, there is a specialised module for healthcare. In Canada, there are tailored assessment modules in the existing building assessment (BOMA BESt*) for office, open air retail, light industrial, shopping centres and multi-unit residential buildings. There is a specialised module for university campuses. This has been licensed to the association of university facility managers, APPA.

A new version (v2) of the Green Globes for Design of New buildings or Significant Renovation is now being launched both in the USA and Canada, based on the ANSI standard. In Canada there are 4,000, BOMA BESt and over 100 new construction buildings certified. In the US, 545 projects have been certified under Green Globes.

A revision/upgrade process for existing buildings assessment is currently underway in the US.

*BOMA BESt =Building Owners and Managers Association (of Canada) Building Environmental Standards.

Sustainability criteria

The largest number of points is given to energy.

For New Construction (NC) in Canada: the main categories are: 1. Integrated design process (50 pts) 2. Site (115 pts) 3. Energy (380 pts) 4. Water (85 pts) 5. Resources (100 pts) 6. Emissions, effluents & other impacts (70 pts) 7. Indoor environment (200 pts) Note - 10 pts = 1% of total

The US version of NC has the same criteria as Canada, but with slightly different point allocations. Green Globes US recently upgraded the NC module and it is currently markedly different than the Canadian version.

For existing buildings assessment (Canada), weighting varies slightly depending on building type, but there is always a strong weighting on energy. As an example, the office weighting is: 1. Energy (35% of total) 2. Water (8%) 3. Waste diversion & site (11%) 4. Emissions & effluents (17%) 5. Indoor environment (18%) 6. Environmental management system (11%). Similar weightings are used for the US existing buildings assessment.

Assessment: scoring, performance levels, evidence collection

Different rating scales are used in the US and in Canada. However, the scales follow a typical rating scheme profile. For example, the US new building rating scale is: 1 Globe (35-54% points achieved), 2 Globes (55-69%), 3 Globes (70-84%), 4 Globes (85-100%). The Canadian rating uses a five Globe scale, with the additional level for lower performing participants.

BOMA BESt has a slightly different, but still common, assessment structure. BOMA BESt practices must be achieved, and points in addition to this determines the overall rating.

As an example of evidence requirements, the Canadian NC verification relies on the existing construction documents (working drawings, specs) as well as energy modelling and life cycle analysis evaluation. The BOMA BESt program uses qualified verifiers who conduct a review, a walk-through audit and interviews with the property management teams. The verification process is streamlined, it generally takes two weeks for New Design once all information is provided, or in case of existing building, a single day.

Applicants	Green Globes is used by: government agencies, project owners and investors to set project goals and specific environmental briefs; consultants to scope and develop design strategies; project managers to monitor design development; and designers, asset managers, property owners and managers to monitor energy and environmental performance of their buildings and portfolios.	**Government endorsement**	The Canadian Federal Government references the program in its Federal Sustainable Strategy for Canada and some provincial governments reference the program in their green policies. The Canadian Federal Government also uses the BOMA BESt programme to track the energy and sustainability performance of its real estate portfolio. In the US, Green Globes is recognized in public law in more than 30 states. In October 2013, the US General Services Administration made a recommendation that the federal government use either Green Globes or LEED to assess performance of building projects.
Support to applicants	This system is different to other building assessment tools through its online questionnaire-driven assessment and automated reporting, which reduces the time and cost of producing a submission. In general, the assessment program includes: A rating / certification system, software tools, best practices guidance, third-party assessors. Availability of resources online varies across the tools. There is a central Green Globes website which provides basic information. This website provides links to websites of the US and Canadian versions of the assessments.	**Tailoring**	There is a non-applicable response option for some criteria.
Fee	Baseline third party assessment costs in Canada typically ranges from $3,000 (<5,000 sqft) to $7,000 (up to 100,000 sqft) Existing buildings in Canada, through BOMA: fees depend on BOMA membership, size and type of building. Fees range from $2,100 (member fee for under 100,000 sq. ft. office building) to $11,900 (non-member fee for complex office assessment of 4+ buildings). (Canadian $) Baseline third party assessment costs for new construction in US ranges from $7,500 (<50,000 sqft) to $30,000 (500,000+ sqft). Initial certification for existing buildings ranges from $4,000 to $21,000. Extra costs include software subscription, assessor travel expenses, appeals, and expediting fees. (US$) Prices valid as of September 2013.		

** A note on design certification: For the new Canadian version of new building assessment, there will be two certifications: design and post-construction (there has previously been no separate design certification). Participants will still be encouraged continue with the program for buildings in operation.*
For the US version, the design stage only involves a preliminary review to enable opportunities for improvement before the final assessment.

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Case study

Project name: Canal Building
Location: Carleton University, Ottawa
Proponent: Carleton University, Ottawa
Award: 5 Globes (Canada)

Brief project description: The overall goal of this project was to apply Canada's Green Globes and the new ASHRAE 189.1 standard to the initiative to create a healthier environment for users - reducing carbon dioxide and increasing fresh air in buildings. Environmental features of the building include: 34% more energy efficient than Model National Energy Code for Buildings, where "state-of-the-art" automation system and occupancy controlled lighting is used; a west-facing wall with an array of metal-sheathed angled "fins" which shade windows in the afternoon; a 10-kilowatt solar array; a green roof.

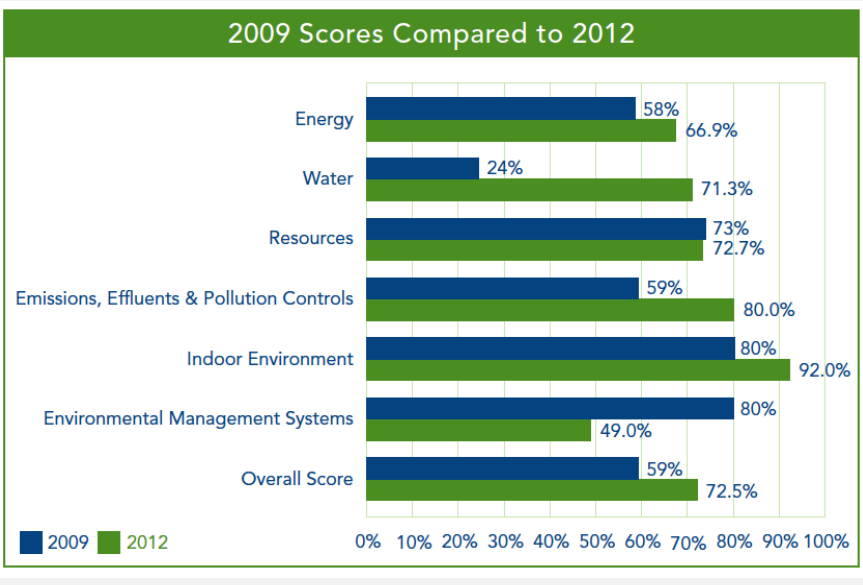
"The collaboration of all participants across departments and our suppliers really drove this project. This achievement is in line with Carleton's determination that the new buildings should be as energy efficient as possible and provide good indoor environmental quality." - Quote from Darryl Boyce, Assistant Vice President, Facilities Management, Carleton University

The Carleton University Canal Building - view of the window "fins"

Project name: ASCD Building
Location: Washington DC or Alexandria VA
Proponent: ASCD
Award: Recertification - 3 Globes (US)

Brief project description: ASCD first certified with the Green Building Initiative's ™ Green Globes building assessment and certification program in 2009. After receiving a site visit by a Green Building Initiative Assessor, who audited the building in relation to its sustainable attributes, they were awarded two Green Globes.

In going through this first certification, ASCD's expectations were to increase energy savings, provide a healthier environment for employees, use the building certification for internal and external marketing purposes, and be a good corporate citizen by being a conscious steward of resources. Following the protocols of the Green Globes Continual Improvement of Existing Building program, ASCD recertified their building three years later in 2012. The goal was to make sure that the building was being maintained and operated to maximize the improvements as outlined in the first certification. Various initiatives helped to improve performance, such as energy efficient lighting features, water flow reducers, reduced HVAC hours and reduced paper consumption.



Comparison in performance of the ASCD building between the 2009 and 2012 assessment