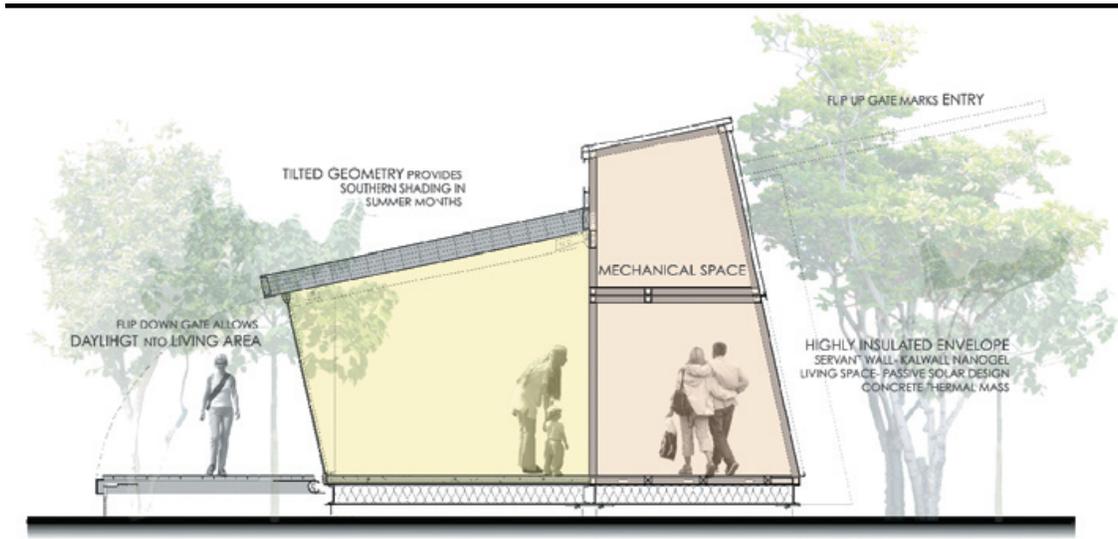


2005 Solar Decathlon House

PITTSBURGH SYNERGY

Carnegie Mellon Univ. | Univ. of Pittsburgh | The Art Institute of Pittsburgh



In 2005 the US Department of Energy sponsored a Solar Decathlon, selecting 19 collegiate teams from across the United States, Europe, and Canada to participate in the competition. This was the second solar decathlon Carnegie-Mellon University (CMU) participated in.

The competition challenged teams to design and build a home that generated enough energy on-site from solar energy to power a household, home-based business, and other related transportation needs. The team that compiled the most points over 10 contests held on the National Mall in Washington, DC was declared the winner. Following the competition the house was returned to the Carnegie Mellon campus to act as the new home for the **Steinbrenner Institute for Environmental Educator & Research (SEER)**.

The **Pittsburgh Synergy House** was modeled after the Zero-Energy House concept. Energy is generated on site to meet or exceed energy consumed from the power grid on an annual basis. The **Synergy House** literally tilts toward the south, not just for efficiency but to create a dramatic exterior and interior space.

The Pittsburgh Solar Decathlon house—**Pittsburgh Synergy**—was a joint entry by 4 area schools:

- Carnegie Mellon School of Architecture
- Carnegie Mellon School of Design
- University of Pittsburgh School of Engineering,
- The Art Institute of Pittsburgh.

Materials selected are regionally available and renewable, and advanced building technologies were used, such as an absorption chiller and operable components that extend livable comfortable space to the outdoors. The separation of occupant and utility spaces allows a generous living area, freed from the clutter of cable and pipes.

Team Contacts:

Architecture: Professor Stephen R. Lee, AIA, stevelee@cmu.edu

Design: Professor Liza Wellman, liza@cmu.edu

Interior Design: Professor Jordene Gates, jg151@aii.edu

Engineering: Professor Robert Ries, Ph.D., robries@pitt.edu

“The research being conducted at Carnegie Mellon is geared toward the discovery of environmentally friendly and energy efficient technologies.

“We are not only exploring the technologies but, also, creating future decision-makers that will ultimately be position to enable appropriate and effective national and global environmental policy.”

Lowell Steinbrenner



Carnegie Mellon. SOLAR DECATHLON

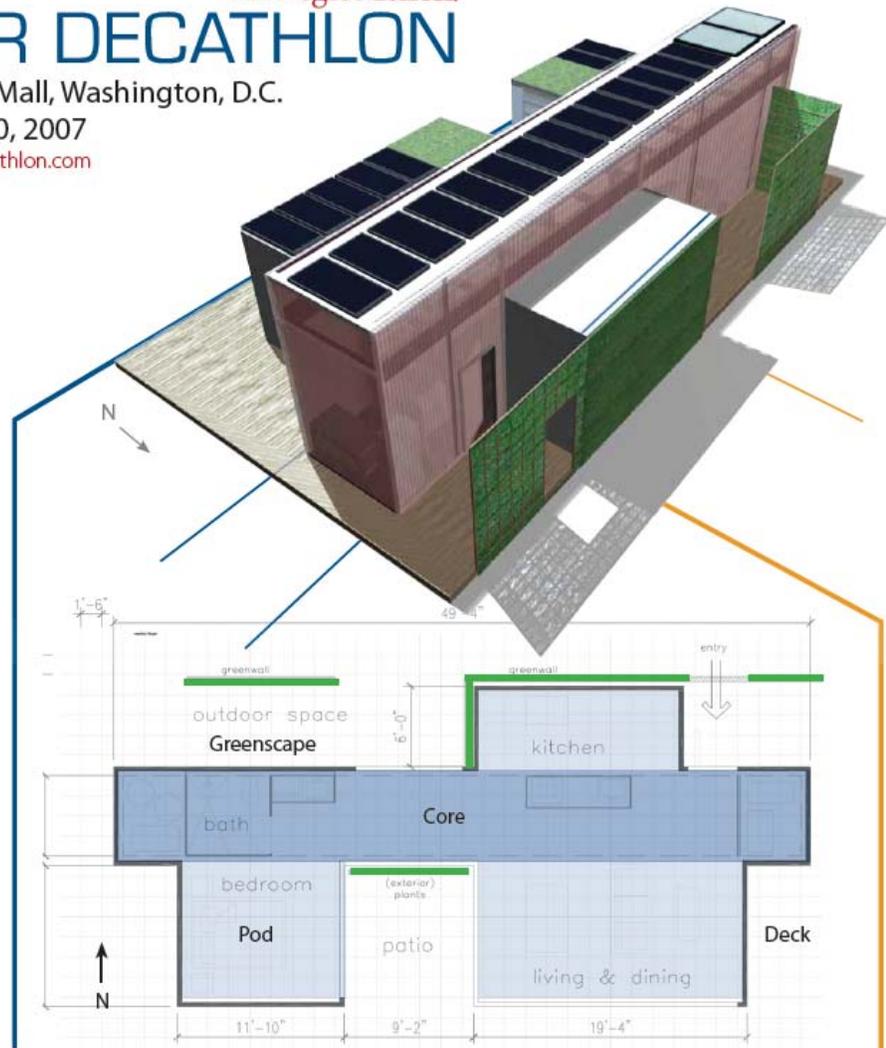
The National Mall, Washington, D.C.
October 10-20, 2007
www.cmusolardecathlon.com

Solar Decathlon 2007

The Solar Decathlon is a US Department of Energy sponsored competition that brings US and international collegiate teams and their energy efficient solar-powered homes together to showcase the potential of grid-independent home construction. As a third time entrant into this competition, the 2007 Carnegie Mellon Solar Decathlon team is dedicated to expanding from its past experiences in order to push the solar housing boundary and create innovative solutions for sustainable home design.

Meet Our Team

The majority of the 70+ student members of the Carnegie Mellon Solar Decathlon team come from the Schools of Architecture, Design, Drama and Art. The team also includes members from the Carnegie Institute of Technology and the Tepper School of Business. Continuing from our success at the 2005 competition, we are collaborating with the Pittsburgh academic community, including the University of Pittsburgh and the Art Institute of Pittsburgh.



Our Vision

This year, the team will offer a new way of looking at sustainable solar design by creating a modular "plug and play" housing product that answers the question: How does a maximum energy efficient home react and grow with the occupants? Plug and play achieves flexibility by clustering utilities into one central space while additional pre-fabricated living units attach to it through a grid of connection points.

New units can be added or exchanged to allow the house to expand or modify with the home owner's needs. In addition to adaptability, this design provides a comfortable living environment which allows for close interactions between the occupant, the house, and nature.

Future of the House—Following the 2007 Solar Decathlon competition, the 2007 Carnegie Mellon Solar House will be permanently relocated to the Powdermill Nature Reserve some 40 minutes outside of Pittsburgh in Westmoreland County. Powdermill Nature Reserve is an outdoor educational center and biological field station affiliated with the Carnegie Museum of Natural History. The Reserve hosts more than 40,000 people annually with a series of public programs and workshops for educational institutions.