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P.O. Box 532  
Graton, CA 95444  
www.onesuninc.com

# SONOMA COUNTY JUVENILE JUSTICE CENTER

## CASE STUDY



**BACKGROUND:** This solar PV system will be one of the largest County solar PV projects in the State of California and willpower the collection of buildings comprising the Center. Renewable energy for the campus has been envisioned since planning and construction began about eight years ago and this solar PV system is among a group of clean energy retrofits approved in 2009 by the Board of Supervisors as part of the County’s \$22 million Comprehensive Energy Project. Partial financing also came from funds allocated from the American Recovery and Reinvestment Act and Greenhouse Gas Mitigation Funds.

**THE CHALLENGE:**  
The entire installation had to be completed inside the secure area that contains all the facilities that make up the Sonoma County Juvenile Justice Center. Arrays had to be installed on four rooftops of occupied buildings. The ground mounts covered a surface area of 56,000 sq.ft. Two inverters were required and it would be necessary to tie into a 5kV existing electrical loop.

Project Overview	
Location:	Santa Rosa, CA
Completion Date:	December 2010
Size of System:	750 kW
PV Surface Area:	56,000 sq.ft.
No. of Modules:	3,200
Products:	Siliken solar modules

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**THE SOLUTION:**

Over 3000 pV modules were installed on the ground area and rooftops while the facility was occupied and functioning at normal capacity. More than 121,00 ft. or 73 miles of wire was installed. New inverters were installed on a custom concrete pad with shade cover.

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**THE BENEFITS:**

- The system will provide 80% of the Juvenile Hall's energy needs and 40% of the entire facility's energy requirements.
- Rebates and tax incentives paid for 50% of the project cost.
- The system will save the County up to \$3.2 million in utility costs over 25 years.
- The 750 kW DC solar PV system reduces the amount of carbon dioxide emitted into the environment by 1,090,000 lbs. The equivalent of powering 500 homes or 148.64 acres of trees.

