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# *Energy-Efficient Campuses Sprouting Up Around the Nation*

## *By Garry Boulard*

***CUPERTINO, Calif.*** **-** It may sound like a unique experiment - how a community-college building can be entirely energy-efficient - but Pat Cornely, executive director of the soon-to-open Kirsch Center for Environmental Studies at the two-year De Anza College, prefers a different description.

*Photovoltaic cells in the parking lot of Pierce College transform solar energy into power for the energy-efficient campus.*

"If we say unique, that makes it stand out all alone," she said, "when in fact what we are trying to do is show to the other community colleges that this is the kind of building that they too can do on their campuses. We would like it to become a very normal and everyday sort of thing."

Yet by almost any measure, the Kirsch Center is different. It is one of the first major examples of a community college committing itself not only to energy-efficient construction but also to the study of how to design and build energy-efficient buildings.

Scheduled for completion in July, with the first classes in the new structure set for this fall, the Kirsch Center is a 34,200-square-foot investment in the future that features just about every energy-efficiency measure imaginable, including recycled steel framing and masonry, natural ventilation and operable windows, photovoltaic solar panels on the rooftop for generating electricity and rainwater collection systems for irrigation purposes.

Built with an east-west orientation for what is known as "passive solar benefits," the Kirsch Center will also "work with the sun," said Cornely, by allowing the sun to heat the west side of the building while also providing a good deal of natural light for the structure.

But the center is not intended to serve simply as a showcase model for what can be accomplished in energy-efficient construction - although it will certainly be that - but will

also be the home for environmental studies at the two-year school, making it "a building that teaches just by its existence about energy, resources conservation, sustainability and stewardship," said Cornely.

Even though the Kirsch Center is unusual both in the scope and depth of its energy-efficiency measures, it is not, as public facilities go, a singular experience.

"We are seeing more and more facilities on the state, local and district level being built with an emphasis on energy-efficiency," noted Taryn Holowka, communications manager with the U.S. Green Building Council. "And that is especially good because these kinds of structures can really serve as models for people who are thinking about adapting energy-efficiency measures for their own houses or businesses."

Arizona is home to the Plaza Building on the Desert Vista Campus of the Tucson, Ariz.-based Pima Community College.

"We really wanted to do something different in the area of energy-efficiency, or what they call 'building green,'" said Paul Smith, assistant vice-chancellor for administrative services and facilities at PCC, "and by so doing also come up with a structure that would enhance our energy savings for many years into the future."

The result: a 41,000-square-foot, two-story structure that houses the school's library and student services offices and includes natural lighting, recycled building materials, increased insulation and, as Smith said, "an adobe wall that we put up for mass to help with some of the heat."

The Plaza Building has also been certified by the U.S. Green Building Council as a Leadership in Energy and Environmental Design structure, a certification based on the evaluation of buildings according to their sustainability potential. "The system was basically designed for actually defining what a green building is by simply establishing a common standard of measurement," explained Holowka.

Although state and local governments are becoming increasingly interested in building structures that are more energy efficient - largely in an effort to reduce ever-growing energy bills - community colleges have only recently started to explore the possibilities of such construction, oftentimes because of operating budget challenges.

"We pay our energy bill out of our operating budget," said Larry Eisenberg, executive director for facilities planning and development with the Los Angeles Community College District, "so anything we can do to conserve energy and along with it, our energy expense, is only going to help us in the future on the operating side."

For that reason, and also because the LACCD's board of trustees recently declared that all community-college construction in the county must be done in a sustainable way, the district has committed itself to an extensive "green" building effort.

"We are building 44 new buildings, and all of them will be energy-efficient," said Eisenberg. "In addition, we have 455 existing buildings, every one of which is going to be renovated to a greater or lesser degree, and also done in a way that is sustainable."

Continued Eisenberg: "Ten percent of the energy we will use at each of our colleges will be generated from an alternate energy source, and for us that will largely mean photovoltaics."

"But at a couple of our colleges, we will have micro-turbines to do cogeneration kinds of things and solid waste digesters for producing methane gas and putting them in fuel cells," said Eisenberg.

One hallmark of the district's energy-efficiency efforts is the rehabilitation of a building once owned by the Van De Kamp Bakery ompany and soon to become a part of Los Angeles City College's northeast satellite. Because the building was constructed in the late 1920s and is characterized by what is described as a "classic Dutch architecture" look, the facade of the structure is being preserved as part of a larger adaptive reuse program.

"So we are engaging in both preservation as well as energy efficiency, all in one structure," said Eisenberg, "which is something we all feel pretty good about."

Critics of the green building movement have often charged that the cost of obtaining the kind of materials and equipment required to make a building truly sustainable put it out of the reach of many public > entities, businesses and individuals.

But De Anza College's Cornely believes that argument is short-sighted, primarily because it is too narrowly drawn. "It is very easy to get caught up in the up-front costs," she says. "But you have to also factor into the equation the life-cycle costs of a building, as well as the fact that students will not only be healthier studying in these kinds of buildings, but, as some studies have pointed out, actually tend to learn better in classrooms that are naturally lit."

"I just don't think it is the sort of thing you can measure from where you start, but rather from where you end up," agreed Smith at PCC. "The energy-cost savings add up year after year. And because most community colleges have to worry about their operating budgets, that kind of savings can be a very important asset."

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