

## ***Memorandum***

**To:** Residential, Commercial, and Industrial (RCI) Policy Working Group (PWG) of the Colorado Climate Action Panel (CAP)

**From:** Kenji Takahashi, Alice Napoleon  
The Center for Climate Strategies

**Date:** August 7, 2007

**Re:** Examples of High DSM Performance by Electric Utilities

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This memo provides additional information regarding utility experience in demand side management (DSM) performance for the RCI stakeholder group to consider in developing and recommending an appropriate DSM energy saving target for RCI-1 (for all utilities in Colorado.) This memo does not recommend any specific energy saving percentage for Colorado; the PWG must decide what target level to recommend to the CAP.

The target is currently set at 1% energy reduction per year starting in 2011, preceded by a 4 year ramp-up period beginning in 2008 (e.g., 0.2% in 2008, 0.4% in 2009, 0.7% in 2010). The original target was 1% per year from the onset of the program based on some DSM program experience in other states. Stakeholders expressed concern that significant and unprecedented efforts would be required to achieve 1% of energy savings for Colorado utilities. Specific areas where this goal might prove problematic were identified, including the difficulty of achieving 1% energy per year state-wide, and the ability of utilities to sustain 1% per year savings for a number of consecutive years.

In response to this concern, we are presenting a few cases where utilities have achieved this level of savings for several years. More specifically, we identified two cases: (1) the Sacramento Municipal Utility District (SMUD) in California achieved 1% savings per year for 3 or 4 years consecutively in the 1990s, and (2) a few utilities in Massachusetts achieved nearly 1% savings per year "on average" over a period of 10 years in the past. See table 1 and 2 for details of the DSM performance by those utilities. In addition, we found that Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E) achieved more than 1% energy reduction in 2005. See Table 3. We do not have data regarding historical DSM performance by these utilities, however it is likely that they achieved similar level of savings in the past because their DSM budgets were high in the 1990s before restructuring.

The fact that the record on sustained DSM savings of 1% per year is thin does not mean that it is not attainable. States have only begun to push the limits on energy efficiency beyond past experience. However, we note that projections based on limited experience with this range of DSM savings attainment have additional uncertainty associated with them. Also, the utilities that have achieved 1% per year have long-term experience with DSM program administration and significant budget levels. Colorado utilities may need more time and experience to attain 1% per year energy savings. Moreover, consumers are more likely to accept higher rates and/or charges

to fund aggressive DSM programs if the level of DSM and the associated increase in rates/charges are ramped in over a number of years.

**Table 1. DSM Performance by SMUD**

Year	Energy Savings (MWh)	Total "Customer" Sales (MWh)	Energy Savings Impact as % of Total Sales
1991	59,636	8,421,441	0.71%
1992	113,302	8,471,202	1.34%
1993	89,119	8,448,219	1.05%
1994	157,040	8,459,156	1.86%
1995	138,500	8,458,888	1.64%
1996	83,580	8,889,261	0.94%
1997	34,450	8,975,951	0.38%
1998	37,558	9,138,407	0.41%
1999	27,040	9,286,934	0.29%
2000	30,436	9,620,327	0.32%
2001	63,403	9,309,221	0.68%
2002	27,014	9,507,444	0.28%
2003		9,919,728	
2004	52,130	10,237,101	0.51%
2005	86,160	10,485,723	0.82%
2006	79,290	10,799,230	0.73%

Data Source: The data was provided by Jim Parks at SMUD

**Table 2. DSM Performance by Massachusetts Utilities**

	Mass Electric		
	Savings (MWh)	Sales (GWh)	Savings as a % of sales
1991:	158,225	15,133	1.05%
1992:	112,880	15,304	.74%
1993:	121,051	16,483	.73%
1994:	149,826	15,716	.95%
1995:	156,435	15,857	.99%
1996:	147,520	16,009	.92%
1997:	171,886	16,474	1.04%
1998:	150,628	17,748	.85%
1999:	152,008	17,274	.88%
2000:	143,670	21,856	.66%
10 Year Total	1,464,129	167,854	.87%

	Western Mass Electric		
	Savings (MWh)	Sales (GWh)	Savings as a % of sales
1991:	58,758	3,753	1.57%
1992:	38,329	3,944	.97%
1993:	46,769	3,692	1.27%
1994:	32,485	4,004	.81%
1995:	25,478	3,643	.70%
1996:	32,286	4,074	.79%
1997:	38,904	3,728	1.04%
1998:	33,684	4,083	.82%
1999:	30,676	4,185	.73%
2000:	42,502	4,140	1.03%
10 Year Total	379,871	39,246	.97%

Source: Gene Fry, "Massachusetts Electric Utility Energy Efficiency Database", Massachusetts Department of Telecommunications and Energy, 2003 edition

**Table 3. DSM Performance by SCE and SDG&E**

	Annual Energy Savings (MWh)	Electricity sales (MWh)	Share of annual DSM contribution
SCE	1,372,199	78,772,000	1.7%
SDG&E	391,382	19,214,000	2.0%

Source: Source: SDG&E 2006. Energy Efficiency Programs Annual Summary and Technical Appendix: 2005 Results, May 2006, available at <http://www.sdge.com/regulatory/docs/AEAP2006docs/SDGE%202007%20LIEE%20Annual%20Report%20Master.pdf> ; SCE 2006. 2006 Energy Efficiency Annual Report: Summary Report 2005 Results and Technical Appendix 2005 Results, May 2006, available at [http://www.sce.com/AboutSCE/Regulatory/eefilings/Annual\\_Reports/](http://www.sce.com/AboutSCE/Regulatory/eefilings/Annual_Reports/)