

SECTION 1. INTRODUCTION

The 2011-2012 Leading Edge Student Design Competition focuses on the study and design of zero-net energy commercial buildings and residences. In 2007 the Energy Independence and Security Act (EISA 2007) specified that in the U.S., all new commercial buildings will be zero-net energy by 2030, and all new and existing commercial buildings will be zero-net energy by 2050. European Union nations are leading this effort, as the EU has announced that all newly constructed buildings will be zero-net energy by 2018. Meeting these ambitious goals requires that building designers begin preparing now, since making a building zero-net energy, just as making it truly sustainable, impacts all aspects of the building design. The Leading Edge Student Design Competition provides a framework for students to explore the use of new materials and strategies and the integration of aesthetics and technology to produce cutting-edge zero-net energy and sustainable buildings.

The competition will focus on zero-net site energy buildings. These buildings generate enough on-site renewable energy to equal or exceed the amount of energy needed to operate the building. 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 site will be located in Merced, California. Students entering Challenge 1 will design a zero-net energy mixed-use commercial and residential building, and students entering Challenge 2 will design zero-net energy townhouses and a cafe. The projects will be located on adjacent sites near the historic Merced downtown district. See Section 2: Design Challenges, for detailed 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 ten-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

September 2011	Registration opens
April 2, 2012	Final Registration Deadline
April 16, 2012	Final Deadline for Submission of Questions Regarding Competition Program, Site, and Submission Requirements
April 23, 2012	Final posting of Questions and Answers on the Website
June 15, 2012	Deadline for Receipt of Entries
September 2012	Winners Notified and Posted on Website
Sept. 30, 2012	Judges Comments for All Entries Posted on the Website

Questions and Answers

Questions and answers may be submitted to the Competition Program Manager at any time during the competition time period up to the question deadline. All questions and answers will be available on the website for competitors to review. The final question submission deadline and posting of answers will be as indicated above.

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 first or second 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 will be announced at www.leadingedgecompetition.org.

Sponsors

California Energy Commission	www.energy.ca.gov
New Buildings Institute, Inc.	www.newbuildings.org
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
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:

William Vicent
Southern California Edison
6042 N. Irwindale Avenue, Suite B
Irwindale, CA 91702

The final deadline for submission of entries is June 15, 2012; entries received after this date will be disqualified. This is the deadline for all participants regardless of when you choose to begin the 10-week period 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.