



# REVOLUTION TO EVOLUTION

LEED 2009 primed to set  
new benchmarks

[ BY JOHN FENDLEY | PHOTOS MATT WARGO ]

When introduced by the United States Green Building Council in 2000, the Leadership in Energy and Environmental Design Green Building Rating System sparked a revolution. Today, this green measurement system is acknowledged as having had a dramatic influence on the approach to designing, constructing, and operating buildings in the United States. As a tool to determine what constitutes a green building, LEED has become a standard measurement for rating the environmental performance of buildings using six categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality and innovation, and design process.



As of October, the first eight years of the LEED rating system has resulted in 1,819 certified commercial buildings, 15,190 registered commercial buildings, and more than 3.9 billion square feet of building space involved with the LEED Rating System.

While market revolutions often meet with initial success, they must evolve with improvements in order to sustain momentum. That's exactly what LEED 2009 proposes. Scheduled for launch in January 2009, the revised LEED will offer an improved measurement tool that recognizes buildings with exemplary green pedigrees while promoting a greener building community.

From its earliest origins, the LEED system has been challenged to bridge the gap between the pursuit of environmental excellence and the busi-

ness realities of the building industry. Hence, one of the most important underpinnings of LEED 2009 was to find the optimal balance between market forces and technological advancement. In other words, LEED certification needed to be perceived as achievable within the context of existing technological and economic boundaries. Therefore, USGBC decided to 'talk to the markets' in order to improve its rating offerings

#### **The development of LEED 2009**

Beginning in May, the USGBC completed two public comment phases. The first was held May 19 to June 22 and generated about 5,800 comments. The second period, Aug. 19 to Sept. 2, received more than 900 comments.

Considering the immense original investment in the LEED system, a concerted effort was also made to ensure that LEED 2009 followed the structure

familiar to those versed in the current system. Consequently, most of the necessary technical changes to be incorporated into LEED 2009 were meant to retain the familiar 'look and language' of the original structure, minimizing user confusion.

The five areas where change will occur have likewise been clearly defined: credit clarity, development cycle, credit weighting, regionalization, and exemplary performance. This new version offers the built community an improved sustainable rating system. It will enable project teams to better determine how well their buildings will deliver against key environmental and human health impacts. It is the product of thousands of hours of volunteer time and expertise from every corner of the U.S. building industry.

>>

### Credit clarity & developmental cycle

LEED 2009 emphasis on credit clarity is intended to strengthen its rating system by addressing market concerns.

To support a variety of building projects, USGBC created numerous market-specific LEED Rating Systems. Unfortunately, the rapid transformation of the green building industry has produced conflicts across credits and prerequisites in the various LEED versions. There have also been 'broken' credits that have been difficult to understand, document or achieve. Some credits also needed to be reconciled, or invented.

As a result, USGBC decided to address these credit frustrations by consolidating, aligning and updating all existing rating systems. In this process, Credit Interpretation Rulings (CIRs) were reviewed extensively in order to fix 'broken' credits through clearer language, for more consistent interpretations. Also, credits that might be precedent-setting have been re-sorted within the system.

These credit adjustments are meant to make the certification process easier to understand and apply. In the end, this could be an important streamlining benefit for current and future users.

LEED is also expected to evolve on a scheduled developmental cycle similar to the method by which

building codes are developed. LEED 2009 is structured as a continuous improvement cycle that is inherently predictable, yet flexible, in terms of enabling the system to react to a rapidly changing green building industry — including, but not limited to administrative credit interpretations and the establishment of performance/intent-equivalent alternative compliance paths to existing prerequisites/credits. As USGBC's literature reads:

*The LEED 2009 weightings will now reflect the importance of each green issue as reflected by their credits. As a result, project teams can concentrate on the environmental impact of design and construction decisions instead of the credits.*

"As knowledge of sustainable design practices increases and improved methods are developed to structure credits, changes will be implemented within new and evolving LEED products."

This means USGBC plans on continuously monitoring its rating systems through the sustainable marketplace in order to deliver an up-to-date rating system, incorporated with the latest sustainable knowledge, applications, materials and trends.

### Credit weighting

LEED 2009 will use a consistent, logical and transparent framework for allotting point values to credits based on the best available science. One of the most often cited issues with the past rating system was its inequality across credits.

For example, a building could receive one credit for Green Power, which means purchasing sustainable energy such as wind and photovoltaic power at a cost often in excess of standard power rates, or one credit for Indoor Chemical & Pollutant Source Control — which is a far more environmentally impactful and often more difficult and costly a credit to obtain because it requires monitoring of the manufacturing process. As a result, re-weighting and credit re-allocation of LEED credits is one

**The second-floor ICU waiting area at Lehigh Valley Hospital Kasych Family Pavilion in Allentown, Pa. features low emitting carpet systems and GREENGUARD office furnishings that provide Innovation in Design credits.**



of the most substantial changes that will be introduced in LEED 2009.

The process used to evaluate the environmental and human benefit of each LEED 2009 credit in order to assign an appropriate weight is extremely complex, and involves a myriad of varying factors. Simply, LEED 2009 weighting redistributes available credits so a given credit's point value more accurately reflects its potential to either mitigate the negative or promote positive environmental impacts of a building. For example, the highest weightings in LEED 2009 were given to building practices that improved energy efficiency and reduced carbon dioxide emissions, because inefficient building systems are the largest contributor to the greenhouse gas emissions behind global warming. In contrast, lower weightings were given to Light Pollution Reduction which requires reducing unnecessary light, especially light not used for tasks or security because it has a lower and somewhat less tangible environmental impact.

The LEED 2009 weightings will now reflect the importance of each green issue as reflected by their credits. As a result, project teams can concentrate on the environmental impact of design and construction decisions instead of the credits. More specifically, because Climate Control has a greater environmental impact and more credits — compared to Habitat Alteration, for example — project teams can be rewarded for a relatively greater care of the environment.

### **New regional credits & exemplary performance**

LEED 2009 will recognize the uniqueness of regional environmental priorities. To create a more effective method of addressing the need for regional adaptation, project teams may now pursue a maximum of four credits across a list of six Regional Bonus Credits — within the Innovation & Design section of each rating system. However, these regional credits will be treated like LEED ID credits — they will count toward the project certification tally, but cannot be used as base credits on which certified, Silver, Gold, and Platinum thresholds are established.

LEED 2009 furthers the pursuit of innovation in green building by expanding exemplary performance measures. In LEED 2009, three Additional Exemplary Performance credits within the Innovation & Design Process section are being added to the original five. These new credits may be awarded for reaching the next innovative level — a doubling of or attainment of the next incre-



**To provide better care and a greener environment, HVAC air quality standards — including increased ventilation — and energy consumption reductions meet or exceed LEED design requirements at Lehigh Valley Hospital Kasych Family Pavilion in Allentown, Pa., including at the fifth-floor nurse station.**

mental percentage beyond the Exemplary Performance base credits. Then, once a base credit — of which there are five — is achieved, a building can be awarded up to three Additional Exemplary Performance credits.

These additional credits are meant to encourage more innovation in LEED projects — such as using earthworms to aerate green roof systems, or using rooftop photovoltaics to provide at least 31 percent of a building's total energy use, or the implementation of educational outreach programs such as tours or LEED certified building brochures.

### **Initiative II**

Initiative I, the changes to credits and the guidelines themselves, is not the only evolution coming with LEED 2009. Currently, all LEED project submissions are reviewed by USGBC with the support of independently contracted reviewers. In alignment with Initiative II, beginning in January 2009, the USGBC, the developers of LEED, will move administration of the LEED certification process to the Green Building Certification Institute, a non-profit organization established in 2007 with the support of USGBC. Working together with the selected certification bodies, GBCI will deliver an ISO compliant certification process that will be able to grow with the green building movement.

“During the past year, the dramatic growth in the number of LEED project certifications challenged us to apply our mission of market transformation to ourselves,” commented USGBC President, CEO, and Founding Chairman Rick Fedrizzi. “By learning from ISO, engaging with world-class certification bodies and focusing on our

**The Education Center Corridor at Lehigh Valley Hospital Kasych Family Pavilion in Allentown, Pa. leads to an education center where occupants can learn about the building and the design process. This feature provided an Innovation in Design credit for building as pedagogy.**

mission, we've been able to create a solution that will expand our capacity to serve the community while letting USGBC continue to focus on improving the LEED rating system and delivering exceptional green building education."

"Third-party certification is the hallmark of the LEED program," added Alice Soulek, vice president of LEED development. "Moving the administration of LEED certification under GBCI will continue to support market transformation by delivering auditable third-party certification. Importantly, it also allows the USGBC to stick to the knitting, of advancement of the technical, scientific basis of LEED."

GBCI currently administers the LEED Accredited Professional program in alignment with ANSI requirements for professional certifications.

Aside from a greener world, it is anticipated that project teams will be better served because a smoother, more responsive and less costly certification process should be the overall result.

### Initiative III and beyond

Initiative III — the last of the three LEED 2009 initiatives — involves the LEED-online presence. LEED-Online has also undergone a comprehensive technology upgrade aimed at improving the user experience and expanding its portfolio management capabilities.

The LEED Version 3.0 update will also include a comprehensive technology upgrade to LEED-Online aimed at improving the user experience and expanding its portfolio management capabilities. LEED-Online harnesses technology innovations for the betterment of the certification system by incorporating tools and applications that improve accuracy, data capture, collaboration and convenience, and provide context-sensitive help that paves the way for better decisions. A variety of software application tools developed by third parties are being incorporated to augment information usability, acquisition and storage.

"Each credit category will have access to a wiki-like tool — like the current green building advisor — that gives specific information on how exactly to complete the credit. The wiki will be an additional cost but gives



in-depth info on how to accomplish specific strategies and techniques at the design phase, helping architects identify best practices in green design as part of their decision-making about their building," said Brendan Owens, vice president of LEED Technical Development.

When finally released in 2009, the LEED Green Building Rating System will have incorporated technical advancements and initiated improvements necessitated by the market resulting in a better, more refined tool, for both promoting and measuring green buildings.

Beyond the revisions, achieving LEED certification will continue to provide both environmental and financial benefits. Healthier and safer buildings that reduce harmful greenhouse gas emissions, conserve energy and water as well as reduce waste sent to landfills are among the many environmental reasons to apply and earn LEED certification. Lower operating costs, increased asset value along with the ability to qualify for tax rebates and zoning allowances are among the financial benefits owners can also derive from this process. Finally and equally as important, building designers, owners and users can be proud of their commitment to our environment. If still more reasons are needed in order to familiarize oneself with the new LEED version, visit [www.usgbc.org](http://www.usgbc.org). ■

**In his role as Quality Management Architect and Specifier, John Fendley is FreemanWhite's in-house expert for quality management, quality control reviews, product and contract research, construction contract specification preparation and the implementation of the different LEED project certification processes. John can be reached at 704-586-2450 or [jfendley@freemanwhite.com](mailto:jfendley@freemanwhite.com).**