

TEP Unveils Plans for Giant Photovoltaic Array and New Solar Power Plant

TUCSON, Ariz., Sep 16, 2009 (BUSINESS WIRE) -- Tucson Electric Power (TEP) is working with partners to develop two new solar power systems that would rank as the Tucson area's largest renewable power plants, generating enough clean energy to serve more than 6,000 Tucson homes.

The systems, including a new 25-megawatt (MW) photovoltaic (PV) array and a 5-MW concentrating solar power (CSP) plant, are expected to be completed by January 2012. TEP has agreed to purchase power from both systems, which will be privately owned and operated.

"These new systems will exponentially expand our community's solar energy resources, helping us reduce our use of fossil fuels while taking a significant step toward achieving our renewable energy goals," said Paul Bonavia, Chairman, President and CEO of TEP and its parent company, UniSource Energy (NYSE: UNS).

The 25 MW PV array, which will be owned and operated by the global solar company Fotowatio Renewable Ventures, will feature ground-mounted solar panels that rotate along a single axis to track the sun's movement through the sky, increasing the system's energy output. The array is expected to produce enough energy to power more than 4,600 typical Tucson homes while avoiding the production of more than 48,000 tons of carbon dioxide (CO₂) per year.

"We're delighted to be working with Tucson Electric Power," said Matt Cheney, CEO of Fotowatio Renewable Ventures. "Tucson Electric Power is recognized as a worldwide leader in solar energy development. It's a visionary utility that's developing a cost-effective, diversified energy portfolio that demonstrates a strong commitment to the environment. We look forward to working with TEP and the Tucson community on the development of this significant solar power system."

The 25-MW array will be nearly twice as large as a 14-MW system at Nevada's Nellis Air Force Base that currently ranks as the nation's largest solar power system. TEP's 4.6-MW PV array in Springerville currently ranks as Arizona's largest solar array, while the largest local system is a TEP-subsidized 750-kilowatt array at Global Solar Energy, a manufacturer of thin-film PV material. The systems at Nellis Air Force Base and Global Solar Energy are also owned and operated by Fotowatio Renewable Ventures.

The other solar project announced today, the 5-MW CSP plant, will be the first system of its kind in the Tucson area. The facility will use rows of parabolic troughs and a heat-transfer and storage system to create pressurized vapor that will be used to drive a turbine. The system is expected to produce enough energy to power more than 1,500 typical Tucson homes while offsetting more than 16,000 tons of CO₂.

"We are excited about demonstrating how the Bell Energy Storage Technology (BEST) system, in conjunction with a parabolic trough CSP plant, can make solar power a more dependable and reliable energy source," said Joseph M. Bell, Jr., President of Bell Independent Power Corp. (Bell IPC), which will develop, own and operate the CSP plant.

Bell IPC's BEST system has been designed to make concentrating solar technology operate more efficiently and economically. The proprietary thermal storage system will be capable of storing the sun's heat for several hours, allowing the CSP plant to generate power into the early evening or after the sun ducks behind clouds.

"The pioneering storage technology that will be built into this new CSP plant has the potential to make solar energy even more valuable for TEP and other utilities," Bonavia said. "If it proves successful, it could lead to the development of similar systems on a much larger scale."

Tucson Regional Economic Opportunities (TREO) has been working with Bell IPC to identify a site for the plant. TREO has actively promoted the Tucson area as an ideal location for new solar generation projects as part of its overall economic development activities in the region.

The CSP plant's performance could be compared to the results of Tucson's proposed Bright Tucson project, which would test the effectiveness of several alternative storage systems in managing the output of a new 1.6 MW PV array. TEP announced earlier this month that it is seeking \$25 million in federal stimulus funds for the project.

TEP has signed contracts to purchase the energy produced from both new systems over 20-year terms. Renewable Ventures and Bell IPC plan to use those agreements to help secure financing for their projects.

The contracts, which will be submitted to the Arizona Corporation Commission (ACC) for approval, will be funded in part by an ACC-approved surcharge intended to support the state's Renewable Energy Standard (RES). The RES calls on utilities to increase their use of renewable energy each year until such resources represent 15 percent of their power by 2025.

TEP is pursuing those goals through a combination of utility-owned installations, purchased power contracts and "distributed" resources like PV systems and solar water heaters installed at local homes and businesses. Through its popular SunShare and GreenWatts programs, TEP is actively educating the community about renewable energy and offering options to customers who want to help the environment.

The output of the new systems will represent a significant addition to TEP's growing renewable energy resources. With funding provided by customers, TEP has developed nearly 10 MW of company-owned renewable energy generating capacity and is on track to add another 3.4 MW in company-owned capacity and 31.5 MW through purchased power contracts in coming years.

TEP and its sister company, UniSource Energy Services, also are seeking to secure new solar energy capacity through a request for proposals (RFP) that was issued Friday, Sept. 11. The companies will consider either large, utility-scale projects or smaller distributed systems. A conference call for potential bidders is set for Sept. 30. For more information, visit www.uesaz.com/wholesale/.

Tucson Electric Power provides safe, reliable power to more than 400,000 customers in southern Arizona. For more information, visit tep.com. For more information about UniSource Energy, TEP's parent company, visit uns.com.

SOURCE: Tucson Electric Power

Tucson Electric Power
Joe Salkowski, 520-884-3625 (News Media)
Jo Smith, 520-884-3650 (Financial Analyst)

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