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Dr. John Dindo on the Shelby Center's roof

GOT TO ADMIT IT'S GETTING GREENER

Alternative energy more than pays for itself

TEXT BY GREENBERRY TAYLOR
PHOTOGRAPHY BY ELISE POCHE

THEY LOOK LIKE SOMETHING BELONGING ON A SPACESHIP.

Perched atop a local Fairhope resident's roof are mysterious objects not visible to the untrained eye. Just sitting there, soaking up all the energy any beautiful Southern sun shining day has to offer. As the sun rises higher, Joe Sledge's energy bill shrinks with it. The puzzling panels on Sledge's roof are to blame for his dwindling energy bill.

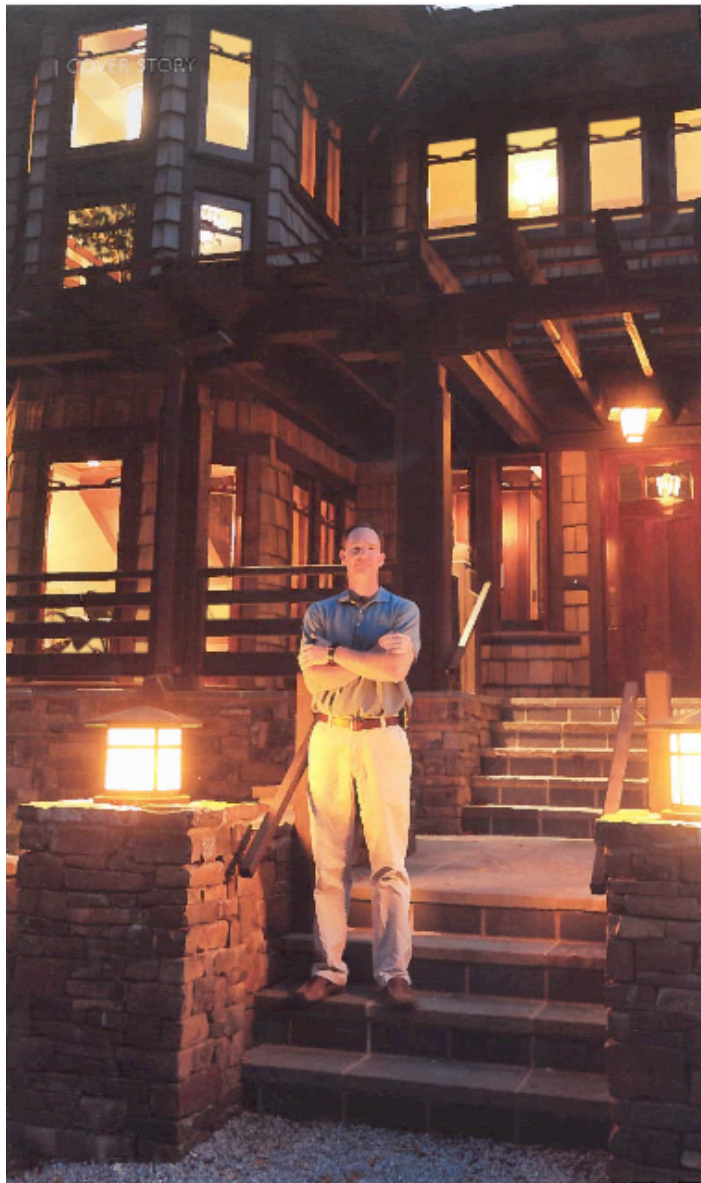
Across the bay sits the Shelby Center, a 15,000-square-foot research facility located at the Dauphin Island Sea Lab. This facility also has the peculiar panels situated on its roof, although there are quite a few more. The Shelby Center shares the same problem as Sledge's home: a diminishing electric bill.

A lower power bill isn't something most people would argue against, and neither Sledge nor the sea lab does, but what's causing their bills to shrink? Alternative energy solutions.

Attached to the roof of both Sledge's home and the Shelby Center are 4-by-10 foot solar hot water heating panels, which take the sun's energy and use it to help heat the water used throughout both structures. Using free, natural resources such as the sun for energy significantly lessens the amount of work a hot water heater typically might do, thereby cutting electrical costs.

Mark Friedline, owner and operator of Gulf Coast Solar Inc. (GCSI), explains that there are several different applications available to accumulate energy from the sun, the two most popular being solar thermal and photovoltaic.

"I always recommend solar thermal first," Friedline says. It harvests the sun's energy using solar panels and then uses that energy to heat your water. "In my opinion, it's the best way to see a bang for your buck quickly." Systems conservatively rated for 50 to 140 gallons per day cost from \$3,650 to \$7,000 installed, and paybacks can be seen in one to two years, according to Friedline.



Joe Sledge at his home

"It's not just about relying completely on alternative energy but being comfortable as well."

— Joe Sledge

The other type of solar, and probably the one most people are familiar with, is photovoltaic, which converts energy from solar panels into electricity but is the most expensive route a consumer can take. According to GCSI's website, "The payback periods for domestic PV systems in Alabama is around 20 years with current electricity prices."

It seems like the costs of alternative energy solutions tend to shy people away, but the government is trying to remedy this by offering an incentive for "going green." A 30 percent federal income tax credit will be awarded to residential and commercial entities purchasing solar hot water or photovoltaic electric systems through 2016.

This means that a solar water heating system costing \$6,000 will qualify for a \$1,800 tax credit, and that's without the savings the system will generate itself. Perhaps this is why Friedline believes solar water heating is the best route for those looking to save money and conserve energy.

"While I like solar thermal, it ultimately starts with how the structure is designed," Friedline says. "I try and work closely with homeowners and architects in order to minimize costs and maximize efficiency."

Debbie Coleman, a local architect and author of *The Sun-Inspired House*, which talks about low-cost passive solar strategies, agrees with Friedline's statement regarding structure and design. "I think there's a public perception that 'solar' is so cool," she says. "Everybody wants it, but it can be expensive and often can be substituted using passive solar techniques, or by simply combining the two."

Passive solar is basically the combination of strategies designed to keep a home cool in the summer and maximize day lighting year-round while also using the sun as free heat. This includes things such as the placement of windows on a home or the actual placement of the home itself on a lot.

Dr. John Dindo, associate director of Dauphin Island Sea Lab, explains that the Shelby Center uses both active solar and passive solar techniques in order to maximize energy efficiency. The sea lab recently received a grant from the Department of Economic and Community Affairs, which will provide funding to power a 5,000 square foot building using solar, with both photovoltaic cells and inverters to harness the sun's energy. The structure houses four classrooms, three offices, and two prep labs. "We have both solar water heating and photovoltaic panels on the roof. The building is also situated in a direction where it will make the most use out of the sun. Windows are more tinted in certain directions and less in others. Little things like that." A lot of small efforts can often lead to a large result, according to Dindo.

Sledge's home is standing proof. Winding pipes run through the slab work of his house. Hot water, heated from his solar water heating system, flows through the pipes, keeping the floors warm, allowing for the temperature to remain comfortable, and saving the air conditioner some work, a system known as radiant floor heating.

Aside from that arrangement, Sledge also has two whole-house dehumidifiers, each of which removes around 80 pints of water a day. During the summer, the air conditioner stays at 77 degrees Fahrenheit, a temperature Sledge finds extremely comfortable. "With lower humidity inside the house, it allows the AC's RPMs to move at a slower rate, which in turn helps lower the power bill."

Sledge owns and operates Sledge's Custom Building Inc., so he knows how important comfort is in a person's home. "It's not just about relying completely on alternative energy but being comfortable as well."

Using free, natural resources for energy such as the sun allows the amount of work a hot water heater typically might do to be lessened significantly, thereby cutting electrical costs.

Dindo points out that the intention of the Shelby Center also isn't to rely solely on alternative energy. "Using natural resources is a way to offset energy costs while being energy efficient," he explains.

Efficiency is what it's all about, although it appears people have come to think of alternative energy as a one-word solution—solar. That's why people like Dindo, Sledge, Friedline, and Coleman believe educating the public is so important.

Places like Sledge's home, the Shelby Center, and even the Windmill Market, located in downtown Fairhope, were all designed to serve as models for the public to see how alternative energy solutions can be used and result in extreme efficiency and savings.

"Right now we're just trying to get it out there," says Dindo. "Someone has to take the lead and show that this is efficient and affordable. That's what we're doing." ■



Debbie Coleman



Mark Friedman

Simply elegant.



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