

Living "Off the Grid"

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Judith Kinnard, professor of architecture, and Tiffany Lin, assistant professor of architecture, have won first place in a sustainable design competition with their SunShower SSIP house.



The SunShower SSIP House, designed by two Tulane architecture faculty members, is a sustainable design for a 1,000-square-foot, two-bedroom, two-bathroom house that provides its own energy and water needs.

The competition charged the architects with designing a house that could be easily built and function “off the grid” in disaster-stricken or war-ravaged areas by meeting its own energy and water needs.

Part of the innovative design of the house is the way the designers created two distinct roof forms: A sun roof optimizes the collection of solar energy in photovoltaic panels and the shower roof is sloped to gather water for the residents' use. This roof acts as a funnel for collecting rainwater into cisterns for bathing, washing clothes and flushing waste. Water also is used to irrigate a small vegetable garden.



Oval-shaped windows on the front entry porch of the SunShower House are a playful feature of the house that is designed to withstand extreme environments. All building components for the house fit in one shipping container.

“We even put in a little outdoor shower,” says [Kinnard](#), “just to get the water point across. It's a very simple house, but it has a few playful features.”

The building materials for the 1,000-square-foot, two-bedroom, two-bathroom house are designed to fit into a standard shipping container. Rather than using standard wood framing, the house is structured with pre-engineered, durable and energy-efficient steel structural insulated panels (SSIP).

The versatility of the SSIP panels allowed the designers to incorporate oval apertures on the covered entry porch, creating interesting shadows. These unconventionally shaped windows have no glass while the standard glazed windows are in conventional, rectangular shapes. One wall of the house includes SSIP panels designed to open like a sliding barn door in good weather. A small courtyard also provides outdoor living space.

Two New Orleans companies, Oceansafe, manufacturer of the steel structural insulated panels, and the ReGen Group, a sustainable design company, teamed up to form REOSE LLC to sponsor the design competition. Eight local architects were invited to submit designs.

The SunShower SSIP House will be constructed in October at the corner of Julia Street and St. Charles Avenue in downtown New Orleans. It and other designs entered in the competition are garnering international attention, say the sponsors.