



LEEDing Retail to Greener Pastures

Introduction of the LEED for Retail Program

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Abstract: The U.S. Green Building Council (USGBC) will soon launch two new LEED rating systems for the retail sector covering both commercial interiors and new construction/major renovations. Categories for concern are broader than just energy saving and carbon mitigation, and the scoring system recognizes the unique characteristics of retail sector buildings.

Since 2000 and especially since the beginning of 2006, the green building movement has become increasingly influential in the public and institutional sector, as well as in private-sector office buildings. However, the retail sector is only just beginning to participate in the green building movement, as retailers and developers start to engage in major sustainability initiatives. A number of challenges have slowed the greening of retail real estate. While the developer incurs the incremental cost of constructing a high-performance sustainable building, the retailer benefits from operating-cost savings; so far developers have not been able to recover these investments through higher rents. Additionally, the unique operational requirements of the retail industry have until recently complicated the process of gaining green-building certification for entire retail developments, except for enclosed shopping malls. For retailers building their own facilities or building new stores in existing buildings, the USGBC's new LEED for Retail offers new possibilities for green certification.

Greening the retail sector is an important component of the overall green building movement. In the U.S., for example, thousands of retail buildings are built annually; typically, retail comprises the second-largest commercial building sector, slightly less than office buildings.¹

In the U.S., the Leadership in Energy and Environmental Design (LEED) green building rating system of the USGBC has come to define what constitutes a green building. As of June 2009, more than 21,000 building projects were seeking LEED certification, and more than 2,800 had already been certified.² Cumulative LEED project registrations and certifications both increased 75% in 2007 alone, and increased more than 80% in 2008 versus the prior year. Even in 2009, a very poor year for new construction spending, LEED growth during the first five months was still 22% on a cumulative basis, pointing to a 50% annual growth rate for the year.

LEED for Retail

Recognizing the importance of greening the retail sector, as well as some of the challenges involved, the USGBC inaugurated its LEED for Retail pilot program, or beta test, in 2007. This program aimed at testing changes to the LEED for New Construction and Major Renovations (LEED-NC) and LEED for Commercial Interiors (LEED-CI) rating systems that would work better in retail, without compromising the rigor or integrity of the LEED system. About 80 projects signed up to participate in the LEED for Retail pilot program. Its goal was to produce two LEED Retail ratings systems: LEED for Retail Commercial Interiors (LEED for Retail-CI), which is intended for use by retail tenants; and LEED for Retail New Construction (LEED for Retail-NC), which is for free-standing retail projects.

In late 2008 and early 2009, the LEED for Retail rating systems were "harmonized" with the new LEED 2009 scheme and prepared for a USGBC member ballot in anticipation of a market launch as formal rating systems sometime in the third or fourth quarter of 2009. The member ballot requires 10% of all members to vote and, as of mid-July 2009, that quorum had not yet been reached. However, recent conversations with key USGBC staff heading this program indicate that these systems will become fully operational by year-end 2009. Therefore, it is timely to update ICSC members on what the systems contain and how they differ from the existing LEED-NC and LEED-CI systems with which readers may already be familiar.

Justin Doak, now the owner of BlueBin Inc., a retail sustainability consultancy, was the project manager of the LEED for Retail pilot program at USGBC through the end of 2008. He describes some of the challenges of applying LEED to the retail sector:³

"Essentially the LEED for Retail rating systems recognize the unique nature of the retail environment and address the different types of spaces that retailers

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¹ U.S. Department of Commerce, Census Bureau, monthly construction activity reports, <http://www.census.gov/const/www/privpage.html>, accessed July 15, 2009.

² U.S. Green Building Council data furnished to the author, May 2009.

³ Interview with Justin Doak, USGBC, November 2008.



need for their distinctive project lines. By capturing the feedback of our pilot projects, we were able to develop a LEED program that would push the market forward, but at the same time not be so rigorous as to discourage market adoption.

Whether you go into an apparel-supply store or a quick-service restaurant or a supermarket, you'll see a huge difference in the way that the stores are designed to accommodate their product lines. A grocery store requires a substantial amount of refrigeration because of perishable goods, floral departments and frozen products. An apparel store requires high-intensity lighting to showcase the clothing lines, whereas restaurants with their commercial kitchens have both large regulated and unregulated [according to LEED] energy demands. The challenge was that the existing LEED rating systems simply did not address these unique settings adequately, and they also failed to provide appropriate baselines needed to calculate performance improvements. Also in retail, there are more customers than there are employees, which requires different [energy, ventilation and water use] calculations and [improvement] strategies than for commercial office buildings.”

The LEED Rating Systems

LEED rates all buildings across five major categories of concern, using key environmental attributes in each category, as shown below in Table X-1. LEED collects and incorporates a wide variety of “best practices” across many disciplines including architecture, engineering, interior design, landscape architecture and construction. It is a mixture of performance standards (for example, save 20% of the energy use of a typical building) and prescriptive standards (for example, use paints with less than 50 grams per liter of volatile organic compounds), but it leans more toward the performance approach. In other words, LEED believes that best practices are better

evaluated by measuring results (outcomes), than by prescribing efforts alone (inputs).

There are four current LEED rating systems, each of which has potential application for (and has been used by) retailers and retail developers:

- LEED-NC
- LEED for Core and Shell (LEED-CS)
- LEED-CI
- LEED for Existing Buildings Operations and Maintenance (LEED-EBOM)

In the 2009 version of LEED, each rating system has the same number of total points (110), so that scores can be compared across rating systems. Additionally, the method for rewarding achievement is identical, so that a LEED-NC for Retail Gold project for new construction should represent the same level of achievement and the same degree of difficulty as a LEED Gold project for commercial interiors (tenant improvements). From these rating systems, USGBC selected LEED-NC and LEED-CI as the systems most in need of an overhaul to encourage significant adoption by retailers. There is still no agreed-upon LEED system for assessing entire retail developments, nor is there likely to be anytime soon. There is a possibility that the LEED for Neighborhood Development (LEED-ND) system could be used by large urban mixed-use projects that have strong retail components, along with office, residential, hospitality and other uses. That system is scheduled to become official by the end of 2009 or early 2010, following completion of the pilot program.

The most relevant systems for individual retail buildings and stores, LEED for Retail-NC 2009 and LEED for Retail-CI 2009, reward attainment levels as follows:

- Certified 40 to 49 of total points
- Silver 50 to 59 points
- Gold 60 to 79 points
- Platinum 80 or more points (of 110 available).

Table X-1

LEED Rating Systems: General Categories of Concern	
Category	Attribute
1. Sustainable Sites	Site selection and environmental site management.
2. Water Efficiency	Reducing water use, both inside and outside the building.
3. Energy and Atmosphere	Reducing energy use and incorporating renewables.
4. Materials and Resources	Reducing waste generation and using sustainable materials.
5. Indoor Environmental Quality	Designing and operating healthier buildings.
6. Innovation and Design Process	Fostering new approaches; using integrated design.

Source: USGBC



The LEED rating system is a form of “eco-label” that describes the environmental attributes of the project, similar in character to the nutrition labels on food. Prior to the advent of LEED, there was no labeling of buildings other than for their energy use; for example, as found in the U.S. Environmental Protection Agency’s ENERGY STAR® program.⁴ While useful for comparing a building’s energy use with all other buildings of the same type in a given region, ENERGY STAR gives an incomplete picture of a building’s overall environmental impact.

The irony is that a \$2 million (or \$20 million) building that is not LEED-certified has less labeling than a \$2 box of animal crackers in terms of its “nutritional” benefits (such as energy use, water use and waste generation) and its basic ingredients (materials and systems). An “eco-label” such as LEED is especially valuable not only to building owners who want to understand a building’s ingredients and its expected performance (including operating costs for energy and water), but also to tenants, employees and customers who may naturally be more concerned about how healthy the building is rather than how much energy or water it saves.

Complicating this rather straightforward use of the five main categories of environmental concern for determining levels of LEED certification is the addition of a sixth category, Innovation in Design (see Table

X-2). With up to 10 “bonus” points for “innovation and design process,” plus “regionally appropriate” credits (added in LEED 2009), this category can be quite useful for certifying retail projects, helping a project to meet minimum scores at each attainment level. Beyond accumulating a point total sufficient for certification, each project must meet all of the “prerequisites” in each rating system, no matter what level of attainment it achieves. For example, a LEED-NC for Retail 2009-certified building must reduce energy use at least 10% below a comparable building that just meets the ASHRAE (the American Society of Heating, Refrigerating and Air-Conditioning Engineers) 90.1-2007 standard. It must also achieve minimum ventilation rates, demonstrate building commissioning of essential equipment, provide for recycling and prohibit smoking.

In essence, LEED is a self-assessed, third-party verified rating system. (In that sense, it is like the U.S. income-tax system: you decide what you owe, and a third party—the government’s Internal Revenue Service—decides whether you are correct!) In the case of LEED certification, a project team estimates the particular credits for which its project qualifies and submits its documentation to the Green Building Certification Institute (a USGBC-related organization), which assigns the review to an independent third party. The independent reviewer assesses the project’s submitted documentation and awards a certain number of points.

Table X-2

LEED-NC for Retail 2009 System: Categories of Concern		
Category	Total Points	Issues Evaluated by the LEED-NC 2009 System
1. Sustainable Sites	26	Avoiding sensitive sites; promoting urban infill; locating to facilitate use of public transportation; reducing site impacts of construction; creating open space; enhancing storm water management; lowering the urban heat island effect; controlling light pollution.
2. Water Efficiency	8	Encouraging water conservation in landscape irrigation and building fixtures; promoting wastewater reuse from onsite sewage treatment.
3. Energy Efficiency	35	Energy-conservation; using renewable energy systems; building commissioning; reduced use of ozone-depleting chemicals in HVAC systems; energy monitoring; green power use.
4. Materials/Resources	14	Use of existing buildings; facilitating construction waste recycling; use of salvaged materials, recycled-content materials, regionally produced materials, agricultural-based materials and certified wood products.
5. Indoor Environment	15	Improved ventilation and indoor air quality; use of non-toxic finishes and furniture; green housekeeping; daylighting and views to the outdoors; thermal comfort; individual control of lighting and HVAC systems.
6. Innovation in Design; Regionally Appropriate Measures	10	Exemplary performance in exceeding LEED standards; use of innovative approaches to green design and operations; four points for addressing regionally significant issues.

Source: USGBC

⁴ See Energy Star program at <http://www.energystar.gov>



There is a one-step appeal process for situations in which the project proponent disagrees with the reviewer’s decisions.⁵

LEED-NC for Retail 2009

Table X-2 shows the six major categories in the LEED-NC for Retail 2009⁶ rating system, which is for new construction and major renovations. At first thought, many people think of a green building as one that primarily uses less energy and possibly uses recycled-content materials. However, in framing the entire LEED rating system, USGBC’s categories of concern are much broader and more comprehensive than just saving energy. (For some reason, the currently published version of LEED-NC for Retail 2009 contains only 108 total points, instead of the 110 found in the other systems, but presumably this will be clarified in the final result.)⁷

The LEED for Retail rating system is heavily weighted toward saving energy, with 35% of the “core” 100 points reserved for measures that reduce energy use. However, it is virtually impossible to get the higher-level LEED Silver or Gold ratings without paying close attention to other credit categories, such as the sustainable site-management or water-conservation measures, providing higher levels of indoor environmental quality, and choosing products and approaches that conserve materials and resources.

Pilot Program Certifications

Table X-3 shows some of the projects certified in the LEED-NC for Retail pilot program. The group spans a wide range of uses: gas stations, supermarkets, quick-

service restaurants and mid-size “box” retailers. Kohl’s, the department store chain, had three stores certified in the program.

In the LEED 2009 system, the points in the five basic categories were “weighted” according to the significance of their environmental impacts, using a life-cycle assessment tool developed by the U.S. Environmental Protection Agency (EPA) and applied to the LEED system by the USGBC. According to the USGBC:⁸

“With revised credit weightings, LEED now awards more points for strategies that will have greater positive impacts on what matters most: energy efficiency and carbon dioxide reductions. Each credit was evaluated against a list of 13 environmental impact categories, including climate change, indoor environmental quality, resource depletion and water intake, among many others. The impact categories were prioritized, and credits were assigned a value based on how they contributed to mitigating each impact. The result revealed each credit’s portion of the big picture, giving the most value to credits that have the highest potential for making the biggest change.”

Low-hanging Fruit in LEED-NC for Retail

Table X-4 shows some of the more cost-effective measures that a stand-alone retail store can take to qualify for certification under LEED-NC for Retail 2009, as well as those that might apply to the LEED-CI for Retail standard (see below). These measures are based on the author’s experience both in project design and in LEED certification. They are representative of what many projects are doing, and can do, and not exhaustive. The overall goal of many projects is to keep the LEED “cost premium” for initial projects seeking certification less than 2% of budgeted capital cost. Over time, many retailers expect this cost premium to fall to nearly zero, as their design and construction teams learn to incorporate LEED measures into standard designs.

Table X-3

LEED-NC for Retail Pilot Program Certifications, July 2009)				
Project Name	Owner	City	State	Level
29 th & J Street Supermarket	BP	Sacramento	CA	Certified
Chipotle	Chipotle Mexican Grill	Gurnee Mills	IL	Platinum
Office Depot (Anderson Lane)	Office Depot	Austin	TX	Gold
Best Buy-Stafford Township	The Walters Group	Manahawkin	NJ	Silver
Kohl's	Kohl's	Gibsonia	PA	Certified
Kohl's	Kohl's	Linden	NJ	Silver
Kohl's	Kohl's	Burlington	WI	Silver
Hannaford Augusta Store	Hannaford	Augusta	ME	Platinum

Source: USGBC

⁵ See <http://www.gbci.org> for all relevant details of the certification process.

⁶ Based on member ballot, <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1734>, accessed May 26, 2009.

⁷ Personal communication, USGBC staff to author, June 30, 2009.

⁸ See <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1971>, accessed May 17, 2009.

Table X-4

Cost-Effective Measures for LEED-NC and LEED-CI for Retail 2009			
	Appropriate for both LEED-NC and LEED-CI	Appropriate for LEED-NC Only	Appropriate for LEED-CI Only
Sustainable Sites			
1. Choose location near public transit, either existing or planned (and budgeted)	X		
2. Provide bicycle racks and electric vehicle charging stations	X		
3. Offer education for alternative transportation options			X
4. Size parking capacity to meet zoning and provide preferred parking for carpools/vanpools		X	
5. Preserve/restore open space where possible; landscape with native and adapted plants		X	
6. Provide passive stormwater management, including on-site infiltration where appropriate, along with bioswales in parking lots		X	
7. Provide structured or shaded parking where possible; combine parking with photovoltaic solar systems		X	
Water Efficiency			
1. Reduce water use by up to 40% by installing water-conserving fixtures, including high-efficiency toilets and urinals, along with low-use faucets	X		
2. Landscape with native/adapted plants; use drip irrigation or no permanent irrigation system		X	
3. Meter all specific water-using departments		X	
Energy Efficiency			
1. Improve building envelope for greater efficiency		X	
2. Install high-efficiency lighting, including LEDs	X		
3. Install daylight integration systems	X		
4. Reduce lighting power density up to 35% below standard			X
5. Use zoned occupancy sensors where appropriate	X		
6. Decrease energy use more than 15% below applicable standards		X	
7. Install 90% of ENERGY STAR-qualified appliances and equipment in the store			X
8. Use onsite renewable energy systems provided by a third-party vendor		X	
9. Buy Renewable Energy Credits (RECs) or energy from green power sources	X		
Materials and Resource Conservation			
1. Recycle more than 75% of construction waste	X		
2. Use 10% or more recycled content materials	X		
3. Use 20% or more local/regional materials	X		
4. Re-use materials and furniture from previous stores			X
Indoor Environmental Quality			
1. Install carbon dioxide sensors to regulate ventilation by occupancy levels (this also saves energy)		X	
2. Use non-toxic adhesives, sealants, paints, coatings, carpets in construction	X		
3. Use non-toxic flooring systems, walls and ceilings			X
4. Use best indoor construction air quality maintenance practices	X		
5. Use daylighting throughout the store		X	
6. Commit to thermal comfort monitoring and surveys	X		
Innovations and Regional Priorities			
1. Adopt public education program	X		
2. Buy more green power or RECs	X		
3. Report carbon emissions to appropriate organizations	X		
4. Include a LEED Accredited Professional in your project team	X		
5. Achieve points for regional priority credits	X		

Sources: Author, USGBC



Table X-5

LEED-CI for Retail 2009: Commercial Interiors Point Allocations	
Category	Points
1. Sustainable Sites	21
2. Water Efficiency	11
3. Energy and Atmosphere	37
4. Materials and Resources	12
5. Indoor Environmental Quality	16
6. Innovation, Design Process and Regional Credits	10

Source: USGBC

LEED-CI for Retail 2009

LEED-CI is designed mainly for situations in which the base building systems are not changed and in which a tenant takes up space only in a much larger retail shell building. Think of a small clothing chain with an average 6,000 sq ft store area, a bank, a café or a coffee shop. The tenant's ability to affect total energy and water use or such issues as open space, landscaping or storm-water management ranges from limited to non-existent. Thus, other green building measures need to be incorporated into the evaluation system. These measures include choices that retail tenants can make about lighting design, energy-using equipment, lighting-control systems, sub-metering, furniture and furnishings, paints, carpet and composite wood products, and length of tenancy. Table X-5 shows the allocation of points to each of the categories of concern in the LEED rating system. (The draft version of LEED-CI for Retail 2009 contains only 107 total points, instead of 110, but presumably this will be clarified in the final result.)⁹

Pilot Program Certifications

Table X-6 shows some of the projects certified in the LEED-CI for Retail pilot program. The group spans a wide range of uses: financial offices, clothing and sports retailers, and one pizza restaurant. CitiFinancial

offices certified 125 stores, while the retailer Coldwater Creek certified five stores, and L.L. Bean and Wachovia Bank three stores each.

Low-hanging Fruit in LEED-CI for Retail

Table X-4 shows some of the more cost-effective responses that a stand-alone retail store can take to qualify for certification under LEED-CI for Retail 2009. These measures are based on the author's experience both in project design and in LEED certification. They are representative of what many projects are doing, and can do, within the confines of a small budget. The overall goal of many projects is to keep the LEED "cost premium" for initial projects seeking certification at less than 2% of budgeted capital cost. Over time, many retailers expect this cost premium to fall to nearly zero, as their design and construction teams learn to incorporate LEED measures into standard designs. One way to ensure this cost reduction is to work within LEED's "Portfolio Program." This allows the retailer to redesign a standard prototype, then replicate it with each project and receive a "master" LEED certification for each project without extensive documentation. This program is especially appropriate for national retailers whose stores are typically small, say under 6,000 sq ft (550 sq m), such as clothing retailers, banks, chain restaurants and similar enterprises.

Table X-6

LEED-NC for Retail Pilot Program Certifications (July 2009)				
Project Name	Owner	City	State	Certification Level
Coldwater Creek	Coldwater Creek	Boulder	CO	Certified
REI Boulder	Recreational Equipment Inc.	Boulder	CO	Gold
Elephant Pharm	Elephant Pharm	Walnut Creek	CA	Gold
Coldwater Creek, The Arboretum at Great Hills	Coldwater Creek	Austin	TX	Gold
Coldwater Creek, Village at Stone Oak	Coldwater Creek	San Antonio	TX	Silver
Coldwater Creek, Hill Country Galleria	Coldwater Creek	Bee Cave	TX	Silver
Coldwater Creek, Uptown Gig Harbor	Coldwater Creek	Gig Harbor	WA	Gold
Timberland, Northshore	Timberland Company	Peabody	MA	Gold
Timberland, Rockingham	Timberland Company	Salem	NH	Silver
L.L. Bean, Mansfield	L.L. Bean, Inc.	Mansfield	MA	Silver
L.L. Bean, South Windsor	L.L. Bean, Inc.	South Windsor	CT	Silver
L.L. Bean, Albany	L.L. Bean, Inc.	Colonie	NY	Gold
Pizza Fusion, Weston	Pizza Fusion	Weston	FL	Gold
Pizza Fusion, Wellington	Pizza Fusion	Wellington	FL	Certified
CitiFinancial	Citi	Various	Various	Certified
Wachovia Bank	Wachovia	Washington	DC	Silver

Source: USGBC

⁹ <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1734>, accessed June 22, 2009.



LEED and Energy Efficiency Mandates

In California in 2008, three of the four largest cities—Los Angeles, San Jose and San Francisco—passed ordinances requiring all private-sector projects over 50,000 sq ft to achieve LEED certification. Developers and retailers should keep a close watch as more local governments start to mandate LEED certification for large commercial projects, a trend that will certainly affect many retail projects in the coming years. The likelihood is that LEED mandates will spread to many other local jurisdictions and that before too long they will apply to commercial projects as small as 5,000 sq ft.

In addition, California has adopted building-code amendments that will require higher energy performance and public disclosure of energy use as from 2010. This movement is also likely to spread rapidly and may come to include a national building code based on the forthcoming ASHRAE 90.1-2010 standard, which will increase building energy performance by 30% compared to the 2004 standard.¹⁰

Green Retail Buildings Come of Age

Green building-rating schemes such as LEED for Retail, the United Kingdom's BREEAM for Retail and Australia's Green Star for Retail have come of age. While there is still occasional awkwardness in applying what started as green office-building design and construction criteria to the retail environment, there is strong agreement that retail stores and shopping centers need to be upgraded to meet ever-more-stringent criteria for green building and high-performance interiors. Within five years, and perhaps much sooner, most developers and retailers with strong commitments to corporate social responsibility will most likely find a green building rating and certification scheme that can fit their projects.

LEED for Retail should help the U.S. retail sector to move to greener pastures. This is important given the momentum that has developed behind the concept of sustainability in general and green buildings in particular, especially if energy-efficiency mandates become the norm. However, there are other good business reasons for embracing green construction and interiors. In addition to cost savings and the advantages of occupying healthier high-performance buildings, retailers could also benefit from developing a new form of brand quality as a result of becoming (and being known as) green retailers with strong sustainability orientations. According to Justin Doak:¹¹

“People are more cognizant of energy and waste; they care about environmental prosperity—it’s just part of the culture now, an addition to humanity’s ethos. So whenever a customer goes into a store and sees bad practices happening, then it translates into a negative experience and pings against brand loyalty. The opportunity now is that retail brands have a chance to build a new level of loyalty with customers who have eco-values. Patagonia, Timberland, REI and L.L. Bean, for example, have done it for years. That’s why they were some of the first adopters of LEED—the alignment was a natural fit. Environmental initiatives are a core competency for these brands and are a big reason why they’ve maintained such a loyal following.”

Being green can pay dividends on many different levels for retailers. To achieve many of these benefits, certifying a project to an accepted third-party green building standard is a valuable first step. LEED for Retail and related systems such as BREEAM and Green Star provide acknowledged environmental and energy performance to an ever-more-discriminating group of stakeholders.

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¹⁰ In the United States and Canada, ASHRAE (the American Society of Heating, Refrigerating and Air-Conditioning Engineers) provides the standards for energy-efficient design. The current version, referenced throughout LEED 2009, is ASHRAE 90.1-2007. These standards are in turn referenced in the International Energy Conservation Code, published by the International Code Council. See <http://www.ashrae.org> and <http://www.iccsafe.org> for further details on each standard.

¹¹ Interview with Justin Doak, USGBC, November 2008.