

# When it came to Solar, Chappellet Winery chose Premier Power



## Background

Chappellet Vineyards and Winery is a prestigious family owned winery on Pritchard Hill in Napa County, California. At the winery, ninety percent of Chappellet’s grapes are grown using organic methods and fifty percent of their vineyards are certified organic.

## The Challenge

The Chappellet business uses approximately 344,000 kWh of electricity to run their winery building, which contains the full production facility as well as offices and a private tasting room. The goal of the photovoltaic system was threefold: first and foremost to offset 100% of the family’s electric bill; second to offer a low-impact solution that causes the least disturbance to the indigenous land; and third to keep the aesthetics of the system to the highest level possible.

## “Leave No Trace” Design

Premier Power’s design utilized the highest efficiency modules to maximize the production, allowing for a 100% bill offset for Chappellet with a system size of 202kW-DC. The modules were installed on ground mounted, fixed arrays, ideally oriented and tilted for best harvest. The arrays are mounted on top of cylindrical footings that are ballasted—sitting directly on top of the soil rather than disturbing the ground or injecting concrete that could remain there for hundreds of years. This Premier Power “Leave No Trace” design provided the family with an environmentally friendly option along with a system that smoothly flows with the landscape, following the natural curves of the topography.

## Project Overview

Project location . . . . Pritchard Hill, Napa County, CA  
System Completion . . . . . June, 2008  
Solar System Types . . . Self-Ballasted Ground Mount  
Total System Size . . . . . 202kW DC

## System Configuration

Solar System Tilt. . . . . 15°  
Solar System Orientation . . . . . 180° South

## Performance Facts \*

Estimated annual production . . . . . 240,744 kWh  
Total kWh Usage reduced . . . . . 100% of 2008 usage

## Economic benefits

How long until the system pays for itself . . . . . 6 years  
Percentage of bill reduced . . . . . 100% of 2008 usage

## Environmental benefits, annually<sup>†</sup>

Greenhouse gases reduction (CO<sub>2</sub>) . . . . . 377,677 lbs  
Gasoline not consumed . . . . . 19,445 gallons  
Oil not consumed . . . . . 398 barrels  
Cars not driven . . . . . 31.4 cars  
Forest preserved from deforestation . . . . . 2.2 acres

Sources:  
\* PV Watts Solar Energy Calculator (<http://www.pvwatts.org>)  
† U.S. Environmental Protection Agency (<http://www.epa.gov/cleanenergy/energy-resources/calculator.html>)

*“Our commitment to our clients is to deliver the most efficient PV Solar electric system possible. With the Chappellet Winery’s unique “Leave No Trace” design we can now offer clean energy wrapped up in an efficient, environmentally-friendly installation package.”*

*- Dean R. Marks, President of Premier Power*



### **Aesthetic of the System**

The location of the solar system was next to the winery building, making the aesthetics of the system especially important. Premier Power designed the arrays to follow the contours of the land (form follows function) and the effect is a natural undulation of the arrays, blending with the topography. Also, the mounting structure and footings are black to blend in with the black color of the modules.

### **Electric Plug-in**

As an added bonus, Premier Power installed a 110 outlet at the array, which allows Jon-Mark Chappellet, Owner and Managing Director of Chappellet Winery, to plug in his vintage Allis Chalmers tractor, which he recently converted to electric power!

### **Fast Track Project**

The fast track project broke ground in March, 2008 and the project was completed in June, 2008, in time to meet Chappellet’s fiscal year deadline, allowing them to take advantage of the 30% Investment Tax Credit and bonus depreciation. Premier Power completed the project on schedule and budget.

### **Winery Tour Stop**

The Chappellet Family proved that their commitment to the environment extends far beyond their growing methods - they went solar to hedge against future increases in the cost of electricity, to help mitigate climate change, and to be consistent with their historical and ongoing efforts to be more environmentally, socially and economically sustainable. Also, they have made the solar array the first stop on their winery and vineyard tour for their visitors

