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white paper

MARCH 2010

a roadmap for greening existing buildings under LEED®-EBOM

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Introduction

If you own, invest in or manage real estate, thinking "green"—as in environmentally conscious—is no longer optional. A combination of factors favoring green buildings is likely to render conventional buildings noncompetitive in the near future.

Green building certification in the United States is dominated by the United States Green Building Council ("USGBC") and its Leadership in Energy and Environmental Design ("LEED®") rating systems. As of November 2009, USGBC reports a pipeline of more than 25,000 commercial projects registered for LEED® certification and over 3,800 commercial projects already certified.

This article will focus on the fastest growing of all LEED® rating systems since 2007—the LEED® Green Building Rating System for Existing Buildings: Operations and Maintenance, or LEED®-EBOM. It will briefly describe its requirements and some of the reasons for its dramatic growth. It will then offer several practical suggestions for managing the LEED®-EBOM process and the expectations of those participating in the effort.

The LEED®-EBOM Rating System

LEED®-EBOM is a set of performance standards for certifying the operations, improvement and maintenance of existing commercial, institutional and high-rise residential buildings of all sizes, both public and private. Its goal is to maximize a building's operational efficiency and the health and comfort of its occupants while minimizing the building's adverse environmental impacts.

Like the LEED® rating system for New Construction and Major Renovations ("LEED®-NC"), LEED®-EBOM includes prerequisites and credits—with points assigned to credits—in five environmental categories: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources and Indoor Environmental Quality. A sixth category, Innovation in

Operations, awards points for exceptional performance or novel approaches. More specifically, LEED®-EBOM addresses water and energy use, site maintenance programs, environmentally preferred products and practices for cleaning and alterations, sustainable purchasing polices, waste stream management, and ongoing indoor environmental quality. If a building will be more than half vacant during a renovation, the USGBC considers it new construction and LEED®-NC will apply.

For purposes LEED®-EBOM certification a building's operations performance is measured over a "Performance Period." The Performance Period must be a minimum of 3 months for all prerequisites and credits except Energy and Atmosphere Prerequisite 2 and Credit 1, whose minimum durations are 1 year. The performance period for any prerequisite or credit may be extended to a maximum of 24 months preceding certification application. The Performance Period should not be commenced until the upgrades, policies and training and education of staff, vendors and tenants necessary to satisfy the prerequisites and intended credits have been completed and fully implemented.

After completion of the Performance Period, the USGBC determines at what level to certify a building based upon information collected by the project team. Increased green performance—the greater the number of points earned—results in a higher rating. Projects may be certified as LEED®-EBOM Certified for earning 40-49 points, Silver for earning 50-59 points, Gold for earning 60-79 points, and Platinum for earning 80 points.

The Business Case for LEED®-EBOM

Energy is the single largest and most manageable operating expense in the provision of office space comprising 30% of the operating expenses in a typical office building. Yet, most buildings suffer from control, equipment, sensor and other problems that reduce performance and significantly increase energy costs. A primary goal of LEED®-EBOM is to reverse the financial and environmental consequences of underperforming energy systems through retrocommissioning. The process of testing an existing building's systems for conformance with current operating requirements and needs and making any necessary repairs or changes, retrocommissioning has been shown to yield cost-effective savings of between 5 and 20% with a typical payback of 2 years or less. Thorne, J. and Nadel, S., *Retrocommissioning: Program Strategies to Capture Energy Savings in Existing Buildings*, Washington: American Council for an Energy-Efficient Economy Report No. A035 (2003). More recently, a study by CB Richard Ellis found that depending on the level of improvement energy usage savings on improved buildings relative to unimproved ones at least exceed 10% and could be well over 50%. CB Richard Ellis/EMEA Research, *Who Pays for Green: The Economics of Sustainable Buildings* (2009).

According to Great Britain's Royal Institute of Chartered Surveyors ("RICS") opportunities are often missed to improve the sustainable performance of existing buildings because the cost of such work is wrongly perceived to outweigh the cost saving

benefits. Royal Institute of Chartered Surveyors, *Transforming Existing Buildings: The Green Challenge* (March 2007). This misperception about a "green premium" may be especially true today "since construction of new commercial buildings has slowed significantly in 2008 and 2009, general and specialty contractors are likely to be more eager for work, and prices for building upgrades should come down." "Construction Costs Post Rare Quarterly Decline," *Engineering News-Record*, June 29, 2009: 21+ (www.enr.com).

The growing demand among public and private users for space in green buildings further supports consideration of LEED® EBOM certification. The Federal government and jurisdictions across the country are increasingly mandating that public and private building stock meet green standards, especially LEED®. The private demand for green buildings has accelerated as well because saving energy and lowering greenhouse gas emissions have become civic virtues. Shareholders, employees and customers increasingly expect their corporations, employers, landlords, retailers and hotels to share their sustainability values. One recent study has concluded that less efficient conventional buildings are likely in the years ahead to have their market value discounted as a result of lower rents and higher vacancies "as tenants increasingly migrate to more modern, green buildings." Nelson, Andrew, *How Green a Recession?—Sustainability Prospects in The U.S. Real Estate Industry*, San Francisco: RREEF Research, Paper No. 70, February 2009, p.8.

A green building tipping point may already be at hand. A study of 10,000 buildings released in 2009 found that buildings with a "green rating" commanded rental rates roughly 3% higher per square foot than otherwise identical buildings—controlling for the quality and the specific location of office buildings. Premiums in effective rents were found to be even higher—above 6%. Selling prices of green buildings also were higher by about 16%. Eichholtz, Piet, Kok, Nils, & Quigley, John M., *Doing Well By Doing Good? Green Office Buildings*, UC Berkeley: Center for the Study of Energy Markets (2009).

In short, investments in energy efficiency and other sustainable practices that may be necessary to achieve LEED® EBOM certification appear to offer real value, if not competitive survival, to the owners (and tenants) of many existing buildings especially if energy prices continue to rise and more green building stock comes online. The suggestions that follow outline a process for managing the initial stages of the LEED® EBOM effort, identify several of the decisions and challenges that will be faced along the way and, ideally, will enhance the likelihood of securing a certification level on time and within budget that is consistent with the owner's needs and objectives.

Build a Diverse Project Team

A project team should be assembled at the outset of any effort to green an existing building that includes representatives of all potentially affected departments assisted by an experienced LEED®-EBOM consultant. This may include facilities

management, engineering, maintenance and cleaning, purchasing, leasing and legal. A diverse project team leverages the breadth of institutional perspectives and skill sets, facilitates communication and integration, permits responsibilities to be divided into manageable pieces and enhances the likelihood of company and building-wide buy-in. "Green," however, should not characterize the experience level of your LEED®-EBOM consultant. Knowledge obtained and practices developed on prior projects will facilitate a resolution of the many technical issues raised by the interplay among LEED®-EBOM credits and the evaluation of the competing costs and benefits among the numerous potential actions for enhancing a building's energy use and sustainability. Use of in-house personnel also should reduce the cost of outside consultants, in areas such as information collection, and thereby increase consultant time on technical issues. It is also recommended that the in-house team be led by a member with a history at the company and credibility with those who will decide whether, and to what extent, certification will be pursued.

Have a Clear Understanding of Your Particular Green Objectives and Budget

A "green" building can mean many things: increasing energy efficiency, improving indoor air quality, using sustainable materials, or lessening one's carbon footprint. The reasons for greening an existing building likewise may be varied: lowering energy consumption; developing a green real estate product that is marketable to existing and prospective tenants or satisfies the sustainability demands of shareholders, customers or employees; creating a model for greening all of the buildings in an owner's portfolio; enhancing an asset's market value by reducing its operating costs; minimizing a property's carbon footprint; reducing the demand on non-renewable resources; or any combination of the above.

Likewise, a goal (or promise) to achieve a particular LEED®-EBOM rating does not automatically translate into a renovated building that meets an owner's particular green vision. Beyond LEED®-EBOM's prerequisites, the USGBC does not dictate either which credits or the precise number of points a project must obtain to achieve a desired certification level. The selection of the credits and points to target, therefore, must depend upon the particular goals and motivations driving the pursuit of LEED®-EBOM certification in the first place and be consistent with budgetary constraints. It is essential at the outset of a project to establish, and communicate, a clear set of goals and objectives that work for the organization and have a reasonable chance of being attainable.

Perform a Building Audit and Gap Analysis

The first step in any LEED®-EBOM effort is to audit a building's current energy performance and operations by collecting the myriad of information required to demonstrate compliance with the rating system's prerequisites and credits. This documentation may be dispersed among internal and external sources depending on whether facilities management is handled in-house or

outsourced, and whether the building is single or multi-tenanted. The added challenge of auditing and pursuing LEED®-EBOM certification in multi-tenanted buildings is discussed below. Information to be collected includes utility bills, water bills, trash removal bills, tenant improvement and preventative maintenance policies and specifications, and landscaping and cleaning products and practices. The building audit will reveal the "gap" between current operations and the requirements for certification that will allow the project team to assess the feasibility *vel non* of certification, to weigh in on the credits that are, and are not, achievable and over what time frame given the owner's objectives and budget.

Most significantly, the gap analysis will reveal to what extent three of LEED®-EBOM's prerequisites, in particular—Water Efficiency Prerequisite 1 (WEp1), Energy & Atmosphere Prerequisite 2 (EAp2), and Indoor Environmental Quality (EQp1)—are being met. Four of the other prerequisites require writing and adopting policies which should not be difficult for most organizations.

Be Prepared to Pursue LEED®-EBOM Certification Incrementally Beginning with Retrocommissioning

While Class A buildings constructed in the last 15-20 years are likely to be designed to operate at the performance levels required by WEp1, EAp2 and EQp1, commencement of the Performance Period may need to be put off for older or more modest buildings while the funding for retrofits necessary to satisfy these prerequisites, or cooperation from tenants, is secured. However, LEED®-EBOM should not be viewed as a one time, "up or down" proposition, but rather as a suite of initiatives and tools to increase a building's energy efficiency and sustainable operations over time.

As one of LEED®-EBOM's key tools, the retrocommissioning process required to earn Energy & Atmosphere credits 2.1 and 2.2 will typically reveal many no-cost/low-cost measures which, apart from satisfying a number of credits, can be adopted to improve energy efficiency, enhance the sustainability of operations and garner energy savings that can be used to finance other improvements. So long as the retrocommissioning is completed within 5 years of the application for certification, projects will not have to repeat the process during the Performance Period to comply with EAc2.1. By pursuing an incremental approach some owner sustainability objectives can be fulfilled even before formal certification is pursued. Moreover, the education, training and experience of staff, tenants and vendors that already has taken place will enhance the likelihood of successfully meeting LEED®-EBOM requirements once the Performance Period commences. One major property manager, Jones Lang LaSalle, has summarized this incremental approach to improving a building's sustainability as follows: (1) Do what you can for free; (2) Consider low cost, quick payoff improvements; and (3) Budget for longer term, big payoff strategies.

The Ability to Pay for Major Retrofits with Energy Savings Should Improve with the Growth of PACE Programs

Financing the upgrades necessary to achieve higher performing buildings and LEED®-EBOM certification remains the biggest challenge to greening existing buildings. Incentives, in the form of tax credits, tax deductions and rebates, offered by Federal, state, and local governments and utilities continue to expand, however, and should be investigated. For example, the federal tax deduction of $1.80 per square foot for energy efficiency retrofits that achieve 50% savings against a referenced standard (ASHRAE 90.1-2001), or $0.60 per square foot for measures affecting a building's heating and cooling, building envelope and lighting systems has been extended until 2013. A compendium of incentive programs can be found at the Database of State Incentives, www.dsireusa.org. Another approach to financing energy improvements has been to enter into a shared savings contract (ESC) with an energy service company. The EPA's introduction to energy performance contracting can be found at http://www.energystar.gov/ia/partners/spp_res/Introduction_to_Performance_Contracting.pdf. ESCs are complex arrangements, however, and consultation with your attorney is recommended.

A breakthrough in substantially reducing the upfront cost of energy retrofits emerged in California in 2008 with the advent of Property Assessed Clean Energy (PACE) bonds. PACE bonds are debt instruments issued by a municipality or development district and backed by property tax liens on buildings whose owners take PACE loans from a bond pool. PACE bonds enable property owners to repay the cost of energy improvements over twenty years through an increase in a building's annual property taxes of one-twentieth of the loan amount plus interest. PACE bonds are attractive to investors because they are backed by property taxes—which have very low default rates—and, in contract to traditional loans, survive a foreclosure; the new owner who buys the building must immediately bring the tax payments up to date. Since 2008, PACE enabling legislation has been passed in thirteen states and, most recently, in the District of Columbia with legislation pending in two more states. Two more states have existing ability to launch PACE programs. According to PACE Now, an independent coalition of PACE bond supporters, it is estimated that the potential for PACE bonds could exceed $500 billion.

Assess the Impact of Tenant Activities and Green Leases

Because LEED® EBOM applies only to an entire building, tenant practices (and tenant vendors) must be taken into account in determining the feasibility of LEED®-EBOM certification. The more tenants the greater the challenge–especially if tenants are not obligated by existing lease requirements to cooperate in the LEED® EBOM process or to share in the costs and benefits of sustainability initiatives. As one author notes, for example, typical commercial triple net leases do not: (i) contemplate smart metering for water and natural gas; (ii) match a "repair and maintenance" obligation to an environmental standard, but instead require a tenant to use only new materials in initial fit-out

or alterations; (iii) speak at all to the types of materials or cleaning products used within a tenant's premises; (iv) allow the capital and operating costs associated with landlord retrofits necessary to achieve LEED® EBOM certification to be an operating cost pass through; (v) allow landlord access to the leased premises for environmental compliance or to determine a breach of environmental objectives; or (vi) allow the Landlord to purchase "green power" if it costs more and pass the costs on to the tenant. S. Michael Phillips, "Green Leases and Green Buildings," *Probate and Property*, American Bar Association, Chicago: Vol. 22, No. 6 (November/December 2008).

A "green lease" works to ensure that tenants and landlords are required to adopt environmentally friendly practices by seeking, for example, to remove disincentives in a commercial lease to reduced energy, water and raw material consumption, increased recycling, and the use of sustainable materials in tenant improvements. Nevertheless, absent a green lease, tenant self interest could drive cooperation between a landlord and its tenant in pursuing LEED® EBOM certification. Over and above the reduced energy costs that greening an existing building may yield a tenant, according to the studies referenced above and others like them, green buildings are associated with significant, positive impacts on tenant companies' ability to attract and retain talent, on corporate bottom lines and sustainability goals, and on brand image to customers, investors and community.

Do Not Rely on Standard Industry Contracts When Engaging Designers and Contractors for Retrofit Projects

A successful green project requires specialized knowledge and a design and construction team with prior green experience capable of working together collaboratively. With one exception, however, none of the major industry organizations have added specific agreements for the design or construction of green buildings or renovations to their current library of contract forms. Although the American Institute of Architects created Form B214 as an addendum to its standard Owner-Architect Agreement, the form only scratches the surface of the architect's role and its ramifications and in no way addresses the responsibilities of contractors, subcontractors, or suppliers. Therefore, owners either must develop proprietary forms of agreement or significantly modify the standard industry forms to properly address and allocate the many unique elements of scope and risk associated with green projects.

Purchase Property Insurance that Covers Losses Associated with Green Buildings

Traditional insurance products may fall short of providing adequate coverage for the combination of requirements and specialized materials and systems used in green buildings. In a June, 2008 survey, *"The Green Built Environment in the United States: The State of the Insurance Marketplace*," global insurance broker Marsh identified several property insurers that have already introduced green endorsements to their standard property forms or specific insurance policies for LEED® certified

buildings. Programs include, for example, coverage for non-toxic, low odor paints and carpeting; interior lighting systems that meet LEED standards; water-efficient plumbing; Energy Star qualified roof and insulation materials; and the additional cost of having a building certified. According to Marsh, green enhancements to builder's risk polices are of even more recent vintage. Marsh notes, however, that builder's risk coverage varies by market so that a conducting a policy form comparison is required.

Conclusion

LEED® certification is fast becoming the standard against which a building's commercial value is being judged. Given the stakes, it is essential for property owners and managers to carefully and systematically assess the feasibility, and relative costs and benefits of LEED®-EBOM certification.

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