

## LEED® Facts

Ocean Science Education Building

UC Santa Barbara

LEED for New Construction, v2.2  
Certification awarded November 1, 2013

**Gold** 39\*

Sustainable Sites 9/14

Water Efficiency 4/5

Energy & Atmosphere 10/17

Materials & Resources 4/13

Indoor Environmental  
Quality 8/15

Innovation in Design 4/5

*\*Out of possible 69 points*

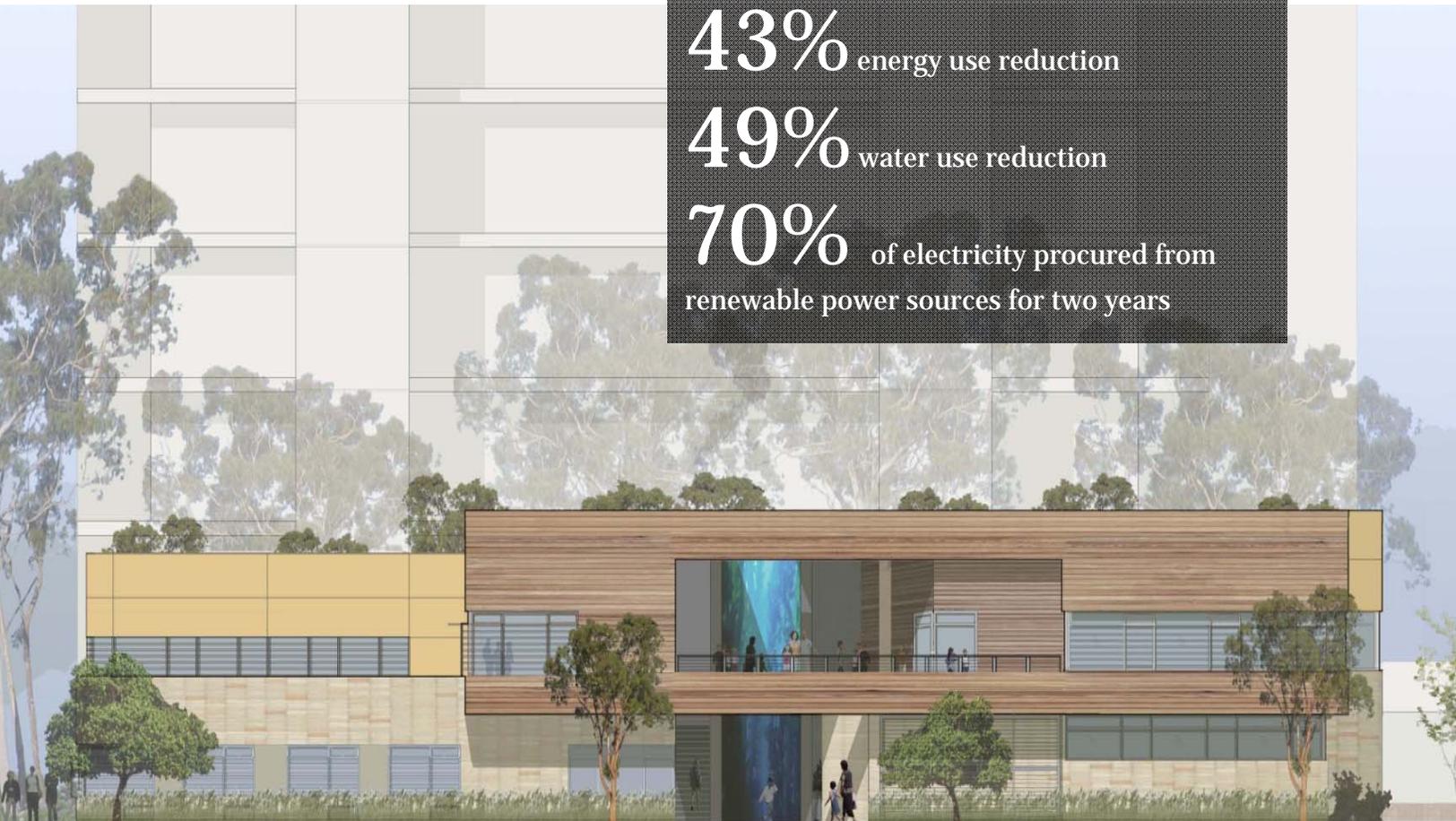


**OCEAN SCIENCE  
EDUCATION BUILDING  
UNIVERSITY OF CALIFORNIA,  
SANTA BARBARA**

**43%** energy use reduction

**49%** water use reduction

**70%** of electricity procured from  
renewable power sources for two years



## UCSB Ocean Science Education Building

# OSEB: Toward Zero Net Energy Design

An innovative green building collaboration

### PROJECT BACKGROUND

The Ocean Science Education Building was envisioned back in 2002, and grant funding by the National Oceanic and Atmospheric Administration finally made it possible to break ground in 2010 and open in 2013. One wing of the structure houses the headquarters for the Channel Islands National Marine Sanctuary (CINMS) and the other wing will house the Outreach Center for Teaching Ocean Science (OCTOS), providing K-12 marine education complete with dry and wet labs. The collaboration between UCSB and NOAA set aggressive environmental goals from the beginning, designing the state-of-the-art facility to be an educational tool inside and out.

### DESIGN TO MAXIMIZE ENERGY EFFICIENCY

For the majority of the year, cooling needs will be met using natural ventilation via operable office windows and skylights in the two-story central atrium. The facility utilizes the campus seawater distribution system for chilled water. Through the extensive use of daylighting, dimmable fixtures and smart lighting controls, the building is able to minimize lighting electricity use.

### AGGRESSIVE WATER CONSERVATION

The OSEB was able to cut indoor water use in half by installing dual-flush toilets, waterless urinals, and low-flow water faucets. The landscaping is fully irrigated with recycled water, which avoids the energy and chemical use associated with treating water to potable standards. Native and drought-tolerant plant usage in the landscaping further reduces water demand.

### ENVIRONMENTALLY PREFERABLE MATERIALS

All of the finish materials used during construction contained low or no volatile organic compounds, or VOCs, which are commonly found in paint, adhesives, sealants, carpeting and other building substances. 22% of materials used in construction of the building were partly made up of recycled content.

### ABOUT CINMS

NOAA's Channel Islands National Marine Sanctuary was established in 1980 and comprises approximately 1,470 square miles of water surrounding Anacapa, Santa Cruz, Santa Rosa, San Miguel, and Santa Barbara Islands. The area provides protected waters for valuable species as well as existing Chumash Native American artifacts.

*Progressive building design must find the balance between innovation and replication. To push design in new and exciting ways while paving the way for others to follow necessitates this tension. The design team for the Ocean Science Education Building (OSEB) on the UCSB campus has set their project goals high with hopes that through insightful and creative collaboration, other projects can follow their lead and continue to minimize or negate energy consumption within buildings.*



**Architect:** EHDD Architecture  
**Engineers:** Stantec  
**Contractors:** Melchiori, Diani Corp.  
**Landscape:** Arcadia

**Project Size:** 15,284 sq ft  
**Total Project Cost:** \$11.1 million  
**Cost per square foot:** \$766

### ABOUT LEED

The LEED® Green Building Rating System™ is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S. Green Building Council's web site at [www.usgbc.org](http://www.usgbc.org) to learn more about LEED and green building.