

Touring the future: UCSD as sustainable-design laboratory

Former campus architect shows off LEED buildings, models for industry

By Roger Showley (</staff/roger-showley/>) 6 a.m. Dec. 12, 2014

A photo gallery of the stops on the green tour (<http://www.utsandiego.com/news/2014/dec/12/ucsd-leed-certification/#&panel2-1>). To reserve a spot on the June 28 tour and for future green tour, to UCSD's public tours website, ucpa.ucsd.edu/resources/tours (<http://ucpa.ucsd.edu/resources/tours/>).

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UC San Diego may be ranked as one of the world's top research universities.

But what's not so celebrated is the university's role in test-driving architectural and building technology to save energy and build in an environmentally responsible way, employing "sustainable" techniques, such as using recycling materials and low-water-using landscaping and plumbing.

Boone Hellmann, recently retired campus architect after 28 years, aims to tell that side of the UCSD story. Starting Sunday, Dec. 14, he will lead free quarterly bus and walking tours of some of the campus' "LEED-certified" buildings.

Since the first two tours have been sold out, Boone led a preview for those who can't squeeze onto the bus.

LEED stands for Leadership in Energy and Environmental Design, a program of the U.S. Green Building Council that rates projects for their achievements in saving energy and water, recycling materials and building in an environmentally sustainable way.

Using third-party verified data, consultants award applicants at the certified, silver, gold or platinum level on a 110-point scale. All 10 UC campuses aim to garner 50 points and win LEED-Silver status in accordance with Board of Regents policy -- a level equivalent to the latest Title 24 state building code standard, Hellmann said.

"LEED, in essence, ups the ante and makes the (design) requirements more stringent," Hellmann said.

UCSD began paying official attention to building sustainably when it adopted its 1989 master plan that incorporated sustainable design guidelines, Hellmann said. It got its first LEED certification in 2009. Today the campus boasts 23 LEED-certified structures -- three certified, six silver, 12 gold and two platinum. Three others are certified for existing building operations and maintenance and seven are in the process of receiving certification. The university certified three more but without going through the formal LEED process.

Hellmann said the LEED standards are constantly being updated and revised to achieve ever-greater sustainability.

"There's a tendency to rest on your past successes," he said. "If something worked in the past, it's safe to use that again. It's exciting to be challenged to do something else where you had not previously attempted it. Frankly, you don't know if it's going to work or not."

Hellmann, who oversaw the construction of 12 million square feet of buildings worth \$3.5 billion during his tenure, said that turns some projects into design experiments, complementing the scientific experiments going on inside.

He cited as one example the Biomedical Research Building that won the Grand Orchid award in this year's Orchids & Onions contest, sponsored by the San Diego Architectural Foundation.

The office and lab building at the medical school campus incorporates a "dynamic exterior solar shading system" -- window blinds that automatically rise and fall to deal with the varying intensity of the sun's rays and glare throughout the day. The hope is that this system and other design elements and mechanical systems will reduce the overall electrical bill and help UCSD meet its 2020 global-warming, green-house-gas reduction targets.

"It's a brand-new building so it works right now," Hellmann said, "but five years from now, if you come back, does it look like some mishmash of blinds up and blinds down? That's the exciting part -- it's putting the creative juices to work in terms of how the design might be done."

Private developers don't have the luxury of experimenting on new building technology. They typically buy or build an office building, industrial warehouse or retail center, rent out the spaces and then sell to investors. The long-term operational and maintenance cost isn't necessarily factored into the property's value.

But tenants increasingly want to occupy LEED-certified buildings as a demonstration of their commitment to environmental sustainability. So, developers can look to institutions like UCSD to test new concepts, said Ravi Bajaj, education manager at the local chapter of the Green Building Council.

"When it works, it can be expanded at the larger scale," he said.

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