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RIVERSIDE: Solar power goes to work at UCR

The UC Riverside demonstration project uses solar panels on parking-lot shade structures to power cars and buildings | PHOTO GALLERY

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BY DAVID DANIELSKI / STAFF WRITER

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TERRY PIERSON, STAFF PHOTOGRAPHER

PHOTO GALLERY

[UCR research building goes solar](#)

SOLAR SYSTEM

UC Riverside's demonstration project includes:

- 500 kilowatts of solar photovoltaic panels
- 2 megawatts of battery energy storage
- 5 electric vehicle charging stations at the Center for Environmental Research and Technology

Even on a cloudy morning, a solar power system proved itself for its big unveiling Wednesday in Riverside.

The system demonstrates that solar power can be harnessed, stored and consumed in a typical parking lot, powering electric vehicles and buildings and even contributing power to the grid. The project is in place at UC Riverside's Center for Environmental Research and Technology on Columbia Avenue, where dignitaries gathered for a ceremony Wednesday.

Engineering research professor Sadrul Ula pointed to a computer screen set up in the center's parking lot and explained how the solar panels above his head powered a nearby university building and still had enough juice left over to contribute to the grid – despite the lack of sunshine.

The \$10 million carbon-free energy system is a technical first for the nation, Ula said.

Photovoltaic panels are mounted on seven steel structures above about 200 parking spaces; the structures also provide shade for the cars. The power goes to three UCR buildings, including the research

center's administrative headquarters, as well as five charging stations for electric vehicles in the parking lot.

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Today's Poll

[What's this?](#)

What do you think of Operation Shoulder Tap - in which minors working with police ask adults to buy them liquor? Adults who comply get a penalty of a minimum \$1,000 fine and 24 hours of community service.

- A wonderful idea. Minors shouldn't have access alcohol. Period.
- That's not fair! Police are purposefully placing adults in an awkward situation.
- What's the big deal? If adults don't buy teens liquor, they will just get it elsewhere.

Electricity that is not consumed immediately is stored in two refrigerator-size batteries that provide power to the building after the sun goes down. Then, any leftover power goes to into the Riverside Public Utilities grid to be used elsewhere.

“This is really exciting to see all these technologies coming together,” Ula said. “It is something we could do in the laboratory for many years. But until now, we haven’t seen a real-sized system put to use.”

In remarks to Wednesday’s gathering, Reza Abbaschian, dean of UCR’s Bourns College of Engineering, stressed the importance of collaboration between government and industry.

The project was made possible with a \$2 million grant from the South Coast Air Quality Management District. UC Riverside invested \$1 million and expects to recoup that cost in energy savings.

The solar panels were donated by SolarMax Technology, which moved its headquarters to Riverside in 2012. The two big batteries were donated by China-based Winston Battery.

Air district spokesman Sam Atwood said the grant was part of a larger initiative to demonstrate rooftop and other power technologies that reduce reliance on traditional power plants.

One of the vehicle charging stations is super-sized to handle big vehicles, including a retrofitted trolley that is owned by UCR and will be operated by the Riverside Transit Agency. The trolley will serve the larger UCR area of Riverside.

The project also was a learning opportunity.

Chen Tiow, 23, an electrical engineering senior, worked on the design for the direction current circuits that gather electricity from the panels.

“I learned a lot about designing for a much bigger scale,” he said.

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