

UANews

'Solar Zone' Established at UA Tech Park

The "Solar Zone" is slated to be an interdisciplinary hub for education and industry in the development of renewable energy research.

By La Monica Everett-Haynes, University Communications
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A new site in southern Arizona will bring together just about every facet involved in studying and harnessing the power of solar energy and sending it to market.

The **University of Arizona Science and Technology Park** is introducing the "Solar Zone" to serve as an interdisciplinary and collaborative hub for researchers and industry to develop and promote renewable energy.

"Our conclusion is that all the infrastructure, support mechanisms and the land are in place at the Tech Park," said **Bruce Wright**, UA's associate vice president of the Office of University Research Parks.



(Click to enlarge) One component of the Solar Zone will be a public demonstration center where community members can visit the UA Tech Park to learn more about the site, its research and the development of products to harness solar energy.



(Click to enlarge) The Solar Zone at the UA Tech Park resides on a plot of land amounting to about 200 acres. The site has just welcomed its first tenant.

"We believe we can be a showcase for the development of solar energy in southern Arizona," Wright said.

The Solar Zone will be housed at the UA Tech Park, which incorporates University research laboratories, industry and other partners in one facility devoted to moving research and development to market.

Bell Independent Power Corp., Rochester, New York, a developer of thermal storage technology for Concentrated Solar Power, or CSP, has chosen the UA Tech Park as the site of a new state-of-the-art 5-MW solar plant with a system that will be the first of its

kind in the world.

The role of the facility is to commercially demonstrate Bell's proprietary Thermal Storage System and show its ability to improve the efficiency of a facility by 50 percent, which Bell officials said drives down the cost of producing solar power.

Bell has designed this system by applying its energy expertise from the nuclear power industry and 5 years of intensive research and development.

The Thermal Storage System will be capable of storing the sun's heat for several hours, allowing the CSP plant to generate power at cloudy times or after the sun sets. It also will provide energy for full plant startup every morning, replacing the need for natural gas. The demonstration of thermal storage on this facility and its economic impact will lead to its use on large scale facilities.

The projected cost of the facility is \$32 million and it will use 45 acres of parabolic solar mirrors to capture the solar energy. Bell will develop, finance, own and operate the plant. Permitting has begun and, with the help of economic

Et Cetera

Extra Info

The UA Science and Technology Park celebrated its 15th anniversary this month. The site is home to 41 technology companies and business organizations and more than 7,000 employees. Park tenants include five Fortune 500 companies – IBM, Raytheon, Canon, Citigroup and General Dynamics – as well as several emerging high-tech companies such as NP Photonics, Modavox and DILAS Diode Laser and the Arizona Center for Innovation, a technology business incubator.

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development incentives, the plant will begin providing power to Tucson Electric Power customers in May 2011. The plant's construction will employ 75 workers and 7 full-time positions will be established for the operation of the facility. The CSP plant and storage system is expected to produce enough energy to power more than 1,500 typical Tucson homes while offsetting more than 16,000 tons of carbon dioxide.

TEP has asked the Arizona Corporation Commission to approve its plan to purchase power from the plant over a 20-year period. Upon approval, the plant will provide TEP with a significant boost of locally generated green power.

"We are excited about demonstrating how our Thermal Storage System, with scale up cost efficiencies, can make solar power more reliable and cost competitive with fossil fuel energy," said Joseph Bell Jr., president of Bell Independent Power Corp. "The UA Tech Park is a good site for this facility because of its ability to accelerate permitting and will allow us access to the UA's capabilities."

In conceptualizing the zone, **John D. Grabo**, director of business development for the UA Tech Park, said two important questions came to the forefront: "How does that translate into economic benefits and what are the best ways to enhance the competitiveness of the region through our efforts?"

Grabo said the desire was to enhance competitiveness of the UA and the region in the area of renewable energy.

The Solar Zone was not meant to be a solar farm. It is intended to involve energy generation and storage, manufacturing, workforce training and education. It also is meant to serve as a research and demonstration center.

"What we saw was an opportunity to integrate the primary components," said Grabo, who also is the zone's project manager.

This month, the Arizona Renewable Energy Tax Incentive Program that was written into law last year became effective. It offers income tax credits and property tax reductions to new ventures that focus on renewable energy.

Also, Gov. Jan Brewer in her State of the State address this month said one of her priorities is to convince solar manufacturers to lay down roots in Arizona.

Talks about building the Solar Zone at the UA Tech Park began about two years ago during discussions about the park's 10-year business and financial plan, Wright said.

"We began talking about the particular sectors or clusters that would be best suited for attracting companies for us to engage in collaborative research activities with the university," Wright said.

Park representatives also consulted with Tucson Electric Power Co. and the Tucson Regional Economic Opportunities Inc., or TREO.

"Because the University has put a strong strategic focus on sustainability, solar and renewable energy, we thought we might be a player," Wright added.

Of the UA Tech Park's 1,345 acres, located at 9000 S. Rita Road, about 200 acres have been designated for the Solar Zone.

The zone is expected to continue to attract the attention of energy companies, manufacturers of solar panels and other materials, researchers, start-up companies, educational institutions and other organizations.

Consequently, Wright and Grabo are seeking collaborators and additional tenants, even looking abroad.

"The green jobs phenomena is not going to go away," Grabo said, noting that

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business models are continually evolving. Additionally, challenges and demands still exist related to the need for increased efficiency, more lightweight systems and new technology, among other things.

"So the opportunity for collaboration is quite strong and long-term," Grabo said.

"In this economic time, solar is really one of the few industries showing momentum in business expansion and growth," he added. "Just about every state in the union is chasing solar. But what we're doing is thoughtfully figuring out where our competitive advantage is and creating a comprehensive model."