The meaning of greening in New York: An overview of the LEED rating system

April 18, 2008 - Upstate New York

"Build green. Everyone profits." This is the mantra of the U.S. Green Building Council (USGBC) and a truth backed by a growing body of data, an increasing number of case studies, and a rapid transformation within the construction industry. The conclusion? LEED projects experience minimal upfront cost increases and yield great returns in the form of energy cost savings.

Overview of LEED

The LEED Green Building Rating System is a voluntary, consensus-based standard for developing high-performance, sustainable buildings. This points-based system was created by USGBC to assist in designing, building, maintaining and operating buildings in a more sustainable manner. LEED stands for Leadership in Energy and Environmental Design, but it also symbolizes a system to create buildings that are attentive to the needs of our planet, our people, and our profit margins.

USGBC is a member-based, not-for-profit organization headquartered in Washington, D.C. Founder and CEO, Rick Fedrizzi is a Syracuse native and the catalyst for change in the industry. Kevin Stack of Northeast Natural Homes established the N.Y. Upstate Chapter. This is one of over 70 affiliates, chapters and, branches throughout the country. The N.Y. Upstate Chapter encompasses 53 counties in NYS, plus Berkshire County in Mass. Chapters are comprised of individual members who benefit from education and advocacy.

The "garden of LEED" is a fitting metaphor as the rating system continues to grow at a rapid pace. In all gardens there are nuisance weeds that need to be pulled and areas that require continual pruning. LEED requires constant tending and adaptation to meet the demands for human health and comfort; to adjust to climate and environmental changes, and to respond to escalating energy costs. The ongoing cultivation of the green building rating system is developing "hybrids" that are the result of the creative grafting of architecture, engineering, and innovation. The system is flexible, allowing the creators to consider the most cost-effective means of achieving the desired rating level. It does not have to cost more to build green, but it does require an integrated approach, a concerted team effort to achieve certification, the ultimate proof of a job well done.

The LEED rating system is simple in concept. Architects and engineers strive for points in six categories: site considerations, water conservation, energy efficiency, materials and resources, indoor environmental quality, and "innovation in design."

The process is three steps:

1. Register the project online and pay a calculated registration fee based on the nature of the structure and s/f;

2. Complete templates and provide supporting documentation online and, once the building is complete;

3. Submit the materials online and an application fee, then a representative from USGBC reviews

the project and awards points toward certified, silver, gold, or platinum LEED certification.

Why LEED?

The U.S. construction market in 2001 (includes all commercial, residential, industrial):

* Represents 20% of U.S. economy.
* Comprises 14.2% of the $10 trillion U.S. gross domestic product. This includes all commercial, residential, industrial and infrastructure construction. Commercial and residential building construction constitutes 9% of the GDP.
* Energy consumption: Buildings represent 39% of U.S. primary energy use.
* Electricity consumption: Buildings represent 70% of U.S consumption.
* Water use: Buildings use 12.2% of all potable water, or 15 trillion gallons per year.
* Materials use: Buildings use 40% of raw materials globally (3 billion tons annually.)
* Waste: The EPA estimates that 136 million tons of building-related construction and demolition (C&D) debris was generated in the U.S. in a single year.
* Compare that to 209.7 million tons of municipal solid waste generated in the same year.

Value of LEED

Investment in third party verification by the USGBC provides the recognition and authentication that due diligence has been done to make the structure sustainable. The building owner is rewarded with reduced operating and maintenance costs; building occupants have a healthier, more productive environment; and the building's impact on the planet and environment is reduced.

LEED is not a passing phase. LEED is a proactive response to the needs of people, our strained planet, and the need to watch the bottom line. Across the U.S., LEED initiatives have been established in 72 cities, 22 counties, 16 towns, 27 states, 13 federal agencies, 10 public school jurisdictions and 35 institutions of higher education. Some LEED projects include the first LEED cold certified home in NYS, built by Stack, and the W!ld Center as the first LEED certified museum in NYS and the first LEED Certified building in the Adirondack Park.

The voluntary adoption of LEED in schools is founded upon evidence in a study by Gregory Kats. (Gregory Kats/Capital E - Greening America's Schools: Costs and Benefits.) His findings conclude that green schools cost less than 2% more than traditional schools, with financial benefits 20 times higher than the initial investment of going green.

In a 2003 study also by Kats, The Costs and Financial Benefits of Green Buildings: A Report to California's Sustainable Building Task Force, green building is found to be cost effective, with lifetime financial benefits ten times the average initial investment for green design and construction. The Cost of Green Revisited, follow up research by Davis Langdon also concludes that there is no significant cost difference between building green vs. non-green buildings.

Future of LEED

Since 2000, USGBC's membership has increased tenfold, with over 12,497 member organizations, including corporations, governmental agencies, non-profits and others from throughout the industry.

LEED for new construction (LEED-NC) was first released in 2000. LEED became available for commercial interiors/tenant improvements (LEED-CI) and existing buildings/operation and maintenance (LEED-EB) in 2004, LEED for core & shell (LEED-CS) became available in July 2006, LEED for homes will launch this winter, and LEED for Neighborhood Development, LEED for Retail, LEED for Schools, and LEED for Healthcare are currently in the pilot phase.

The value of green building construction starts exceeded $12 billion in 2007. There are LEED projects in all 50 states and 41 countries. Currently 10,760 projects are registered for LEED

certification. There are 1,415 LEED certified projects, with 35 certified in NYS.
Over 49,700 individuals have passed an exam to become LEED Accredited Professionals. The Green Building Certification Institute (GBCI) has taken over all aspects of the LEED Accredited Professional program effective January 2008.
GBCI is now the place to learn about LEED Professional Accreditation, register for the LEED AP Exam, and to find LEED Accredited Professionals in the area. USGBC will continue to manage the development of LEED and to provide related resources and educational offerings.
The evidence is clear, but there are choices to be made. Will businesses forgo the preservation of natural resources by continuing to derive energy from fossil fuel, and not explore sustainable alternatives? Should executives decline an active leadership role in sustainable development by ignoring the obvious, and not pursuing a green building strategy? Can businesses afford to waste fiscal resources due to escalating energy and operating costs? Are businesses willing to sacrifice the health and well being of their employees by not implementing a green building strategy? Time will tell, and many feel it's about time.

Tracie Hall is the executive director of the U.S. Green Building Council New York Upstate Chapter, Syracuse, N.Y.