

Students bask in sun of solar house contest

18 university teams have built a village on Washington's National Mall

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RIVERDALE, Md. - The one-bedroom house comes with all the amenities of a modern home — a surround sound system, a flat-screen television, wood cabinets in the kitchen, cedar shutters on the windows, and heat that rises from the floor.

But the small structure built by University of Maryland students over two years in a parking lot near campus is different from most houses in one big way — all the appliances, heat, air conditioning and lights are powered by solar energy. And the comforts of home have not been sacrificed for the sake of energy efficiency.

"It's a pretty luxurious set up," said Najahyia Chinchilla, assistant project manager for the house that is the university's entry into the 2005 Solar Decathlon in Washington, D.C.

The competition, which began Friday, has turned part of the National Mall into a small village of solar powered houses. Eighteen university teams are competing in the contest, which concludes Oct. 16 and is sponsored by the Department of Energy and corporate partners.

All solar, even for car

Each house must be entirely run by solar energy, captured by broad arrays of solar panels mounted on the roof. That energy must run everything in the house and even provide enough power for an electric car. Entries will also be judged in categories such as architecture, accessibility and comfort.

This is the second Solar Decathlon — in the first, Maryland's entry placed fourth overall. About 100 undergraduate and graduate students have helped with the current house, from a variety of academic departments, such as architecture, engineering and journalism.

Students wielding drills, hammers and other tools put finishing touches on the house on a recent sunny day. Sawdust skittered across the parking lot as students added piping underneath. Workers put supports in place in preparation for moving the house downtown on the back of a flatbed truck.

About the size of a trailer, the house has large wooden supports that curve across the front, a frame that will eventually carry 51 solar panels. It sits several feet off the ground, a feature that allows water tanks and batteries to be stored beneath, freeing up living space. The windows are energy efficient and the wood and other building materials come from sustainable sources.

800 square feet

Inside, the structure has about 800 square feet of living space. A large foyer leads into a living room, with an eat-in kitchen to one side and bedroom on the other. Recycled materials were used for many features, including glass panels made of old milk bottles.

Along with the solar panels, the house uses other methods to capture and store energy. Piping absorbs heat from the sun, providing hot water. Concrete in the structure is bathed in sunlight during the day and slowly releases heat when the sun goes down.

"Everything is powered by the sun," said Chinchilla.

She estimates it cost about \$200,000 in materials to construct the house, much of that coming from donated supplies and expertise from local builders and construction suppliers.

The homes arrayed on the Mall are open to the public from Oct. 7 to Oct. 16, with a winner to be announced Oct. 14.

Future use

After the competition, the Maryland house is scheduled to go to the Red Wiggler Community Farm, a Germantown facility that teaches farming to people with developmental disabilities. The executive director, Woody Woodroof, watched recently as the house was prepared to be moved to Washington. Once in Germantown, the house will be used for a farm caretaker.

"I'm impressed," he said of the student's work. "These aren't teachers building this. These are students."

While it is on display, students will have to prove the house is livable, meaning they will do everything in it expect

spend the night. With its many comforts, that shouldn't be too difficult for some.

"It's a whole lot nicer than my apartment," said Jeff Zaborski, a 27-year-old architecture graduate student.

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