

A house designed for drought

December 23 2016, by Kat Kerlin



The exterior of "Our H2Ouse," the housing design submitted by the UC Davis 2017 Solar Decathlon team. Credit: UC Davis

A team of UC Davis students are tackling the California drought through innovative housing design with their entry for the U.S. Department of Energy's 2017 Solar Decathlon.

The [design](#) focuses on cutting typical residential water use in half while maintaining the same level of comfort at an affordable price.

Held every two years, the Solar Decathlon challenges collegiate teams to design, build, and operate solar-powered houses that are cost-effective, energy-efficient, and attractive. National teams will compete in Denver, Colorado in October 2017. The winning team best blends affordability, consumer appeal, and design excellence with optimal energy production and maximum efficiency.

Design plans are due to the competition this month, with construction scheduled to begin in January on a field beside the UC Davis West Village community.

California is experiencing one of the most severe droughts in the state's recorded history, now in its fifth consecutive year. In many cases, water usage has been restricted for home and agricultural use.

With its Our H₂Ouse ("our [house](#)") design, the UC Davis team seeks to create a home that will change water consumption for the better in the face of ongoing and future water demands.



Rendering of the interior of Our H2Ouse, a drought-minded housing design prepared for the UC Davis 2017 Solar Decathlon team. Credit: UC Davis

The home design's features include systems for rainwater catchment, graywater and blackwater re-use, and a two-way communication system to monitor water and energy consumption.

"We're designing the house to feature a dual-energy and water-use feedback system that will inform the occupants about their energy and [water](#) usage and hopefully take some stress off of the environment so it can regenerate," said Justin Dela Cruz, spokesperson for the UC Davis Solar Decathlon team and a UC Davis communications major. "This house is trying to tackle the drought in California. Taking a systems

approach to this reduction is just the first step. True reduction lies in the hands of the people who live in the house and those in the surrounding community."

Building on success

At the 2015 Solar Decathlon at Irvine, California, UC Davis' Team Aggie Sol took home a first place win for affordability and commuting with [its zero net energy house](#) designed for farmworkers.

Provided by UC Davis

Citation: A house designed for drought (2016, December 23) retrieved 26 June 2024 from <https://phys.org/news/2016-12-house-drought.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.