



Southwest Energy Efficiency Project

Saving Money and Reducing Pollution through Energy Conservation

2008 Annual Report

The Southwest Energy Efficiency Project (SWEEP) made significant progress in many areas in 2008. Most noteworthy was the success we have had in expanding utility energy efficiency programs. Also of significance was our success supporting statewide energy efficiency initiatives and our efforts toward increasing energy efficiency in buildings.

On the utility energy efficiency front, total funding for electric utility energy efficiency and load management (DSM) programs in the southwest region (AZ, CO, NM, NV, UT and WY) increased from about \$123 million in 2007 to about \$170 million in 2008, a 38% increase. In addition, we estimate that funding for electric utility DSM programs will continue to grow and will reach about \$250 million in 2009. The trends in funding for electric utility DSM programs are shown in the first table below.

Electric Utility Spending on DSM Programs in the Southwest, 2002-09

State	DSM program budget (million \$ per year)					
	2002	2004	2006	2007	2008	2009 (est.)
AZ	4	4	19	32	40	50
CO	11	21	18	32	28	56
NV	3	11	30	27	55	60
NM	1	1	1	4	10	16
UT	9	16	27	28	36	65
WY	~0	~0	~0	~0	1	3
Region	29	54	95	123	170	250

Source: Southwest Energy Efficiency Project

Funding for gas utility energy efficiency programs is also growing in the region, from approximately \$26 million in 2008 to a projected \$50 million in 2009. For comparison, gas utilities in the region spent only about \$11 million on energy efficiency programs as of 2007. SWEEP played a significant role in fostering this expansion of electric and gas utility efficiency programs.

In conjunction with increasing funding, utility energy efficiency programs are becoming more effective in delivering substantial energy savings and thus reducing the need for new sources of power supply. Electricity savings achieved by major electric utilities increased from 476 GWh per year as a result of 2006 programs to about 1,046 GWh per year as a result of 2008 programs (first year savings only). Energy savings and peak demand reduction by utility are shown in the table below.

Energy Savings and Peak Demand Reduction of Utility DSM Programs in the Southwest

Utility	2006		2007		2008	
	First-year Energy Savings (GWh/yr)	Peak Demand Reduction (MW)	First-year Energy Savings (GWh/yr)	Peak Demand Reduction (MW)	First-year Energy Savings (GWh/yr)	Peak Demand Reduction (MW)
APS (AZ)	104	17	274	43	280	43
Xcel (CO)	43	27	119	38	141	37
NPC (NV)	146	54	155	54	304	129
SPPC (NV)	70	14	51	10	105	10
RMP (UT)	113	45	139	36	180	40
PNM & SPS (NM)	0	0	5	8	36	47
All	476	157	743	189	1,046	306

Source: Southwest Energy Efficiency Project

The next table estimates the total energy savings, net economic benefits, and avoided CO₂ emissions from DSM programs implemented by utilities during 2003-2008. In total, we estimate that utility customers will realize about \$1.5 billion in net economic benefits from DSM programs implemented by utilities in the region during 2003-2008. Likewise, we estimate these programs will save about 2.1 million metric tons of CO₂ emission in 2008 alone, and about 8.3 million metric tons of CO₂ during 2003-2009. Thus, utility DSM programs are now providing significant economic and environmental benefits in the region.

With respect to energy efficiency in buildings, SWEEP helped a number of utilities and states develop programs to encourage construction of highly efficient new homes and commercial buildings. SWEEP also assisted some cities and counties as they adopted either tougher building energy codes or voluntary programs aimed at promoting construction of very energy-efficient “green buildings.” In addition, SWEEP actively supported a more stringent model energy code that was adopted at the national level.

Electricity Savings, Net Economic Benefits, and Avoided CO₂ Emissions from Electric Utility DSM Programs in the Southwest

Year	First-year Energy Savings (GWh/yr)	Energy Savings from Cumulative Programs (GWh/yr)	Net Economic Benefits from Annual Programs¹ (Million \$)	Avoided CO₂ Emissions² (1000 metric tons)
2003	175	175	113	122
2004	239	414	146	290
2005	280	694	189	486
2006	476	1,170	256	819
2007	743	1,913	332	1,339
2008	1,046	2,959	459	2,071
Total	2,959	--	1,495	5,127

- Notes: 1) Assumes that the total investment in energy efficiency measures is 1.8 times the utility program cost and that programs have a benefit-cost ratio of 2.5 on average using the Total Resource Cost test. These are typical values for DSM programs in the region.
 2) Assumes 700 metric tons of avoided CO₂ emissions per GWh of electricity savings on average based on avoiding an equal share of coal-fired and natural gas-fired generation.

We describe our specific 2008 achievements in each state in the sections below.

Arizona

SWEEP presented information on energy efficiency potential and program opportunities to the Arizona utility commission as well the main utilities in the state on numerous occasions in 2008. We also advised Arizona Public Service Company (APS) on the design of their residential new homes and other programs. Spending on all programs grew from about \$20 million in 2007 to a budget of about \$25 million in 2008. Furthermore, the utility is now reducing load growth by close to 1% per year as a result of DSM programs implemented each year. In 2008, SWEEP filed testimony urging APS to reduce electricity and summer peak demand at least 15% by 2020.

SWEEP also advised Tucson Electric Power (TEP) and the Salt River Project (SRP) on energy efficiency programs in 2008. With support from SWEEP, TEP agreed to spend about \$58 million for DSM programs during 2008-2012. This proposal was approved by the state utility commission. SWEEP provided detailed recommendations and feedback on DSM funding and program design to TEP and SRP.

SWEEP helped to develop and led the advocacy for energy efficiency legislation in Arizona in 2008. The legislation included a revised financing mechanism for retrofit of local government and school buildings, energy savings goals for state government buildings, state appliance efficiency standards, and goals for increasing energy efficiency in new construction. The legislation passed in the Arizona House of Representatives but was not approved by the state Senate prior to its adjournment.

SWEEP organized two training sessions in Arizona during 2008 to encourage construction of high performance homes. These workshops were well-attended by homebuilders, energy efficiency and renewable energy consultants, electric and natural gas utilities, building code officials, and others. SWEEP also provided information to several local governments and the regional associations of government to assist them in developing green building standards or programs.

Colorado

SWEEP had considerable success in advancing energy efficiency programs implemented by both electric and natural gas utilities in Colorado in 2008. In response to legislation enacted in 2007, the Colorado Public Utilities Commission (PUC) established energy savings goals and performance-based incentives for investor-owned electric and gas utilities in the state in 2008. SWEEP played a major role in shaping these policies.

In response to this action, Xcel Energy (the main electric utility in the state) proposed spending about \$63 million on demand-side management (DSM) programs in 2009 and \$80 million in 2010. For comparison, Xcel spent only about \$20 million on these programs as of 2007. SWEEP was an active participant in this docket and suggested a number of improvements to Xcel's 2009-2010 DSM plan. The PUC approved Xcel's DSM plan, with modifications, at the end of 2008.

SWEEP assisted a number of cities and counties in Colorado with the development of state-of-the art building energy codes or voluntary programs to promote highly efficient new construction in 2008. Boulder, for example, approved a residential energy code that requires new homes to be 30-65% more efficient than homes constructed to meet the 2006 International Energy Conservation Code. The level of stringency increases for larger homes.

SWEEP also helped to develop and supported energy efficiency legislation in Colorado in 2008. The legislature enacted a policy allowing local governments to sell bonds and use the proceeds to finance energy efficiency or renewable energy projects, with loan repayment included in property tax collection. The legislature also enacted a policy that prevents homeowner's associations from prohibiting the installation of certain energy efficiency measures. However, legislation requiring municipal utilities and rural electric cooperatives to implement energy efficiency programs for their customers was not enacted.

Nevada

In 2008, the Nevada utilities—Nevada Power Company and Sierra Pacific Power Company—spent about \$55 million on their DSM programs, nearly twice the amount spent in 2007. SWEEP was an active participant in the DSM collaborative set up by the utilities to seek advice and feedback on their energy efficiency programs. In particular SWEEP helped Nevada Power develop a program to encourage construction of new homes that go well beyond the minimum ENERGY STAR requirements. The program

includes rebates, technical assistance, and marketing and outreach support to participating builders. Overall, the Nevada utilities are now reducing load growth by about 1.3% per year as a result of their DSM programs. This places them in the top tier of utilities in the nation with respect to energy savings achievement.

SWEEP helped the state energy office and the Public Utilities Commission of Nevada (PUCN) on a number of fronts in 2008. This included providing advice concerning implementation of legislation enacted in 2007 related to tax credits for energy-efficient new commercial buildings, providing energy ratings at the time of home sale, and ensuring that natural gas utilities are not harmed financially when they implement energy efficiency programs for their customers. Many of our recommendations were adopted by policy makers in the state. In addition, SWEEP developed a number of policy proposals for the 2009 legislative sessions and communicated with policy makers and other stakeholders about them.

New Mexico

SWEEP played a key role in negotiating legislation adopted in 2008, namely amendments to the Efficient Use of Energy Act, that established energy savings requirements and directed the state regulatory commissions to adopt performance-based incentives for utility DSM programs. SWEEP also made extensive input on the rules being developed by the Public Regulation Commission in response to this new legislation.

SWEEP supported the expansion of utility DSM programs in New Mexico in 2008 through interaction with the utilities and other stakeholders. In response to advice and advocacy by SWEEP and others, the two largest electric utilities in the state, Public Service Company of New Mexico (PNM) and Southwestern Public Service Company (SPS), both proposed a major expansion of their DSM budgets and energy savings achievement starting in 2009. These utility DSM program plans were still being reviewed by the Public Regulation Commission as of the end of 2008.

SWEEP provided advice to key jurisdictions in New Mexico including Albuquerque and Santa Fe on energy codes and ordinances in 2008. Albuquerque has been facing a legal challenge to a stringent Energy Conservation Code enacted in 2007 while Santa Fe was developing its own Green Building code in 2008. In addition, New Mexico has been considering adoption of a statewide Green Building code.

In addition, SWEEP completed a major energy efficiency strategy for New Mexico in 2008. The strategy, issued in January 2009, examines 25 policy options that taken together can cut energy use per capita 20 percent by 2020. The study estimates that implementing all 25 options would result in \$7.2 billion in net economic savings for New Mexico's citizens and businesses. The study is helping to guide new and expanded energy efficiency initiatives in the state.

Utah

SWEEP and its partner Utah Clean Energy (UCE) were successful in developing, negotiating, and advocating an energy efficiency Resolution that was adopted by the Utah legislature in early 2009. The resolution directs the Utah Public Service Commission (PSC) to set energy savings targets for utility energy efficiency programs, specifically savings of at least 1% per year for electric utility programs and 0.5% per year for gas utility programs. The resolution also directs the PSC to remove disincentives and provide reasonable performance-based incentives for the utility programs. The resolution was negotiated with the utilities and other key stakeholders in the state including the consumer advocate, with much of the work done in 2008.

SWEEP supported the expansion of energy efficiency programs offered by Rocky Mountain Power (RMP), the main electric utility in Utah, in 2008. Most noteworthy were expansion of the company's home energy savings, commercial and industrial rebates, and irrigation load control programs. Overall energy savings from RMP's energy efficiency programs grew by about 30% in 2008 relative to savings achieved in 2007.

SWEEP also supported the expansion of energy efficiency programs offered by Questar Gas Company, the natural gas utility in Utah. Of particular note was growth in home weatherization and appliance rebates. Questar's total DSM budget increased from about \$8 million in 2007 to nearly \$18 million in 2008, with energy savings more than doubling from year-to-year. With support from SWEEP and UCE, Questar has become a leading gas utility in terms of energy efficiency efforts.

In addition, the market share for ENERGY STAR new homes significantly increased in Utah in 2008 due in large part to promotion, training and incentives provided by both RMP and Questar Gas Company. SWEEP supported the expansion of these key efforts.

Wyoming

SWEEP supported the initiation of DSM programs by Rocky Mountain Power (RMP), the largest electric utility in Wyoming. RMP proposed a set of six DSM programs. SWEEP intervened in this docket and proposed a number of program enhancements. We also helped to broker a compromise on DSM program cost recovery that was supported by the other parties in the docket. A settlement agreement that calls for RMP to spend \$25 million on DSM programs over a four-year period was approved by the Wyoming Public Service Commission in October. The programs were launched in the last quarter of 2008.

In addition, SWEEP completed two case studies of new public buildings which were among the first in the state to be LEED certified. These case studies are helping to educate other building owners about energy efficient design and the many benefits associated with LEED certified buildings.

Regional Activities

SWEEP organized its **Fifth Annual Southwest Regional Energy Efficiency Workshop** in 2008, held in Denver. The workshop provided a forum for discussion of the latest developments regarding utility DSM programs in the region, state policy efforts, and emerging energy efficiency technologies. SWEEP also organized four workshops in 2008 on constructing and selling high performance homes, including “zero energy” homes that combine high levels of energy efficiency with renewable energy systems. Participants in these workshops included homebuilders, energy efficiency and renewable energy experts, electric and natural gas utilities, real estate professionals, home energy raters, and state and local officials. The presentations from all of our workshops are available on the SWEEP website at <http://www.swenergy.org/workshops/index.html>.

SWEEP produced a number of reports and articles in 2008. In particular, SWEEP issued **Going Beyond Code: A Guide to Creating Energy-Efficient and Sustainable Buildings in the Southwest** at the end of the year. This guide provides detailed descriptions of beyond code programs throughout the region and in California, including lessons learned from program implementation and best practices. The guide also provides recommendations for designing and implementing beyond code programs as well as model energy codes.

SWEEP also published a report titled **Rural Energy Efficiency Prospects** in 2008. This report evaluates the opportunities to improve the efficiency of electricity use in the rural areas of the Southwest. The report shows that energy use and associated costs can be reduced by 20-40% by employing a wide range of no-cost, low-cost and investment-grade energy efficiency measures and practices. The report makes recommendations to rural electric cooperatives and municipal utilities as they are in the best position to lead an energy efficiency campaign in rural areas.

In addition, SWEEP made numerous presentations at local and state forums as well as national conferences on energy efficiency efforts and opportunities in the Southwest. These presentations and papers are helping to educate policy makers, energy professionals, and other stakeholders about energy efficiency opportunities and potential.

SWEEP developed a new section of its website devoted to building efficiency in 2008. The website includes profiles of green building programs, leading energy codes in the region, net-zero energy home projects, and information on ways to construct and operate homes more efficiently.

Publications

The following reports along with legislative reports and selected presentations are available on the SWEEP web site, <http://www.swenergy.org/pubs/index.html>.

S. Dunn, M. Britt, and E. Makela. **Going Beyond Code: A Guide to Creating Energy-Efficient and Sustainable Buildings in the Southwest**. December 2008.

H. Geller and J. Schlegel. **Update on Utility Energy Efficiency Programs in the Southwest.** May 2008.

H. Geller, S. Dunn, T. Fiebelkorn, T. Langer and S. Vaidyanathan, **New Mexico Energy Efficiency Strategy: Policy Options.** November 2008.

T. Potter. **Rural Energy Efficiency Prospects.** March 2008.

Supporters

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