

Self-Generation Incentive Program (SGIP) Energy Management Success Story



Staples, Inc. Ontario, Calif. Warehouse



Jerry Savage, Facilities Manager,
Staples Ontario Distribution Center

Staples, Inc. Warehouse Unites Fuel Cells, Solar and More in a Unique Energy Mix

Staples is the world's largest office supply products company. In addition to being at the top of its industry, Staples is also at the forefront of environmental responsibility at both its retail outlets and warehouses.

Staples sets an example by taking an integrated approach to energy efficiency and self-generation, promoting recycling and educating its associates about helping the environment. A showcase for the resulting energy and cost savings is its Ontario, Calif. warehouse — one of four such warehouse facilities in the United States.

Summer's back-to-school season is a busy time at all Staples facilities. The rush of shoppers coinciding with heat waves makes saving energy at its retail stores more important than ever. Simultaneously, Staples strives to maintain a comfortable environment for its customers and associates.

It takes major power to run an enormous product supply chain. Energy represents a large portion of its operating costs, with electricity accounting for about 85% of Staples'

energy expense nationally. The Ontario warehouse operates 24/7 and energy usage varies, with spikes from 11 a.m. to 3 p.m., and then again from 7 p.m. to 11 p.m. It tapers on Sunday afternoons, but peaks again Sunday evenings around 6 p.m.

Staples first chose to enlist solar solutions to generate energy, reduce its carbon footprint, and create a long-term hedge against future increases in energy costs. To date, more than 30 stores and warehouses have rooftop solar panels installed to provide a portion of the facilities' required electricity. Four years ago, Staples also received a proposal to become an early adopter of a new fuel cell technology. Staples believed in the product, and wanted to be among the first to implement it. After a thorough evaluation and planning process, Staples went live with a 300-kilowatt (kW) fuel cell in December 2008.

Since then, the natural gas-powered fuel cell has been more than 99% available and has proven itself by generating most of the power for one of Staples' major facilities. Solar and fuel cells, along with energy efficiency

Estimated Savings by Managing Energy

- *Location:* Ontario, Calif.
- *Industry:* Retail Office Supplies
- *System Size:* 300 kilowatts (kW)
- *Type of Installation:* Ultra-clean, high-efficiency natural gas fuel cells provide power to distribution centers
- *Number of Units:* Three 100-kW fuel cells
- *SCE Programs Utilized:* Self-Generation Incentive Program and Energy Efficiency Measures
- *Results:* First year generated more than 2 million kilowatt-hours (kWh)

GENERATED FIRST YEAR

>2 million kWh

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and green procurement strategies, helped Staples exceed its carbon reduction goal of 7% by the end of 2010, achieving 13% by mid-year. The success of the fuel cell project has enabled Staples to purchase additional systems for other locations while exploring other sources of energy generation.

Self-Gen + Energy Efficiency = Savings

The solar/fuel cell combination allowed the Ontario warehouse to become almost completely “grid-neutral” for power purchases, actually exporting power back to the grid on Saturdays and Sundays. The fuel cell has had no significant downtime, and it’s monitored daily to ensure reliability. During the work week, Staples uses the system to generate base load to meet the building’s electricity needs.

Staples’ integrated methodology explores every aspect of power, including Energy Efficiency (EE) strategies. Staples’ first lighting retrofit was completed in 1990.

Today, they have energy-efficient solutions in every sector of their energy portfolio. Equipment includes lighting with motion sensors, ice storage units, HVAC, LED lighting and Motor Boss technology on conveyor systems (to control speed and energy use). EE rebates help Staples offset the cost of installing new equipment. Bob Valair, Staples Director of Energy and Environmental Management, explains, “Rebates for LED lights in our docks, parking lots and store signs help cover initial costs and make investments in these areas attractive for companies like Staples.”

A Staples energy team develops a three-to-five year energy plan and supply/risk strategy. This helps them maintain best-in-class status through measuring, monitoring and managing consumption — and monitoring energy usage at multiple sites isn’t easy. Staples relies on data tools to review utility bills and usage, and to help set goals and make decisions.

The Ontario warehouse has an energy management system (EMS) to track HVAC and lighting throughout the facility, and it identifies opportunities to power down unused equipment. Software tools track the EMS and generate reports for managers. The managers make decisions and share them to create best practices across all Staples locations based on those reports. Company trust, respect and buy-in facilitates energy-saving success.

Staples takes action at the employee level by adjusting work hours and educating associates at each store. “Energy Awareness” bulletin boards are posted to remind staff to think about energy savings and take steps to reduce usage.

Combining SCE’s Expertise, Demand Response Programs and Special Rates for Best Results

Staples participates in Demand Response (DR) programs and Time-of-Use (TOU) rates, and has interconnection metering for self-generation. Help from SCE gives Staples management confidence in results. Bob Valair says, “Our SCE account representative helps us by estimating our cost savings. SCE works with us on the front end of our EE and DR efforts.” Bob says Staples considers SCE a good energy partner. “We work with more than 600 utilities nationwide, and SCE ranks in the top 10. We’re happy with the entire engineering staff. Engineers surveyed



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our new sites before the buildings were constructed and helped us set a standard so we could employ the same technologies everywhere based on pilots and case studies that quantify results. SCE provides a point of contact and access to resources to define our best practices.”

A Unique, Integrated Strategy — Sustainable into the Future

Bob says the Staples strategy dramatically reduces electricity bills. While he feels they have already come a long way in their energy efficiency journey, he also knows they can continue to make progress by adding fuel cells at other locations and taking additional creative measures. “Previously, EE technologies and DR programs weren’t as cost effective as they are today,” Bob says. “Now, we’re thinking of new ways to use solar power, we’re exploring the possibility of having a number of electric delivery vehicles with charging stations at offices and warehouses, and we’re retrofitting one of our 10-year-old facilities with a next-generation lighting system.”

Bob also believes that new technologies will result in new electricity rates that will increase cost savings.

Staples is exploring other green fuel sources like bio fuel, geothermal power, methane and natural gases. Bob says Staples works closely with ENERGY STAR®, the U.S. Department of Energy and other agencies when developing initiatives. This forward focus demonstrates Staples’ ongoing commitment to conservation, the adoption of sustainable energy technologies and the continuous pursuit of clean, efficient energy.

Start Saving Now

• SCE’s Self-Generation Incentive Program (SGIP)

SGIP pays incentives that help you offset the cost of wind, fuel cell, and advanced energy storage projects. These technologies can generate electricity for your own on-site business use.

Phone: (866) 584-7436
Fax: (626) 302-3967
E-Mail: CSIGroup@sce.com
www.sce.com/sgip



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“Staples is a leader, a driving force, and an early adopter — others are just now getting on board.”

Bob Valair, Director of Energy and Environmental Management, Staples, Inc.

Other SCE Programs to Help Save More

- Find out how SCE’s Demand Response Programs can reward you for reducing your electricity usage during peak hours: **(866) 334-7827**
www.sce.com/drps
- Switch to a Time-of-Use (TOU) rate and take advantage of lower energy rates by shifting electricity usage to off-peak hours. To learn more: www.sce.com/business/rates/large-business
- Take free SCE classes in lighting, HVAC, energy management and more at an Edison Energy Center: **Irwindale: (800) 336-2822**
www.sce.com/ctac
Tulare: (800) 772-4822
www.sce.com/agtac
- Take the Online Business Survey at www.sce.com/_Tools/Business/online-energy-guide or contact your SCE Account Representative to calibrate your facility for savings.
- Get building project design assistance and incentives from Savings by Design. To find out if your project qualifies, visit: www.sce.com/sbd

SCE offers a range of solutions such as cash incentives, energy surveys, and payment options to help you better manage your electricity costs.

For More Information

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