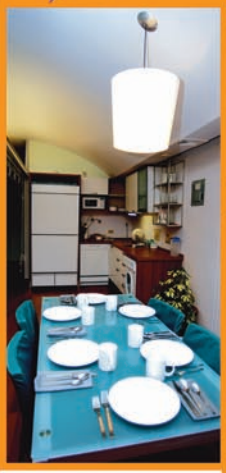
SOLAR DECATHLON



Powered by the Sun

Visit a free living demonstration of the latest in solar energy and home design.
The National Mall, Washington, D.C.
October 7–16, 2005
www.solardecathlon.org

The University of Colorado 2002 Solar Decathlon winning house.

Energy to Inspire

The Solar Decathlon is a competition to design, build, and operate the most attractive and energy-efficient solar-powered home. Eighteen teams from colleges and universities from the United States (including Puerto Rico), Canada, and Spain bring their competition houses to the National Mall in Washington, D.C., where they assemble a "solar village" and compete against one another in ten contests. The public is invited to this free event to meet the students and tour their solar-powered houses. The teams' houses are living demonstrations of the latest in energy efficiency and renewable energy designs and products, and the best in home design. Visitors are also welcome to experience educational exhibits and attend consumer workshops on energy efficiency and solar energy.

Eighteen teams of college and university students are competing in the 2005 Solar Decathlon:

- California Polytechnic State University
- Canadian Solar Decathlon (Concordia University and Université de Montréal)
- Cornell University
- Crowder College
- Florida International University
- New York Institute of Technology
- Pittsburgh Synergy (Carnegie Mellon, University of Pittsburgh, and The Art Institute of Pittsburgh)
- Rhode Island School of Design
- Universidad Politécnica de Madrid
- University of Colorado, Denver and Boulder
- University of Maryland
- University of Massachusetts Dartmouth
- University of Michigan
- University of Missouri-Rolla and Rolla Technical Institute
- Universidad de Puerto Rico
- University of Texas at Austin
- Virginia Polytechnic Institute and State University
- Washington State University

Schedule

Tour the Team Houses:

October 7–11 and October 13–16, 2005
11:00 a.m.– 4:00 p.m., Weekdays
9:00 a.m.–6:00 p.m., Weekends

NREL/PIX12996

On October 12, all houses are closed for competition purposes, but workshops are offered, and educational exhibits are open. Please note that during some public tour hours, some of the team houses are closed for competition purposes.

Educational Exhibits:

October 7–October 16, 2005

Consumer Workshops:

October 8–October 16, 2005

And the winner is…

October 14, 2005

The winner of Solar Decathlon 2005 is announced at 2:00 p.m.

NREL/PIX11907

For the most current schedule, visit the Solar Decathlon Web site at *www.solardecathlon.org*

Product Expo:

October 7–October 9, 2005

Sixty solar companies are exhibiting their products and services at *Solar Power 2005* in the Hyatt Regency Capitol Hill, 400 New Jersey Ave. NW, Washington, D.C.

The Ten Contests

Ten contests measure competitor success across a broad spectrum of activities that are key to creating an appealing, comfortable home that generates enough energy for everyday needs. Some contests are scored by measuring performance (such as how much energy the home produces), and some are scored by judges who are experts in architecture, engineering, and other appropriate fields.

1 Architecture *200 pts.*

A jury of architects looks for attractive, high-performance houses that integrate solar and energy efficiency technologies seamlessly into home design. Scoring well in architecture is crucial; this contest is worth 200 points (all others are 100 points).

2 Dwelling *100 pts.*

Solar Decathlon homes are only about 750 square feet—about one-third the size of a typical new single-family home—but they must be liveable and meet the needs of today's families. Experts from the residential buildings industry award points based on their evaluation of the "liveability" and "buildability" (ease of construction and replication of design) of the homes.

3 Documentation *100 pts.*

Points are awarded based on how well the teams analyzed their designs for energy performance and how thoroughly they documented the design process. The schematic design, design development, construction, and "as-built" phases all must be documented.

4 Communications *100 pts.*

Panels of judges with expertise in communications and public relations judge the team Web sites and student-led house tours; they look for clear and consistent messages and images that represent the team visions and results.

5 Comfort Zone *100 pts.*

Teams are judged on their ability to provide interior comfort in their houses by controlling temperature and humidity. Full points are awarded for maintaining narrow temperature and relative humidity ranges inside their houses.

NREL/PIX12182

Solar Decathlon

The National Mall
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NREL/PIX12192

6 Appliances *100 pts.*

Points are earned for maintaining a certain temperature in refrigerators and freezers, washing and drying clothes, cooking meals, using a dishwasher, as well as leaving the television on for 6 hours a day and the computer on for 8 hours a day.

7 Hot Water *100 pts.*

This contest demonstrates that solar hot water heating systems can supply all the hot water we use daily. Teams are scored on the "shower test" (supplying 15 gallons of hot water in 10 minutes or less) and on how innovative the hot water system is.

8 Lighting *100 pts.*

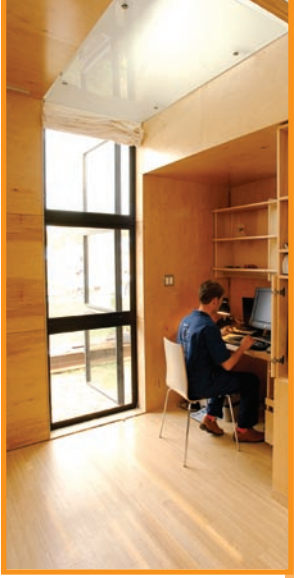
If a house maintains lighting levels within an optimal range, full points are awarded. Also, a panel of judges evaluates team lighting designs, which are required to integrate both electric and natural light (or daylighting), from both functional and aesthetic standpoints.

9 Energy Balance *100 pts.*

While the sun shines, the solar electric (also called "photovoltaic" or "PV") systems on each house produce electricity, and battery systems store that energy for the nighttime and for any rainy days that might occur during the competition. This contest measures the amount of energy going into the batteries from the PV system and the amount of electrical energy being drawn from the batteries to meet the houses' electrical needs. The goal is to finish the competition having produced as much or more electrical energy than the house and car required.

10 Getting Around *100 pts.*

Teams use electricity generated by solar electric systems to "fuel" street-legal, commercially available electric vehicles. Teams then must log as many miles as they can—based on how much "extra" energy they have generated. Points are awarded based on how many miles each team completes.



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Purpose

The schools that participate in the Solar Decathlon provide a unique educational experience through the project. The project necessitates that most schools expand curriculum, and it requires students, especially of architecture and engineering, to work together in a way they normally do not. The students who compete in the Solar Decathlon come away with new knowledge and experience about energy efficiency and production, and building design that incorporates both. They bring this knowledge into their professional practices.

The public is invited to this free event to meet the students, tour their solar-powered houses, and experience the educational exhibits provided by the sponsors. The event serves as a living demonstration of the latest in energy efficiency and renewable energy designs and products, and the best in home design.

Sponsors

The primary sponsor of the Solar Decathlon is the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy. The Department of Energy is joined by its National Renewable Energy Laboratory, the American Institute of Architects, the National Association of Home Builders, and private-sector sponsors BP, the DIY Network, and Sprint.

For more information, visit the Solar Decathlon Web site
www.solardecathlon.org

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