
Local Government Case Study:
City of Santa Clara

Background

- Location: Santa Clara County
- Population: 104,600
- Size: 986 full-time employees
- Contact: Joyce Kinnear, Energy Coordinator
1500 Warburton, Santa Clara, CA 95050
Phone: (408) 615-5686
E-mail: jkinnear@ci.santa-clara.ca.us
Website: www.ci.santa-clara.ca.us

Summary

Silicon Valley Power (SVP), the City of Santa Clara's municipal electric utility, teamed up with its business and residential customers to develop useful and effective energy conservation and efficiency programs. Between July 2001 and April 2002, SVP's service and incentive programs saved 32,553.58 MWh for the city. That was in addition to the city's efforts to immediately reduce energy use by 5 percent in 2001 and to pursue installed-efficiency programs in all city facilities to achieve an ongoing 7 percent reduction in energy use.

Referenced in Local Government Guides:

- #3, "Promote Energy Conservation and Efficiency Through a Public Outreach Campaign"
- #4, "Promote Energy Conservation and Efficiency Through Public Services, Incentives and Technical Assistance"
- #5, "Target Low-Income and Senior Populations for Energy Conservation"

Plan

Silicon Valley Power (SVP) wanted to help customers reduce energy consumption and to increase public awareness about energy conservation and efficiency. The city council also decided that since businesses accounted for 90 percent of energy usage in Santa Clara, 90 percent of SVP's benefits programs (mostly energy efficiency) would target businesses. SVP held meetings beginning in late 1997 with the Santa Clara City council's Citizens Advisory Committee for residents and commercial and industrial business groups in coordination with the local Chamber of Commerce to determine what types of public

benefits programs should be created. Programs began to be implemented to help residents and businesses reduce and manage their energy usage in 1998.

In early 2001, the Santa Clara city council adopted an emergency resolution to immediately reduce energy use by 5 percent. The council also vowed to pursue efficiency programs, such as the installation of energy-efficient lighting fixtures, in all city facilities to achieve an ongoing 7 percent reduction in energy use.

Programs: Conservation

Conservation measures were implemented at City Hall, fire stations, parks buildings, the Santa Clara Convention Center and at most other municipally owned and operated facilities.

✓ **Lighting:** Reduced lighting levels inside – in most central space and vastly reduced in office areas – and outside city buildings, while ensuring public safety, continuity of services and productivity.

✓ **HVAC:** Changed thermostat settings in many buildings to 78 F.

✓ **Office equipment:** Turned off computers, monitors, printers, copiers and other peripheral appliances when not immediately in use, or at the end of the business day. Staff was provided with plug-load motion sensors to automatically turn off many high energy-use pieces of equipment.

✓ **Other equipment:** Reduced hours of operation for park fountains.

✓ **Power Reduction Pool:** As a participant in the Power Reduction Pool, the city's Water & Sewer Utility saved up to 2 MW during peak power needs. During stage alerts, when requested by the California ISO, the utility turned off water system pumps while emergency generators and elevated storage tanks supplied water under a backup system. The emergency generators and storage tanks were sufficient to keep water flowing for several hours.

Programs: Efficiency

✓ **Street lighting:** Replaced over 4,100 incandescent lamps in traffic signals on 1,600 intersections with energy-saving LEDs during the summer of 2002.

Programs: Public Outreach

✓ **Residential energy audits:** Sent energy specialists to residences to analyze the customer's energy use history and to examine all energy using equipment free of charge. The specialists then recommended customized ways for each customer to save money. Home energy audits also included a variety of free products, such as up to four CFL bulbs, a limelight (an energy-efficient nightlight), a weatherization kit and a programmable thermostat.

✓ **Business energy audits:** Provided businesses audits free of charge. A free program oriented toward small and medium businesses, the Optimal Power Use ServiceSM (OPUSSM) assisted all but the largest business customers with energy efficiency projects that had been identified through free energy audits. OPUSSM consultants helped with such things as specifications, financing, final project inspection and final project sign-off. SVP also offered businesses a Utility Cost Management tool that helped them forecast, manage, analyze and report their energy usage.

✓ **Free equipment:**

- Supported the California Conservation Corps' (CCC) Mobile Efficiency Light Brigade campaign in the summer of 2001, which providing homes with free CFLs after an energy audit. The Brigade's goal was to distribute 1.5 million CFLs to working-class neighborhoods throughout the State.
- The Santa Clara Police Department distributed thousands of CFLs to residents during the annual "National Night Out" in August.
- Distributed free energy-efficient night lights and programmable thermostats to residents and Isole Motion-Sensing Power-strips to businesses.

✓ **Product catalog:** Published an extensive print and online catalog of energy-efficient products for residents and businesses. The Plug-ins Catalog explained the products' energy savings, let SVP customers purchase devices at a discount and offered a limited number of rebates per order.

✓ **Newsletters:** Published energy conservation tips, rolling-blackout information and energy crisis updates in city newsletters

✓ **Television:** Shared conservation and rolling-blackout information on the city government channel

✓ **Coordinated with schools:** Visited classrooms on request to present information on issues such as energy conservation, renewable energy, the electric industry and

electric safety. Staff members also trained teachers on these topics.

✓ **Learning center:** Created a new program, the Solar Explorer, a mobile energy efficiency learning center. On display in the learning center are a PV system, ENERGY STAR® windows and lighting, and two types of insulation.

Programs: Incentives

✓ **Washing machine incentives:** Provided business customers with rebates of \$350 for replacing old washing machines with low-energy/low-water use machines (\$100 of the rebate came from SVP) in coordination with the Santa Clara Valley Water District.

✓ **Refrigerator recycling:** Paid residents \$75 to let the utility haul away old refrigerators in partnership with Appliance Recycling Centers of America (ARCA). SVP provided a \$75 rebate to customers whose new refrigerators complied with federal appliance standards and contained only ozone-friendly HCFS. ENERGY STAR® models received an extra \$50 rebate. (For 2002, only ENERGY STAR® refrigerators qualify for the rebate.)

✓ **Dishwasher rebate:** In 2002, residents could receive a \$50 rebate for purchasing and installing an ENERGY STAR® dishwasher.

✓ **Insulation rebate:** Provided eligible residential customers with a \$175 rebate for purchasing and installing at least 50 square feet of attic insulation since 1999.

✓ **Construction rebates:** Under its New Construction Rebate Program, SVP offered rebates for new construction projects larger than 30,000 square feet that included select types of energy-efficient equipment. SVP's Customer Directed Rebate Program for businesses paid up to 80 percent of a customized energy efficiency project's total cost. The program allowed businesses to tailor projects to their specific needs. Payments are based on the amount of energy reduction and peak load reduction customers achieve through the project. Savings must be shown through measurement and verification.

✓ **Technology rebates:** Under its RD&D Showcase Grant program, SVP annually offered up to \$150,000 to businesses that installed a new, creative energy-saving technology, such as inductive lighting and demonstrations of low power usage server chips. The business also had to be willing to demonstrate the technology to the public.

✓ **Other commercial business rebates:** For commercial businesses, SVP offered incentives for installing a cool roof, retrofitting lighting and upgrading heating, ventilating and air-conditioning systems.

✓ **Generation rebates:** Offered customers a rebate for installing renewable energy generation systems, such as

solar electric (photovoltaic or PV), wind and fuel cell. For example, a home that purchased and installed a PV system could receive up to \$16,000, or \$4 per watt, from SVP. In the past year, 12 residential PV systems have been installed in Santa Clara.

Budget and Finance

During the deregulation of utilities, all utilities were required to assess a Public Goods or Public Benefits charge on electric bills. These charges were used for energy-efficiency, new energy technology, renewable energy generation and low-income programs statewide. As a municipal utility, SVP instituted a 2.85 percent charge on its customers' electric bills and ran programs locally. Santa Clara collected \$5.5 million annually from this charge to fund energy conservation and efficiency programs. SVP budgets \$500,000/year on all program advertising and public relations, including public benefits charges. LED retrofits partially funded by a grant from the CEC.

Results

Between July 2001 and April 2002, SVP's customer-focused service and incentive programs resulted in energy savings of 32,552.58 MWh for the City of Santa Clara.

Between July 2001 and April 2002, thousands of rebates were distributed via purchases from the Plug-Ins Catalog: Residents received 3,440 rebates for CFL bulbs, lamps and torchieres, 823 for new refrigerators and 747 for recycled refrigerators/freezers. Residents received rebates for 222 dishwasher installations. In 2001, 447 homes received free energy audits and 3,963 free CFLs were distributed to residents.

For fiscal year 2001 (ending June 30, 2002), 36 businesses received \$95,250 in lighting rebates. SVP gave away more than 22,000 Isole Motion-Sensing Powerstrips. About 250 Santa Clara businesses received rebates and grants for energy efficiency projects, totaling nearly \$4 million. Businesses received 170 lighting rebates totaling about \$806,000, as well as 2,150 free Isole Powerstrips. As of April 2002, more than 120 businesses signed up for the OPUS implementation service. Most businesses have replaced incandescent lights with CFLs and T12 lights with T8s.

Lessons Learned

Cities should begin projects at least one year in advance and should expect a long lead-time. Utility customers need time to become acquainted with new energy programs and to become comfortable working with the city.