

Wood and Green Building

LEED® vs. GREEN GLOBES™

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Growing interest in buildings that are better for the environment, healthier for occupants and more cost-efficient to operate is helping to drive the popularity of green building rating systems such as LEED and Green Globes.

Governments, in particular, see it as their role to lead by example, and legislation requiring the use of these systems is becoming increasingly common. At the same time, building science experts continue to find new and better ways to build “green” and the systems themselves are evolving.

Fundamental Similarities, Significant Differences

Comparing LEED and Green Globes, one finds many similarities. Part of the reason is that they both evolved from the same source—the Building Research Establishment’s Environmental Assessment Method (BREEAM). Ideas as to what constitutes green building also tend to be widely accepted, so it stands to reason that both systems emphasize things like energy, water and resource efficiency, site ecology, indoor air quality and pollution. Both are points-based systems that can be used to achieve a certified rating of performance, and include four roughly equal rating levels.

The systems also have significant differences. Targeted to the top 25% of the market, LEED involves a more complex and time consuming process, but is well-entrenched and enjoys strong brand recognition. Designed for widespread appeal, Green Globes is web-based and easy to use—even for those with limited environmental design experience—and is gaining ground thanks in part to growing mainstream interest.

As the chart on the reverse indicates, the two also differ in the way they treat wood. The most significant issue is the fact that LEED only recognizes timber certified by the Forest Stewardship Council (FSC), while Green Globes is more inclusive, recognizing timber certified through FSC as well as the American Tree Farm System (ATFS), Canadian Standards Association (CSA) and Sustainable Forestry Initiative (SFI). Aside from the fact that independent research has shown that all of these systems are effective, there is also the issue of supply. There are more than 390 million acres of certified forest in North America, but less than 1/6 of that amount is certified by FSC.

Area Certified in North America (In millions of acres)*

Canadian Standards Association	179.4
Sustainable Forestry Initiative	131.7
Forest Stewardship Council	58.8
American Tree Farm System	24.5

*Source: Canadian Sustainable Forestry Certification Coalition, June 2006.

Although there are many green building rating systems in the United States, the two national systems most commonly used for commercial structures are LEED and Green Globes.

Leadership in Energy and Environmental Design
US Green Building Council (USGBC)
www.usgbc.org

Green Globes Environmental Assessment and Rating System
Green Building Initiative (GBI)
www.thegbi.org

"Wood and Green Building" is a series of fact sheets produced by the Wood Promotion Network for the industry and its customers. Copies are available online at www.beconstructive.com.



SCORING POINTS WITH WOOD

While both are points-based systems, LEED includes a possible total of 69 points while Green Globes includes up to 1000. (The total for Green Globes varies because projects only receive scores in applicable categories.) Materials and resources represent approximately 19% of LEED and 10% of Green Globes points.



ISSUE	LEED® for New Construction	GREEN GLOBES™ for New Construction	COMMENT
Life Cycle Assessment (LCA)	Not currently included; the USGBC is considering how to incorporate LCA into future LEED products	10 points each for using LCA tools to choose building systems or assemblies; GBI is working to integrate LCA data into the system	LCA is a way of evaluating materials over their entire lives based on measurable environmental impacts; it eliminates subjectivity from the judgment process
Renewability	1 point if 5% of the total value of building materials comes from rapidly renewable sources, defined as 10-year rotation or less	5 points for proportion of materials that are bio-based, such as green insulation, natural fibers and natural structural materials	10-year rotation is arbitrary; preference should be given to all renewable materials with an emphasis on those shown to be superior through LCA
Forest Certification	1 point if 50% or more of the wood-based materials and products are FSC certified	5 points for lumber and timber panel products that originate from sustainable sources and are certified through SFI, CSA, FSC or ATFS	Points should be given to wood that comes from a sustainable source and is certified through any credible program
Locally Produced Materials	1 point if a minimum 10% of total building materials were extracted, processed and manufactured within a 500 mile radius; a second point for 20% minimum	Potential advantages of locally manufactured materials are captured in preference for materials that have undergone LCA	Locally produced materials do not necessarily have less impact on the environment
Other Possible Points	1 point for low-emitting materials if composite wood and agrifiber products contain no added ureaformaldehyde resins	5 points for environmentally preferable products and equipment that are third-party certified 0.5 points for raised floors 0.5 points for partition walls that are easily removed and recyclable	

Wood and Life Cycle Assessment (LCA)

LCA studies show that wood has a softer environmental footprint than steel or concrete in terms of embodied energy, air and water pollution, and greenhouse gas emissions. It also has better insulating value, which reduces the need for heating and cooling. For more information, please visit the Athena Sustainable Materials Institute at www.athenasmi.ca or the Consortium for Research on Renewable Industrial Materials at www.corrim.org.