



U.S. DEPARTMENT OF ENERGY  
**SOLAR DECATHLON**

# 2011

The National Mall  
Washington, D.C.  
Sept. 23-Oct. 2, 2011

[www.solardecathlon.gov](http://www.solardecathlon.gov)



*Time to shine*



## The Idea

*Demonstrate highly efficient homes powered by the sun*

## The Event

*The U.S. Department of Energy Solar Decathlon 2011*

## The Challenge

*Design, build, and operate a cost-effective, energy-efficient, and attractive solar-powered house*

## The Competition

*10 contests that gauge each home's performance, livability, and affordability*

## The Players

*20 collegiate teams comprising the brightest student minds from around the world*

## The Results

*Broader understanding of how to save money at home with clean-energy solutions, and students who are ready to enter the clean energy workforce with hands-on experience*

# Time To Shine

Every two years, the U.S. Department of Energy Solar Decathlon illuminates the National Mall with a working display of energy innovation in action. One of the most ambitious and inspiring events in the country, it challenges 20 collegiate teams to demonstrate inventive clean-energy solutions by building solar-powered houses that feature cost-effective, energy-efficient construction and incorporate energy-saving appliances and renewable energy systems.

The Solar Decathlon has grown into one of the most highly anticipated design competitions ever held. Thousands of people visit the National Mall to see and experience the practical home solutions used by competing teams—real-world solutions that are available today.



## Solar Decathlon 2011 — An Event With Purpose

- Demonstrates innovative ways to incorporate practical, affordable clean-energy solutions into homes built for today's consumers
- Accelerates development of whole-house design solutions that improve performance and reduce costs for the homeowner
- Shows how an efficient solar-powered home connected to a utility grid can produce as much energy as it uses
- Provides student participants with hands-on training and collaborative experiences that prepare them to enter our nation's clean-energy workforce

## Outshining the Competition

Make no mistake. Solar Decathlons are intense, rigorous competitions, and the 2011 event will be no exception. Teams will compete in 10 contests. Some are judged by experts in their fields. Others are scored using measurements that precisely indicate levels of energy efficiency, consumption, or temperature. Each contest is worth 100 points. The team that earns the most combined points—balancing cost-effectiveness, consumer appeal, and design excellence with optimal energy production and maximum efficiency—wins the competition.

## Solar Decathlon 2011

### Juried Contests

- Architecture
- Communications
- Market Appeal
- Affordability
- Engineering

### Measured Contests

- Comfort Zone
- Appliances
- Hot Water
- Energy Balance

### Juried and Measured Contest

- Home Entertainment



# Solar Decathlon 2011 Teams

## A Village Powered by the Sun

We've all experienced the strength of the sun. Harnessing its energy to power an affordable, functional, comfortable home is the challenge of the Solar Decathlon.

Solar houses connect with nature through designs that capture and harness heat and light from the sun. And they incorporate features that take advantage of breezes and shade to reduce cooling loads. Solar Decathlon houses combine these design principles with cost-effective clean-energy products that are available today. These homes—artfully simple, elegantly stylish—reduce utility bills while meeting the occupants' energy needs.

The 20 student teams competing in the Solar Decathlon will spend almost two years preparing for the event by designing and building their houses. In preparation for the competition, they will test and retest their houses to ensure optimal energy production and the greatest efficiency.

In fall 2011, the teams will transport their completed houses, which must be sized between 600 and 1,000 ft<sup>2</sup> (55.7 and 92.9 m<sup>2</sup>), from campuses across the country and around the world to the National Mall in Washington, D.C. Within days, a solar village will spring up—the culmination of collective imagination, creativity, engineering, and innovation.

*And then the competition begins.*

The Solar Decathlon places demands on each house's energy systems—to maintain a certain temperature range, to provide lighting, to run appliances, and much more. The houses generate energy with solar electric systems that produce electricity and with solar thermal systems that provide space heating and cooling as well as hot water.

Design concepts represent a range of building technologies from diverse geographic locations, climates, and regions (including urban, suburban, and rural settings). They also aim to serve diverse markets, from low-income housing to retirement communities to disaster relief efforts and beyond.

In addition to being a world-class design competition, the Solar Decathlon is an enormously popular event that is free and open to the public. Visitors to the National Mall tour the houses and learn how energy-saving features can help them save money. The event also draws worldwide media attention.

## Their Time To Shine

Who are these solar decathletes? World-class competitors. The best and the brightest. Students in design and architecture, engineering, business, and communications. Solar decathletes draw on their strengths and rely on their wits during months of fundraising, planning, designing, and analyzing their solar houses.

When the competition begins, these students bring all they have to the Solar Decathlon. Ingenuity. Perseverance. Leadership. They build a temporary solar village on the National Mall and create experiences to last a lifetime. These decathletes are tomorrow's bright future.

*Solar Decathlon 2011 is their time to shine.*

- **Appalachian State University**
- **Florida International University**
- **Middlebury College**
- **New Zealand** (*Victoria University of Wellington*)
- **The Ohio State University**
- **Parsons The New School for Design and Stevens Institute of Technology**
- **Purdue University**
- **The Southern California Institute of Architecture and California Institute of Technology**
- **Team Belgium** (*Ghent University*)
- **Team Canada** (*University of Calgary*)
- **Team China** (*Tongji University*)
- **Team Florida** (*The University of South Florida, Florida State University, the University of Central Florida, and the University of Florida*)
- **Team Massachusetts** (*Massachusetts College of Art and Design and University of Massachusetts at Lowell*)
- **Team New Jersey** (*Rutgers — The State University of New Jersey and New Jersey Institute of Technology*)
- **Team New York** (*The City College of New York*)
- **Tidewater Virginia** (*Old Dominion University and Hampton University*)
- **University of Hawaii**
- **University of Illinois at Urbana-Champaign**
- **University of Maryland**
- **The University of Tennessee**

*Time to shine*



# Visit the U.S. Department of Energy Solar Decathlon 2011!

Where: The National Mall in Washington, D.C. | When: Sept. 23–Oct. 2, 2011



## For More Information

[www.solardecathlon.gov](http://www.solardecathlon.gov)

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Photos in this brochure are available for download at [www.solardecathlon.gov](http://www.solardecathlon.gov) or [www.nrel.gov/data/pix/](http://www.nrel.gov/data/pix/).

Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 10% post consumer waste.

U.S. Department of Energy Solar Decathlon

# 2009 WINNERS

First

**Team Germany**  
*(Technische Universität Darmstadt)*



Second

**University of Illinois at Urbana-Champaign**



Third

**Team California**  
*(Santa Clara University, California College of the Arts)*



U.S. DEPARTMENT OF  
**ENERGY**

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