

The Living Building Challenge

Excerpted and adapted from an article in the AIA Maine eNewsletter written by Lance Fletcher, AIA, LEED AP
October 2007

The AIA collects and disseminates Best Practices as a service to AIA members without endorsement or recommendation. Appropriate use of the information provided is the responsibility of the reader.

SUMMARY

The Cascadia Region Green Building Council (CRGBC) proposes an alluring idea—“Imagine buildings as elegant and efficient as a flower.” The CRGBC developed the Living Building Challenge to take the idea of Leadership in Energy and Environmental Design (LEED) a step further by setting a new and higher standard for sustainable design. The Living Building Challenge will measure a building's sustainability one year after occupancy.

THE IDEA WAS BORN

We live in challenging times, and while most challenges seem to arise in response to negative and often threatening problems that must be addressed, many are still inherently positive, like the Architecture 2030 Challenge. The 2030 Challenge is intended to bring us to carbon-neutral buildings over the next 23 years. While this challenge comes about in response to the twin threats of oil depletion and global warming, its ultimate goal is to free us from the ever-growing energy costs—both economic and political—associated with our buildings.

The Living Building Challenge is another response to possibilities in the face of environmental need. The Challenge was announced at Greenbuild 2006 by the CRGBC, the US Green Building Council (USGBC) and Canada Green Building Council. The CRGBC is one of the two original USGBC chapters and represents Oregon, Washington, and British Columbia.

The purpose of the Living Building Challenge, as stated by the CRGBC, is to “raise the bar and define a closer measure of true sustainability in the built environment, at least as far as what is currently possible and given the best knowledge available today” (The CRGBC is the source for all quotes in this Best Practice). Cascadia is issuing the challenge “to provide a signal to the green building industry where it needs to head in the next few years if we are to address the daunting challenges ahead. Cascadia views this Living Building Standard as an act of optimism and faith in the marketplace to reach high-level goals once they have been set.” It is their

intention that the Living Building Standard not compete with LEED but influence future versions of LEED, and possibly come to represent a kind of “Platinum-Plus” rating.

THE LIVING BUILDING CHALLENGE

So what is it? The Living Building Challenge is a performance-based standard consisting of 16 prerequisites (not credits), all of which must be met. Projects will be rated based not on projected performance but on their actual performance after a minimum one-year occupancy. How the goals are met will be the “domain of the design team and owner.” The standard is designed for both existing and new buildings and for every building type. All the standard's requirements have already been fulfilled in buildings around the world—“just not all together.” There are some exceptions to the 16 prerequisites in the standard, which are “intended to acknowledge market realities...Over time, as market realities change, some exceptions...will be removed.”

The 16 prerequisites in the Living Building Standard are divided into five categories: Site Design (3), Energy (1), Materials (5), Water (2), Indoor Environmental Quality (3), and Beauty and Inspiration (2).

Site Design. Site Design prerequisites lay out where projects may not be built, where they can be built, and how habitat (for other species) will be preserved.

Energy. There is only one Energy prerequisite: “Net Zero Energy: 100 percent of the building's energy needs supplied by on-site renewable energy on a net annual basis.”

Materials. Materials prerequisites prohibit certain materials, require carbon offsets for energy embodied in construction, limit wood to FSC-certified or salvaged sources, provide maximum distances materials can travel to a project, and strictly limit construction waste.

Water. Water prerequisites are based on the premise that “a Living Building only buys water

once.” Both occupant water use and storm water/building water discharge are addressed.

Indoor Environmental Quality. Indoor Environmental Quality prerequisites address indoor pollutants, daylighting, and ventilation requirements.

Beauty and Inspiration. In the final category of Beauty and Inspiration, there are two prerequisites: “Beauty and Spirit: The project must contain design features intended solely for human delight and the celebration of culture, spirit, and place appropriate to the function of the building.” Sort of reminds us why we became architects. The second prerequisite is “Inspiration and Education: Educational materials about the performance and operation of the project must be made available to the public in order to inspire and educate. Nonsensitive areas of the building must be held open to the public at least one day per year, to facilitate direct contact with a truly sustainable building.”

HOW TO FIND OUT MORE

The Living Building Standard v1.2 is downloadable from [Cascadia's Web site](#). The document is a 24-page statement explaining the purpose of the challenge and how to use the 16 metrics.

The USGBC, acting on a pledge made at Greenbuild 2006, is sponsoring in conjunction with the CRGBC the first annual Living Building Standard Award. Award winners will be announced in fall 2007. “The Living Building Award will go to the building that best meets the spirit and intent of the challenge. Petal Prizes will go to buildings that demonstrate exemplary performance for one or more petals, with an award given for each petal.” Buildings are not required to be certified LEED to be eligible.

Responding to the Living Building Challenge could be an exciting creative opportunity, a real chance to explore the architecture of the future. LEED has done an extraordinary job of transforming the building industry marketplace in recent years. The Living Building Standard looks back to the reasons why LEED was developed and forward to the ultimate goal of a sustainable built environment.

About the Contributor

Lance Fletcher, AIA, LEED AP, is a practicing architect, who has written "The Green Column" for the AIA Maine news since 1994. He has taught sustainable design at Bowdoin College and the University of Maine, was founding chair of AIA Maine's Committee on the Environment and is the 2007 Chair of the USGBC Maine Chapter.

RESOURCES

More Best Practices

The following AIA Best Practices provide additional information related to this topic:

- 16.01.02 Green Roof Design
- 16.02.05 Potential Pitfalls of Green Design
- 16.02.09 Energy Modeling and Daylighting Analysis

For More Information on This Topic

See also “Sustainable Building Design” by Muscoe Martin, AIA, *The Architect's Handbook of Professional Practice*, 13th edition, Chapter 18, page 656.

See also the 14th edition of the *Handbook*, which can be ordered from the AIA Bookstore by calling 800-242-3837 (option 4) or by email at bookstore@aia.org.



Feedback

The AIA welcomes member feedback on Best Practice articles. To provide feedback on this article, please contact bestpractices@aia.org.

Key Terms

- Building performance
- Sustainability
- Sustainable research