



Project Overview

Location : Santa Cruz, California

Completed : September, 2008

Installation Type : Standing Metal Seam Roof-Mounted Array

System Size : 128 kW

Number of Modules : 654 Sanyo 195 HIT

Inverters : Solectria - 4 15kW, 1 60kW

Monitoring: Fat Spaniel

Challenge

In November 2005 the City adopted the Integrated Water Plan PEIR that recommended proceeding with desalination to address the City's drought shortfall. One major concern with the project is the large amount of power consumed by a desalination plant, and the associated environmental impacts. Impacts of the large power consumption could be mitigated by investing in energy sources that are "climate-neutral" by not generating carbon dioxide.

Solution

Water Department staff researched alternatives for producing "climate-neutral" power for the future desalination plant. After considering all City facilities, staff recommended proceeding with a solar power project on various buildings at the **GHWTP**. The project is economical since the capital investment can be recovered in reduced PG&E bills, after which the City will save money by generating power.

At 128 kW, the photovoltaic ("PV") solar array installed by Sandbar Solar & Electric at the Graham Hill Water Treatment Plant is one of the largest water treatment plant solar PV projects in Santa Cruz county.

The system's roof mounted array utilizes five Solectria inverters of various sizes with 654 195-watt PV solar modules. Sandbar worked safely and efficiently completing the project on time and on budget.

The project broke ground in June 2008 and the system went online in September, 2008; ahead of schedule.

Results

"We are very pleased with the results of this project", said Matt Zeman, Senior Project Engineer for the City. "The water department spends a lot of money on power generation. We are excited about the reduced cost and very importantly the move toward becoming truly "climate neutral"."

"The Sandbar system design was unique and cost effective in that it maximized our power production utilizing fewer structures not requiring additional retrofits."

"During construction, we were pleasantly surprised by the lack of interruption to Water Treatment Plant Operations



and level of professionalism exhibited by the Sandbar crew”, Matt added.