

TAKING CENTER STAGE: SOUTH CAROLINA AT FOREFRONT OF GOING GREEN

BY TIMOTHY WARD

As energy costs skyrocket around the globe, green engineering and sustainable design have become a major focus of businesses small and large alike. As some states have been slow to embrace the energy-saving trend, the Palmetto State is fast becoming a leader in building with a focus on protecting the environment.

The EPA defines green engineering as "the design, commercialization and use of processes and products, which are feasible and economical while minimizing 1) generation of pollution at the source and 2) risk to human health and the environment."

The green building trend in the United States became a movement in 1993 with the founding of the U.S. Green Building Council (USGBC), a coalition of building professionals advocating sustainable design. In 1997, the USGBC announced the first version of its Green Building Rating System for Construction, called Leadership in Energy and Environmental Design (LEED), to produce a new generation of buildings that deliver high performance with minimal damage to the environment.

Since then, the USGBC has certified more than 300 green buildings. Thousands more are currently in the planning and design phase. During the past four years, more than 261 million square feet of building space has been registered or certified under LEED, which represents the nation's most stringent standards for sustainable building design and construction.

In addition, the annual US market in green building products and services grew to \$5.8 billion in 2004, a 37 percent increase over the previous year.

ENVIRONMENTAL CHALLENGE

Green should mean all facets of a building team can create a certified green project, but this is not always the case. Knowing exactly what building green entails is so vague that many building professionals want a builder or architect to have some sort of training and possibly even certification.

Mark Bostic, chairman, Green Building Council of Greater Columbia, said that a builder doesn't have to be certified, but he has to have his project certified when it's complete.

"Anybody can say they can build a green project if they follow the guidelines, but it will still need to be certified by an in-



Mark Bostic

dependent energy rater. They do tests to see if the home provides the level of energy efficiency required," he said. "I don't think builders need certification, because the raters are certified."

Although the testers are certified, the GBC offers classes to help builders better understand the requirements of building green.

"What you want to do is visit our site and see which builders have signed up for our

classes," said Bostic. "The Green Building Council promotes green building and then trains builders to build green."



Bin Wilcenski

Bin Wilcenski, COO, Home Builders Association of Greater Columbia, said their program is designed to certify individual homes. It is up to the builder and his building team to give them proof that what they are doing is green. "We will soon have our own certified trainers to help builders throughout their projects," he said. The project, Build Green Greater Columbia, will ask for documentation that builders are doing what is required.

Rose Anne O'Reilly, EO and EVP of Horry-Georgetown Home Builders Association, says that builders and architects should have some type of certification if they choose to build green.

"There will be training for these folks to be certified. It's important from a standpoint of education," said O'Reilly. "Normally, when you're certified, you have to complete some sort of continuing education process. That means they would be informed of all the new information that comes available and as products come online, they will be made more aware of them. In a field where technology is becoming available so quickly,



Cox and Dinkins, Inc.

builders, architects and others in the field need a way to stay informed.”

GREEN IS ALSO ABOUT ECONOMICS

There are numerous incentives for a company to build green, but one stands out most. It helps to lower the bottom line.

Cox and Dinkins, a Columbia-based engineering and surveying firm, was the first corporate office to receive a LEED Certification from the U.S. Green Building Council.

Ted Chalgren, vice president of Cox and Dinkins, says that the building features people-friendly lighting, loads of natural sunlight, environmentally friendly building materials, rustic exposed beams, windows with embedded blinds (which never get dusty), replacement fresh air via a special heating and air-conditioning system, and numerous green plants with their own watering system.

“We doubled our space, but our utility bill went up only 22 percent,” said Chalgren. “The building has been an economic bonanza for our firm,” he added, not to mention that it has become an educational tool, with tours being provided to schools, professional organizations, governmental and civic entities, and members of the community.

The architectural community is also embracing the green building concept, and doing it, in part, so clients can see the benefits. The offices of Watson Tate Savory Architects, in the former Unity Life Building, received its LEED Certification last year. All three partners in the architectural firm, are LEED-accredited architects. Watson said the firm didn’t feel like it could preach green design to its clients if it wasn’t actually practicing it.

The new office allows the firm’s clients to see what can be done with green design. Savory said. Tate said more of their clients are looking at green buildings, but from two perspectives.

“The majority say they want sustainable design, but only up a point,” he said, and that point is the money required.

But building green is getting less expensive, and there is a lot of misconception about the cost of going green, the architects said.

Then there is Beach First National Bank in Myrtle Beach, which built the first green bank building in South Carolina and the southeastern United States. The three-story, 46,000-square-foot building, also is the first green building to be constructed along the Grand Strand and the first multitenant green building in South Carolina. (The Columbia-based

law firm of Nelson Mullins Riley & Scarborough also has offices in the building, and was a partner in the construction.)

“Having a building that is beautiful, yet environmentally friendly, is important to both Beach First and Nelson Mullins,” said Walt Standish, Beach First president and CEO. “Each company supported the extra effort needed to meet green building standards and to develop the bold design elements for a unique architectural statement.”

Even colleges and universities across the state are going green.

The University of South Carolina’s West Quad dorm is the largest sustainable college/university residence hall in the United States. And several years ago, USC, Clemson, and the Medical University of South Carolina began building several campus buildings green. Coastal Carolina, Furman and other colleges have since followed suit.

Waste Management Inc. said it is considering plans to use two South Carolina landfills to turn methane gas into usable



Sanders Tate, Thomas M. Savory and Michael Watson



Rob Edwards, president, Maritime Green Builders

energy. The company already operates landfill gas-to-energy facilities at Elgin and Wellford, said Paul Pabor, a company vice president. Those two plants create 16 megawatts of electricity, which is enough to power 15,000 homes per year, said Pabor.

"Companies are finding they can do these things, and, rather than costing money, it saves money," he said.

RESIDENTIAL BUILDING SEEING GREEN TOO

Green homes are popping up all across the Palmetto State. In addition to being healthier, green homes can also save money in the long run by saving energy. Saving energy also helps reduce pollution. Rob Edwards, president, Maritime Green Builders, is nearing completion of the Grand Strand's first nationally certified green home.

The house, in Plantation Lakes in Carolina Forest, is seeking LEED certification.

"This was our first project," said Edwards. "I hope that this home will help to educate the community and other builders about the benefits of building green."

Green homes may look the same as regular homes on the outside, but overall they consume less energy, create less waste, pollute less, and use fewer toxic materials.

Many green homes use recycled building materials, according to O'Reilly.

"Materials with recycled contents have three advantages: They require fewer natural resources, they use materials that would otherwise end up at a landfill, and they use less energy during manufacturing," she said.

Another important aspect of building green is choosing appliances that do not add combustion gases to the air when operating and selecting environmentally friendly, low-emitting furnishings and building materials.

Withers Preserve on the former Myrtle Beach Air Force Base will be the first new home community in the United States to offer General Electric's full line of Eco-magination products aimed at reducing energy costs and water bills.

Bostic, who also owns Square One Plan Service, has recently begun the process of building his own green home.

"I was designing my home and heard about green building. The builder I talked with was really excited about green building and I decided to look into it myself," he said. "After attending some meetings, I realized there really is a better way to build a house. I wanted to have this new technology for my own house, partly to help the environment, but mostly to cut 20 to 30 percent of my power bill."

Bostic said that when he began building green he thought the cost would be about 10 percent higher.

"But as we have gotten into pricing houses, we have realized the number is less than that. It is about two percent higher. The difference is that we are not spending more money; we are just spending it in different areas," he said. "When you make the house tighter and more energy efficient, we realized that the heating and air conditioning system doesn't need to be as big. So you spend a little more caulking holes and sealing the air infiltration, but you end up spending less on your HVAC system."

Wilcenski added that his organization doesn't have exact numbers, so for one builder it could amount to a 20 percent increase and for others a two percent increase.

"It also matters on how green you want to go. You can add solar power or even have your house produce more energy than it uses, which is possible," he says. "No matter the cost, the house over time will pay for itself because of energy savings."



Beach First building in Myrtle Beach

GREEN MEANS GROW

The green building is expected to grow by more than 1,000 percent over the next 10 years, according to the USGBC.

Robert Adams, with FBI Construction in Florence, said that building green is a market-driven product.

"When builders start seeing more of a want for the service you will see more builders offering it," he said. "Builders are starting to figure out this is a win-win situation."

O'Reilly said that there are different levels of building green, and some homeowners can't realize the costs of building a completely green home. But, there are things that all homeowners can do.

"There are cost savings you can see immediately just by doing a few things around your home, like switching over to CFLs (compact fluorescent lights). CFLs are simply miniature versions of full-sized fluorescent lights that cost less to burn," she says.



Wilcenski said that green building is becoming more popular because of media attention about the human impact on the environment.

"People want to do something to help and this is an attainable goal," he said. "The green phenomenon is growing by leaps and bounds. In 10 years, you will see a major increase in green building. In South Carolina, we will have hundreds of homes that are green in that time. Energy and water prices are



FBI Construction is the general contractor for the soon to be SC Fire Academy in Columbia

only going to go up, so the more you can do to conserve, the more you can save money." ■



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