

GENERAL INFORMATION

Pima County Board of Supervisors' Resolution No. 2007-84 (Resolution in Support of New County Sustainability Initiatives), calls upon County government to meet at least 15% of its energy needs using renewable resources by 2025.

The installation of a 1 megawatt (MW) solar facility at the Roger Road Wastewater Reclamation Facility (WRF) will satisfy 1.9% of the County's total energy needs. (The County's annual electrical use is 50.16 MW; to meet the 15% renewable energy target, the County must develop at least 7.52 MW of renewable energy).

The 1 MW solar facility is capable of producing 55.5 million kilowatt-hours of electricity during its expected 30-year life. It will be located on six acres of land adjacent to the existing Roger Road WRF.

Construction is projected to be completed in December 2009. Generation of electricity will begin immediately following completion of construction.

This facility will consist of:

- 5 groups of 12 rows of solar panels
- 90 panels with 44 modules each
- 3690 total solar photovoltaic (PV) modules

The operation of this facility will decrease carbon emissions by approximately 64,000 tons over 20 years.

Upon completion of this project, 45% of the energy used to operate the Roger Road WRF will be from renewable sources:

- 15% will be from solar energy
- 30% will be from Methane gas

The remaining energy will be met in the following ways:

- 22% will be from electricity provided by Tucson Electric Power
- 33% will be from gas provided by Southwest Gas

Under the Regional Optimization Master Plan (ROMP), the existing Roger Road WRF will be decommissioned when the new facility comes on line. At that time, the solar facility will be connected to the new plant.

ECONOMIC IMPACTS

The contractor for this project is Solon America. The company's North American manufacturing, sales and administrative headquarters are located in Tucson.

It is estimated that approximately 80,000 hours of work will be added to the local economy over the 20-year term of Solon America's contract with Pima County; this translates to the creation of approximately 40 jobs over the life of this project.

Solon America will sell the solar electricity produced at the facility to Pima County at a rate that is equal to or less than the current cost of electricity sold to Pima County by the Tucson Electric Power Company (TEP).

The County will pay Solon America 9.5 cents per kilowatt hour under the SSA agreement. TEP's rates are expected to increase during the 20-year duration of the contract; however the rate paid by Pima County to Solon America will not change over the course of the contract.

The cost paid to Solon America over the 20-year contract term is anticipated to be approximately \$3,551,000. The cost of purchasing the same amount of electricity from TEP over the same 20-year period was projected to be about \$5 million.

This project will save Pima County approximately \$1.5 million over 20 years.

No American Recovery and Reinvestment Act (federal stimulus fund) monies are allocated to this project.

PROJECT PARTNERSHIPS

There are multiple partners involved in this project:

- Pima County Facilities Management is the project manager for procurement and construction of the facility;
- Solon America is the overall project manager and facility owner/operator;
- Barker Morrissey is the construction firm;
- Pima County Regional Wastewater Reclamation Department is licensing the land on which the project will be constructed to Solon America;
- Pima County Regional Wastewater Reclamation Department is the recipient of the power generated at the facility;
- Tucson Electric Power Company is providing technical advice and oversight of the design and the connection of the solar facility to the public grid.

SOLAR SERVICE AGREEMENT

This project marks Pima County's first Solar Service Agreement (SSA), commonly referred to as a "Power Purchase Agreement".

A SSA is a contract between a host (Pima County) and a contractor/developer (Solon America) to provide long term services to establish and operate a power-generating facility.

Through this SSA, Solon America and its subcontractors are responsible for generating and providing the County with an agreed-upon minimum amount of power at a fixed price over the life of the 20-year contract. In return, the County is required to purchase all power produced by the facility.

At the end of the 20-year contract term, Pima County Regional Wastewater Reclamation Department (PCRWRD) will have three options:

1. PCRWRD can require the facility be removed;
2. PCRWRD can extend the existing contract (the facility has a projected life of 30 years); or
3. PCRWRD can purchase the facility at the then market value.