

## Solar home open houses are set

Students and recent graduates of Lawrence Technological University are rushing to complete construction on their solar-powered, energy-positive house in time for the Solar Decathlon competition on the National Mall in Washington, D.C., in October.

They have designed and built a house with nearly 700 square feet of living space that will use the sun to generate all the power needed for heating, cooling, lighting and appliances – with some left over to operate a small electric vehicle.

Two open houses supported by NextEnergy, a nonprofit that promotes the development of alternative energy technology in Michigan, will be held Friday, Sept. 14, and Friday, Sept. 21, from 4:30-8 p.m. at Lawrence Tech's campus, 21000 W. 10 Mile Road in Southfield.

Shortly thereafter, the house will be taken apart, shipped to Washington and then reassembled for the Oct. 12-20 Solar Decathlon competition sponsored by the National Renewable Energy Laboratory, which is part of the U.S. Department of Energy.

"The team at Lawrence Tech has built a quality sustainable home that is both economical and earth-friendly. The thinking that went into this structure is frankly astounding," said NextEnergy President and CEO Jim Croce. "This is an amazing achievement for this internationally recognized student competition and is further evidence of Lawrence Tech's academic strength in the alternative energy sector."

Lawrence Tech's Solar Decathlon team has also received major sponsorship contributions from Denso International, Masco Corporation Foundation and the Michigan Regional Council of Carpenters and

Millwrights.

The field of 20 Solar Decathlon competitors includes teams from MIT, Cornell, Carnegie Mellon, Germany, Spain, Canada and Puerto Rico. Lawrence Tech is the smallest university in the competition and the only one from Michigan.

The Lawrence Tech team took the name ALOeTERRA, which means to nourish the earth. More than 40 students have been involved in the project, and a core of 16 students and recent graduates put in very long hours over the summer to build the house they designed.

Faculty advisor Philip Plowright, an assistant professor of architecture, said the students have taken advantage of construction products that are already available to the public.

"This is not the house of the future. It is the house of now," Plowright said. "We are using well-vetted products and technology, and the focus has been on keeping it simple. As a team, we made a conscious decision not to go for the wow factor."

The primary source of energy for hot water and heating is an array of evacuated tubes that has a payback period of about two years. That system can store a day's worth of hot water.

All of the home's electricity will come from photovoltaic panels that cover much of the roof. When sunlight isn't available, the home's battery system will meet all the home's energy needs, including a backup for the heating, ventilation and air conditioning system.

The other half of the self-sustainability equation is a reduction in the amount of energy required. Very few American households are taking advantage of some of the construction strategies used by the Lawrence Tech team to reduce energy consumption.