The Simple Way To Build Sustainable

Courtesy of Epoch Homes

One of the Platinum LEED certified homes built by PowerHouse Enterprises and Epoch Homes.

While many of the nation's largest production builders have embraced energy efficiency and a smattering of green construction practices, not one has committed to environmental responsibility as a core business strategy, according to a just-released survey.

"None has fully embraced the emerging market of sustainable building design and construction," claims "Greener Pastures for America's Homebuilders? A Survey of Sustainable Practices by the Homebuilding Industry," by the Calvert Group (Bethesda, MD). As awareness of those building practices increase, so will the public's appetite for them, the report concludes.

This vacuum in the marketplace presents small-volume builders with a historic opportunity. By embracing green building, small-volume builders can dramatically differentiate their construction services. That's where the modular building system can save time and hassles. Here are a few projects around the United States that illustrate the green capabilities of this building system.

GREENEST HOME IN CHICAGO

Chicago's Museum of Science and Industry has created a functioning, three-story modular and sustainable green home in its backyard to showcase the ways people can make eco-friendly living a part of their lives.

Designed by Michelle Kaufmann Designs and built by All American Homes, the home is the basis for the museum's Smart Home: Green + Wired exhibit, which is open from May of this year through Jan. 4, 2009.

Named Chicago's greenest home, the exhibit offers guests guided tours of the 2,500-sq.ft. home and grounds. The home incorporates smart technologies such as an automation system that turns on lights, raises the shades and cues wake-up music in the morning. The motorized skylight in the ceiling opens when detectors sense a cool breeze (saving air conditioning) and digital electronics in the plants send voice mail when they need water.

Courtesy of All American Homes

The Greenest Home in Chicago.

POWERHOUSE EARNS LEED PLATINUM

John Rossi, design principal at PowerHouse Enterprises (Lawrence, MA), has definite opinions on today's home designs and construction.

"It drives me crazy that houses are built the same way today they were built 130 years ago," Rossi says. "Building a home is something all Americans aspire to—it's the American dream. But the way we build is antiquated. For many of us, it is our single biggest investment and a measure of our personal success. Yet the method we use wastes time, material, money and energy. It drives me even more crazy that conventional wisdom tells us good design is only for those who can 'afford' it. Good design shouldn't just be for the people who can pay a specialized team. Good design should not be—is not—a luxury. Good design is necessary."

The motivation behind PowerHouse Enterprises is nothing short of revolutionary. Leading by example, it is out to change how we build homes. The company's founder and president, Quincy Vale, is well-versed in the green building movement. When he set out to create PowerHouse, Vale went with the modular building system. So far, two of the company's projects in Cambridge have earned platinum LEED ratings. Another home in Lawrence is awaiting certification.

"Overall, green is good, but the things that work are health and money. Unless homeowners save money from their investment, I'm not sure it's going to sell," Vale recently told the *Boston Globe*.

Using the modular building system, notably with Epoch Homes as their modular supplier, Vale and Rossi built the Lawrence house at a cost of $165 per sq.ft. The 1,500-sq.ft. house with another 400 sq.ft. of as-yet-unfinished basement is on the market for $324,000.

Epoch has carved out an enviable reputation as one of the most custom modular manufacturers in the industry. The company produces up to 160 multimillion dollar homes each year, consisting of as few as two modules to as many as 33.

John Ela, president, says roughly 50% of the company's homes are certified as green, either through LEED or the NAHB's Green Building Guidelines. "More and more of our customers are very educated on what green means. They have firm ideas about what they want and it's something they can't get otherwise. If they really want a green home, the only choice is to build one. When they start looking at the costs to renovate, it's more economical to tear down and start over," says Ela, who was one of the first to earn green building certification through NAHB's educational programs.

In addition to producing homes with very little waste, Epoch offers a wide range of choices in green building materials. These include FSC lumber, high-insulation spray foam insulation, air exchangers, low VOC paints, adhesives and caulking, energy saving fixtures and appliances, a combination of radiant heat systems and Warmboard and a foamboard housewrap called P2000, which serves as a vapor barrier, heat barrier and insulation.

word of mouth among a number of private schools in his area, says the project was a good learning experience. "We have a lot of experience with Energy Star. Moving up to the LEED process wasn't that terribly difficult or expensive; it basically requires more of an awareness and attention to detail." ■

Builder Bob Segala expects 10% of his business in 2008 to be green projects. "We'll do 55 homes this year, which is about at our last four-year average," he says.

ETHEL WALKER SCHOOL WALKS THE WALK

Built with modular technology, the new 6,000-sq.ft. headmaster quarters at the Ethel Walker School (Simsbury, CT) is expected to earn LEED certification. Using Westchester Homes as the modular supplier, the 6,400-sq.ft. home was recently set by Bob Segala Turnkey Housing.

Both photos this page, courtesy of Westchester Modular Homes

The headmaster's house includes a large kitchen for entertaining.

"The family is delighted with it. It's very comfortable. You can heat the place with a candle. So from an environmental and design standpoint, we've really accomplished our goals," says Tom Schneider, director of finance and operations at the Ethel Walker School.

The home has a few things on a punchlist to remedy to earn LEED certification, says Karla Donnelly, sustainable housing specialist at Steven Winter Associates, who was retained for certification. "The mechanicals were done on site and there were some holes drilled in the floor that weren't sealed and some insulation was disturbed. But we'll retest in May and I'm confident they will pass. They are very committed to the process."

Bob Segala, who has earned positive