

Sacramento Municipal Utility District

Commercial Lamp Installation Program

Sacramento Municipal Utility District's Commercial Lamp Installation Program (CLIP) was designed to reduce the utility's summer peak demand and the electric bills for SMUD's small commercial customers. The program was implemented in part because utility audits of small commercial facilities revealed large opportunities to save lighting energy, as well as a fundamental reluctance by these customers to do the recommended retrofits themselves.

A six-month pilot program of CLIP began in July of 1986. Based on the success of the pilot, SMUD went forward with a full scale program in January of 1987. The program continued for two years, moving from one zip code area to the next, at which time SMUD determined that almost all of the potential eligible customers had been contacted at least twice. The participation rate among those eligible was about 45%.

The program saved each customer an average of 937 kWh/yr and the utility captured a peak capacity savings of 0.316 kW per participant. This resulted in a total annual energy savings for the 7,339 program participants of 6.88 GWh and a capacity savings of ~2.32 MW. While SMUD assigned an average life of the measures installed of five years, SMUD also assumed that there would be a 25% "persistence of savings" (continued use of energy-efficient lamps) through the year 2015.

The total cost of the program was \$1.24 million for an average cost of ~\$169 per participant. The largest cost component was for labor (60.4%) followed by lamp costs (36.2%). The average cost of saved energy for the program was just under 4¢/kWh at a 5% real discount rate for an assumed five-year measure lifetime but was cut almost in half (2.2¢/kWh) if it is assumed that, on average, the customers replace the energy-efficient lamps installed at the time of their burn-out with similar use energy-efficient lamps, at least once.

One of the most interesting aspects of the CLIP are the changes that have evolved as its program managers realized that the program could be implemented more efficiently than they first assumed. Key mid-course corrections are discussed in the Implementation and Lessons Learned sections, as are program design changes for the forthcoming evolution of the program.

All of SMUD's current DSM programs are being implemented in the context of capturing 800 MW of capacity by the year 2000. During this same period they are planning to bring on line an additional 400 MW from renewable energy supply options. By combining the implementation of energy-efficient end use technologies with renewable energy, this utility has become a leader in moving toward the goal of providing its customers with environmentally benign, sustainable energy.

SACRAMENTO MUNICIPAL UTILITY DISTRICT Commercial Lamp Installation Program

Sector: Small commercial (< 50 kW)

Measures: Energy-efficient lighting

Mechanism: Utility pays the full cost of relamping including the installation

History: Pilot in the second half of 1986, system wide program 1987-1988

1988 Program Data

Energy savings:	2.65 GWh
Lifecycle energy savings:	13.24 GWh
Capacity savings:	860 kW
Cost:	\$485,100

1986-1988 Program Data

Energy savings:	12.4 GWh
Lifecycle energy savings:	34.4 GWh
Capacity savings:	2.32 MW
Cost:	\$1.24 million
Participation:	45%

The Results Center produced 126 profiles of the most successful energy efficiency and renewable energy programs in the United States and around the world in the early and mid 1990s. With the support of the John D. and Catherine T. MacArthur Foundation, Ted Flanigan directed a research team at Colorado-based IRT Environment to produce and distribute these exceptional examples. Thanks to strong demand for solid case studies, The Results Center was supported by dozens of major utilities and energy associations worldwide. Today, The Results Center is managed again by Ted Flanigan, now at California-based EcoMotion Incorporated, a firm focused on strategic consulting, information dissemination, program design, outreach services, and aggressive implementation. To nominate highly successful programs, contact: The Results Center, c/o EcoMotion, 15375 Barranca Parkway, F-104, Irvine, CA 92618, (949) 450-7155, or TFlanigan@EcoMotion.us

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