

SECTION 1. INTRODUCTION

The 2009/2010 Leading Edge Student Design Competition seeks to support and enhance the study of sustainable and energy-efficient building practices in architectural education. With our 15th competition, we invite students and instructors of architecture and design to use the competition as a framework to explore the use of new materials and strategies for building, and the integration of aesthetics and technology for high-performance, cutting-edge architecture that approaches the goal of zero-net energy use.

A zero-net energy building generates enough on-site renewable energy to equal or exceed the amount of energy needed to operate the building. This is also known as net-zero site energy. Since a significant proportion of the nation's use of fossil fuels comes from heating and cooling buildings, creating zero-net buildings is an important way to reduce greenhouse gas emissions and fight global warming.

This year the competition focuses on the coastal city of Long Beach, California. Students entering Challenge 1 will design a zero-net energy Workforce Training Center; students entering Challenge 2 will design a zero-net energy Student Residence. The projects will be located on adjacent sites on Long Beach Boulevard. See Section 2, Design Challenges, for more information.

Competition Objectives

The competition objectives are to encourage and reward excellence in architectural planning and design that integrates environmentally responsive design strategies.

Competition participants will have the opportunity to:

- Explore energy efficiency as a basic standard of building design, and the foundation of zero-net design.
- Incorporate principles of sustainability in the choice of building materials, water use and building design.
- Investigate new building materials and methodologies that contribute to sustainable or energy-efficient design.
- Understand the impact of solar orientation, wind orientation, building massing, construction methods, and material choices on building function and energy use.
- Develop an awareness of appropriate technology for particular building types, regional climates, and site location.
- Explore state-of-the-art computer modeling tools for predicting and evaluating the impact of design decisions on building performance and energy conservation.

- Begin to understand the requirements and implications of sustainable energy generation on urban building sites.

Participant Eligibility

The Competition is open to all currently-enrolled undergraduate and graduate students of architecture, engineering, drafting, and environmental design at two-year colleges, technical schools, four- and five-year colleges and universities. Students may enter as individuals or teams. The competition may be treated as a class project or a separate independent study. *A faculty member must supervise all participants.*

The competition is divided into two levels or challenges: Challenge 1 for all students above the second year of their training (i.e. third year through graduate students) and Challenge 2 for first and second year students. *Teams comprised of students at both levels must enter Challenge 1.* Instructors are responsible for evaluating the students' class standings and determining which challenge the students will enter.

Duration of the Competition

The duration of the competition will be any consecutive 10-week period within an academic quarter or semester. Completed entries may be submitted prior to the submission deadline. See the end of this section for the submission address.

Competition schedule

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| March 26, 2010 | Final Registration Deadline |
| April 09, 2010 | Final Deadline for Submission of Questions Regarding Competition Program, Site, and Submission Requirements |
| April 16, 2010 | Final posting of Questions and Answers on the Website |
| June 11, 2010 | Deadline for Receipt of Entries |
| August 27, 2010 | Winners Notified and Posted on Website |
| Sept. 10, 2010 | Judges Comments for All Entries Posted on the Website |

Questions and Answers

Questions and answers may be emailed to the Competition Program Manager (pat@newbuildings.org) at any time during the competition time period up to the question deadline of April 9, 2010. Replies will be emailed, and questions and answers will also be periodically posted at the FAQ section of the competition website.

Awards

The first place entries in Challenge 1 and Challenge 2 will each receive \$3,000. The second place entry for each challenge will receive \$2,000. In addition the jury may award a number of Certificates of Merit (which do not carry monetary awards) to projects that show outstanding effort in specific areas. The school, college, or university sponsor will receive \$1,500 for sponsoring the first place entry and \$1,000 for sponsoring the second place entry. *The competition reserves the right not to name 1st or 2nd place awards if no entry is deemed worthy by the jury.*

Jury

Juries of technical and design experts will evaluate all entries that meet the entrance requirements. The jurors are selected for their design experience and knowledge of energy efficient and environmentally responsive design and construction. Design jurors are:

Gregg D. Ander, FAIA
Chief Architect, Manager, Design & Engineering Services
Southern California Edison

Vivian Loftness, FAIA
University Professor and Head, School of Architecture
Carnegie Mellon University
Senior Researcher, Center for Building Performance and Diagnostics

Nancy Clanton, PE, FIES, IALD, LC
LEED AP
President, Clanton & Associates, Inc.

Sponsors

California Energy Commission www.energy.ca.gov

New Buildings Institute, Inc. www.newbuildings.org

Pacific Gas and Electric www.pge.com

Sacramento Municipal Utility District www.smud.org

Southern California Edison www.sce.com

Correspondence

All correspondence regarding the competition should be sent to:

Pat Heatherly
Leading Edge Competition Program Manager

Email: pat@newbuildings.org

All registration will be online at the competition website
www.leadingedgecompetition.org.

All competition entry boards should be mailed or delivered to:

Nasim Yalpani
Southern California Edison
6042 N. Irwindale Avenue, Suite B
Irwindale, CA 91702

The final deadline for submission of entries is June 11, 2010; entries received after this date will be disqualified. This is the deadline for all participants, regardless of which 10-week period you choose to work on your project. You can, of course, submit your entry immediately at the end of your 10-week work period, or at any time before the deadline, but submission before the deadline is not required.