

How Solar Investments Are Paying Off

Government incentives, diverse financing options, and the desire to “go green” have California wineries transitioning to solar in record numbers.

Cathy Fisher



WINERIES ARE INSTALLING solar energy systems in record numbers. In Napa County alone, wineries are adopting solar power at a rate 42 times faster than other California businesses, according to San Francisco-based solar provider **Sunlight Electric**. Another solar installation company stated that they have more leads than they have available salespeople to act on them.

The international demand for solar is huge, with Germany and Japan jockeying year to year as leaders in solar usage, followed by the U.S. in third place, with 80 percent of U.S. solar systems found in California.

Going solar has steadily been growing in popularity in the wine industry over the past few years, but 2007 has brought adoptions to an all new high in California. The shift is being driven by three primary factors: (1) incentives created by the **California Solar Initiative** (CSI), which kicked in at the beginning of this year, (2) a wide array of financing options and (3) wineries' growing interest in reducing

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their environmental footprint and expanding their sustainable practices.

Because of the incentives and financing, wineries have been able to achieve notable rates of return on solar investments. **Rob Erlichman**, president and founder of Sunlight Electric, said their project return rates have ranged from 8 percent compounded to 20 percent. And according to **Isaac Freed**, a sales consultant with solar installation company **SolarCity**, their commercial projects have achieved average internal rates of return of 10 to 15 percent for their clients.

Oftentimes, a winery's decision to go solar leads it to evaluate its resources on a broader scale. “After talking to other

wineries that have gone solar, we decided we wanted to be a member of that group, not unlike those who now drive hybrid cars,” said **Jay Schuppert**, president of Napa Valley's **Cuvaison Estate Wines** (60,000 cases). He said their solar install galvanized them to review all of their practices and their use of energy, water and other resources.

Their solar power system, which was installed by Sunlight Electric, will save them more than \$51,000 per year in electricity costs. The system will generate 95 percent of the winery's electricity needs, reducing its carbon footprint by more than 360,000 pounds of CO₂ each year, equivalent to the

carbon captured annually by 50 acres of forest. Flipping the switch on their new system, noted Schuppert, has already been met with enthusiasm from distributors, trade and consumers.

FEDERAL AND STATE INCENTIVES

With food and beverage businesses ranking first and second among power-consuming businesses in California, it's a plus that wineries are feeling so positive about making the switch to solar. Three significant inducements are now making that transition much easier for wineries: a 30 percent one-time federal tax credit, the California Solar Initiative's one-time rebate, and the ability to accelerate depreciation over five years on the initial investment.

Federal Tax Credit: The federal government is now offering a 30 percent, one-time tax credit that is available for companies investing in solar power systems. The credit expires at the end of 2008.

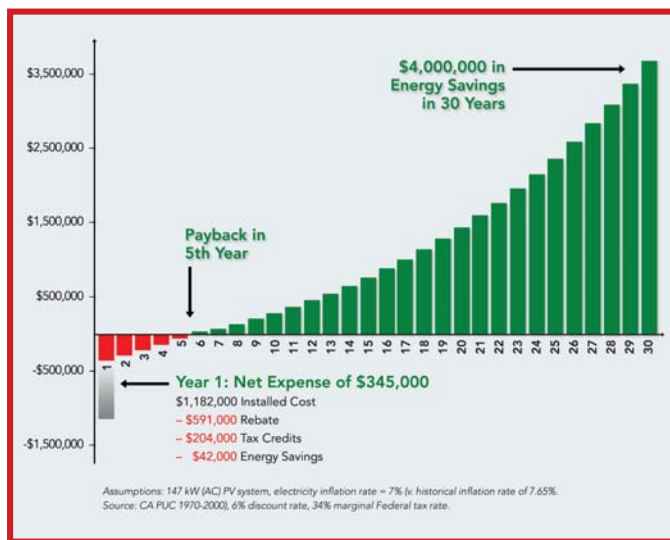
“The federal tax credits have been renewed and extended,” said **Chuck Chargin**, commercial design consultant, specializing in wineries for **Akeena Solar** in Los Gatos, California. “You can apply the credit in the same year you install the system, and then when you file taxes, 30 percent of the system price comes off the bottom line, which adds up to more than the rebates.”

California Solar Initiative: After some bouts in 2003 with dried-up state funding for solar projects and a shortage in 2005 of silicon for solar panels, the **California Public Utilities Commission (CPUC)** initiated the California Solar Initiative at the beginning of 2007. The initiative is part of **Governor Schwarzenegger’s** \$3.3 billion “Million Solar Roofs Program” and aims to create 3,000 megawatts (MW) of new, solar-produced energy by 2017. Its overall goal, according to the CSI website, is to “help build a self-sustaining, photovoltaic solar electricity market.”

CSI incentives differ according to customer type (residential, commercial, government or non-profit) and the size of their system. They are intended to encourage high performing systems and are based on size:

- For systems less than 100 kilowatts (kW), the incentive is an upfront, one-time payment called “Expected Performance Based Buydown” (EPBB).
- For systems larger than 100 kW, incentives are paid based on the actual energy produced on a monthly basis for five years, called “Performance Based Incentives” (PBI).

“Deciding whether to take an upfront rebate [EPBB] or a return over five years [PBI] will depend on how your



corporation is set up and what your accounting department is advising,” said **Meagan Anderson**, marketing communications manager for **SunTechnics Energy Systems, Inc.** in Sacramento. “However, many agriculture businesses find the Performance Based Incentive to be most lucrative.”

Rebate incentives are designed using several different incentive “steps.” As megawatt milestones are reached, this market demand pushes the program to the next step and rebate amounts are decreased each time. When the California rebates began in January, they were issued at the Step 1 level (\$2.80 per watt, for EPBB incentives), and now (in September of 2007) they are at Step 4 (\$1.90 per watt).

“When you file your application, you are basically reserving the rebate amount at that step, so you know what the economics are,” said **Tim Holmes**, a consultant with **Kenwood Energy**, an independent advocate and provider of information for solar customers.

However, winery design consultant **Chargin** noted that the state will be

approaching another milestone, or ‘trigger,’ by November. “Then it will go down another step, so people should get their applications in by the end of the year,” he said.

FINANCING OPTIONS

Solar companies stated that many businesses were resistant to making the transition to solar because they lacked awareness and understanding about the technology and economics. But mostly they think they can’t afford it. “There’s no reason a typical customer can’t go solar,” said **Chris Bunas**, vice president for **SolarCraft Services, Inc.’s** Solar Electric Division. “We offer all types of financing options.”

According to Bunas, the only real challenge comes up when the business cannot qualify for financing, but otherwise it’s very manageable. “You don’t have to mortgage the system, which would show up on your debt ratio. You can do a tax lease where the tax company absorbs the tax credits and appreciation,” he said. He added that Power Purchase Agreements (PPAs) are

another way to go, where the business doesn’t own the system but signs a contract to buy the power at almost no risk (generally for systems of 100 kW or larger). In both cases, there are no upfront costs and businesses still reap a savings in their electricity costs.

Erlichman agreed that especially for wineries—which generally have high power usage, clean balance sheets, a greater need for differentiation in their branding, and a higher commitment toward sustainability—cost should rarely be a roadblock. “Solar is remarkably affordable,” he said. “What’s great is there are now financial options, such as leasing, that allow people to go solar without any out-of-pocket expense, a route that doesn’t require you take out a loan or put an asset on your balance sheet.”

From a financial viewpoint, **Tory Sims**, CFO for **Cuvaision**, said that between the immediate incentives and the longer-term incentives that were available, the purchase became affordable for them; and once they decided to go forward, things moved quickly. “At the end of March, I proposed it to our board of directors and was told ‘to push the green button,’” said Sims. “Soon after, with Sunlight’s help, we submitted the application to **PG&E**.”

Installation could have occurred anytime between May 2007 and May 2008, but Sims said they wanted to avoid the rainy months and didn’t want to interfere with harvest. “We decided on Mid-July, and installation was complete by early September,” she said.

GOOD FOR THE BOTTOM LINE, GOOD FOR THE ENVIRONMENT

“Any commercial endeavor, including solar installations, has an enormous amount of incentives from state and federal governments,” said **Freed**, a sales consultant with solar installation com-

California Solar Energy Suppliers				
Company	Location	Phone	Website	Winery Clients (Partial List)
Akeena Solar	Los Gatos, CA	888-253-3628	www.akeena.net	Peju Province Winery, V. Sattui Winery, Mount Eden Vineyards
EI Solutions	San Rafael, CA	415-721-0123	www.eispv.com	Seghesio Winery
PowerLight Corporation	Berkeley, CA	510-540-0550	www.powerlight.com	Domaine Carneros, Rodney Strong Vineyards, St. Francis Winery & Vineyards
Premier Power	El Dorado Hills, CA	916-939-0400	www.premierpower.com	Shafer Vineyards, Silverado Vineyards, Chateau Montelena
REC Solar	San Luis Obispo, CA	805-528-9705	www.recsolar.com	Robert Sinskey Vineyards, Twin Fawns Vineyard
SolarCraft Services, Inc.	Novato, CA	415-382-7717	www.solarcraft.com	Cline Cellars, Ballentine Vineyards, Dutcher Crossing
Solar City	Foster City, CA	650-638-1028	www.solarcity.com	(Currently in negotiations with a few Sonoma County wineries)
SPG Solar, Inc.	Novato, CA	415-459-4201	www.spgsolar.com	Green & Red Winery, Western Wine Services, Far Niente Winery, Nichel & Nickel
Sunlight Electric, LLC	San Francisco, CA	866-43 8-7652	www.sunlightelectric.com	Frog’s Leap Winery, Havens Wine Cellars, Cuvaision Winery
SunTechnics Energy Systems, Inc.	Sacramento, CA	888-786-8321	www.suntechnics.com	EOS Estate Winery, Clautiere Winery, Stagecoach Winery

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Rob Erlichman,
president, Sunlight Electric

pany **SolarCity**. Partially because of these incentives, a business can see an internal rate of return of 10 to 15 percent. In fact, Freed said people can’t afford not to go solar due to the fact that resources are dwindling, damage to the environment is increasing and that PG&E rates are only going to go up. “Plus, people with solar systems are making money,” he said.

“The Dow Jones industrial average rate of return has been about 7.4 percent over the last 30 or so years, so using that as a benchmark, our project return rates range from about 8 percent compounded to 20 percent,” said Erlichman of Sunlight Electric. He noted that this range of return was a function of efficiency of design, avoided costs of electricity, and what rate plan companies are on. Most companies pay between \$.12 and \$.15 a kW hour, with larger companies that get volume discounts paying at the lower range. “But if a company is already paying low rates, they can still achieve market rate returns or slightly better,” he said.

Rodney Strong Vineyards in Healdsburg has one of the largest solar energy systems in the wine industry. **Tobin Ginter**, chief financial and administrative officer for the 750,000-case winery, said that the company decided to go solar back in 2003 because the incentives were improving during that period, they knew that there would be an immediate return, and they wanted to make a positive impact on the environment.

“Also, as a privately held, family com-

pany, a long-term investment like this was a little easier for us to commit to, compared to a public company where investors may not want to wait,” he added. After receiving a rebate through the California Public Utilities Commission for 50 percent of the total solar project cost, the winery paid for the remainder in cash.

Rodney Strong’s 766 kW solar system, installed by Berkeley’s **PowerLight Corporation**, achieves internal rates of return of about 12 percent after taxes. The panels were installed on the roof of the barrelhouse and cover 80,000 square feet, generating most of the winery’s daily energy, enough to power 800 homes. This combined with a custom energy-efficient lighting system helps to reduce the winery’s electricity usage by 50 percent annually.

Havens Wine Cellars, which produces about 18,000 cases of wine annually, recently purchased a 46.5 kW system (installed by Sunlight); they anticipate that it will save them around \$14,000 a year. The winery will have a net expense of 26 percent of the project’s total cost after rebates and other subsidies. The system will pay for itself



in a little over six years and will earn a 17 percent internal rate of return.

“We use quite a bit of electricity at the winery, especially during harvest: cooling the barrel cellar, fermenting musts and running equipment,” said **Michael Havens**, founder of Havens Wine Cellars. “The energy that we once spent thousands of dollars on each month is now being generated on our south-facing roof.” The system will reduce the winery’s carbon footprint by more than 87,000 pounds of CO₂ annually, which is equivalent to the carbon captured annually by 12 acres of forest.

SOLAR INFORMATION RESOURCES

For more information on the **California Solar Initiative**, visit www.gosolarcalifornia.ca.gov/csi/index.html or www.pge.com/csi (from here, click on the “CSI FAQs” link for answers about going solar via CSI).

To view the **California Solar Initiative Statewide Trigger Point Tracker** (which notes each rebate step and amount), visit www.csi-trigger.com.

For a comprehensive listing of all U.S. state, local, utility, and federal **incentives promoting renewable energy and efficiency**, visit www.dsireusa.org.

When **looking for an installer**, you may consult the California Energy Commission’s list of contractor contacts or visit www.findsolar.com.

In February 2008, Al Gore will address the second “**World Meeting on Climate Change in the Wine Industry**” in Barcelona, Spain. For more information, visit www.thewineacademy.com.

St. Helena’s 2,000-case **Casa Nuestra Winery** went solar in 2006 with its 19kW system, sized to drive the winery and tasting room. The system, which the winery paid for in cash, was installed by Novato’s **SPG Solar** and is a ground-mounted system of nearly 150 panels, able to collect ample sunlight year-round.

“We put the system in because the incentives were so good; that alone is

PG&E’s CSI website advises consumer to obtain at least three bids before making a choice. Look at the company’s reputation, their warranty service, the installed system price and the system’s energy output. Consumers are also advised to always check the status of the installer’s contractor license.

In addition, Erlichman said the key to finding a great company to work with is finding one that (1) knows their

reason enough,” said winemaker **Allen Price**. “We also wanted that feeling of private power, to feel more secure, and to feel that we were doing our part to be environmentally responsible.”

SHOPPING FOR SOLAR

Once wineries decide to transition to solar, the turnaround is not long at all. “If we were to get a big job today, say 500 kW, we could get started in three months and it would take a couple months to install,” said Bunas of SolarCraft.

When selecting a solar installer,

technology and what type will work best for your situation, (2) is educated about the various financial structures related to solar installations and (3) can work with you in coming up with creative solutions that you feel good about. “Find a company that understands these things and who can explain them to you,” he said. “Each customer’s needs are very unique, so a one-size-fits-all approach does not work.” **wbm**

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