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## **Gut Decision: Many owners incorporate green despite lack of cost and performance data**

by Chris Leary, AIA, LEED® AP, Principal, Project Director



*Sustainable design features reduce operating costs and help the LEED Silver MITRE Center attract and retain talented employees. Photo by Peter Vanderwarker.*

With approximately 900 LEED-certified projects in the United States, sustainable design and construction professionals (and more importantly, our clients) would assume that quantifiable evidence is mounting to support the argument that high performance buildings would only require a small up-front investment in return for life-cycle cost savings and increased productivity of the buildings' occupants. However, to the best of this author's knowledge, no new research has emerged since the publication a few years ago of a few studies documenting these benefits. Nevertheless, in our experience, sustainable design and construction is gaining proponents among owners, developers, and state and local governments. Why? Credit public opinion, regulatory and market pressures, and wider availability/lower cost of green building products and processes.

### **A Warming Trend**

In the early 2000s, several studies purported to demonstrate the benefits of sustainable design and construction. An October 2003 study, "The Costs and

Financial Benefits of Green Building; A Report to California's Sustainable Building Task Force," found that "an upfront investment of less than 2 percent of construction costs yields life-cycle savings of over 10 times the initial investment" based on an analysis of 33 LEED buildings in California.

An October 2004 report to the General Services Administration, "GSA LEED Cost Study," reached similar conclusions based on a study of two typical types of GSA projects. The California study, an earlier report for the Rocky Mountain Institute, "Greening the Building and the Bottom Line; Increasing Productivity through Energy-Efficient Design," and a few others documented increased productivity and reduced absenteeism among workers and students occupying green buildings. As good as those studies were — and they are examples of the best that we have to date — they were limited in scope, largely anecdotal and not controlled studies.

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Perhaps that is the best we can expect given that every building is unique, with innumerable variables affecting performance, costs and user productivity. In our experience, owners still want to know, “How much will it (sustainable design features, LEED certification) cost?” As design and construction professionals, we fear that if we do not have an answer based on quantifiable evidence, our clients will not have the information they need to justify an investment in sustainable design. And the result will be to maintain the status quo.

However, what’s happening is just the opposite: there is a groundswell of interest among owners in sustainable design. In an industry where construction and real estate data is carefully analyzed, what is motivating owners to proceed in the absence of the proof?

First, public opinion would appear to be “warming” to the notion of sustainability. According to The Gallup Organization’s analysis of its recent polls on the environment, “Sixty-three percent [of Americans] believe the effects of global warming are already manifest or will happen within five years. By a nearly 2-to-1 margin, Americans believe human activities rather than natural causes explain the rise in the Earth’s temperature... At the same time, roughly a third of Americans believe global warming will pose a serious threat in their own lifetimes.”

So, whether one believes that the popular feature-film documentary “An Inconvenient Truth,” deserves the credit or the blame, there is a growing belief among Americans that global warming is real even if they don’t quite imagine themselves sailing over the horizon on ice floes.

## Market Forces

Businesses and other organizations are also boarding the ship. Consider the notoriously conservative insurance industry. Fireman’s Fund Insurance Co. recently introduced “Certified Green Building Replacement and Green Upgrade” property insurance, designed specifically for green commercial buildings. Not only does the insurance address unique risks associated with sustainable building practices — providing coverage to rebuild/replace with green alternatives such as low-VOC-emitting paints and carpeting, ENERGY STAR-rated



*The sustainable design features of the Piano Row Dormitory, on the edge of the Boston Common, help make the building a good neighbor to the surrounding community. The project will apply for LEED certification. Photo by AntonGrassi/ESTO.*

electrical equipment, and interior lighting systems that meet LEED or Green Globe requirements in the event of fire damage — it actually offers discounted premiums for LEED-certified buildings due to lower risk factors.

Growing numbers of state and local governments are using LEED as a benchmark for zoning codes, building codes and other regulations. According to the U.S. Green Building Council, 55 cities and 22 states in the U.S. enacted LEED initiatives. For example, the City of Boston recently added a Green Buildings article to its municipal zoning code that requires large projects (i.e., more than 50,000 square feet) to be LEED certifiable, although it does not require actual certification.

Even in the absence of an obligation to pursue sustainable design, some high-end developers are using green design as a differentiator in a quality-driven market. For example, on its website, the Durst Organization describes the Bank of America Tower at One Bryant Park in Midtown Manhattan as “the world’s most environmentally responsible high-rise office building.” One can find dozens of highprofile projects in New York City that are using sustainable design as a differentiator.

And it works. At Greenbuild 2006, a real estate industry expert talked about the real estate value of green buildings. Everyone wants to prove that green buildings are worth more at sale, he said. One reason is that the operating expenses are lower. This is true; yet, if you do the math, the savings do not seem great enough to justify this notion of higher value on building O&M performance alone. However, in the end, quantifiable analyses alone do not form the basis of a real estate decision, he said — at some point, even professionals make a gut decision based on intangibles. Like location, sustainable design has become one of those intangibles that can give one property an edge over its relative equals.

## **More Choices for the Dollar**

Thanks to advances in construction technology, processes and products, what was once cost-prohibitive is now readily available at about the same cost as the old standards. For example, many formerly exotic products, such as low-VOC emitting paints and carpets, sustainable wood products, and floor coverings made of readily renewable natural resources, such as bamboo and cork, are now cost-competitive with standard products. Recycling of construction and demolition waste, which was once cost-prohibitive, is now more commonplace on commercial projects.

A good number of LEED credits themselves are simply a matter of making choices between two options that cost about the same. Take daylighting, for example. There are two LEED credits for providing a measurable level of daylight within a commercial building and ensuring that a certain percentage of occupants can see a window from their workstations. Achieving these credits may simply require that the designer and owner decide to place open workstations near the window and private offices on the interior wall rather than along the perimeter where they would block the daylight. One would hope that the industry will continue to raise the bar, yet the goal of programs like LEED is to transform the market, and one could argue that it has done just that.

Still, a caveat is in order. The LEED-associated cost of a specific building varies with the baseline quality expectation. That is, if one plans to build a high-quality building, then earning a LEED rating will add little to no cost because a high quality building will likely meet this measure. On the other hand, if one expects to build the cheapest building that the code will allow, a LEED-certifiable building could cost quite a bit more.

For growing numbers of owners, it seems, building the cheapest building that the code will allow is no longer as attractive an option. Even in the relative absence of quantifiable data supporting the wisdom of sustainable design and construction, they are making a gut decision to go green.

## References:

Gallup Organization. Pulse of Democracy, Environment, Guidance for Lawmakers.  
<http://www.gallupoll.com/content/Default.aspx?ci=1615&pg=1&VERSION=p>

Kats, Greg, et al. The Costs and Financial Benefits of Green Building; A Report to California's Sustainable Building Task Force. California Integrated Waste Management Board.  
[www.ciwmb.ca.gov/greenbuilding/Design/CostBenefit/Report.pdf](http://www.ciwmb.ca.gov/greenbuilding/Design/CostBenefit/Report.pdf)

Romm, Joseph J., and William D. Browning. Greening the Building and the Bottom Line; Increasing Productivity Through Energy-Efficient Design. The Rocky Mountain Institute.  
[www.rmi.org/images/other/GDS/D94-27\\_GBBL.pdf](http://www.rmi.org/images/other/GDS/D94-27_GBBL.pdf)

Steven Winter Associates, Inc. GSA LEED Cost Study, Final Report. The Whole Building Design Guide.  
[www.ccb.org/docs/GSAMAN/gsaleed.pdf](http://www.ccb.org/docs/GSAMAN/gsaleed.pdf)

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