

Energy Management Success Story

Costco Eases the Power Peak with a Solar Solution

This is an exciting opportunity for us," says Kamal Bhatt, Assistant Warehouse Manager at the Costco Warehouse in Lake Elsinore. **"Using solar electricity means we're accountable both globally and locally for saving energy. And we're looking for benefits on the bottom line."** Costco's Lake Elsinore and Lancaster warehouses are test projects in harnessing solar energy for the world's largest (based on sales volume) membership warehouse club chain. So far, the results have been better than encouraging, **thanks in part to the California Solar Initiative (CSI) incentives administered by Southern California Edison (SCE).**"

Craig Stevenson, Manager of Costco's Lancaster facility, concurs. **"Solar helps us offer the best prices and the best quality, and lets us spend wisely on the energy we need.** This is win-win all the way around—it's good for our bottom line, good for the environment, and good for our members."

Simultaneous Growth and Savings with Solar Power

Craig explains that Costco's solar projects are part of a long series of energy management advancements at the company. "Since we started Costco, we've expanded our grocery areas, meaning more refrigeration for frozen and fresh foods. We've added produce sections, delis and rotisserie

chicken. That means we've added to the electrical load we use. Utilities are a critical component of our operating costs, and margins in our business are very thin, so we've always looked for ways to conserve. **Our savings on energy helps put money in the pockets of our members.** Solar electricity offers us a way to control costs, stay competitive, and even to get a financial payback."

The arrays are sizable, 496 kW and 493 kW at Lancaster and Lake Elsinore, respectively. "We weren't looking to put up a small array and then announce that we were 'going solar'," says Kamal. "Our goal was to make solar electricity an integral working part of the facilities, **big enough to impact our operating costs. The incentives we received from the CSI program were a key element in the success of these solar projects. We received about \$1.3 million per site.** That dramatically accelerates the return on our investment, and gives us greater flexibility to manage our day-to-day power usage for the good of Southern California. Doing the right thing for the environment can make financial sense too."

Smart Power Consumption, High-Powered ROI

Costco's solar systems produce the most power during peak energy hours, 10 A.M. until mid-afternoon, when the cost of grid-generated

Savings by Managing Energy:

- \$2.5 million in incentives for participation in the California Solar Initiative
- Average daily savings during a three-month period of approximately \$300 and 3500 kWh

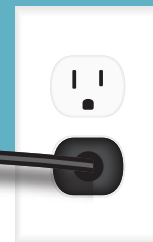
Craig Stevenson,
Manager,
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power is highest. The Lancaster project was built first as a pilot. Lake Elsinore followed, and went live in just sixty days’ installation time. Solar complements other energy efficiency and cost-saving measures at Costco such as strip-curtains for cool spaces, skylights and photocells that maximize the use of natural light, high-efficiency battery charging for forklifts, and streamlined handling of recyclables. **The building managers monitor their energy usage with SCE Cost Manager, an online tool offering near-real-time data on energy usage and cost estimation.** Before the solar arrays were installed, the Cost Manager screens showed rising consumption curves peaking in mid-afternoon. **With solar, those curves dip and fall nearly to zero as the solar power offsets Costco’s need to tap into the grid.**

That coincides with peak shopping hours—do the members detect any difference? “We haven’t needed to make any sacrifices through using solar,” says Kamal. “Our warehouse is well-lit and comfortable; our goods are well-displayed and maintained. We won’t compromise the comfort and safety of our members or the quality of our goods. The members haven’t noticed any difference, and they’ll benefit from the savings.”

Savings by Retrofit; Savings By Design

Solar is just another step in Costco’s ongoing energy-saving efforts. Every building they construct new is reviewed on the drawing board by SCE’s Savings By Design Program to ensure the greatest economy in energy costs and the optimal use of produced energy. Costco energy managers like Craig and Kamal at the individual warehouses continually fine-tune their operations to maximize their return on every dollar they spend on electricity. **Technology improvements made with SCE energy efficiency incentives may also permit greater flexibility for companies to participate in SCE’s Demand Response programs, and to save even more.**

Like Costco, You Can Save Money on Electricity

- Learn more about the **California Solar Initiative** at www.sce.com/RebatesandSavings/CaliforniaSolarInitiative, www.gosolarcalifornia.ca.gov, or call **800-799-4177**.
- Use the **Savings By Design Program (800-338-8502)** for project assistance and financial incentives for the design and construction of energy-efficient buildings and installation of high-efficiency building systems.

For More Information

Southern California Edison offers a range of programs such as cash incentives, energy surveys, and payment options to help you better manage your electricity costs. To learn more, please contact your SCE account representative, call **(800) 990-7788**, or visit us at www.sce.com.

Learn more about how to save energy and save money:

SCE Energy Management Classes

www.sce.com/ctac 800-336-2822
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Express Efficiency

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 800-736-4777

Demand Response Programs

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EnergyManager®, Cost Manager®, Bill Manager®

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