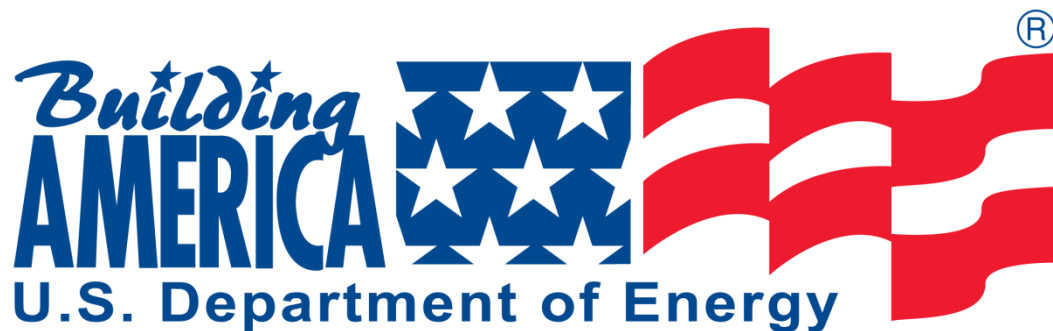




Challenge Home Student Design Competition

Webinar – May 20, 2013

2:00 – 3:30 PM EDT



Heritage



Impacts

80% Learned more than in classroom

76% Worked in a clean-energy field since leaving college

500% More in clean-energy field than non-decathletes

92% Credited Solar Decathlon with getting clean-energy job

92% Convinced someone to install energy-efficient equipment

Vision

“Engage college students across the United States to participate in the DOE Challenge Home Student Design Competition and become part of the leadership movement towards truly sustainable homes”

Sam Rashkin
DOE Chief Architect

Zero Energy Ready Home Goal

High-performance home so energy efficient, all or most annual energy consumption can be offset by renewable energy.



Overview

Design competition is intended to demonstrate the teams' knowledge and skills to design, analyze, and plan the construction of quality, high-performance homes that meet or exceed the DOE Challenge Home requirements.

Why Participate?

- Solve real-world problems associated with our nation's housing industry
- Finalists present their proposals to a panel of practitioner judges at a major industry conference
- Winning teams will be recognized at a national conference

Why Participate?

- National exposure via publications and mainstream media
- National exposure can provide career-launching opportunities for the students
- Universities recognized producing job-ready young professionals with cutting-edge skills relevant to a rapidly evolving housing industry

Schedule

- **May 2013:** Announcement and Briefings with Schools
- **June 2013:** Competition Rules and Resources Available Online
- **August 2013:** EEBA Buildings That Work course available online (Register by mid-Nov)
- **Fall Semester 2013:** Registration Deadline (Nov. 1) - \$200 entry fee

Schedule

- **January 31, 2014:** Complete EEBA Buildings That Work test
- **Fall Semester 2013/Spring Semester 2014:** Students Develop Design for Submittal
- **Mid-Spring Semester 2014:** Submittals Due
- **Spring Semester 2014:** Awards Presented

Competition Framework

- Two-year cycle alternating with Solar Decathlon
- Teams must be sponsored by a collegiate institution
- Comprised of at least three students and a faculty advisor
- May be multidisciplinary in nature and have industry advisors

Competition Framework

Design Challenge

- Real-world scenario to update a builder's outdated product line
- A building lot and neighborhood “character” will be provided along with prevalent homebuyer demographic profiles for context

Competition Framework

Design Challenge

- The student teams may either redesign the existing floor plan or create a new house design that satisfies the project requirements
- Design target is the DOE Challenge Home

Competition Framework

Design Challenge

- Cost-effective from the buyer's perspective {P-I-T-I-U-M}
- Demonstrate integration of building science principles
- Pass the “Houses that Work” online test administered by EEBA

The Energy & Environmental Building Alliance (EEBA)



- National Delivery Mechanism for Building Science Training
- New & Existing Homes
- Timely, Non-biased Education



Houses That Work Online

- Online Curricula Including 6 Modules
- Section Quizzes & Module Tests
- Successful Completion of 6 Modules Provides Eligibility for Advanced Green Building Certificate

Competition Framework

Submission Subject Areas

- Team Qualifications
- Design Goals
- Financial Analysis
- Envelope Durability
- IAQ Evaluation
- Space Conditioning

Competition Framework

Submission Subject Areas

- Domestic Hot Water
- Lighting & Appliances
- Zero-net Energy Use
- Construction Documents
- Extra Credit

Competition Framework

Judging Point Rating

Section	Subject Area	Maximum Point Value	Judge Rating Scale	Percent Weighting*	Subject Area Points
A	Team Qualifications		Complete Documentation		
B	Design Goals	20	0 - 5	0 - 100%	0 – 20
C	Financial Analysis	12	0 - 5	0 - 100%	0 – 12
D	Envelope Durability	16	0 - 5	0 - 100%	0 – 16
E	IAQ Evaluation	16	0 - 5	0 - 100%	0 – 16
F	Space Conditioning	16	0 - 5	0 - 100%	0 – 16
G	Domestic Hot Water	5	0 - 5	0 - 100%	0 – 5
H	Lighting & Appliances	5	0 - 5	0 - 100%	0 – 5
I	Zero-net Energy Use	5	0 - 5	0 - 100%	0 – 5
J	Construction Documents	5	0 - 5	0 - 100%	0 – 5
Weighted Total for Required Subject Areas					0 - 100
K	Extra Credit	15	0 - 15		0 – 15
Total Project Points					0 - 115
*Percent weighting calculated as a percent based on the Judge Scale i.e., a Judge Rating of 3 = 60% weighting					



Questions & Resources

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<http://www.homeinnovation.com/DOEChallengeHomeStudentDesignCompetition>

http://www1.eere.energy.gov/buildings/residential/ch_index.html

http://www1.eere.energy.gov/buildings/residential/ba_science_education.html

<http://basc.pnnl.gov/>

<http://buildingscienceeducation.net/>