

Green Building the Future



Paint makers and their raw material suppliers are key players in the green building boom taking place in the U.S.

By TIM WRIGHT
EDITOR

The booming field of “green building” continues to grow even as the mortgage crisis has pushed the U.S. economy into a downward spiral leading to a current construction crash. The level of construction starts in 2009 is expected to decline seven percent to \$515 billion following a 12% decline predicted for 2008, according to McGraw-Hill Construction’s “2009 Construction Outlook.”

“We know there will be a slowdown in new construction while the economy sorts itself out, but even so, we’re seeing continued interest in green building practices particularly as it relates to greening existing buildings,” said Ashley Katz, communications manager, U.S. Green Building Council (USGBC). “Now more than ever people want to save on utility bills, and green buildings use less energy and water, and cost less to operate and maintain.”

In addition, Katz said that green buildings do not cost more than conventional buildings. “In fact, the upfront costs for a high performance office building average only one to two percent of the overall budget,” she said. “Once the building is operational, money savings kick in. The average return on investment is 20% over the buildings lifetime.”

The fuel behind the green building boom is a combination of factors. “Green building benefits the building occupants through increased levels of health, safety and productivity,” said Katz. “At the same time building owners benefit from a better bottom-line gained through energy savings, increased productivity, reduced absenteeism and turnover, and happier employees. Also, green building reduces resource use and the impact of building on the land. Additionally, building green stimulates the economy by creating a demand for ‘green-collar’ jobs and workers to make these improvements, and that will contribute directly to creating a sustainable future.”

So what exactly is green building? The National Paint and Coatings Association (NPCA) defines green building, or

sustainable building, as the practice of creating and using healthier and more resource-efficient models of construction, renovation, operation, maintenance and demolition. There are many facets of green building: energy efficiency and renewable energy, water efficiency, environmentally preferable building materials and specifications, waste reduction, toxics reduction and indoor air quality.

GREEN BUILDING MARKET TRENDS & OUTLOOK

Given the amount of energy both residential and non-residential buildings consume, reducing the amount of natural resources buildings consume and the amount of pollution given off is important for future sustainability. At the moment green building is more prevalent in commercial building, and hasn’t become as widespread in residential construction.

In 2004, green building comprised approximately two percent of the new U.S. non-residential construction market, which translates to approximately a \$3.3 billion industry. In 2006 McGraw-Hill Construction projected that by 2010, between five to ten percent of new non-residential construction starts will be designed using the principles of green building. It forecasted U.S. non-residential construction starts will be worth approximately \$204.5 billion in 2010. A projected growth of five to ten percent translates to a green building market valued between \$10.2 billion and \$20.5 billion.

Attendance figures from USGBC’s annual Greenbuild Expo serve as a good barometer of just how fast the green building market is growing. The number of registered attendees has sextupled from just over 4,000 at its 2002 inaugural conference to more than 22,000 last year. The number of exhibitors has grown from 220 to nearly 500 during the same time period while the number of countries represented has grown from 27 to 66.

As the top showcase for cutting-edge eco-friendly practices and products major paint makers including PPG, Sherwin-Williams, AkzoNobel, Benjamin Moore, Valspar and DuPont as well as smaller firms like C2 Paint and YOLO Colorhouse will be among this year's exhibitors displaying the latest in green paint technology when Greenbuild 2008 lands in Boston, MA from Nov. 19-21.

GREEN HOMES GAIN GROUND

In the residential sector, green housing is growing even while the overall housing market is suffering. As this issue went to press the Census Bureau announced that housing starts dropped 6.3% in September. At this pace only 817,000 new homes will be built over the year—almost a 60% drop from the 1.98 million private homes completed in 2006.

The residential green building market is expected to be worth \$12-20 billion representing six to ten percent of the market this year, according to McGraw-Hill's SmartMarket Reports 2008. That's up from just two percent in 2005. By 2012 the firm expects the market to double to 12-20% market share or \$40-70 billion.

More importantly, 40% of home builders think green building helps them market their homes in a down market with quality emerging as the most important reason for building green. This indicates that green homebuyers in today's market are not just green consumers, but are also buying a green home for investment and performance reasons.

Earlier this year at the National Association of Home Builders' Green Building Conference, Harvey Bernstein, McGraw-Hill's vice president of Industry Analytics, Alliances and Strategic Initiatives said the tipping point for builders

going green has emerged. "This year, the number of builders who are moderately green—those with 30% green projects—has surpassed those with a low share of green—those who are green in less than 15% of their projects," he said. "Next year we will see even greater growth, with highly green builders—those with 60% green projects—surpassing those with a low share of green. This year has seen an eight percent jump over the last year and we expect another ten percent increase next year."

LEED-ING THE WAY

So what makes a green building "green"? With different organizations setting different standards that are up for revision constantly, it can be a confusing question to answer. For its part the NPCA is playing a major role in defining green building for the paint and coatings industry.

NPCA is a member of the North American Coalition on Green Building, a group consisting of more than 30 trade associations representing industries affected by the green building movement. According to NPCA, the coalition supports the goal of building more sustainable buildings but that the supporting technologies must be feasible, and that the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) ratings systems are not the only green building certification systems available for project certification, though it is the most common.

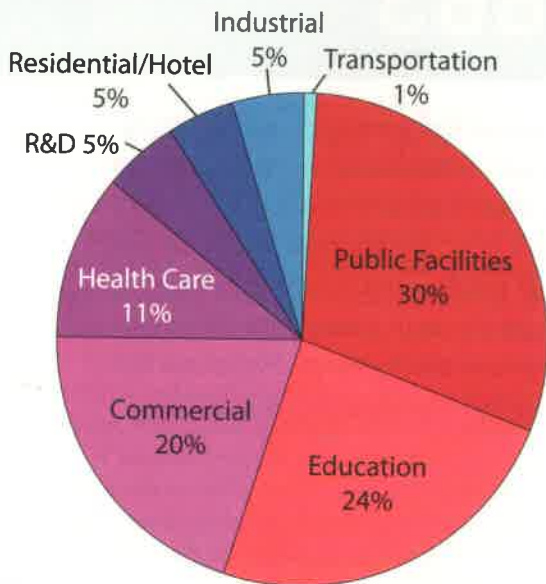
LEED is a third-party certification system for buildings and was developed because there was no common consensus for what defined a green building. "LEED acts as a nutrition label for a building—it shows exactly how much energy and water the building is using, what the building is made of, where the building materials were sourced from and gauges the quality of the indoor environment," said USGBC's Katz. "LEED looks at all of these features—building site, water efficiency, materials and resources, energy and atmosphere, and indoor environmental quality."

Each LEED rating system is a green building certification process administered by the USGBC. The LEED ratings systems pertain to various construction categories including new construction, existing buildings and commercial interiors. Under this system projects earn points for green and sustainable development practices. There is basic LEED certification (26-32 points); LEED Silver (33-38 points); LEED Gold (39-51 points); and lastly, LEED Platinum (52-69 points).

LEED has become the certification process of choice for U.S. commercial green building construction since its debut in the late 1990s. "On the commercial side of the green building movement, there is 3.9 billion square feet of construction space participating in the LEED system, which means registered and certified projects," said Katz. "That number translates to approximately seven percent of the commercial construction market. With the growth we've been seeing, we expect that number to be closer to ten percent once the numbers are tallied again.

"In Dec. 2007 USGBC launched LEED for Homes and have already seen tremendous growth," Katz continued. "We currently have 1,039 certified and 13,597 that are

Sectors Expected To Have The Most Green Building Activity



Source: Green Building Market Barometer

registered to be certified.”

Green Globes is another green building rating and assessment system that was first developed in Canada in 2000. The Green Globes System was introduced to the U.S. in 2005 and is administered by the Green Building Initiative and is similar to LEED in that both systems use online tools that allow projects to earn points for green and sustainable development practices. However, NPCA said that Green Globes is gaining in popularity as an alternative to LEED because it is generally viewed as more directly applicable, practical and feasible for industry compliance.

Also on the regulatory front, NPCA recently formed a Green Standard Work Group that is comprised of nearly 50 individuals representing various member companies after it learned that there were revisions being made to the LEED rating system in 2008 that affected the paint industry.

Specifically there is a credit for paints and coatings in the LEED rating systems—Indoor Environmental Quality Credit 4.2—which pertains to reducing the quantity of VOCs for architectural paints, coatings and primers applied to interior walls and ceilings established by Green Seal GS-11 Paints Standard, which was recently revised to meet lower VOC requirements.

Green Seal is the premier independent ecolabel in the U.S., having certified more than 2,700 products and services, and is to products what LEED is to buildings, according to NPCA. In response to what NPCA calls the “overly stringent” revised Green Seal GS-11 Paints Standard, NPCA and its Green Standards Work Group maintain that the indoor air quality impact of coatings should be limited to the time of application and drying and is not a factor for eventual building occupants.

THE ROLE OF PAINT & COATINGS IN GREEN BUILDING

While the economic slowdown has taken its toll on U.S. paint makers with fewer cars and trucks being built and fewer new buildings under construction, the green building sector offers opportunity for growth. Led by NPCA, the paint and coatings industry has become very active in the green building arena since the construction sector is a major outlet for its products.

Increasingly, the use of low-emitting paints is being identified by builders as one way to gain an “easy credit” in the LEED rating system that will help them minimize the environmental footprint of a construction project.

“With the push for more LEED certified buildings the demand for approved paint products continues to grow,” said Jeff Spillane, senior manager for product development, Benjamin Moore. “While the slowdown in the economy and both the residential and commercial construction business has adversely impacted all new construction, the demand for green products has not slowed down. Benjamin Moore’s original Eco Spec product sales have realized double-digit growth since its introduction.”

Paint and coating systems play a relatively small—accounting for just one point in LEED ratings systems—but very important role in the green building process, according to Rocky Prior, president, Mythic Paint. “Why build a green home only to put a coating on the wall that pollutes the air

you breathe?” Prior asked. “The key to the trend of eliminating VOCs and odor is to maintain performance.”

“It is hard to imagine a green building that didn’t have green coatings because it is one of the easiest things to get right—and its one of the first things that the people who use that building will notice about it,” said Craig Mitchell, marketing manager, Celanese Emulsions. “One need only look at the plethora of ‘green certified’ labels on construction products—paint included—to understand where the market is heading.”

“From a consumers’ point of view, paint is the most visible aspect of a building,” said David Faherty, vice president of marketing, Troy Corp. “Paint and coatings make up a large amount of exterior and interior surface of new buildings and therefore can make a substantial contribution to air quality.”

“Paint and coating systems are integral to the idea of green building because high performance is expected,” added Silke Anthony, associate product manager, Sto Corp. “Products that last longer contribute to an overall sustainable environment. Quality coatings will not suffer from color fading, blistering, cracking or delamination, chalking, efflorescence, mildew and dirt build-up, freeze thaw damage or spalling.”

“As sustainability has become a greater driving force in the design and construction of facilities today, one of our first steps has been to focus efforts on reducing our dependence on oil-based raw materials by identifying suitable renewable raw materials such as plasticizers and polyols for use in the formulation of our products,” said Randy Korach, president, Tremco Global Sealants. “The demand for ‘fast track’ construction has also placed demands on our industry for increased productivity while not sacrificing product performance.”

GREEN PAINT TECHNOLOGY

Paint makers are reformulating existing portfolios and launching new ones altogether to comply with regulations. Raw material suppliers have also responded with green chemistry to help their customers in the formulation process.

In November of last year Southern Diversified Products introduced Mythic Paint. The result of over six years of research with polymer research partners at the University of Southern Mississippi (USM), the new paint is based on patented technology designed to improve latex paint at its core and has been formulated to offer all of the premium qualities of conventional water-based paints without the need for toxic solvents, according to the company. This means zero VOCs, zero harmful toxins released into the air and no unpleasant odor when painting. This line includes a primer and flat ceiling paint in addition to flat, eggshell, semi-gloss and exterior satin varieties and uses a proprietary toxin-free coloring system and MatchRite Color Matching Software.

Benjamin Moore is in the process of introducing Natura. “It is the greenest zero VOC interior paint on the market today,” said Spillane. “Natura is tinted with Benjamin Moore’s proprietary all waterborne zero VOC colorant system. This allows both residential and commercial customers to specify any color without any compromise in quality and performance.”

Sto Corp. launched a highly innovative sustainable product in 2005—StoCoat Lotusan—an exterior coating product