



## A Profile in Using Green Remediation Strategies

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**Pemaco Superfund Site**  
Maywood, CA

**Superfund NPL**

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**Cleanup Objectives:** Remove trichloroethene (TCE) from soil and ground water at a 1.14-acre site of past chemical blending operations

**Green Remediation Strategy:** Employ renewable energy to generate electricity for energy-intensive in situ and ex situ treatment technologies

- Installed a 3.4 kW photovoltaic (PV) system in 2007 to help meet total electricity demands of (1) a high-vacuum dual-phase extraction system that removes TCE from perched ground water and upper vadose soil, and (2) an electrical resistance heating system that removes TCE from lower vadose soil and exposition ground water

**Results:**

- Uses a renewable energy source to generate over 5,900 kWh of electricity each year, averaging approximately 520 kWh per month
- Produces an amount of electricity over nine months that is equivalent to one month of total electricity purchased from the utility (at a cost of \$12,000)
- Offsets approximately 3.3 tons of CO<sub>2</sub> each year, which is equivalent to driving a car 7,600 miles annually
- Took advantage of a \$9,000 state-sponsored rebate that reduced the solar/inverter system capital cost to approximately \$30,000
- Recovered the solar/inverter capital cost within one year due to reduced consumption of utility-provided electricity

**Property End Use:** Riverfront park integration

**Point of Contact:** [Rose Marie Caraway](#), U.S. EPA Region 9

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The 3.4-kW PV system consisting of 20 individual PV panels was installed over four days in June 2007.



PV-generated electricity stored in a battery system is used for computers, backup lighting, and critical-load treatment system backup.



*The PV system's small grid-tie inverter is mounted on the wall of the electrical control room to provide easy access during treatment operations, without need for an exterior PV disconnect unit. The inverter provides real-time data on daily and lifetime energy production, PV array voltage and current, and utility voltage and frequency.*



*The treatment plant consumes an average of approximately 4,000 kWh of electricity each day.*

### **Pemaco Superfund Site**

[http://www.cluin.org/greenremediation/profiles/subtab\\_d25.cfm](http://www.cluin.org/greenremediation/profiles/subtab_d25.cfm)



**United States Environmental Protection Agency  
Office of Solid Waste and Emergency Response (5202P)**

**For more information:**  
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