"Going Green" In Construction Offers Environmental Benefits—And Significant Financial Savings

By Charlotte A. Biblow

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Several months ago, the owner of the Empire State Building announced that the world famous building is "going green" as part of a model project that has received a great deal of publicity.[1] These environmental efforts will not simply garner kudos and good press. The owner of the landmark property expects that the multi-million dollar project, which includes window upgrades, more efficient air conditioning and heating systems, insulation, and energy-efficient lighting, will reduce the Empire State Building's energy consumption by at least 38 percent—and that it will save $4.4 million annually.[2]

More and more developers, property owners and lenders are considering environmental issues when constructing or renovating a commercial property. Partly, this is a result of increasing government pressure to do so; government agencies strongly support "green" initiatives.[3] In fact, several municipalities have incorporated "green building" requirements or incentives into their building codes.[4] Another reason is that tenants have a heightened awareness of environmental concerns, such as climate change and use of renewable energy, and are putting pressure on landlords to operate properties in a more environmentally sensitive manner. In the current market, landlords, of course, need to pay attention to these concerns. And, perhaps most importantly, there are economic benefits to "going green."

There are a variety of steps that can be taken to "green" a property, just as there are various standards and standard setting organizations that provide guidance and suggestions on how to best do so. The principal and most widely accepted standard, however, is rapidly becoming the "LEED" certification system, created by the US Green Building Council (USGBC), a 501(c)(3) non-profit organization.[5]

WHAT IS LEED?

"LEED" is an acronym that stands for the USGBC's "Leadership in Energy and Environmental Design" green building rating system. According to the USGBC, "LEED provides building owners and operators a concise framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions."[6] In connection with that system, the Green Building Certification Institute[7] offers third-party LEED certification for projects based on a 100 point scale relating to important environmental issues including sustainability, water efficiency, materials and resources used, and indoor air quality.[8] Projects are also eligible for up to 10 bonus points.[9] The USGBC also offers building and other professionals the ability to become credentialed experts in LEED.[10]

There is now a new, updated version of LEED known as "LEED Version 3" or "LEED 2009."[11] Launched by the USGBC on April 27, 2009, LEED Version 3 is based on prior LEED

programs, and it incorporates the "New Construction,"[12] "Core and Shell,"[13] "Commercial Interiors,"[14] "Existing Buildings: Operations & Maintenance,"[15] and "Schools"[16] commercial and institutional building rating systems.

Significantly, LEED Version 3 recognizes new technology and environmental issues such as energy use and carbon dioxide emissions—these issues, the USGBC indicates, are what matter "most." As a result, LEED Version 3 now awards more points for energy efficiency and carbon dioxide reductions.

To reach that conclusion, the USGBC considered a variety of environmental problems, from climate change and indoor environmental quality to resource depletion and water intake, spoke to various experts, and decided that energy use and CO_2 emissions have the "highest potential for making the biggest change." Thus, property owners that incorporate technology into their designs that decreases CO_2 emissions or that is more energy efficient will earn more LEED rating points.

LEED FOR NEW CONSTRUCTION

As noted above, LEED Version 3 points are awarded on a 100 point scale, with 10 possible bonus points (four of which relate to environmental issues that are specific to the project's region and six of which relate to innovative design). There are four levels of LEED certifications for new construction and major renovations: certified, silver, gold, and platinum. A project that gets a point rating between 40 to 49 points achieves a "certified" LEED certification. A project that gets a point rating between 50 to 59 points achieves a "silver" LEED certification. A project that gets a point rating between 60 to 79 points achieves a "gold" LEED certification. A project that gets a point rating of 80 points and above achieves a "platinum" LEED certification.

The LEED Version 3 certification process involves five separate rating categories (plus the two bonus categories) pursuant to which projects are evaluated and in which points can be awarded. The first category is "Sustainable Sites," and has a total of 26 points available to be earned. Points in this category are awarded for site selection criteria that predominantly assess the appropriateness of the site for the intended use and evaluate whether the project will preserve open space and will redevelop brownfields. Up to six points can be awarded for sites that have good access to public transportation. Up to three points can be awarded for alternative transportation, such as the use of low-emitting and fuel-efficient vehicles. A project can receive five points under this category for "Development Density and Community Connectivity," which encourages use of existing infrastructure. Maximizing open space, light pollution reduction, brownfield redevelopment, and protecting or restoring a habitat all can earn points under this category.

The second category covers "Water Efficiency" and there is a maximum of ten points that can be awarded in this category. For example, water efficient landscaping that reduces water usage by 50 percent can yield two points. Using landscaping techniques that eliminate irrigation can result in four points being awarded. Reducing water use by 30 percent can earn two points. Increasing the reduction of water use by 35 percent can earn three points. A 40 percent reduction in water use can earn four points.

The category with the largest number of available points is captioned, "Energy and Atmosphere." Here, there are 35 possible points available to a project. The most points in this category—up to 19—are achievable by improving energy performance by 48 percent or more for new buildings or by at least 44 percent for existing building renovations. Lesser percentages of energy improvement earn fewer points. For example, an increase in energy performance of up to 12 percent for new buildings or eight percent for existing building renovations is worth one point; doubling that increase to 24 percent for new construction (or to 16 percent for existing projects), is worth seven points. Achieving a 36 percent improvement in energy performance in new construction is worth 13 points.

Additionally, on-site renewable energy, such as solar, wind or geothermal, can earn a maximum of seven points. The greater the percentage of renewable energy used at the site, the higher the number of points that can be earned. One point is earned if one percent of the energy comes from renewable resources. Two points are earned if three percent of the energy comes from renewable resources. Five percent is worth three points. If 13 percent of the energy comes from a renewable energy system, the project can earn the maximum amount of points (seven) available for this subcategory. Other points can be obtained in the Energy and Atmosphere category for enhanced refrigerant management (two points), "Measurement and Verification" (three points), and "Green Power" (two points).

The fourth category is "Materials and Resources" and a project can earn up to 14 points in it. For instance,

if a building incorporates 55 percent of existing walls, floors and roof into its design, it will receive one point. If it reuses 75 percent of these existing structures, it will receive two points. If it reuses 95 percent, it will receive three points.

Using recycled materials also adds to the point total. A project can receive one or two points for using recycled materials, and the difference in the points awarded is based upon the amount of the recycled content. Points are also awarded for using regional/locally available materials. Recycling or salvaging construction waste also can generate one or two points, depending on the percentage (50 percent or 75 percent) of the waste that is recycled.

The fifth category is "Indoor Environmental Quality" and a total of 15 points is available in this category. Here, points are earned for things as diverse as increased ventilation; using low-emitting adhesives, sealants, paints, coatings, flooring systems and wood products; and controllability of lighting systems. Points can also be earned for indoor air quality management plans.

Six of the 10 bonus points can be earned for innovation in design and using a LEED-accredited professional, among other things. The remaining four bonus points can be earned by addressing geographically-specific environmental priorities.

LEED Version 3 also upgrades the online component and is supposed to make the process faster and easier. Projects that are registered on or after June 27, 2009, must use LEED Version 3. Projects that were registered before that date have the option to continue under the older program or switch to the newer version.

SUCCESS STORIES

The first municipal building in New York City that was LEED-certified was the Bronx Library Center. It received a silver certification in 2006. Its design incorporated natural daylight in the form of a glass curtain to minimize energy use. It expects to save 20 percent on energy costs and used local materials for more than 50 percent of its construction materials.

The California EPA Building was certified LEED platinum. It included energy efficiency upgrades that added $500,000 to the project cost, but which saved over $610,000 in energy costs the first year in operation.

CONCLUSION

There are many requirements and rules that must be met to get LEED certification. It should be noted that, in addition to those discussed above, the USGBC now requires ongoing communications with LEED-certified projects so that they can retain their certification. In particular, all certified projects must commit to sharing with USGBC and/or GBCI all available actual whole-project energy and water usage data for a period of at least five years.[17]

Today, about a decade after LEED introduced its pilot program (which was introduced in 1998), both LEED and environmentally sensitive development and redevelopment are well accepted. Even in these difficult economic times, green is good, and it is growing. The USGBC reported earlier this year that LEED-registered and LEED-certified projects doubled in 2008, from about 10,000 registered projects at the end of 2007 up to more than 20,000 by the end of January 2009, while square footage of LEED-certified construction rose 92 percent during the same time, from 148 million up to 284 million square feet.[18] While there certainly are administrative and other expenses involved in focusing on environmental issues during construction and obtaining LEED or other "green" certification, it seems clear that it is the right thing—and, increasingly, it is the required thing—to do.

NOTES

1. *See, e.g.*, Ilaina Jonas, "Empire State Building to go 'green,'" Reuters, Apr. 7, 2009, available at *www.reuters.com/article/environmentNews/idUSTRE5356J720090407.*
2. *See* Wien & Malkin, Real Estate Investor, Spring 2009, available at *www.wmsecurities.com/spring2009/1.html.*
3. *See, e.g.*, Environmental Protection Agency "Green Buildings Vision and Policy Statement," available at *www.epa.gov/oaintrnt/projects/policy.htm; see also* "LEED Initiatives in Governments and Schools," available at *www.usgbc.org/DisplayPage.aspx?CMSPageID=1852* and containing an up-to-date list of government entities that support green building and construction.
4. *See, e.g.*, NYS Tax Law, § 19 (Green Building Tax Credit); NYC Local Law 86 (Effective January 1, 2007); Town of Huntington, NY, Town Code, § 197-4 (Green Commercial Building Standards); and Town of Riverhead, NY, Town Code, § 52-24 (Green Building Rating System).
5. *See www.usgbc.org/Default.aspx.*
6. *See www.usgbc.org/DisplayPage.aspx?CMSPageID=1988.*
7. *See www.gbci.org.*
8. *See www.usgbc.org/DisplayPage.aspx?CMSPageID=1991.*
9. *Id.*
10. *See www.usgbc.org/DisplayPage.aspx?CMSPageID=1992.*
11. *See www.usgbc.org/leedv3.*
12. *See www.usgbc.org/DisplayPage.aspx?CMSPageID=220.*
13. *See www.usgbc.org/DisplayPage.aspx?CMSPageID=295.*
14. *See www.usgbc.org/DisplayPage.aspx?CMSPageID=145.*
15. *See www.usgbc.org/DisplayPage.aspx?CMSPageID=221#v2008.*
16. *See www.usgbc.org/DisplayPage.aspx?CMSPageID=1586.*
17. *See* "LEED 2009 for New Construction and Major Renovations" at xvii, available at *www.usgbc.org/ShowFile.aspx?DocumentID=5546.*
18. *See www.usgbc.org/News/USGBCInTheNewsDetails.aspx?ID=4008.*