

Local Government Case Study:
City of Sacramento

Background

- Location: Sacramento County
- Population: 460,000
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Summary

Since 1990, the City of Sacramento has reduced its electrical load by more than 1.5 MW. Between 1992 and 2000 the city completed 23 energy retrofit projects, such as installing energy-efficient lighting, heating, ventilating and cooling equipment and LED lamps in traffic signals. Sacramento's extensive program has resulted in a cumulative 38 percent reduction in electrical energy usage; more than \$440,000 in annual energy savings; \$535,000 in SMUD rebates; and more than 6,400,000 kWh in energy savings (or approximately 6.1 percent reduction annually).

In response to the 2001 energy crisis, the city council developed a plan to reduce energy use by another 7 percent and pledged to curtail 1.8 MW at SMUD's request. With the completion of projects scheduled for 2001 and 2002, total reductions are expected to exceed 2 MW, which is enough electricity to power 2,000 homes. Sacramento beat its goal with a 9 percent energy reduction city-wide, and conservation accounting for 72 percent of the savings and efficiency projects for 38 percent.

Referenced in Local Government Guides:

- #1, "Reduce Energy Use in Local Government Facilities Through Conservation Measures"
- #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

On Jan. 30, 2001, the Sacramento Municipal Utility District's (SMUD) board of director and assistant general manager presented to city council an overview of the State's present energy crisis. Under the direction of the city manager, public works staff from the City of Sacramento, County of Sacramento and SMUD teamed up to develop a common Energy Conservation Work Program that provided short-term energy conservation guidelines and long-term energy efficiency measures for reducing city-wide electricity use by 7 percent.

The objectives of the program were to reduce energy consumption (kWh) and maximize energy savings through approved incentive programs administered by the CEC and SMUD and through employee/public education. The work plan included a variety of load-reduction projects, selected based on energy-savings payback and available energy incentives. The work plan assumed a \$500,000 appropriation from the Utility User Tax. The staff presented an overview of the plan to city council.

Programs: Conservation

- ◀ **Lighting:** Installed occupancy sensors in offices, conference rooms and storage areas.
- ◀ **Employees:** Set a casual dress policy for the summer, which made the heat more bearable and enabled air conditioners to be turned down.
- ◀ **Irrigation:** Changed parks and landscape irrigation schedule to between 10 p.m. and 10 a.m. when electrical demand is at its lowest.
- ◀ **Water heaters:** Adjusted temperatures of domestic water heaters down to 120 degrees F to prevent excessive mixing of hot and cold water.

Programs: Efficiency

- ◀ **HVAC:**
 - Substituted air-cooling unit with an energy-efficient chiller in Public Safety building.
 - Replaced HVAC system in two parking lots – raised SEER number to 12 or higher, from 7 or 8.
- ◀ **Lighting:**

- Retrofit T12 with T8 lamps in Public Safety building.
- Retrofit traffic signals with LEDs.
- Implemented an experimental inductive street light project.

◀ **Equipment**

- Replaced motors in water and sewage pumps, which increased efficiency, and lowered bill and demand savings.
- Replaced park irrigation pumps with variable speed drive pumps.

Programs: Employee Outreach

- ◀ **Energy information:** Sent out packets to employees.
- ◀ **Newsletter:** Distributed employee newsletter “Watts Up?”
- ◀ **Phone service:** City manager sent phone message to all employees stating conservation measures.

Programs: Public Outreach

- ◀ **Fairs:** Set up booth at SMUD energy fair representing what city had to offer.
- ◀ **Signage:** Posted conservation signs on doors of city facilities.

Programs: Services

- ◀ **“Beat the Heat” Program:** Department of Parks and Recreation implemented “Beat the Heat,” a summer program designed to help the young and old during the energy crisis. The program was based on the notion that one of the best ways to get people to save electricity was to get them out of the house. Services included:
 - **Swimming pools:** The Department of Parks & Recreation decided to capitalize on the popularity of swimming pools. The Recreation Division staff analyzed where the pools were geographically, what they offered and which facility could do what. The swimming pools were opened from Memorial day to Labor day. Six large pools extended closing from 5 p.m. to 7 pm. Four play pools were open during peak heat period of the day, extending closing from 3 pm to 5 pm. Seven pools that were normally used to teach swimming

lessons only allowed adults to use the pools between 5-7 p.m. City council provided \$50,000. The costs of the program included staffing and chemical.

- **Community centers:** Advertised that seven centers had extended hours until 10 p.m.

Budget/Finance

City council allocated \$500,000 of the anticipated increase in Utility User’s Tax to support the 2001 Energy Conservation Work Plan. The outreach efforts cost \$5,000.

SMUD and CEC provided \$105,942 in rebates for the 2001 efficiency projects.

Results

Sacramento aimed to reduce energy use by 7 percent in 2001, and exceeded its goal. The city saved 9 percent despite the fact that it had built over 500,000 square feet of new space that year.

- 38 percent of the energy savings was the result of efficiency projects and 72 percent can be attributed to conservation and to the city’s voluntary load curtailment.
- The Department of Parks & Recreation received \$50,000 from the city council to implement the Beat the Heat program. The program was a success: More than 17,000 people visited the swimming pools during the extended summer hours.
- The city’s electrical cost went up 6 percent because of a utility rate increase.
- The 2001 energy conservation measures cost \$593,249. Annual energy savings was 2,761,018 kWh and 319.60 peak demand kW. Annual billing/financial savings \$180,212. Sacramento received \$105,942 in rebates, all from SMUD except LED rebate from CEC.

Winner: Flex Your Power Energy Conservation Award (2002)

Lessons Learned

Successful programs required voluntary staff participation and public and employee education.