building OPERATING management

Western Michigan's Peter Strazdas aims for longevity in sustainable interiors

JUNE 2012 • FACILITIESNET.COM/BOM • $8

GREEN ISSUE

Deep Retrofits: *Old Buildings Find Big Savings*

'Challenge' Targets Barriers to Efficiency

8 WAYS GSA IS GOING GREEN

ALSO: DATA CENTERS; BUILDING ENVELOPE

What Makes a Building Green?

LEED, other rating systems have different answers

THE PAPADAKIS INTEGRATED SCIENCES BUILDING, DREXEL UNIVERSITY, PHILADELPHIA

What Makes a Building Green?

LEED, other green rating systems have different answers to that question

by casey laughman, managing editor

The Papadakis Integrated Sciences Building on the campus of Drexel University is in the process of seeking both LEED-NC and Green Globes certification.

DREXEL UNIVERSITY

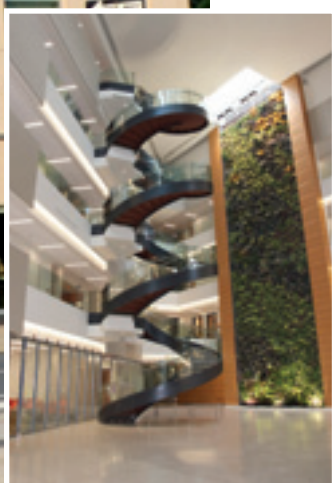
Facility managers looking at green building ratings systems have more high-performance options than ever. But that doesn't mean it's easy to pick the right one; while all of them have basic similarities, the differences can be significant when it comes time to make a decision.

The most well-known rating system is LEED, which has been around for more than a decade and has gradually evolved from a single standard that only applied to new buildings to a set of standards for everything from existing buildings to neighborhoods to homes.

Green Globes, started in Canada, expanded into the United States in 2004 when the Green Building Initiative (GBI) purchased the U.S. rights to the program.

Two other green building systems, both of which are younger, are beginning to take root as well. The Living Building Challenge began in 2006 as a program developed by the Cascadia Green Building Council, an affiliate of the USGBC. The fourth green rating system, sponsored by the Society of Environmentally Responsible Facilities (SERF), started in 2010. It currently includes certified facilities in 10 states.

To figure out which system will best meet their needs and the goals for their organization, facility managers have to take a close look at each of the options. In some cases, it may even make sense to pursue two or more certifications. Susan Hammer, property manager of a downtown Chicago high-rise owned by Prime Group Realty Trust, says having multiple certifications shows a commitment to sustainability in all areas, which is a strong selling point to potential tenants or employees.



"It shows that you believe sustainability is important and you want to be recognized any way you can," she says. Hammer's building, 330 North Wabash, holds LEED-Existing Buildings: Operations and Maintenance (LEED-EBOM) certification and SERF certification. It's also recognized under the BOMA 360 program, which is focused on overall building operations but does have energy efficiency requirements. (See sidebar, page 30).

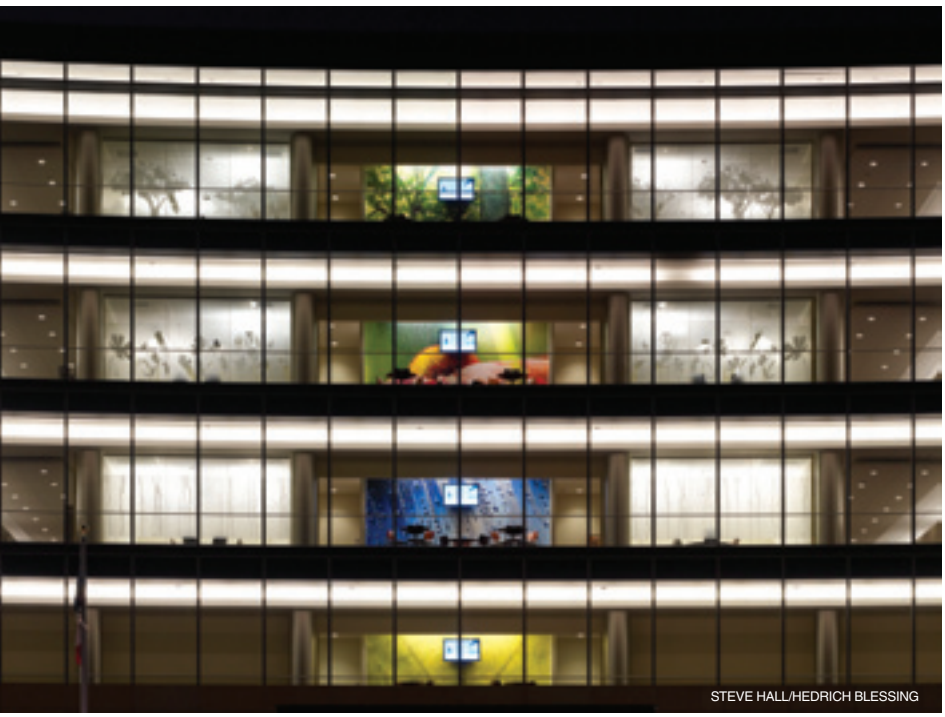
While these green building rating systems have many things in common, there are key differences between them. Here's a look at what facility managers should know about each system.

Follow the Leader

When it comes to the number of buildings certified, LEED has far and away the most — nearly 13,000 certified at the time of this writing. Since its inception in 2000, the system has offered building owners and facility managers guidelines for green design, construction and operations. LEED is the most versatile, as it includes rating systems tailored to a variety of facility types. LEED is also far more recognized. Hammer points out that when her building was in negotiations for a new primary tenant, the sustainability requirements asked for LEED by name.

"Every request for proposal (RFP) that came across our desk had a sustainability section that specifically asked 'Are you LEED certified?' or 'When will you get LEED certified?" she says.

To qualify for LEED certification, facilities must first meet several prerequisites (NC has eight, EBOM has nine, for in-


STEVE HALL/HEDRICH BLESSING

The world's largest office building to gain a Platinum rating under LEED for New Construction, the Wellmark headquarters and operations center consolidated multiple locations into a new facility in Des Moines, Iowa. Spaces in the HOK-designed project range from offices to a data center to fitness and daycare spaces.

stance), ranging from compliance from meeting ASHRAE standards to simply not allowing smoking in the building. After that, points are awarded in a number of different categories, with a minimum total required for certification. Each LEED rating system has 110 possible points spread across the categories. For example, LEED-NC's points breakdown looks like this: Sustainable Sites (26 possible points); Water Efficiency (10); Materials and Resources (14); Indoor Environmental Quality (15); Innovation and Design Process (6); and Regional Priority Credits (4). A minimum of 40 points is required for Certified status. Facilities that earn more points can qualify for Silver (minimum of 50 points), Gold (60) or Platinum (80) certifications. The certification requires extensive documentation, all of which is managed through LEED Online, a Web-based document management system. All commercial LEED projects are required to use LEED Online for certification.

The two most widely used versions are LEED-NC and LEED-EBOM. In late 2011, LEED-EBOM passed LEED-NC for the first time in terms of total square footage certified.

Part of the reason is that with the economy in the tank, construction slowed. Another is there is simply a vast stock of existing buildings — as many as 125 million buildings, according to an estimate by the U.S. Green Building Council. And finally, organizations are starting to understand the importance of efficient operations. Brendan Owens, vice president, LEED, USGBC, says it doesn't matter how well designed and constructed a building is; if it isn't operated well, it won't be efficient.

"If you don't follow up and pay attention to the way that building operates, you're really missing the opportunity that exists," Owens says. "Certification is not an end point. Green is a state of being. It's a state of compliance with the objectives that we care about, because just building a building doesn't get you anything. You have to run it right. It's like buying a Prius and driving it so you get 15 miles to the gallon. That's possible, but it's also possible to get 50."

The importance of operations means that it's almost impossible to properly evaluate a building right away, says Robert Francis, vice president, university facilities, Drexel University. The university's Papadakis Integrated Sciences Building is currently undergoing LEED-NC certification.

"The LEED system, and others, account for this to some degree by requiring a break-in and demonstration period where, a year later, you're able to prove that the system performs as the basis for design suggested that it would," Francis says. "It was a good move to delay the decision on certification until after an appropriate proving period."

Having a large pool of buildings offers opportunities for LEED to provide a basis for comparison to building owners and facility managers on how their facility is performing. One particular tool is the Building Performance Partnership — a relatively new part of all the LEED rating systems that requires buildings to report five years of energy and water data. (Buildings with current certification can participate voluntarily.) It's part of a continuing effort to make sure that LEED and its participants don't rest on their laurels, Owens says.

"We have had a significant impact," in terms of sustainable buildings, Owens says, "but it's not nearly the impact that is necessary to address any of the issues that we're looking at, whether it's resource consumption or water use or energy use. We still have a long way to go."

The newest version of all the rating systems — collectively known as LEED 2012 — will be released later this fall.

Spanning the Green Globes

The Green Globes program, which is administered in the United States by the Green Building Initiative, is a general purpose rating system for a wide range of buildings. Green Globes offers certifications in new construction, Continual Improvement of Existing Buildings (CIEB) and CIEB for Healthcare. It is also the only one of the major ratings systems that follows ANSI's consensus process for standards development.

The goal of Green Globes is to offer an alternative to LEED while still accounting for the continuing growth in demand for sustainability, says Sharene Rekow, vice president, sales and marketing, Green Building Initiative.

"The marketplace has evolved enough that people are taking some social responsibility for (sustainability)," says Rekow. She points out that there are four reasons that facilities pursue certification: legislative requirements; return

on investment; consumer demand; or because "it's the right thing to do."

To aid sustainability efforts, Green Globes uses an online reporting tool and third-party site visits for verification. The online tool allows facility managers to gather data on their building's performance at any time — once again focusing on the importance of operations. The tool is also usable after the certification process is complete, allowing for ongoing tracking of building performance.

"I call it TurboTax for sustainability because you always know where you are at any given time," Rekow says.

Unlike LEED, Green Globes does not have prerequisites, allows for partial scores and offers reports with sustainability recommendations included.

While Green Globes is intended to be a general purpose rating system, it has found a particular area of specialization recently. Green Globes is currently developing a system for federal facilities to be in compliance with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings, a set of sustainability guidelines for federal buildings. Each agency must have at least 15 percent of its buildings meet the principles by 2015.

A project with the Veterans' Administration to certify 216 hospitals and health care facilities has led to a focus on offering federal facilities a path to compliance with the Guiding Principles, in both existing buildings and new construction. The VA project led Green Globes in an unexpected direction, says Rekow.

"When the VA came to us and asked us to certify more than 200 hospitals, they wanted something that was specifically for health care," Rekow says. "If you would've asked us a year ago (before the VA project) if we would have developed a rating for the Guiding Principles, we never would've thought about it."

Setting a High Bar

The Living Building Challenge (LBC) is, certainly, a green building standard, but it's also a very different system. The LBC has a simple philosophy: "the most advanced measure of sustainability in the built environment possible today," according to its website.

"Basically, we're looking at nature as the ultimate measuring stick," says Eden Brukman, vice president, International Living Future Institute. That's reinforced by the rating system itself. The system

BOMA 360: EFFICIENT OPERATION

While green building rating systems treat operations as one aspect of sustainability, another building rating program takes the opposite approach: It looks as sustainability as one aspect of overall operations. BOMA 360 does include a sustainability component, but sustainability is not the main focus of the system. Instead, BOMA 360 approaches operations from more of the human side than the building side. The system encompasses everything from package management to security to how visitors move through the facility.

The goal, says incoming BOMA chairman Joe Markling, is to operate efficiently in every area, not just things like HVAC and lighting. The program has criteria in six categories: Building Operations and Management; Life Safety/Security/Risk Management; Training and Education; Energy; Environmental/Sustainability; and Tenant Relations/Community Involvement.

330 North Wabash in Chicago holds BOMA 360 designation, as well as LEED-EBOM and SERF certifications.

"The fact that you're saving a lot of money on lightbulbs is great, but if you can't change a tenant's lightbulb that's burned out quickly, that's a problem," says Markling, who is managing director, strategic accounts, CB Richard Ellis. "You can have a terrifically designed air conditioning system, but if the tenant is constantly hot and cold and you can't get there to fix and regulate that, that's not a well-run building."

Selling Efficiency as Well as Sustainability

The actual operations of the building and how they can be streamlined is often overlooked. BOMA 360 hopes to show that by taking a hard look at those processes, time and money can be saved.

"If I come to visit you in your building, how do I get from driving in the parking garage to your desk?" says Markling. "There's a lot of people you touch from Point A to Point B. How does all that work?" And can it be done in a more efficient manner?

"That's the kind of stuff we're looking at — every little detail of how people interact with the building. While the green is really, really important, buildings are people — people occupy the buildings, people come and visit the buildings — and how every person interacts with that building is critical. We're measuring those things."

From the facility manager's perspective, it's another way to show that the facility is being run in the most efficient manner possible, says Susan Hammer, property manager, Prime Group Realty Trust. Her building, 330 North Wabash, has a BOMA 360 designation.

"It's important to have that if you're going to be competitive between different property management companies, but it's also an opportunity to explain to prospective tenants what it means to come into a BOMA 360 building," Hammer says.

The idea of BOMA 360 is to address the full range of issues that tenants are concerned about. "The building only exists to service people," Markling says. "They're not that focused on how much it costs for them to occupy that space. They want it to be the right temperature, they want to have the light to do their job, and they want to know that they're safe."

—Casey Laughman, managing editor

has seven categories subdivided into a total of 20 Imperatives. Five of the categories — Site, Water, Energy, Health and Materials — would be right at home in any green rating system.

> By setting a high bar now, the LBC hopes to lead the way to a more sustainable future for buildings.

But the LBC also includes a category for Equity, which includes Human Scale and Human Places; Democracy and Social Justice; and Rights to Nature. The last category is Beauty, which includes Beauty and Spirit along with Inspiration and Education.

Education is a big part of the standard, says Brukman. The LBC focuses on how each project, regardless of size, has an impact on its community and its inhabitants.

"The standard is not just about buildings," she says. "None of the projects are inward-looking."

The purpose of the LBC is to be a leader in green buildings, says Mark Frankel, technical director, New Buildings Institute, and board member of the International Living Future Institute, which manages the LBC. By setting a high bar now, the hope is that other standards will catch up over time, thereby elevating the sustainability levels of all buildings. That can't come soon enough, says Frankel.

"If you look at the amount of progress we need to make in the built environment to reduce the impact on carbon generation and global warming, the building sector is a very important aspect," Frankel says. "Forty, 45 percent of carbon generation in the U.S. from energy use is in the building sector. So, if we talk seriously about reducing our energy use and carbon generation, we have to address the building sector."

The LBC aims to meet those goals with a demanding, performance-based standard. Before any facility can be certified, it must first provide operating data for a year to ensure that the practice is meeting the theory. And while the standard is very open-ended on exactly how goals should be met, there are some requirements structured in such a way as to reinforce best practices.

"We don't say 'thou shalt submeter,' but they can't provide us with the energy breakdown without it," says Brukman. "It's a choose-your-own-adventure with a good guide."

SERF's Up

A few years ago, a tenant came to Joe Maguire with a request to pursue LEED certification for the facility it was leasing.

Maguire, president of Wolverine Development Corporation, a company that owns 58 buildings in Michigan, investigated, but found that for a building and

company of that size, it didn't offer the return on investment he wanted to make it worthwhile. He began what would ultimately be a fruitless search for a system that offered a robust sustainability rating system that was more economical than LEED or Green Globes.

"After waiting for someone else to do it and giving up, we decided 'Well, we're going to do it,'" Maguire says. And so, SERF was born. The system, Maguire says, focuses on sustainability from a building owner's perspective. It now has certified facilities in 10 states, including Hammer's Chicago high-rise, the first building in Illinois to be SERF certified.

The tradeoff in being more affordable is that SERF is, in many ways, less stringent in what it requires. For example, while LEED-NC requires beating the energy usage requirements of ASHRAE 90.1 by 10 percent, SERF requires meeting them as the minimum.

The system grew from how Maguire's company approaches sustainability. One of the key tenets of both his company and SERF is adaptive reuse, which pri-

The Future of Green

Sustainability is becoming a more and more common requirement for buildings as tenants, customers and occupants become more knowledgeable and concerned about environmental impact. Where someone works, shops or visits is part of their overall consideration of how they want to incorporate sustainability into their overall life, not just the buildings they frequent, says Robert Francis, vice president, university facilities, Drexel University.

"The person who comes to the university nowadays, or comes to work at the university, is less likely than their parents to have a driver's license; they're not really interested in living on cul-de-sacs next to golf courses," he says. "They want the urban experience, they see density and diversity as being good things, and all of those are very sustainable lifestyle choices."

And, looking forward, Francis points out that eventually, more ratings systems than just the Living Building Challenge will take looks into account.

"What will need to happen now is some kind of aesthetic consideration will start to get built in," Francis says. "Green is beautiful, sustainable is beautiful, well, what does that mean?"

And regardless of where each standard is now or where it is headed, the fact that they exist and are offering guidance is a plus, says Mark Frankel, technical director, New Buildings Institute, and board member, International Living Future Institute.

"Once you build a building, it's there for a very long time," he says. "So you have to be particularly careful in what you introduce to the built environment."

--Casey Laughman, managing editor

oritizes bringing existing buildings, most of them urban, up to a certain sustainability level while repurposing them, as opposed to knocking down and starting over. The purpose is twofold: be more sustainable and take advantage of urban buildings' location, which is often close to businesses, doctor's offices, schools and other locations tenants visit during the day. If the facility is close to those things, it can cut down on total environmental impact by requiring less driving when someone runs an errand. If it's an urban center that's missing some of those services, they often follow if a business moves into an area.

"Generally the most sustainable action one can take is to reuse an existing structure," Maguire says. "That doesn't mean necessarily it's an urban structure; however, a number of the clever adaptive reuses are urban structures, and they've been very, very successful in revitalizing the urban core, not just in major cities but in secondary and even tertiary cities."

SERF also offers its prospective customers an assist in the marketing department. As a facility is evaluated and certified, the details are documented and a profile of the project and the facility is developed. It gives building owners a way to show prospective tenants how the facility pursues sustainability.

"Almost always, there's a great story to be told about a certified building," Maguire says. "Often when we, as owners, invest in sustainable initiatives, they're hidden. They're not immediately evident to anyone."

Understanding Requirements

The SERF certification is prescriptive. As is the case with most rating systems, third-party standards such as ASHRAE energy standards are used as baselines. One difference is that SERF uses those baselines as the only requirement for certification, as opposed to using reductions in consumption as a standard. Another difference is that SERF uses a dynamic scoring system, which allows for certification of facilities that find it impractical or impossible to achieve one or more of the 22 areas of evaluation used by the rating system. Facilities that don't meet requirements in one area must achieve a higher level of performance in other areas. An inspection by a third-party architect or engineer not affiliated with the facility is required before certification is granted.

While SERF is not intended to be as rigorous as LEED, it is designed to help push more building owners and facility managers down the road toward sustainability. As Maguire says, many times "sustainable" is simply another way to say "a good idea."

"We call it sustainability now, but oftentimes it's just smart," he says. Just because a building can't meet a certain criteria required by a green building rating system, it can still be a good business decision to increase a building's sustainability by other measures. ■

Email comments and questions to casey.laughman@tradepress.com.