

Local Government Case Study:

City of Napa

Background

- Location: San Francisco Region
- Population: 73,500
- Size: 450 city employees
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Summary

The City of Napa has been retrofitting facility and street lighting since 1996. In the summer of 2001, Napa reduced overall electricity usage more than 10 percent compared with July-October 2000. The city's five major downtown buildings collectively reduced their electricity usage 18 percent compared with the same time period in 2000. Overall, for July-October 2001, the city saved roughly 2,300 kWh per day. The lower electricity usage for the summer of 2001 was attributed to voluntary employee office practices, the continuing benefits of pre-2001 capital projects (fluorescent lighting retrofits, installation of occupancy sensors and red LED traffic light retrofits) and some limited generator operation. For its efforts, Napa received more than \$10,000 in rebates from Pacific Gas & Electric (PG&E) as part of the State's 20/20 rebate program.

Referenced in Local Government Guides:

- #1, "Reduce Energy Use in Local Government Facilities Through Conservation Measures"
- #2, "Reduce Energy Use in Local Government Facilities Through Efficiency Improvements"
- #3, "Promote Energy Conservation and Efficiency Through a Public Outreach Campaign"

Plan

Napa's goal was to save up to 15 percent in electricity usage in 2001. Midyear, the city appointed its water resources specialist as Energy Coordinator. The coordinator's responsibilities were to communicate with the State and to coordinate the city's energy efficiency, conservation and public education campaigns. The coordinator was the

primary point person to handle the information flow among the city, State and League of California Cities (LCC) on energy matters. The city's Public Works Department initiated several energy conservation and efficiency projects. The city's Finance Director coordinated primarily capital projects.

The principle driving force for the generator project was the city's desire to offer uninterrupted service during emergencies including rolling blackouts, earthquakes and any other situations causing electrical power outages. The State's bleak power outlook for the summer of 2001 was the key factor in gaining city council approval and quick startup. A secondary motivation was to save on PG&E bills, receive 20/20 rebates and help alleviate overall demand on the grid during peak summer hours.

Programs: Conservation

✓ **HVAC:** Set thermostats at 78 degrees F or higher during business hours. The Community Services Building was particularly vigilant on this point, contributing to its high savings levels (27 percent electricity reduction vs. Summer 2000).

✓ **Lighting:** Turned off lights when room is not in use. To help in this effort, Napa affixed large yellow stickers labeled with "Conserve Energy: Turn Off All Lights Not In Use Or Not Needed" to all light switches. Reducing unnecessary lighting was a large factor in the Water Administration Building's huge power savings (39 percent reduction vs. the summer of 2000).

✓ **Office equipment:**

- Turned off computers and monitors when leaving the office for extended periods of time.
- Set printers on "Power Save" mode.

✓ **Alternative and/or renewable energy sources:**

Installed four diesel-powered generators plus transfer switches during March-June 2001. The generators were operated on several Fridays during the first part of the summer. Scheduled Friday generator operation ended by September. For the summer of 2002, unless the State's power outlook worsened, Napa planned to run the generators approximately once a month as part of their standard maintenance and upkeep. Generators were installed in the following buildings:

- City Hall/Police/Fire Complex: 350 kW Generac
- Community Services Building: 100 kW Generac
- Corporation Yard: 100 kW Onan
- Radio Site: 25kW Generac

Programs: Efficiency

✓ **Lighting:**

- Replaced high-pressure sodium lights (488 fixtures) in city parking garages with metal halide lighting, which use approximately 30 percent less electricity and are more aesthetically pleasing without sacrificing illumination.

✓ **Street lighting:**

- Retrofit all green incandescent bulbs (590 lights – balls and arrows) in traffic signals to LEDs in the winter of 2001/02.

Programs: Public Outreach

✓ **Brochures:**

- Made available nearly 2,000 Flex Your Power energy conservation brochures (including 500 in Spanish) at public counters and display racks in eight city buildings in December.
- Continue to promote energy conservation in conjunction with city water conservation displays throughout 2002.

✓ **Direct mail:** Mailed the Flex Your Power “Save Water–Save Energy” brochure in 24,000 water bills in January and February 2002.

✓ **Internet:** Included a special section regarding the energy crisis, including copies of all relevant press releases, on city website.

✓ **Media:**

- Issued a press release in June 2001 with tips for handling rolling blackouts, reducing electricity usage and operating portable generators.
- Issued a press release on December 17, 2001 encouraging winter energy conservation and posted the release on its web site.
- Energy coordinator’s December 11, 2001 report to city council was covered in a short article in the Napa Valley Register on December 13.
- Energy coordinator taped an interview with local news radio KVON as part of the stations story about the energy situation and the city’s efforts in conservation.

✓ **Efficiency promotion:** Promoted the Flex Your Power Home Improvement Week to city employees in January 2002 (three Napa retailers participated).

Budget and Finance

The 1996 lighting retrofits cost \$156,386, which was offset by \$23,564 in rebates from PG&E. The 1997 lighting retrofits cost \$84,015, which was offset by \$25,320 in rebates from PG&E.

Street lighting retrofit cost \$93,855, which was offset by a CECLoan of \$42,353 and PG&E rebate of \$37,120. Parking lot lighting retrofit cost \$88,428, which was offset by a \$6,000 PG&E rebate.

The city’s Emergency Fund paid for the generators. The generation costs were \$76,900 plus installation at City Hall/Police/Fire Complex; \$38,921 plus installation at Community Services Building; \$38,600 plus installation at the corporation Yard; and \$40,000 including installation at the radio site. The generators were considered a cost of doing business (being a full-service local government), not a project that pays for itself through long-term electric bill savings.

The city received a total of \$10,138.14 in rebates on its PG&E bills as part of the California 20/20 Rebate Program during Summer 2001. Thirty-eight of the city’s PG&E accounts qualified for the 20/20 rebate in at least one of the four eligible months. Five city accounts received the rebate in all four months of the program, July through October.

Results

The projected energy cost savings of the 1996 and 1997 lighting retrofits were \$34,529/year and \$35,101/year respectively.

The projected savings of the street lighting retrofits were \$20,797/year in energy costs and 131,935 kWh/year in energy usage. The projected savings of the parking lot lighting retrofit are \$18,802/year in costs and 139,235 kWh/year in energy usage.

The following results were determined from PG&E billing records:

- Five major downtown buildings collectively reduced kWh by 18 percent in the summer of 2001 (2,432 kWh/day in the summer of 2001 vs. nearly 3,000 kWh/day in the summer of 2000).
- Overall, for July-October 2001, the city reduced electricity usage more than 10 percent vs. July-October 2000, saving about 2,300 kWh per day.

Part of the reductions achieved by City Hall and the Police/Fire Complex and the Community Services Building were due to the use of diesel-powered generators on some Fridays during the first half of the summer.

Two smaller downtown buildings, Water Administration and Community Resources, achieved very high savings without the benefit of generators. In August 2001, the Water Administration Building cut its electricity usage almost in half compared with August 2000. Both buildings

attributed the savings mainly to no-cost measures, such as the use of natural lighting, setting thermostats at 78 F and other conservation measures.

Lessons Learned

Napa found it difficult to get all city buildings to set their thermostats at 78 degrees F. The buildings that did enforce this action, such as the Community Services Building realized huge energy savings.