

# RE Powering America's Land: Siting Renewable Energy on Potentially Contaminated Land and Mine Sites Pemaco Superfund Site, Maywood, California Success Story Solar Panels Power Onsite Soil and Ground Water Treatment System

*EPA is encouraging the development of renewable energy facilities on potentially contaminated land and mine sites. This series of stories highlights successful projects and the benefits of siting renewable energy facilities on potentially contaminated land and mine sites.*

## Site Description

The 1.4-acre Pemaco Superfund site is located on the banks of the Los Angeles River, in a mixed industrial and residential neighborhood in Maywood, California. The City of Maywood now owns the Pemaco property and has rezoned it from industrial to recreational use. The city is in the process of building the 7.3-acre Maywood Riverfront Park (MRP) on six properties surrounding, and including, the Pemaco Superfund Site.

## Property History

Pemaco began onsite chemical mixing operations in the late 1940s. Pemaco was then purchased by the LUX Chemical Company on July 27, 1988 and abandoned on June 21, 1991. In December 1993, the facility burned to the ground. Although the fire completely destroyed the warehouse, six 55-gallon drums, several above-ground storage tanks, and 31 underground storage tanks remained on the site.

The site is contaminated with high levels of volatile organic compounds (VOCs) in the soil. The ground water beneath the site was also contaminated with VOCs, including: perchloroethylene (PCE), trichloroethylene (TCE), trichloroethane (TCA), dichloroethane (DCA) and vinyl chloride (VC). On January 1, 1999, the site was placed on the National Priorities List of Superfund sites. To clean up soil and ground water contamination at the site, EPA began construction in 1998 of an onsite treatment system that incorporated multiple technologies including electrical resistance heating, heat-enhanced bioremediation in the source area contaminated with dense, non-aqueous phase liquid (DNAPL), and combinations of dual-phase extraction, ground water pump and treat/containment, and monitored natural attenuation for other contaminated zones.

## Renewable Energy Development

EPA Region 9 completed construction of the onsite ground water treatment system in the summer of 2006. In July 2007, an Xantrax Grid Tie Solar Inverter photovoltaic (PV) system was installed on the remediation facilities to help power remediation equipment used to clean up the soil and ground water contamination at the site. The installation of the solar PV system was the first pilot project of the EPA Region 9 Cleanup – Clean Air Initiative, designed to facilitate reduction of diesel and greenhouse gas emissions at Superfund cleanup and redevelopment sites. After applying a \$9,000 rebate from the California's Emerging Renewables Program, the net cost of the system was \$21,000. As of July 2008 (after one year of operation), the solar PV system generated 6,172 kilowatt-hours per year, an annual electricity cost savings of \$2,839, and prevented the emission of approximately 3.3 tons of carbon dioxide into the atmosphere.



### QUICK FACTS:

<b>Location:</b>	EPA Region 9, Maywood, CA
<b>Property Size:</b>	1.4 acres
<b>Site Ownership:</b>	City of Maywood, CA
<b>Former Use:</b>	Custom chemical blender 1950-1991
<b>Cleanup Type:</b>	Superfund
<b>Contaminants:</b>	Petroleum hydrocarbons; volatile organic compounds; chlorinated hydrocarbons
<b>Type of RE:</b>	Solar PV (non-grid)
<b>RE Capacity:</b>	6 kW combined
<b>Project Cost:</b>	\$30,227
<b>Key Partners:</b>	City of Maywood, State of California
<b>Current Status:</b>	Installed and operational

### PROJECT HIGHLIGHTS:

- Solar PV panels power green remediation of soil and ground water.
- The installation of the solar PV system represents the first pilot project of EPA's new Cleanup - Clean Air Initiative.
- The system cost was \$21,000 after a \$9,000 rebate from a state renewable energy incentive program.
- The solar PV system saves nearly \$3,000 annually in electricity costs, and reduces the site's greenhouse gas emissions by 3.3 tons each year.