

TECHNOLOGY DEVELOPMENT PROJECT FACT SHEET

SP004: Glendale Airport Solar Power Plant

Completed in 1999, the Glendale Airport Solar Power Plant was the first commercial installation of a large two-axis tracking, High Concentration PV (HCPV) system. 100 kW of HCPV was installed along with a single axis tracking conventional PV system.

Unlike the flat plate system which collects the energy from the sunlight by covering a large area with high cost PV cells, the HCPV system harvests the sunlight energy using relatively cheap plastic lenses which then concentrate the sunlight 250 times onto much smaller, high efficiency solar cells. This results in a potentially low cost solar electric generating system since only 1/250 of the area of PV material is required to produce the same amount of power as compared with the flat plate, non-concentrating system.



Location: 6801 N. Glen Harbor Blvd. Glendale. Arizona

Plant Output: 204,200 Watts DC
173,500 Watts AC

	<u>Flat-Plate Systems</u>	<u>HCPV Systems</u>
Solar Module Manufacturer:	ASE Americas	Amonix
Solar Module Power:	280 Watts DC	4,800 Watts AC
Quantity of Solar Modules:	320	20
Inverter Manufacturer:	UPG	Xantrex
Inverter Power Rating, AC :	18,000 Watts	20,000 Watts
Quantity of Inverters:	5	4
Type of Tracking:	Single Axis	Dual Axis

Projected Annual Energy Generation: 393,325 kWh AC

Estimated emissions avoided as a result of operating this solar power plant based on APS' 2003 fuel mix:

CO2	499,523 Lb/yr
SOx	551 Lb/yr
NOx	1,023 Lb/yr
Particulates	71 Lb/yr



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