

MARKET OUTLOOK BY DAN CARAZO

Building green

Green or sustainable buildings that enjoy 30% energy savings are growing as an overall percentage of construction, turning what began originally as a pro-environment movement into a powerful, quickly expanding economic force.

The color of building construction in the United States is getting greener every day. One sure sign of the advancements made in the acceptance of green and sustainable buildings is the impressive growth of the U.S. Green Building Council (USGBC), a nonprofit organization focused on promoting the benefits of green, or energy-efficient and environmentally friendly buildings. USGBC is experiencing explosive growth with its membership—more than doubling in the past three years to 7,200-plus organizations, 60% of which are architectural, engineering, and design firms.

In 2002, USGBC launched the first GreenBuild Conference & Expo, which drew more than 4,000 attendees. By 2005, GreenBuild pulled in 9,700 professionals from 30 countries, and this October GreenBuild 2007 expects to draw more than 12,000 attendees to Los Angeles.

At a time when attendance at many industry trade shows has dwindled, Green Build has grown by 300%. Numbers like these clearly show that a growing percentage of building owners and facility operators, developers, architects, engineers, consultants, and designers are embracing the concept of green and sustainable building construction.

More importantly, green building has begun to mature as a proven business and economic model for the sustained fi-

ancial success for building owners, and a way to deliver benefits to building occupants and improve environmental quality.

“We’re starting to see the financial reward of green building,” said Richard Walker, senior national environmental solutions manager for Siemens Building Technologies. “The green building market is growing approximately 50% per year—far faster than the overall commercial market, which is currently increasing at 2% per year.”

In 2000, USGBC launched the leading international green building rating system, its LEED Program (Leadership in Energy and Environmental Design). LEED calls for construction projects to be in compliance with *ASHRAE/IESNA 90.1*, and LEED-registered projects earn points and awards for meeting energy reduction. By 2003, LEED-rated green commercial, industrial, and institutional buildings were growing at a rate of approximately 75% a year.

According to a study by McGraw-Hill and the National Association of Home



The 300,000-square-foot, \$69 million Seattle Justice Center was built in 2002 and awarded a LEED Silver Certification by the U.S. Green Building Council. The building's features include an energy-efficient lighting system, electronic timer switches, occupancy sensors, and daylighting controls.

Builders (NAHB), in 2007 the growth in green residential building is projected to increase 30% over the 2006 level. This year, LEED for Homes will join the NAHB Model Green Home Building Guidelines as a national certification program helping to boost green home building.

The authors of *Green Buildings and the Bottom Line*, a white paper published by *Building Design+Construction* in November 2006, explained this economic coming of age: “The issue of whether green buildings cost significantly more to build than conventional buildings has been put to rest. Forward-looking governments have created incentives to encourage green building through fast-track permitting, density bonuses, and other mechanisms that provide measurable value to develop-

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MarketBriefs

For 2007, **Eaton** has announced that it expects the markets it serves to shrink 3.5%, mostly due to a dip in the heavy-duty truck market. The company reported that sales, overall, would likely be flat, but expects electrical to grow at a 4% rate.

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From 2000 to 2005, construction workers were more likely than all other workers to change residences (46% vs. 42%), but less likely to move to a different region or abroad (3% vs. 6%). The South was the only one of the four Census regions that attracted construction workers from the other regions, according to *The Data DIGest* from **Associated General Contractors**.

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The **American Wind Energy Association** reports that the electrical generating capacity of wind power equipment installed in 2007 should grow by 26% over what was in place in the United States at last year's end: In 2006, the growth was 27%.

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Billings at U.S. architecture firms increased 11% between 2002 and 2005, according to the **American Institute of Architects**.

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The worldwide installed base of home networks will rise by more than 20% (compound annual growth rate) from 2005 to 2010—driven heavily by Asia, and China in particular—according to **In-Stat**.

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The North American machine vision market grew 14.4% in 2006 to \$1.52 billion, according to **Visions Systems International**, a consulting firm that sees flat growth in 2007.

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Homeowners spent \$168.7 billion on home improvements and repairs in 2006, an increase of 1.5% over 2005, according to the **Joint Center for Housing Studies at Harvard**.

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ers, property owners, and building teams that implement it.”

The same white paper reported that 59% of the 10,000 architects, contractors, engineers, building owners, and developers surveyed in 2006 said that their firms had become either “somewhat experienced” or “very experienced” in building green sustainable projects.

Green building first began as a passionate movement to create buildings that exhibit a more environmentally friendly design, minimizing greenhouse gas emissions and reducing energy consumption and materials waste. However, today serious investment money has moved off the sidelines and into green construction, thanks to a growing number of showcase green projects for influential corporate owners that have come in at, near, and sometimes below their cost projections.

Closely watched green building successes by Ford Motor Company, Bank of America, Starbucks, General Motors, Toyota, PNC Financial Services, Lowe's, Target, Ikea, Honda, and others have helped dismiss many of the concerns about the economic soundness of green design and construction.

The broadening appeal of green building can be seen on the USGBC Web site (www.USGBC.org), which currently lists more than 2,500 construction projects registered with the LEED Green Building Rating System.

Another organization driving the acceptance of green building is the Green

Building Initiative (GBI). Ward Hubbell, executive director for the GBI, stated, “Our goal is to make green building the norm instead of the exception. We know that cost minimization is a compelling reason to design and build green. To that end, energy-efficient, healthier, and environmentally sustainable structures have the potential to deliver significant savings and still not cost substantially more.”

Selling green building

In the short term, major cost savings via increased energy efficiency and reduced power consumption, plus the availability of tax incentives for building owners, are key stimuli for most green construction.

“Energy efficiency has measurable metrics that can immediately be turned into saved dollars,” noted Walker. “But we are finally seeing long-term operating costs being taken into account regarding the payback period for higher-costing, high-efficiency installations.”

“More owners are focusing on the life-cycle costs of their buildings rather than the initial construction costs,” said Jordan Lerner, director for TAC's Abacus Engineered Systems Division.

Dave Davidson, solutions center manager for Eaton's electrical group, suggested that distributors should understand how to communicate the advantages of installing new energy-efficient solutions.

“Most people we talk to are still concerned about the initial costs being higher with green building,” said Davidson. “But

*Continued on page 72***Electrical products and services in green building construction**

- **Building energy management systems** with centralized controls and monitoring for integrated services including HVAC, lighting, power, communications, security, access, and elevators
- **Electrical distribution systems** that are built around highly energy-efficient motors, variable speed drives, and power transformers
- **Lighting control systems** using dimming, occupancy sensors, and motion detectors in order to control lighting and thermostats for energy conservation and daylight harvesting
- **Power management systems** that meter current and voltage and monitor harmonics and power quality
- **On-site electrical generation systems**, such as photovoltaic and microturbine systems
- **Services**, including energy audits and motor inventory management support

MARKETS & TRENDS

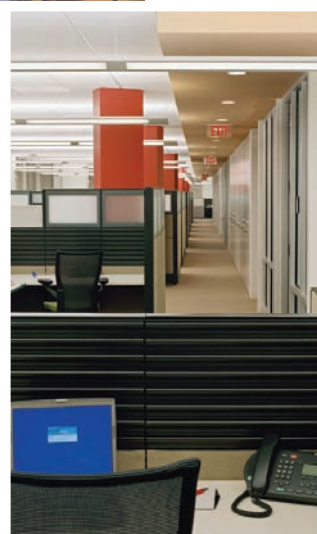
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all corporate clients are convinced about the virtues of sustainable design. You just need to help them measure their interest in corporate responsibility vs. the need for quick ROI."

"Retail chains are ahead of most segments in adoption of green building and sustainability," Davidson added. "All of the retail clients that we deal with (banks, restaurants, big-box stores) employ a certain level of integrated electrical systems in green construction."

Despite the expected budgetary concerns, Walker is seeing a growing awareness about the benefits of green building. "Facility managers are always under budgetary pressures, so unless you have an enlightened, driven customer, it's always easier to give in to the pressure to maintain the least costly solution," he admitted. "At the same time, many of the people at the top of organizations whose job it is to lead their company through innovations are becoming very aware of green construction."

"The tax incentives are getting significant for both builders and building owners," noted Mike Johnson, director of marketing for the Sola/Hevi-Duty unit of EGS Electrical Group. "The *Energy Policy*



Act of 2005 grants tax benefits to building owners, developers, and homeowners for making energy-saving improvements to their properties. On a green building project the construction/development team must propose savings and provide reduced energy waste data."

Rebecca Hadley-Catter, Source market specialist for Cooper Lighting, noted the important role performed by USGBC members. "Cooper Lighting supports specifiers of lighting systems that desire LEED certification with fixtures that meet the needs for various energy-efficient solutions," she said. "By integrating the newest technologies in lamps, ballasts, and lighting controls into our fixtures, we are able to provide the end-user with more energy-conscious choices."

Advice to distributors

As with any other market that offers solid upside growth potential, it is imperative that a distributor analyze the opportunity and be aware of any and all potential pitfalls before taking a leap.

"You need someone on your team who is a specialist to act as the liaison to a CFO or facilities manager," said Les Williamson, president of Eoff Electric, a Sonepar USA distributor located in Portland, Ore., that decided more than six years ago to focus on and specialize in supporting energy-management applications in green projects.

"One area that distributors may not understand has to do with the misconception that they can build green sales successfully with their current sales forces," cautioned Williamson. "It is essential that one be an expert and have a com-

For building owners, lighting represents approximately 50% of electrical energy consumption costs. New energy-efficient commercial lighting, like these Corelite brand systems manufactured by Cooper Lighting, are helping building owners and tenants save significant sums on their electrical costs.



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Green building facts

- Reed Construction Data projected that spending on nonresidential construction will expand at an 11% to 12% annual rate, slowing to 8% by the year's end.
- According to the National Association of Home Builders, the average American family spends \$1,600 a year on home energy.
- Ninety percent of all home builders participate in some green-building activities; 66% of small builders (fewer than 10 units per year) and 59% of those building 10 or more units plan to make green homes at least 15% of their projects. —D.C.

plete and detailed understanding of the programs and processes, as well as the calculations."

"If I was interested in growing my own electrical distribution company," said Lerner, "I would track where the sustainability move is going in order to include the appropriate skills and knowledge that will be required to participate."

Walker makes a case for distributors interested in supporting green building. "These solutions are engineered, not commoditized," he said. "The best of the best and highest-margin products are often used in green building projects."

"Join a USGBC chapter—they offer a great way to learn the language and issues," urged Walker. "No company wants to get caught with shelves filled with product that can't be sold in its particular market." ■■■

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