

CALMAC Summary Study

A Retrospective of California Energy Efficiency Programs in 2001

**ACEEE National Conference on
Energy Efficiency as a Resource**

Greg Wikler, Patrice Ignelzi, Omar Siddiqui
Global Energy Partners, LLC



Today's Discussion

- Background
- Findings and Recommendations
- Q&A



What is CALMAC?

- California Measurement Advisory Council
- Members: IOUs, CPUC, CEC, NRDC
- Coordinates much of the state's EM&V
- Establishes EM&V protocols

Acknowledgements

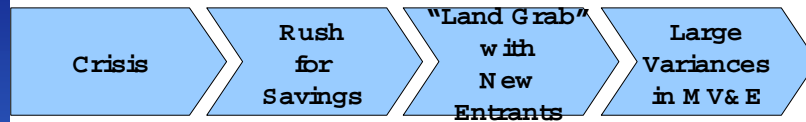
CALMAC Advisory Committee

- Noah Horowitz, NRDC
- Marian Brown, SCE
- Pierre Landry, SCE
- Valerie Richardson, PG&E
- Chris Chouteau, PG&E
- Athena Besa, Sempra
- Rob Rubin, Sempra
- Sylvia Bender, CEC

Global Team

- Greg Wikler
- Patrice Ignelzi
- Omar Siddiqui

The Crisis was the Driver in 2001



“Let’s assess all the activities and determine what really happened...”

Goals of the Study: “Reality Checks”

- *How much was really spent on programs in 2001?*
- *How much energy was really saved by programs in 2001?*
- *How did the per kWh cost compare across programs?*
- *How much of this savings will last?*
- *What can we learn from this experience?*

But as we discovered...

...these reality checks became archaeological digs

- Not a handful, but 218 programs
- Administered by about 35 different entities
- Many different objectives (kW vs. kWh vs. other)
- Wildly “varied” standards of measurement
- Inconsistent availability and quality of program documentation

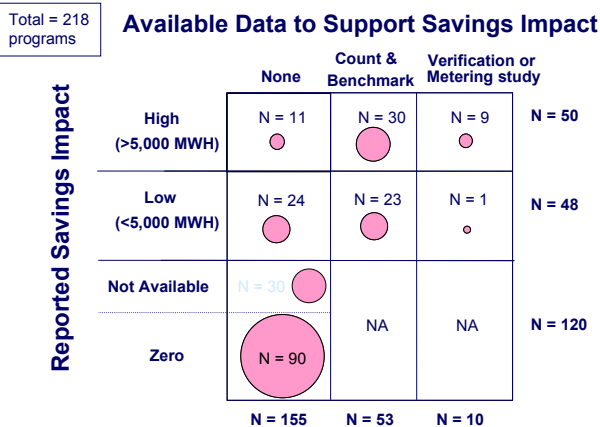
Today's Discussion

- Background
- Findings and Recommendations
- Q&A

Program documentation challenges – comparing apples and oranges

Program Documentation Challenges	Makes Program Results Difficult to:			
	Find	Interpret	Assess	Aggregate
Program-year vs. annualized savings		X		X
Inconsistent application of net to gross ratios		X		X
Tracking only kW or only kWh savings	X			X
kW reduction not always specified as peak		X		X
Savings with little methodological support	X	X	X	X
Ambiguous reporting of program costs		X		X
Inconsistent or missing program summaries	X	X		X
Inherent double counting in 20/20 and FYP	X			X
Mass-market vs. custom programs	X			X
Insufficient inclusion of figures of merit		X		X
Not enough formal M&E			X	X

Not enough documentation to compare all programs in the same manner



Summary of 2001 Energy Efficiency Programs

Program Category	Number of Programs Identified	Reported Cost (\$millions)	Reported First Year Energy Savings (MWh)	Reported Demand Savings (MW)	Cost per First Year kWh Saved (\$/kWh)	Cost per kW Saved (\$/kW)	Cost per Lifetime kWh Saved (\$/kWh)
#1 PGC-Funded, IOU Administered	149	\$ 294	1,254,539	323	\$0.23	\$ 908	\$0.03
#2 CPUC-Funded Summer Initiative	16	\$ 70	266,556	132	\$0.26	\$ 530	\$0.03
#3 CEC Programs	8	\$ 19	124,766	61	\$0.15	\$ 304	\$0.02
#4 Major Municipal Programs [a]	31	\$ 30	60,660	104	\$0.49	\$ 288	\$0.06
#5 Locally Administered SBx1 5 [b]	10	\$ 5	663	-	\$8.21	na	\$1.04
#6 Other Targeted State Programs	2	\$ 60	na	152	na	\$ 395	na
#7 20/20 Rebate & Residual Effects	2	\$ 415	3,053,000	2,616	\$0.14	\$ 159	\$0.05
20/20 Rebate Program [c]	1	\$ 350	3,053,000		\$0.11	\$ 159	\$0.04
"Flex Your Power" and other [d]	1	\$ 65	na	2,616	na		na
Total	218	893	4,760,184	3,389	\$0.19	\$ 263	\$0.03

[a] LADWP and SMUD

[b] Cities of San Francisco and Berkeley

[c] Savings discounted to correct for double-counting, per LBNL and Global analysis

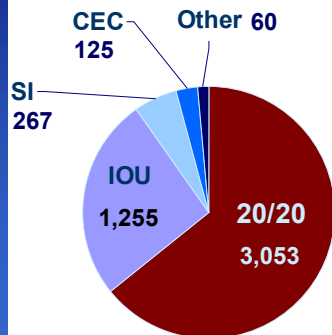
[d] Other factors include rates and media coverage of the crisis



10

20/20 Dominated State Energy Savings

2001 California Energy Savings, for 218 Programs in Scope



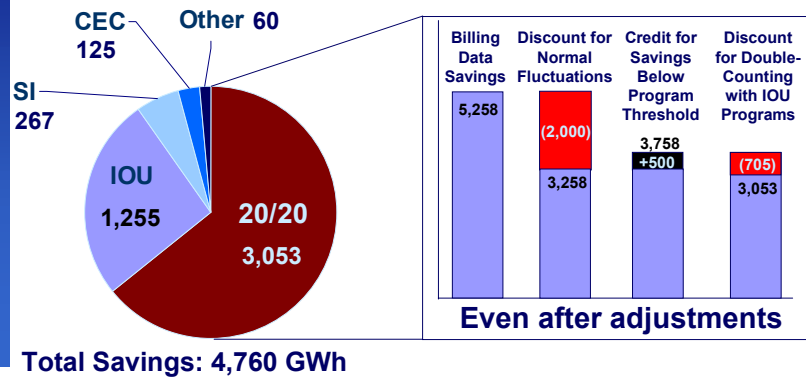
Total Savings: 4,760 GWh



11

20/20 Dominated State Energy Savings

2001 California Energy Savings, for 218 Programs in Scope



Recommendations to CALMAC

Encourage program implementers to:

- Explicitly present program savings in both annualized and program-year terms
- Apply standard IOU net-to-gross conventions
- Track both kW (coincident peak and non) and kWh savings
- Document a minimum set of savings assumptions
- Apply standard benchmark assumptions (DEER, etc.)
- Account for standard cost categories (admin, incentive, M&E)

Consider commissioning a study to rigorously resolve 20/20 double counting

Today's Discussion

- Background
- Findings and Recommendations
- Q&A