



U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON

2011

The National Mall
Washington, D.C.
Fall 2011

www.solardecathlon.gov



Time to shine

The Idea

Demonstrate the power of the sun

The Event

The U.S. Department of Energy Solar Decathlon 2011

The Contest

A housing competition of worldwide proportion

The Challenge

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

The Players

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

The Result

Increased public awareness of the many cost-saving opportunities presented by clean-energy products

Time To Shine

Every two years, the U.S. Department of Energy Solar Decathlon competition 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 housing solutions developed by competing teams—real-world solutions that are available today.



Solar Decathlon 2011 — An Event With Purpose

- Provides student participants with hands-on training that prepares them to enter our nation's clean-energy workforce
- Fosters collaboration among students from different academic disciplines who otherwise may not have the opportunity to work together until they enter the workplace
- Challenges students to find innovative ways to incorporate practical, affordable clean-energy solutions into homes built for today's consumers
- Drives research and development of energy-efficient products and solutions—and speeds adoption by consumers
- Shows how a house that is connected to a utility grid can produce as much energy as it uses
- Demonstrates how to save money and energy by using affordable clean-energy products that are on the market today
- Educates the public about the many benefits of renewable energy and energy efficiency

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
- Market Appeal
- Engineering
- Communications
- Affordability

Measured Contests

- Comfort Zone
- Hot Water
- Appliances
- 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 the highest energy production and greatest efficiency.

In fall 2011, the teams will transport their completed houses, which must be between 600 and 1,000 ft², from campuses across the country and around the world to the National Mall in Washington, D.C. Within days, a temporary solar village will spring up—the culmination of collective imagination, creativity, engineering, and ingenuity.

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 also an enormously popular public event. Free and open to the public, thousands of people visit the National Mall to tour the houses and learn how energy-saving features can help them save money. The event also draws worldwide media attention. For instance, Solar Decathlon 2009 generated more than 923 million total media impressions.

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, analyzing, and finally building and improving their solar houses.

It takes creativity to design a solar house. Strength to build it. Ingenuity to power it. Perseverance to keep it running. But leaders make it happen. Today's student leaders 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



For More Information

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U.S. Department of Energy Solar Decathlon

2009 WINNERS

1st

Team Germany
(Technische Universität Darmstadt)



2nd

University of Illinois at Urbana-Champaign



3rd

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



U.S. DEPARTMENT OF
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