

When it came to Solar, Silverado Vineyards chose Premier Power

Background

Silverado Vineyards is located in the Stags Leap District, one of the smallest, yet most renowned, wine growing regions in Napa Valley, California. With grapes grown almost entirely at their family-owned vineyards, Silverado Vineyards has been producing world-class wines from their state-of-the-art winery for over 20 years.

Currently 55 acres of Silverado’s vineyards are farming organically therefore it was a natural step, with their sustainable and environmentally sensitive operations, that the Disney Family, owner of Silverado Vineyards, made the decision to go solar. While one of the main reasons for solar was the environmental concern, another decision altering factor was the need to offset the vineyards’ energy usage.

Scope of Work

Premier Power designed two solar systems to help offset the most expensive kilowatt –hours of electricity, replacing the most expensive utility rates with clean, green and renewable electricity. This design method, called “peak shaving”, resulted in a shorter payback therefore a higher return on investment for Silverado Vineyards.

Project Overview

Project location Napa, CA
 System Completion June 2007
 Solar System Types Roof mount and Ground Mount
 Total System Size 194kW-DC

System Configuration

Ground Mount System Size 98kW-DC
 Roof Mount System Size 96kW-DC
 Ground Mount PV modules 480 GE 200 watt modules
 Roof Mount PV modules 450 GE 200 watt modules
 Ground Mount Inverters 16 Fronius 5100
 Roof Mount Inverters 16 Fronius 5100

Performance*

Estimated total annual production 280,102 kWh

Environmental benefits, annually†

Greenhouse gases reduction (CO₂) 439,421 lbs
 Oil not consumed 464 barrels
 Gasoline not consumed 22,624 gallons
 Coal not burned 1 railcar

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



Maximizing the available roof of the main building, two separate arrays were installed – one array on the east and another array on the west facing slopes. Premier Power also designed, engineered and installed a ground-mount system on the edge of the vineyards giving special considerations to proper wire sizing, string sizing and shade considerations, consistently exceeding industry-standards for system design and engineering.

The combined production of the solar systems reduced Silverado Vineyards' overall usage by approximately 20% and their resulting electric bill by 40%!

