

Building Greener, Smarter



Architect Frank Harmon is a former NCSU professor whose firm design buildings that save money, energy, and building materials.

million since the firm's opening in 1985. In that time, “green” technology has grown immensely, and today there are more building products on the market than ever that are organic, are designed to save energy, or are made to obtain energy in new ways. Harmon appreciates these new options; sometimes he utilizes them in his designs. But flash and hype still don't impress him.

“There's a lot of talk about making “green” buildings these days,” Harmon said. “There are new, sexy systems with photovoltaic [cells], geothermal systems, and control and management systems. But the most fundamental sustainable practices are basic and free.”

Harmon says the most significant energy

savings you can get when building a new home come from three things (and they aren't solar panels). They're all free, and they're all decisions that have to be made in the planning size of the house. First, the orientation of the house on the plot of land is everything. It will dictate how and when the sun hits the house, which controls the house's temperature and use of natural light. For example, if the house faces west, it will overheat in the afternoon and create the need for more air conditioning, Harmon says. “The results you get from orienting the house properly are more effective than all other energy-savers combined,” Harmon said.

The second tip is to pay attention and make adjustments during the basic design of the house. “Window place-

By Danielle Del Sol

Environmentalism is the cause du jour in Hollywood these days thanks to global warming news, bizarre weather patterns, and skyrocketing prices at the gas pump. But here in Raleigh, one architect has been singing that song – and designing sustainable structures – for years. Frank Harmon, a former NCSU professor and owner of Frank Harmon and Associates Architects, has been operating his award-winning firm off Boylan Ave. in Raleigh for over 20 years. Building everything from homes to an oyster hatchery, Harmon and his crew design buildings that save money, energy, and building materials.

Frank Harmon and Associates have built 38 structures at a combined value of \$19

One of Harmon's environmentally-friendly projects



ments are a big consideration – can the building be cross ventilated?” Harmon asks. “In North Carolina, you can keep windows open five months of the year, but we don’t.”

And lastly: size does matter. It’s as simple as this: the bigger your house is, the more energy it uses, the more materials it takes to build, and the more land has to be clear-cut for the foundation. “Almost everyone builds more than they need,” Harmon said. “If you can reduce the size of your building to two-thirds what you think you need, you’ll live better.”

“As an architect, every time I draw a line, a tree is cut down,” he said. “If I can draw less lines, I save land.”

So when it comes down to specifics, thinking and proper planning is all that you need to make the most difference in energy use, according to Harmon. “The most powerfully effective thing you can do is to just think,” he said.

But wait! You don’t need to build a house to help save energy. Quite the contrary: one-third of all waste in North Carolina’s landfills is from building materials. So really, the most sustainable way to live isn’t building a “green” house – it’s reusing an existing building. “I specialize in designing modern, contemporary buildings, but I have a huge respect for older buildings,” said Harmon, whose office is actually located in an old electrical warehouse. Adding more insulation in the walls of older homes can help cut heating and cooling costs dramatically, and you don’t even have to rip down walls: these days, a foam insulation (that’s organic!) can be squirted into your walls. Making your roof light in color and therefore reflective (by installing light-colored metal or other means) is another great way to save energy, as is simply living near an area where you can walk more or utilize public transportation.

“By choosing to purchase an existing home, you’re doing the most sustainable thing,” Harmon said. “You’ve preserved land, history, social memory, and you’ve chosen not to add to a landfill.”

Harmon, a North Carolina native, was educated in Europe and has worked in



some of the biggest cities in the world. But some of his most fascinating and important projects are integral to saving the ecosystem of his home state. Harmon is currently working with the state of North Carolina to build oyster hatcheries in Wilmington, Roanoke Island, and Morris Landing. North Carolina has the second-largest estuary system in the nation, and used to have the country’s best oysters, Harmon said. Thanks to pollution and development, they’re now gone. Growing oysters in Harmon’s hatcheries (which will be sustainable, of course) will help purify the estuary water and ensure the future of Pamlico Sound.

He’s also working on creating the top-rated LEED building in the state in his new design for the North Carolina Botanical Garden’s visitor’s center. His vision is to have a “garden that’s embraced by a building.” “Nature is the most important thing: I want the building to be a useful and beautiful backdrop to

the garden,” he said. Harmon’s wife Judy, a landscape architect that works in his firm’s building, will no doubt have lots of input on this particular project.

Harmon recently stopped teaching at NCSU so he could give his four-employee firm his full-time attention, and is proud by what they produce. While constructing a sustainable addition to the oldest church in Charleston, South Carolina recently, a minister approached Harmon and said, “You are doing God’s work.” No one could have put it better: while Harmon agrees that conservationism in the form of buying compact fluorescent light bulbs will help make a difference, the world is going to continue to disappear as we know it until we stop using “band aids” and “change our living pattern.” Hopefully more designers and builders will follow Harmon’s good examples and help create more eco-friendly structures.

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