

Arizona Utility Uses Natural Resources to Make Power

The Challenge

Tucson Electric Power Company (TEP) needed a way to generate 5MW of “green power” after the Arizona Corporation Commission established its Environmental Portfolio Standard (EPS) which calls on the utility to generate 1.1 percent of their retail power from renewable sources by 2007. According to the EPS, at least 60 percent of that power must come from solar.

The Solution

TEP choose a site in Springerville, AZ to install the 28-acre field of PV panels. Springerville is an ideal location because of the 6,500-foot elevation, moderate climate, and frequent breezes that cool the surface of the panels. TEP contracted Global Solar Energy, Inc, a SCHOTT solar partner, to serve as the project manager for the installation. 1.4 MW was installed in 2001. In 2002 the system was expanded to 2.4 MW. Twelve of the sixteen systems are built around the ASE™ 300 module, which have been the top performers so far. The system is remarkably reliable at 99.43% and the design allows for easy expansion.

The Result

The Springerville Generating Station Solar System currently includes 22,276 photovoltaic panels, which have so far produced 3.2 MW in 2003. The system produces enough energy to meet the annual electricity needs of 420 Tucson homes. In 2004, it will expand to produce 4 MW, becoming the world’s largest photovoltaic power plant.

Technical Specifications

Array includes 16 individual systems

Modules: 10,800 ASE 300 DG-50

2,688 First Solar FS50

3,000 BP Solar MST-43

Inverters: 12 Xantrex PV-150

Mounting: Ground mount

