Department of Energy

Solar Field Gives Tennessee Economy a Boost

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Efficient Energy of Tennessee installs panels at a 1-MW solar farm outside Knoxville in July. | Photo by Harvey Abouelata and courtesy of Efficient Energy of Tennessee

Outside Knoxville, Tenn., a new construction project began raising eyebrows in May. The project was clearly visible from cars on the nearby Andrew Johnson Highway, but

passers-by had no idea what to make of it at first, according to Robbie Thomas, president of Efficient Energy of Tennessee, a solar installer in Powell.

"It's right on a four-lane highway, so it's very visible when you drive by," he says. "People thought we were building bleachers until we got the panels up."

In fact, EETN and its partner Natural Energy Group were building a ground mount solar farm.

Installed in under 3 months

Construction of the one MW photovoltaic energy system started in May and ended in mid July, with an inauguration Aug. 12. Located on a field in Strawberry Plains, Tenn., the system will generate 1,198 MWh of clean energy per year. That is enough energy to power 120 average homes, according to EETN, and replace 2,000 barrels of oil.

Natural Energy Group owns the system; EETN installed and will maintain it. The zero-emission solar-generated electricity will be sold to the Tennessee Valley Authority (TVA) through the Knoxville Utilities Board, the local distributor.

Generating their own

Thomas says the project is an effort to take advantage of the Generation Partners program offered by the TVA, the region's power generator and a federal nonprofit corporation founded in the Depression era. The program promotes distributed solar energy generation by offering to buy solar power at 12 cents per kWh plus the retail rate for 10 years. Thomas says that program, and the opportunities offered by Tennessee's growing solar industry, inspired the project.

"With the growing solar industry in Tennessee and the fact that Knoxville is a Solar America City, Natural Energy Group saw an opportunity to install a utility-scale system in the area," he says.

In addition, Natural Energy Group was able to defray 30 percent of the base costs with a Renewable Energy Grant offered by the U.S. Treasury Department through the Recovery Act.

Made in Tennessee

The 4,608 solar modules in the system were assembled by a Memphis-area Sharp factory. In fact, the installation includes that factory's 2 millionth module, a fact commemorated on the site with a gold-plated module. Thomas says his company uses Sharp panels almost exclusively, in part because he believes their quality and performance is better than that of Chinese panels.

Thomas says the project helped create an unknown number of jobs at that factory and at least 18 other jobs for construction workers, electricians, a maintenance worker and others.

Through this project, EETN acquired more installation business, including a one MW installation Natural Energy Group in West Tennessee, scheduled to start in October and expected to be completed before the end of 2010. Thomas says the company expects to add more jobs in the near future.

A solar education

The project leaders also took advantage of the site's visible location near the highway by offering a building devoted to educating visitors about solar energy. Everyone is welcome, but it includes a classroom intended just for schoolchildren. EETN is also cooperating with local solar installation education programs, as well as with researchers at Oak Ridge National Laboratory.

"People never really get to see [solar photovoltaic] in this area," Thomas says. "[Giving them] the opportunity to put their hands on it and learn about it was very important."

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