Clemson works on environmentally friendly home

CLEMSON, S.C. Students and professors at Clemson University have designed a home where they say a family of four can live comfortably in the South using local materials and having almost no impact on the environment.

The home is called Indigo Pine," taking its name from two things South Carolina has in abundance — pine trees and the blue dye from the indigo plant.

More than 100 students and professors are helping design and build the home that the university will enter as part of the U.S. Department of Energy's Solar Decathlon 2015. Sixteen other schools also are participating.

The home will be powered by solar energy and will be carbon neutral with a smart energy monitoring system that can be operated by anyone in the family, said Vincent Blouin, who is helping lead Clemson's efforts and is a professor of architecture and materials science and engineering.

The 1,000 square-foot, three-bedroom home will be built of plywood made from pine. Locking joints, wedges and stainless steel zip ties will hold the structure together. The living spaces will be defined by cabinets, which will contain the electronics needed to run the smart features of the house.

And like any proper Southern home, it will have a large porch on two sides.

The home will be built without power tools to reduce energy used for construction and the plywood will be cut by computerized saws in factories run by solar power.

The designers also have one other twist when it is time to show off the homes in California in 2015, Blouin said.

"We will email our design files to a plywood manufacturer in California, which will then (cut them) to specification," he said.

That will reduce carbon emissions needed to move materials 3,000 miles across the country. The team will also take a train to California so their travel will have the least possible environmental impact,
Blouin said.

Clemson University video on its project: https://www.youtube.com/watch?v=bCiPbLEjC3Q&feature=youtu.be

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