



Planning Commercial and Industrial Energy Efficiency Programs

CEE Ask the Experts Webinar

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Presentation Overview



◆ Drivers



◆ Planning Programs



◆ Evaluation and Refinement



◆ Summary










SMUD Profile

- ◆ Service territory area: 900 sq mi (2331 sq km)
- ◆ Population: 1.4 million
- ◆ Board Members: 7 members elected by voters
- ◆ Revenues: \$1.3 Billion
- ◆ Employees: 2,200+
- ◆ Summer Peak: 3299 MW in July 2006
- ◆ 2nd largest muni in California, 6th in nation

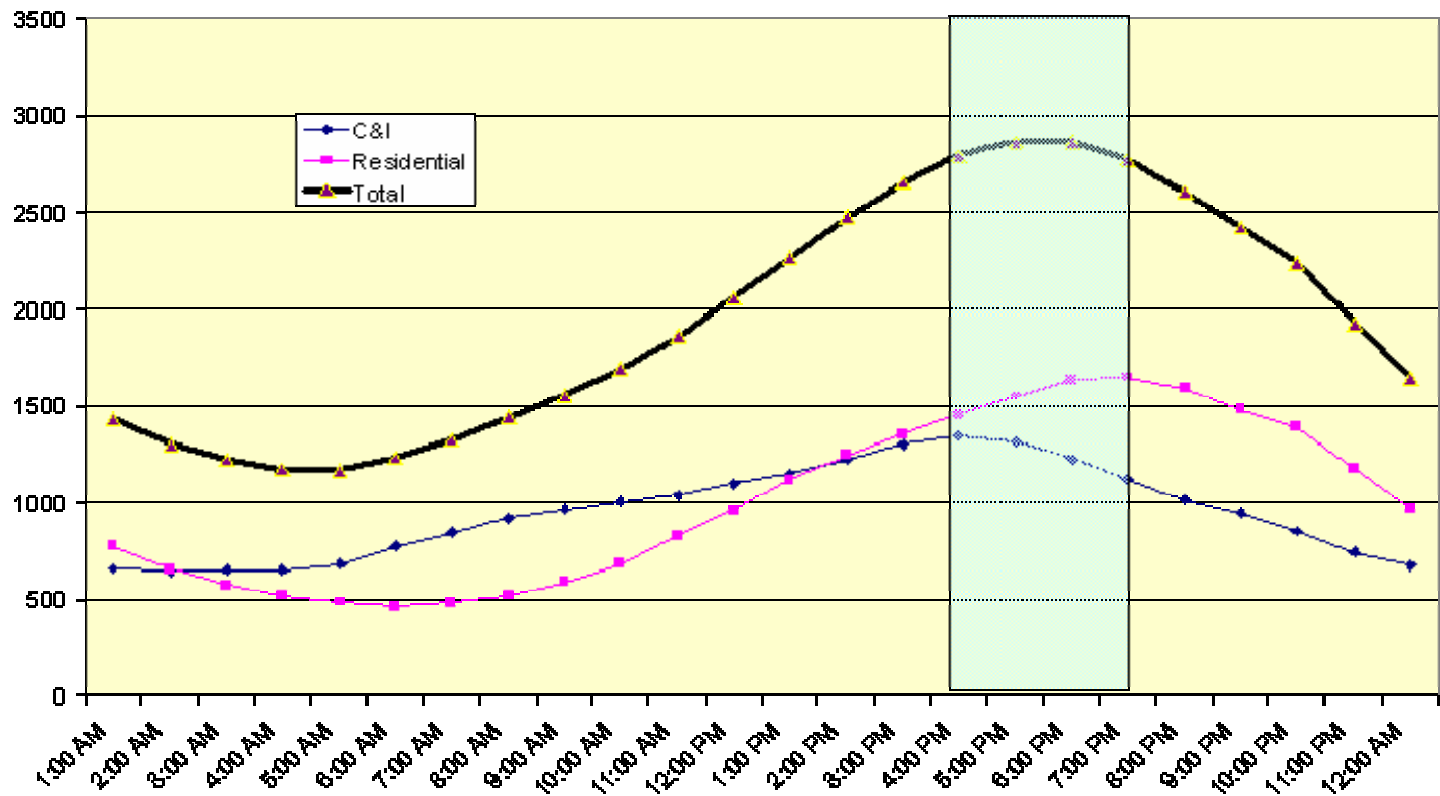




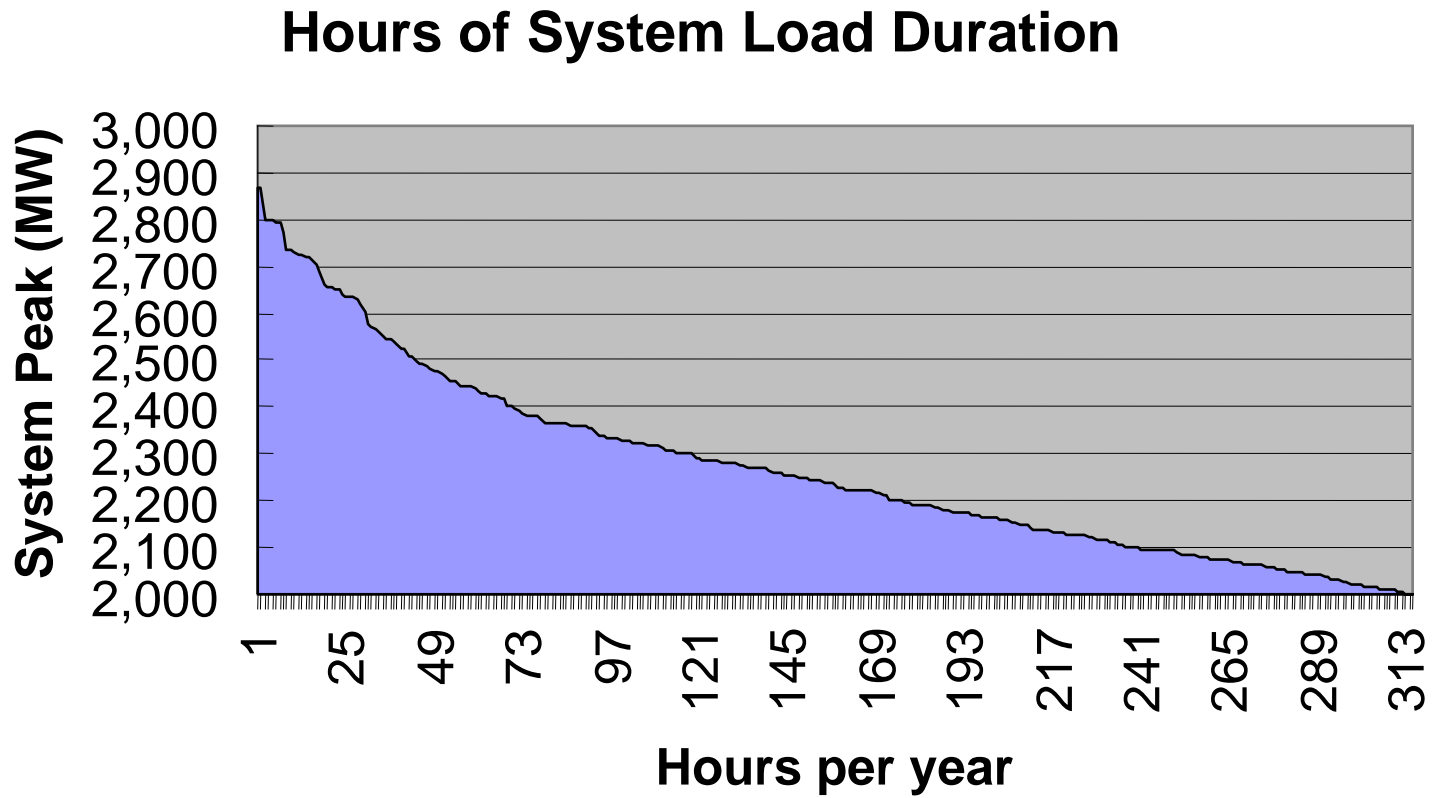
Program Drivers

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- ◆ Aggressive kW and kWh goals
 - ◆ All electric utility
 - ◆ 10 year goals and budgets – in 2007 C/I was 42% of EE budget
 - ◆ Programs and end-user focused, but portfolio must be cost effective from a utility perspective (TRC and Utility)
 - ◆ We support multiple measures across many sectors and have the latitude to focus on specific segments as needed (LED case lights)
 - ◆ We can support 'soft' measures that are difficult to quantify, but we don't do a lot of this – retrocommissioning?
 - ◆ Emerging technology program delivers new measures to programs
 - ◆ Legislative drivers (SB1, AB2021, AB32)
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The Need at SMUD



The Need at SMUD



SMUD's Energy Efficiency Goals

- ◆ SMUD's board of directors adopted aggressive energy efficiency goals – 15% over ten years
- ◆ The most aggressive utility energy efficiency goals in California

10-YEAR ENERGY EFFICIENCY TARGETS ADOPTED BY THE SMUD BOARD OF DIRECTORS

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total	10-Yr Avg
GWh	70	107	145	196	200	205	209	213	217	222	226	1940	194
MW	18	28	40	58	59	60	62	63	64	66	67	568	57
Budget (\$millions)	\$ 25	\$ 34	\$ 40	\$ 45	\$ 45	\$ 46	\$ 46	\$ 47	\$ 48	\$ 49	\$ 50	\$ 450	\$ 45

The 10-year goals (2008-2017) were adopted by the SMUD Board of Directors on May 17, 2007





LED Refrigerated Case Lights

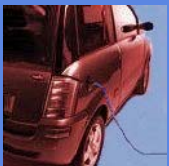


Benefits

- ◆ 40% initial savings over fluorescent lighting
- ◆ Light levels set at 30% during periods of no movement
- ◆ 100% light level upon detection of movement
- ◆ Lights at 30% level for 65% of the time
- ◆ >70% savings
- ◆ Long life, 18 month payback

Challenges

- ◆ Product consistency - different manufacturers of varying quality create confusion





Benchmarking/Research

- ◆ Technologies, products and services
- ◆ New programs and program ideas
 - ❖ Research via
 - Program implementation staff
 - Internet, trade magazines, & vendor contacts
 - Contacts with other utilities and organizations
 - Conferences, workshops and seminars
 - Focus groups/contact with the industry
 - Test marketing/field tests/pilot projects



Program Development

- ◆ Work cooperatively with implementation staff to develop detailed plans
 - ❖ Technical & economic potential studies
 - ❖ Program Plans
 - ❖ Strategic Plans
 - ❖ Business Plans
 - ❖ Implementation/Marketing Plans
 - ❖ Evaluation Plans
- ◆ Launch Programs



Evaluation, Measurement and Verification (EM&V)

- ◆ Program planning should include a program theory that identifies and describes:
 - ❖ Program goals (expected short-, mid- and long-term outcomes)
 - ❖ Activities the program will use to accomplish those goals and the causal relationships between the activities and the program's effects
 - ❖ Market barriers that must be overcome and how the program activities are expected to overcome those barriers
 - ❖ Program progress and the metrics that should be tracked to monitor program effects and progress towards goals
- ◆ Impact evaluation estimates direct and indirect savings (market effects)
 - ❖ Used to assess cost effectiveness
- ◆ Process evaluation assesses program design and operation
 - ❖ Used to improve program delivery and reduce costs
- ◆ Both form the basis for future program planning and funding
 - ❖ More accurate savings estimates
 - ❖ Increased energy savings from better design



Reporting

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- ◆ Track expenditures and goals
 - ◆ Provide Reports
 - ❖ Monthly
 - ❖ Quarterly
 - ❖ Annual
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Coordination with Others

- ◆ Local, regional and statewide organizations
- ◆ Other utilities
- ◆ Industry groups
- ◆ CEE
 - ❖ Active participation on CEE committees
 - ❖ Adopt CEE programs and specifications
- ◆ ACEEE, NRDC, National Labs



Regulatory

- ◆ Work cooperatively (if possible) with your regulatory agencies (CPUC & CEC in CA)
 - ❖ Active participation with CEC
 - ❖ Monitor CPUC activities and participate as needed
- ◆ Review legislation and provide feedback
- ◆ Respond to and comment on policy decisions





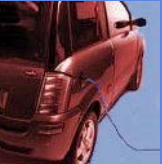


Policy

- ◆ Develop policy papers
 - ❖ Recommend energy efficiency policy direction
 - ❖ Perform Cost Effectiveness Studies
 - ❖ Strategic Plans
- ◆ Respond to executive, Board and media questions
- ◆ Present appropriate information to executives and Boards



Summary (from SMUD's perspective)

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- ◆ We recommend & develop strategic policy direction for the department.
 - ◆ We develop programs that benefit SMUD customers and keep us on the cutting edge in the energy efficiency industry.
 - ◆ We assist program managers by providing the necessary program research and program development so managers can focus on their programs.
 - ◆ We publicize SMUD's efforts by presenting papers at conferences, workshops and seminars.
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He Who Fails to Plan, Plans to Fail

—Source Unknown