

Case Study: 9.71% Improvement in kWh/kWp with Optimizers



Tucson Electric Power, Arizona USA

Location: Tucson, Arizona USA

System Size: 213kW total

Tigo Energy Optimized System:

System size: 105kW

PV Modules: (352) ASE panels in strings of 8

Year installed: 2001

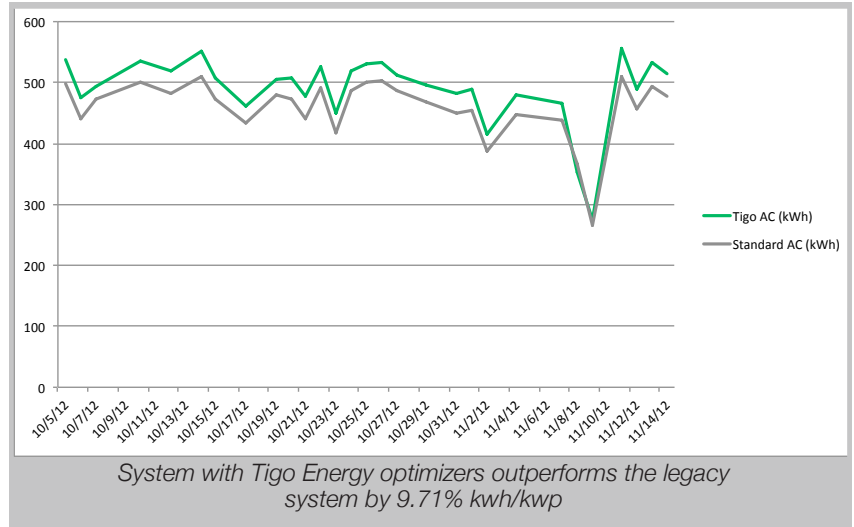
Optimizers installed: Fall 2012

Non-Optimized System:

System size: 108kW

PV Modules: (360) ASE panels in strings of 9

Year installed: 2001



The Challenge

This test installation was selected to demonstrate the impact of Tigo Energy optimizers on existing systems. The array is located in Tucson, Arizona and is comprised of two unique systems. Both systems are 12 years old using independent AC monitoring capabilities. One system was retrofitted with optimizers and the other was left unchanged.

The Solution

Having Tigo Energy optimizers installed on half the array allowed us a unique view into system performance and how optimizers have been able to change the performance of the array. The difference in performance of these side-by-side and nearly identical arrays was striking.

The Results – 9.71% gain in kwh/kwp:

Despite having 8 fewer panels and shorter strings the system with Tigo Energy optimizers outperforms the other array by up 16%, with an average of 6.54%. This equates to a 9.71% increase in kwh/kwp. With optimizers TEP is also able to increase the production of the array by analyzing the impacts of blown fuses, weeds growing through the racking, soiling and defective panels.

