

# How to Select a Project for the New LEED-EB Program

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## Synopsis

Much has been written about the LEED-EB program and the fact that the market for LEED-EB is estimated to be over eighty times larger than the market for LEED-NC (new construction.) LEED-EB is about operations and maintenance and not about construction or design.

This fact is of particular interest to universities, real estate owners, property managers, owners of private and institutional facilities, as well as to service providers, particularly from the perspective of operating costs. If your business entity makes provisions, as many do, to allow any energy cost savings resulting from LEED-EB to be rolled over each year into your LEED-EB program, your LEED-EB efforts can become virtually self sustaining.

This presentation is about Emory University's selection process and compliance, from conception through compliance all the way through to final certification, with the pilot program of USGBC, LEED-EB addressing the various changes we encountered as the pilot process matured.

Moving from the LEED-EB pilot to the present version of LEED-EB, the speaker also discusses how and why he selected Goizueta Business School for the pilot, as well as for his new submission(s) for LEED-EB certification. LEED-EB is clearly an operations issue, distinguishing LEED-EB from LEED-NC .

## ***About the Author***

Robin Smith is LEED certified and is in charge of all Commissioning and LEED-EB efforts at Emory University. He personally packaged and submitted Emory's pilot LEED-EB project, which gained Gold certification in January 2005. This is the first LEED-EB building on a university campus in the United States to achieve LEED-EB Gold. Shortly after arriving at Emory, Robin aided in the development of construction standards and is responsible for the update and maintenance thereof.

Robin presided as founding president of the Southeast Chapter of the Building Commissioning Association from its inception in 2001 until 2004. He has gained national recognition for his contributions in the furtherance of Commissioning, LEED and LEED-EB, and has presented on these subjects at various occasions including: USGBC, PECCI, APPA, SRAPPA, CAPP, SERBCA, NEBB, COAA and to various groups of the military. In addition to having been quoted in numerous national publications concerning Commissioning, LEED and LEED-EB, he

was the author of articles published in the September/October, 2001 issue and the May/June, 2005 issue of Facility Manager.

Robin's work is also published in "From Concept to Commissioning," 2002, published by Appa press, Don Guckert editor, and has an article on LEED-EB that is soon to be published in Facilities Manager Magazine.

## **Benefits of LEED-EB**

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This fact is of particular interest to universities, real estate owners, property managers, owners of private and institutional facilities, as well as service providers, particularly from the perspective of operating costs. If your business entity makes provisions, as many do, to allow any energy cost savings resulting from LEED-EB to be rolled over each year into your LEED-EB program, your LEED-EB efforts can become virtually self sustaining.

As with any new or different program, in order for any of us to be interested, we need to see the benefit of our association or involvement. Quality of life issues, such as indoor air quality for the occupants, are also a huge factor to us all. The LEED-EB concept, which has been called a movement because of its extreme popularity, has become the fastest growing new program ever to come along in the history of facility management. There has to be a reason for this. Let us look at the separate parts of the program, the credit points associated with each of them, and the prerequisites that must be obtained before we can go forward with the individual application. Then we can discuss whether or not we are interested or able to register a building for inclusion in the LEED-EB program. Then finally, we can discuss the meeting of the individual credits and the problems and benefits associated with this course of action.

## **USGBC's Rating System**

The rating level is strictly a function of the number of points obtained. If you want a higher rating you must obtain more points. The lowest level is 'Certified' which requires that the target of 32 to 39 points is reached, in the latest rating system dated October 2004. The next level is 'Silver', which takes 40 to 47 points. The third level is 'Gold', which requires 48 to 63 points. Finally, 'Platinum' certification, at 64 to 85 points, is the highest 'green' certification one can attain.

## **Lessons Learned from the LEED-EB Pilot**

In January 2005, Emory received notification that it was the first university in the United States to receive LEED-EB Gold certification from the USGBC (United States Green Building Council) for the operation and maintenance of Emory's Goizueta Business School.

What I personally learned from the LEED-EB pilot was that appearances can be deceiving. Goizueta is a very attractive, well-kept building, with few or no complaints from the occupants. What we did not know was that we were not operating the building in an efficient manner because we were not metering the energy consumption. The building was comfortable but the building was very wasteful as far as energy usage. This was discovered and rectified through the commissioning process.

### **How do you qualify or select a building for a LEED-EB program?**

As a result of working through the pilot, we found a better way of selecting buildings for LEED-EB. We first determined which building from our available inventory, if repaired and put in proper working order, would provide the biggest improvement to our customers and make the biggest impact to our operating costs and energy budget, and then set about to rate our buildings according to these requirements and select the most favorable.

The criteria used to select our initial pilot was to pick a building which we believed would be cheap and easy to put through the paces, while learning the steps involved in the LEED-EB process. We did this because it was not a capital project and because funds were limited, and funds for the LEED-EB project had to be taken from our existing operating budget.

I asked for a printout of the complaints for this building for the prior year and found that there had only been thirteen, and all of them of a minor nature. Armed with this information, and the fact that the Goizueta Business School was widely regarded as being one of our best buildings, we registered it for the LEED-EB pilot program.

As many of you know, we found our optimistic assumptions were very wrong. For more information on the Goizueta Business School, please refer to my article which was published in *Facilities Manager* in the January/February 2004 issue.

In our subsequent LEED-EB submission(s), the criteria for selection were different from the pilot submission. We used the following guidelines: First, you must determine if the building, properly commissioned and adjusted, would provide the biggest benefit to your customers, determine the greatest needs for the building, and where the greatest potential for improvement exists, and then rate your buildings accordingly.

Next, you must decide which of these buildings presents the most likelihood of success – which building will more readily enable you to apply LEED-EB. Since most of us have limited resources, the goal is to make efficient use of those resources in the selection of a building that most readily meet the LEED-EB criteria.

## Areas Covered

The study and documentation of a project for this pilot breaks the issues down into five separate areas, the same basic areas that were used in LEED-NC. The following five separate areas list brief discussions as to the areas and points associated with each, and they are as follows:

1. Sustainable sites – this is an area that covers the building sites primarily. Prerequisites cover erosion and sediment control as well as age of subject building. Points in this area pertain to building outside management, area building density, alternative transportation, site disturbance, and storm water management as well as heat island reduction and night light pollution reduction.
2. Water efficiency – this area focuses on water usage and waste. Prerequisites include water efficient usage and discharge water compliance. Points covered here also include wastewater technologies and landscaping.
3. Energy & atmosphere – this is the largest category in the program covering as prerequisites building commissioning, minimum energy performance, and the ozone protection issue. Points here include energy consumption, renewable energy, operations and maintenance, measurement and verification, as well as emission reduction reporting documenting sustainable cost impacts.
4. Materials and resources – Prerequisites here include waste stream auditing, waste management, and toxic material source reduction. Points covered in this category include construction waste management, use of alternative materials, IAQ compliant products, sustainable cleaning, occupant recycling, and additional toxic material reduction.
5. Indoor environmental quality – This is also a very large category with 22 points and four prerequisites. These prerequisites are outside air and exhaust systems, PCB removal, tobacco smoke control, and asbestos management.

Innovation points/credits make up the final area of interest.

## Prerequisites

The first factor of building selection is compliance with the following fourteen prerequisites.

1. Erosion and Sedimentation Control
2. Age of Building
3. Minimum Water Efficiency
4. Discharge Water Compliance
5. Existing Building Commissioning
6. Minimum Energy Performance
7. Ozone Protection
8. Source Reduction and Waste Management – audit

9. Source Reduction and Waste Management – storage
10. Toxic Material Source Reduction
11. Outside Air Introduction and Exhaust Systems
12. Environmental tobacco Smoke Control
13. Asbestos removal or Encapsulation
14. PCB Removal

Pre-requisites are just that: *required prior* to the points; you must obtain 100% of these before you do the first point. While points are optional, failure to comply, with even one prerequisite, precludes your selected project from qualifying.

### **How Much Does LEED-EB Certification Cost?**

The answer to that question is the answer to many questions: ‘it depends.’ Apart from the fee to the USGBC at the time of enrolling your building in the program, most entities have the cost of commissioning; the cost of obtaining a third-party consultant to prepare and submit the required documentation to USGBC, and the cost of any repairs that are necessary to the building to gain certification.

The cost of a commissioning consultant runs about the same as commissioning without LEED or LEED-EB. The cost of employing a third party consultant for LEED-EB, in my estimation, is about 90% the cost of the commissioning.

Since I am LEED certified, and have over thirty years of experience in construction and project management, Emory was able to forgo the fee to a third-party for a LEED-EB consultant, as I served in that capacity.

### **How long does it take to obtain LEED-EB Certification?**

The time required to obtain LEED-EB certification depends on several factors, including: 1) the size of the project, 2) the complexity of the building, 3) the issues requiring correction, and 4) the money and resources available. The USGBC requires 12 months of energy data.

Since I have not completed a LEED-EB under the new program, I can only guess, but my estimate is between 1 ½ to 2 years.

Emory has an advantage in that we already have standards and we already require commissioning on all projects. We already have a good recycling program and a strong alternative transportation program. We have a good preventative maintenance program. Our energy management program is growing and incorporates metering and monitoring of energy consumption in our individual buildings. Our custodial program is excellent, as is our building maintenance program.

### **Our biggest challenge**

The challenge to actually implementing one of the LEED-EB programs centered for us on the measuring and monitoring of our energy consumption. When we started the pilot project we were not actually metering and reporting from building meters to our HVAC control shop. We concentrated on calculating consumption estimates based on building size to allocate bills to the separate buildings. Although we had meters in most of our buildings, the meters were not activated, calibrated, or reported to our control shop. The data was not transmitted or archived and not being used for any energy management purpose.

The following of any process such as LEED-EB causes a person to follow certain steps and to gain certain knowledge. This process helps to produce a higher quality of building care. Issues that might be overlooked are brought forward and incorporated in your regular building operation practices.