



Julie Turner/Staff

**AIR TIGHT:** Rich Kelm sprays an environmentally friendly soy-based insulation in the attic of Upstate House. The product is the only one of its kind.

## Upstate House nearing completion

### Model home features soy-based insulation

BY GARY HYNDMAN

staff writer

Upstate House may soon have occupants.

It will be the residence of owners Carlton and Brenda Owen who conceived the idea in 2000.

The 2,400-square-foot home, a joint project of the Home Builders Association of Greenville and Upstate Forever, is under construction on a steeply sloping lot in the Pettigru Historic District. It's designed to demonstrate the best in environmentally friendly building standards. More than 40 vendors are donating or discounting services and materials.

Upstate House broke ground last April. But the project has been plagued by bad soil, inclement weather and the challenge of juggling many vendors using unconventional materials that leaves it six months behind schedule. Still, Owen remains optimistic construction will be completed by the end of February.

"My wife and I are beginning to believe it might actually get done," he said.

The house now has a roof and walls that are airtight. The recent installation of a one-of-a-kind soy-based insulation is expected to reduce energy costs by 30 to 50 percent. Upstate House is the first structure in the area to feature the innovative product.

Produced in Rogers, Ark., BioBased Insulation has the texture of foam rubber. It's a blend of about 20 percent soybean and polyurethane, making it safe for humans and the environment.

Jack Bissetta of John Bissetta Enterprises, the local BioBased dealer, was on hand to supervise installation. His product comes in a liquid form that is heated and sprayed onto interior walls and roofing. A chemical reaction causes it to expand by 100 times to fill the available space. His crew shaved excess from walls using long knives.

Tests show the product has an indefinite life expectancy, isn't appetizing to household pests like mice, is mold resistant and absorbs sound. It also requires

no special handling at landfills.

Bissetta said the manufacturer is constantly refining the formula to increase the amount of soybean and reduce dependence on the petroleum-based polyurethane. Where oil is non-renewable, fields can be replanted with soybeans many times. Upstate House required three 55 gallon drums of insulation, the equivalent of about one-half acre of soybeans.

Unlike traditional fiberglass insulation which has to be cut out around wires and receptacles, BioBased adheres to everything it touches creating an airtight seal.

"The key is stopping the air filtration," said Bissetta, noting that's where the energy savings are found.

BioBased Insulation is about three times as expensive as traditional products. However, those costs will be recovered quickly once the owner begins paying energy bills, he said.

The challenge, says Owen, is convincing home builders and consumers it's worth the initial investment. People with resources can easily pay the additional upfront costs, but it's greatest value is for those who struggle paycheck to paycheck, he said.

Owen, who serves on the Upstate Forever board, is a committed environmentalist. From the outset, he's envisioned his new home as a platform for promoting the advantages of energy efficient, environmentally sensitive building practices within the construction industry. His yardstick is Earthcraft House, an ambitious green building standard that was first introduced in the Atlanta area as a partnership of environmental groups, the homebuilding industry and local government.

His appeal for more energy efficient housing coincides with a time when economic and environmental interests seem less at odds. In recent winters, natural gas and home heating oil have been selling at all time record high prices.

Owen has been talking with local public housing officials about integrating Earthcraft standards into their inventory to save their tenants money.

"We've got to help (those with modest incomes) not have to make those decisions between buying groceries and paying the power bill," he said.

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