

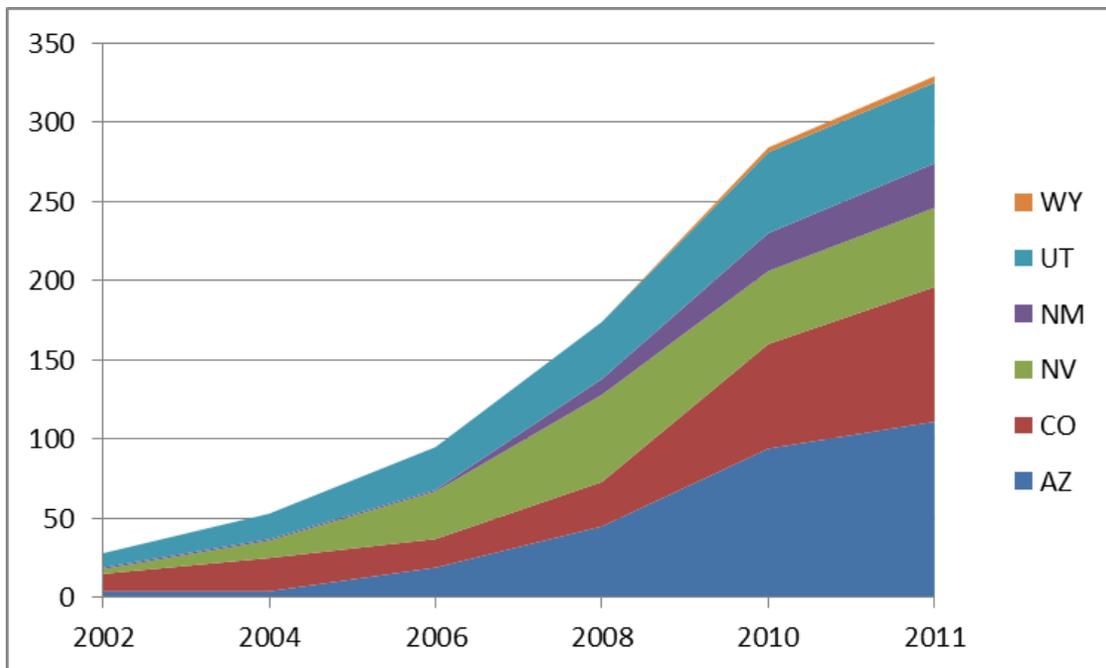


2011 Annual Report

Highlights

The Southwest Energy Efficiency Project (SWEEP) continued to make good progress in 2011. Funding for electric utility energy efficiency and load management programs in the region reached approximately \$329 million per year (see Figure 1), meaning utilities achieved greater energy savings as well as economic and environmental benefits in 2011 compared to previous years. With SWEEP's support, a number of states and large cities or counties adopted the 2009 International Energy Conservation Code. Building retrofit activity in the region is also expanding due in part to SWEEP's advocacy work and technical assistance. In addition, SWEEP advanced policies to facilitate adoption of electric vehicles including crafting legislation that was adopted in Colorado to allow unregulated sale of electricity for charging EVs. And SWEEP helped to draft a resolution on industrial energy efficiency adopted by the Western Governors' Association.

Figure 1: Electric Utility DSM Spending in the Southwest



Utility Program

SWEEP played a major role in the expansion of utility energy efficiency programs in the southwest region. Total funding for these programs increased to about \$329 million in 2011, nearly twice the level in 2008 (see Table 1). If utility efficiency programs continue at the current funding level (a conservative assumption), utility energy efficiency programs will reduce the need for multiple new power plants in the region by 2015. Consumers and businesses should save at least \$5 billion over the lifetime of efficiency measures installed during 2010-2015 in response to utility programs.

SWEEP advocated increased funding for utility demand-side management (DSM) programs as an intervener in proceedings before state public utility commissions in all six of our states in 2011. In addition, we influenced energy efficiency policy through advising utilities in the region and through interactions with state policy makers. SWEEP works collaboratively with utilities on the design of energy efficiency programs. These programs are leading to the adoption of more efficient appliances, efficient new homes, and efficiency improvements in commercial buildings and industries.

Table 1: Electric Utility DSM Spending in the Southwest, 2002-11

State	DSM program budget (million \$ per year)					
	2002	2004	2006	2008	2010	2011
AZ	4	4	19	45	94	111
CO	11	21	18	28	66	85
NV	3	11	30	55	46	50
NM	1	1	1	10	24	28
UT	9	16	27	36	51	51
WY	~0	~0	~0	~0	3	4
Region	29	54	95	174	284	329

Table 2 below estimates the total energy savings, net economic benefits, and avoided CO₂ emissions from DSM programs implemented by utilities during 2003-2011. In total, we estimate that households and businesses throughout the region will realize about \$3.7 billion in net economic benefits from DSM programs implemented by utilities in the region during this period. Likewise, we estimate that the programs cut CO₂ emissions by about 6.2 million metric tons in 2011 alone, with about 20.8 million metric tons of avoided CO₂ emissions during 2003-2011.

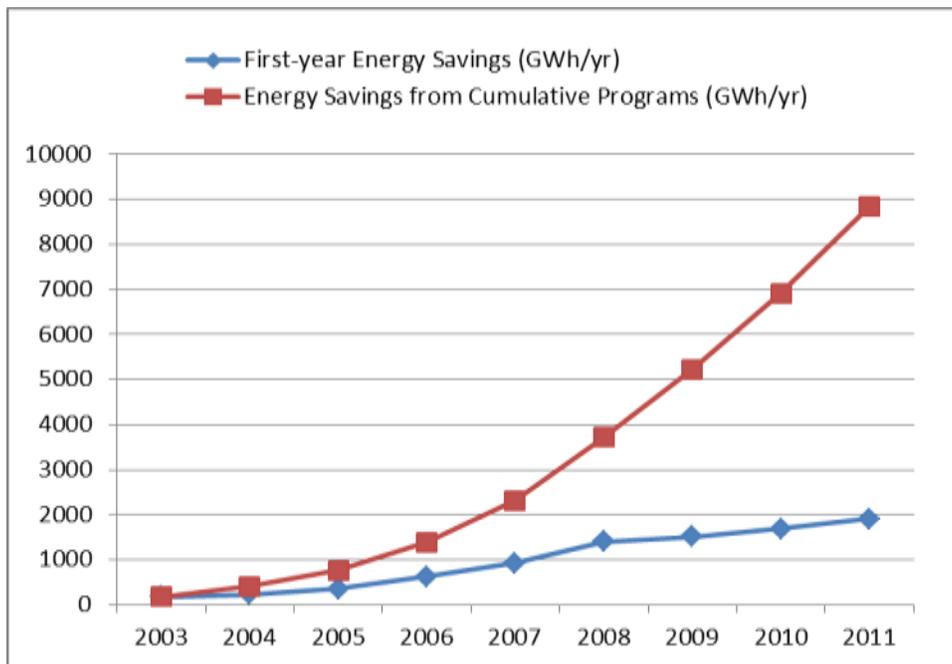
Table 2: Electricity Savings, Net Economic Benefits, and Avoided CO₂ Emissions from Electric Utility DSM Programs in the Southwest, 2003-11

Year	First-year Energy Savings (GWh/yr)	Energy Savings from Cumulative Programs (GWh/yr)	Net Economic Benefits from Annual Programs ¹ (Million \$)	Avoided CO ₂ Emissions ² (1000 metric tons)
2003	175	175	113	122
2004	240	415	146	290
2005	350	765	189	535
2006	625	1,390	256	973
2007	930	2,320	332	1,624
2008	1,400	3,720	459	2,604
2009	1,510	5,230	649	3,661
2010	1,690	6,920	726	4,844
2011	1,910	8,830	821	6,181
Total	8,830	--	3,691	20,834

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.
- 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.

Figure 2: Energy Savings from Electric Utility DSM Programs in the Southwest, 2003-11



Arizona

SWEEP worked directly with the utilities and appeared before the Arizona Corporation Commission (ACC) on numerous occasions in 2011. Funding for electric utility DSM programs increased from about \$60 million in 2009 to \$111 million in 2011. We advised all three major utilities (Arizona Public Service Co., Salt River Project, and Tucson Electric Power) as they developed new and expanded energy efficiency programs in the context of higher energy savings goals and the newly adopted energy efficiency standards approved by the ACC. As a result of program expansion, both APS and TEP achieved approximately 1.4% savings as a fraction of retail sales from DSM programs implemented in 2011, making them the leading utilities in the regions with respect to this savings metric.

In 2010, the Arizona Corporation Commission (ACC) approved three landmark policies: 1) an electric energy efficiency standard (EEES); 2) a decoupling policy statement, and 3) new integrated resource planning rules. Together these policies established strong regulatory support for the growth of EE programs and benefits. In 2011, both APS and TEP filed energy efficiency implementation plans consistent with the standards established by the ACC. SWEEP advocated for the adoption of both plans through testimony and negotiations with other interveners in the plan review and approval dockets.

In June 2011, APS filed an application for a rate increase that includes a full-revenue-per-customer decoupling mechanism. The APS case is precedent setting as it is the first electric case to come before the ACC for approval of the decoupling policy statement. In advance of the APS filing, SWEEP worked actively with APS senior management and other stakeholders to advocate for APS including an effective decoupling mechanism in its application. A final decision on the APS rate case is expected in 2012.

Regarding the Salt River Project (SRP), an unregulated utility, SWEEP focused on SRP's Sustainable Portfolio Standard which directs the utility's current and future use of energy efficiency and renewable energy resources. This process included a series of public workshops and SRP Board of Director meetings during which SWEEP presented testimony and advocated for a greater commitment to energy efficiency in both the short and long run. In May 2011 the SRP Board of Directors unanimously approved several revisions to their Sustainable Portfolio Standard (SPP) including:

- An increased and accelerated goal for the company to achieve 20% of its expected retail energy requirements through the implementation of energy efficiency and renewable energy resources by FY 2020;
- Energy savings targets of 1.5% per year in FY 2012-2014, 1.75% per year in FY 2015-2017, and 2.0% per year in FY 2018-2020. The previous SPPs had no annual EE savings targets. The adoption of these annual EE savings targets was a

direct result of SWEEP's strong advocacy for ambitious and distinct efficiency goals;

- A commitment to support building energy codes and standards, for which the company can count up to 50% of the energy savings as a credit towards achievement of the SPP. SRP has subsequently been very active in the support of building energy codes, coordinating with SWEEP in its code advocacy efforts.
- Approval of a FY 2012 Energy Efficiency budget of \$49.1 million, a significant increase over the previous year's \$39.3 million budget. This additional funding will enable the introduction of new programs and enhanced EE offerings for customers.

Colorado

For Colorado as a whole, electric utility DSM funding increased from \$55 million in 2009 to around \$85 million in 2011. Xcel Energy, the main investor-owned utility in the state, reached the benchmark of reducing electricity use by 1% per year for the first time in 2011.

In March 2011, the Colorado PUC adopted more ambitious energy savings goals and a new shareholder incentive mechanism for Xcel. The PUC's goals, which were proposed by SWEEP in the course of the docket, call for energy savings reaching 1.2% of sales in 2013, 1.4% of sales by 2016, and 1.7% of sales by 2020. The goals are 30% higher than the energy savings goals adopted by the PUC in 2008. In addition, the shareholder incentive mechanism was modified in a way that allows the utility to earn a significant profit if it meets the energy savings goals set by the PUC with cost-effective DSM programs. These outcomes represented a major victory for SWEEP.

Following this decision, Xcel prepared its 2012-2013 DSM programs plan. The new plan significantly ramps up electric DSM funding and savings relative to programs implemented during 2009-10. SWEEP had a significant impact on this plan through interaction with the utility in advance of the plan being filed. SWEEP also intervened in the docket and proposed numerous improvements to the plan as filed. A Settlement Agreement including about ten significant improvements recommended by SWEEP was approved by the Colorado PUC in December.

In addition to our work with the Xcel Energy, we continued to advocate for stronger energy efficiency programs by the municipal utilities and rural electric cooperatives in the state, and provide assistance with program design and analysis to those utilities that sought our help. We met with and advised key municipal utilities including those in Fort Collins and Colorado Springs. We provided input into a new five-year energy efficiency plan adopted by Holy Cross Energy, one of the larger rural electric co-ops in the state. We also interacted with Tri-State G&T, the main wholesale power

provider to rural electric co-ops in Colorado, and provided feedback on Tri-State's plan for DSM programs in 2012.

In order to help us with energy efficiency advocacy to Tri-State and rural co-ops in general, SWEEP completed a report titled *Review of Leading Rural Electric Cooperative Efficiency Programs*. The report reviews experience of cooperatives in Indiana, Iowa, Minnesota, New Hampshire and Oregon—states where rural cooperatives run well-funded and effective energy efficiency programs. The report includes recommendations to utilities as well as to policy makers.

Nevada

SWEEP made substantial progress in expanding utility energy efficiency programs in Nevada over the past five years in large part as a result of adding energy savings from utility DSM programs to the state's Renewable Portfolio Standard. However, funding for and energy savings from electric utility DSM programs declined in the past two years. The decline was due to less support for energy efficiency by NV Energy and the state PUC during a period of severe economic recession, delays in approving Nevada Power's 2010-12 IRP and DSM plan, as well as excess generating capacity and less need for energy savings in the short run.

In 2011, SWEEP participated in a docket before the Nevada PUC on providing utilities with compensation for net lost revenues from DSM programs. This docket concluded with the PUC granting NV Energy the ability to collect lost revenues as well as program costs from customers. At the same time the PUC directed the utility to improve its program evaluation procedures. Providing lost revenues is intended to remove any financial disincentive the utility has as it implements DSM programs for its customers. The docket was very contentious with the staff of the PUC and the state's consumer advocate opposing the lost revenue recovery provision.

In mid-year we began participating in another docket before the Nevada PUC which reviewed Nevada Power's and Sierra Pacific Power's 2010 DSM program results as well as the 2012 DSM programs portfolio for the two companies. In this docket, the utility submitted low, medium, and high funding scenarios for 2012 as requested by the PUC. SWEEP, which intervened in the docket through NCARE, supported funding for DSM programs at the levels that produce the highest net economic benefits for consumers over the lifetime of the efficiency measures. We also recommended ways the utilities can improve the effectiveness of their programs.

Unfortunately NV Energy, staff of the PUC and the consumer advocate reached a Settlement Agreement in this docket that called for significant cuts in funding. And on top of this the lead Commissioner in the docket (Commissioner Noble) supported even deeper funding cuts including eliminating two cost-effective programs. In response, SWEEP actively worked to oppose these cuts, including doing considerable press work

with Resource Media to bring attention to the negative impacts that the cuts would have on consumers and jobs in the state. We generated considerable favorable press coverage and we were successful in restoring some of the funding that Commissioner Noble had proposed cutting.

SWEEP also proposed inviting Lawrence Berkeley National Laboratory to prepare a study on different utility business models (including but not limited to decoupling) for removing disincentives and providing positive financing incentives for NV Energy's shareholders when the company implements effective energy efficiency programs for its customers. The Nevada PUC accepted our proposal, and the study is expected to be completed by mid-2012.

New Mexico

In New Mexico, SWEEP participated in DSM plan review dockets for both PNM and El Paso Electric Company (EPE) in 2011. In the PNM docket, SWEEP advocated a number of improvements in PNM's programs as well as a disincentive removal/incentive "add" that was agreed to by other parties in the docket. Regarding our program recommendations we convinced PNM to accept many of our recommendations. However, some of these were not supported by the Public Regulation Commission (PRC) which has become more hostile to utility energy efficiency programs after changes in PRC composition last fall. Also, the issue of the add for shareholder disincentive removal/incentive has been thrown up in the air by a state Supreme Court ruling stating that any add be cost-based and not agreed to in an arbitrary manner. The issue was brought to the Supreme Court by the Attorney General's office which has been hostile to utility DSM programs.

Regarding EPE, SWEEP supported the utility's filing which called for a large increase in DSM funding going forward. EPE has accepted many of the program recommendations SWEEP made in the past. A major issue in this docket was raised by two army bases served by EPE which claimed that the utility's DSM programs do not serve their needs and that they should be exempted from paying for DSM programs. SWEEP submitted testimony through CCAE showing that Department of Defense policy directs all military facilities to participate in and make maximum use of utility rebate programs. The PRC approved all of EPE's proposed programs but did allow the military bases to opt out of participating in or paying for DSM programs.

In spite of problems with the PRC and other entities such as the Attorney General's office, utility funding for energy efficiency programs has continued to grow in New Mexico as has the energy savings resulting from utility programs. SWEEP has been working in an advisory manner as well as through PRC dockets in order to both increase funding for and improve the effectiveness of the utility programs. We expect that a number of recommendations that we have made to PNM will be included in a new DSM plan that the utility will be submitting for PRC approval in 2012.

Utah

SWEEP and its partner Utah Clean Energy (UCE) engaged in a number of activities aimed at expanding the scope and increasing the positive impacts of Rocky Mountain Power's (RMP's) DSM programs during the grant period. First, SWEEP and UCE objected to a proposal by RMP in the latter part of 2011 to significantly reduce the DSM surcharge (known as the DSM tariff rider) percentage. The proposal was made by RMP in response to the utility over-collecting relative to its DSM expenditure over the past year or two. Our intervention prevented the substantial reduction from going into effect, and led to a negotiated agreement for a much smaller reduction in the surcharge rate. In addition, the utility and other stakeholders agreed to establish a number of Advisory Group subcommittees including ones to explore new program opportunities and new program approval procedures.

SWEEP advised RMP on how it could improve DSM program design through the DSM advisory committee that the company has established. In particular we urged the company to provide incentives for near zero energy new homes as part of its new homes program. SWEEP and UCE also worked to convince RMP and other parties to add a Home Energy Reports type behavior change program to the portfolio of DSM programs implemented by RMP. RMP has developed and is proposing to implement a Home Energy Reports pilot program with the well-regarded vendor OPower. We also proposed and facilitated a successful workshop on how utilities can foster energy-efficient behavior change that was held in July, 2011.

Other relevant activities in Utah include making input into PacifiCorp's new Integrated Resource Plan (IRP) that was issued in April, 2011. This IRP includes much more "energy efficiency resources" in the Utah/Wyoming portion of the company than did the previous IRP (RMP is PacifiCorp's subsidiary in UT and WY). In addition, UCE intervened in RMP's last rate case and recommended stronger inverted block rates as well as a study on decoupling and other strategies for removing the company's throughput incentive. Unfortunately, RMP, the staff of the PSC and the consumer advocate reached a settlement in the rate case that did not include UCE's suggestions.

Wyoming

SWEEP intervened in a docket in early 2011 pertaining to Rocky Mountain Power's DSM programs in the state (RMP is the largest electric utility in Wyoming). This docket resulted in significant expansion of RMP's energy efficiency programs in the state during 2011-13. The utility plans to ramp up DSM spending from about \$2.8 million in 2010 to \$5.5 million in 2013, with savings growing by about a factor of 2.5 over this three-year period. In addition to supporting increased funding, SWEEP provided recommendations on how RMP could increase the effectiveness of its programs.

Buildings Program

The SWEEP buildings program team and regional representatives supported the adoption of the 2009 International Energy Conservation Code (IECC) across the southwest region and started discussions in specific local communities on the 2012 IECC. The SWEEP team promoted the adoption of green construction codes including the ICC-700 and the International Green Construction Code (IGCC). SWEEP also worked together with other organizations to advance the final version of the IGCC through the code development and adoption process.

In 2011, SWEEP and the other regional energy efficiency organizations increased their collaborative efforts with Pacific Northwest National Laboratory (PNL), Building Codes Assistance Project (BCAP), and U.S. Department of Energy (DOE). SWEEP coordinated sessions where individuals from each state in the region were trained as energy code trainers. As a result there is now a set of energy code trainers distributed across the Southwest for training on the newer energy codes and standards.

SWEEP also worked with the National Renewable Energy Laboratory (NREL) in 2011 and released two reports on utility programs in the region. One report titled *Residential New Construction Programs Offered by Utility Companies in the Southwest* reviews utility residential new construction programs in the region. It includes recommendations on how utilities can maximize the effectiveness of their new homes programs and also how U.S. DOE and the national labs can best support the programs. The second report titled *A Review of Residential Retrofit Programs Offered by Utilities in the Southwest* describes the status of utility home retrofit programs and includes recommendations on how to improve them. SWEEP disseminated the reports through meetings, presentations, and online promotion.

Table 3: Overview of Residential New Construction Programs Offered by Utilities in the Southwest

State	Utility Company	ENERGY STAR Homes (15-30% savings)	Best Practice (30-50% savings)	Low Energy (50%+ savings)
AZ	Arizona Public Service (APS)	✓	✓	
	Tucson Electric Power (TEP)	✓	✓	✓
	Salt River Project (SRP)	✓		
CO	Xcel Energy (Xcel)	✓	✓	✓
NM	Public Service Company of New Mexico (PNM)	✓	✓	✓
	New Mexico Gas Company (NMG)	✓		
NV	NV Energy North (NVEN)	✓		
	NV Energy South (NVES)		✓	✓
UT	Questar Gas (Questar)	✓	✓	
	Rocky Mountain Power (RMP)	✓	✓	✓
WY	Questar Gas (Questar)	✓		

SWEEP started a collaborative in 2011 with utilities and other partners associated with the Home Performance with ENERGY STAR (HPwES) program. The collaborative received the support and assistance from U.S. DOE. The goal of this effort, beyond driving efficiency in housing, is to address the fact that many stimulus-funded home retrofit projects end in 2012. Funding for HPwES programs from utility companies is growing in the region, and the collaborative is supporting utilities as they scale up their HPwES programs focused on whole-house retrofits (see Table 4).

Table 4: Efficiency Measures Included in Whole-House Retrofit Programs

State	Utility	Insulation & Air Sealing	Windows	Heating	Cooling	Duct Sealing & Insulation	Water Heating	Appliance	Lighting
AZ	APS	✓			✓	✓		✓	✓
	TEP	✓			✓	✓			✓
	SRP	✓			✓	✓		✓	✓
CO	Xcel	✓		✓	✓		✓	✓	✓
	FCU	✓	✓	✓	✓	✓	✓	✓	✓
NM	SPS	✓			✓	✓	✓	✓	✓
	NMGCO	✓		✓			✓		
NV	NPC				✓	✓	✓	✓	✓
	SPPC			✓ ¹			✓	✓	✓
UT	Questar	✓	✓	✓		✓	✓	✓	
	RMP	✓	✓	✓	✓	✓	✓	✓	✓
WY	RMP	✓	✓	✓	✓	✓	✓	✓	✓

On the beyond code front SWEEP supported the development and adoption of green building codes by providing technical assistance to jurisdictions, facilitating consensus-building exercises to encourage jurisdictions to choose model codes, and providing cost and resource-savings metrics. SWEEP also was active in the final action hearings for the 2012 International Green Construction Code (IGCC). SWEEP staff worked with other advocates and government to promote energy efficiency in this new code. SWEEP has been promoting the IGCC to numerous jurisdictions prior to the final version being published in March 2012. Jurisdictions that have adopted or are considering adoption of the code include Longmont, Boulder, Superior, Denver, Carbondale and Fort Collins in Colorado; Scottsdale, Phoenix, Mesa and Kayenta Township in Arizona; and Albuquerque in New Mexico.

In Arizona, SWEEP worked with Salt River Project (SRP), Tucson Electric Power (TEP), and Southwest Gas Company to support the adoption of energy codes at the local level. SWEEP also worked directly with communities in Arizona on improved energy codes. SWEEP assisted the City of Mesa with adoption of the 2009 IECC by

¹ Heating measures available only in the Reno-Sparks area where NV Energy provides natural gas.

performing modeling of proposed amendments. Mesa and three other communities in the Phoenix valley have adopted the 2009 IECC. SWEEP also urged Phoenix, Scottsdale, and Paradise Valley to advance their energy code to the 2012 IECC.

In Colorado, SWEEP worked with the Governors Energy Office and the Department of Local Affairs to urge local communities to adopt the 2009 IECC with no weakening amendments. The City of Denver adopted the 2009 IECC in 2011, as did a number of other municipalities. SWEEP gave numerous presentations on the 2009 and 2012 versions of the IECC and provided more detailed information on the 2012 IECC to Douglas and Mesa County. SWEEP was also instrumental in proposing and convincing Xcel Energy to implement an energy code support pilot program. Xcel will assist up to six local jurisdictions with code adoption or implementation, and evaluate the effectiveness of its efforts during this two-year, \$400,000 pilot program.

In Nevada, SWEEP worked extensively with the Nevada State Office of Energy (NSOE) to promote adoption of the 2009 IECC statewide. SWEEP coordinated meetings with NSOE, NV Energy, code officials, building industry, and advocacy organizations to advance the 2009 IECC. SWEEP attended energy code workshops, presentations, trainings, and hearings on the adoption of the code statewide. The 2009 IECC was adopted by the state in 2011 with an enforcement date of mid-2012. SWEEP also worked with the state energy office to distribute information to the code ambassadors in the state and to provide information to assist them with code advocacy at the local level. We remain active in code discussions in southern Nevada and are bringing together stakeholders in order to improve compliance.

In New Mexico, SWEEP worked with two state agencies on adoption plans and energy code trainings for the newly adopted New Mexico energy code. However, the Construction Industry Commission (CIC) proposed to roll back this relatively stringent energy code. SWEEP worked with advocates and other supporters to argue for retaining it but the state was successful in rolling it back to the base 2009 IECC effective in early 2012. SWEEP then participated in an appeal to the Commission for the more efficient code. In addition, Albuquerque rolled back its green building code and requirement for LEED certification for city buildings. SWEEP continues to promote more efficient buildings through opportunities such as the IGCC, and we are actively supporting efforts to ensure enforcement of the energy codes that are in effect in New Mexico.

In Utah, SWEEP advocated adoption of the residential provisions of the 2009 IECC (the commercial provisions were previously adopted). SWEEP and its partner Utah Clean Energy (UCE) formed a Utah energy code coalition to advance the energy code. The stakeholders came from industry, manufacturers, advocates, trades, code officials, and government staff. We also engaged in extensive media outreach and received very favorable press coverage. We focused on educating policy makers on the benefits of the code to the state during the 2011 interim legislative session. However, opposition from some home builders made adoption of the 2009 IECC in Utah problematic.

In Wyoming, SWEEP convinced the state energy office to send two individuals from the state to attend an energy code trainer training in Arizona. These individuals returned to Wyoming and became active in energy code discussions, training, and promotion. Wyoming's code officials have developed significant interest in learning about the IECC, and they developed an energy code subcommittee in the Wyoming ICC chapter. We are hopeful that this will lead to energy code adoption in key local jurisdictions in Wyoming in the future.

Transportation Program

SWEEP made considerable progress on policies and programs to facilitate the adoption of electric vehicles (EVs) in 2011. In addition, we released a transportation blueprint for Nevada and we developed and analyzed new approaches to foster regional transit investments in Colorado.

EV Policies

Our analysis of the GHG benefits of converting gasoline vehicles to alternative energy sources demonstrate that EVs offer the only option for reducing emissions well beyond the 20% target for 2020, and the 80% target for 2050. EVs achieve an initial 30% reduction simply as a result of the increased efficiency of electric motors compared to the internal combustion engine, and then can achieve further reductions greater than 80% if the production of electric power is decarbonized by the expansion of renewable sources. Unlike gasoline and natural gas, electric vehicles are the only technology expected to become cleaner with each year as progress is made toward implementing renewable energy standards.

With plug-in electric vehicles becoming available to the public across the United States, SWEEP prepared a report titled *What Can Cities and Counties Do to Promote the Deployment of Electric Vehicles?* The report contains examples of best practices from cities that have already begun to address the challenges raised by this transition to EVs. Issues examined include establishment of taskforces to coordinate policies, public education, provision of public and private charging infrastructure along with the role of utilities and incentives for vehicles and infrastructure.

In Arizona SWEEP was invited to participate in a stakeholder workgroup convened by Governor Brewer to investigate policies designed to support public acceptance and purchase of EVs. SWEEP provided an economic analysis of the potential economic benefits to the State of expanding the EV portion of the light duty vehicle fleet between now and 2035. Our analysis demonstrated that the reduced use of imported petroleum fuels could save the three-county region where 80% of Arizona's population resides more than \$12 billion, thereby retaining these resources within the local economy and contributing to the creation of nearly 3,000 permanent jobs. We also showed that by reducing ozone precursor emissions from the transport sector, the region would avoid between \$13 and \$65 million annually in pollution control costs.

We also presented this analysis at a public hearing conducted by the AZ Department of Environmental Quality to determine whether Arizona should repeal its adoption of the California light duty vehicle emission standards, which includes a mandate for auto manufacturers to sell a minimum number of zero emission vehicles (ZEVs) which currently can only be met by the sale of EVs. The ZEV mandate is opposed by the motor vehicle manufacturers who are seeking its repeal as an excessive regulatory burden. Unfortunately our economic analysis was ignored and the ADEQ

finalized the repeal of the California standards in November.

In Colorado, SWEEP conducted a similar fuel savings analysis, and presented the results to staff at the Governor's Energy Office, CDOT, and the Regional Air Quality Council which is the lead air quality planning agency in Colorado.

To support the development of access to electric power by EV owners when traveling away from home, SWEEP played the leading role in drafting a proposal to eliminate the utility monopoly over the sale of electric power to end-users in Colorado. After months of difficult negotiations with the utilities, an agreement was reached. The policy authorizes the resale by any retail vendor of electric power for use in EVs, provided the power comes from a regulated utility or is generated on-site where the power is used to charge EVs. This policy, which will facilitate installation of EV charging facilities throughout the state, was approved by the Colorado legislature and signed into law by Governor Hickenlooper in early 2012.

Another SWEEP priority is the development of a statewide infrastructure plan that ensures access to an electric charging station in every county to ensure that EV users can travel throughout the state without fear of being caught without access to the power grid. In 2011, we worked with Boulder County to develop an infrastructure plan that can serve as a model for a statewide plan. Later in the year we began providing technical support to the American Lung Association and the Denver Clean Cities Program which are the recipients of a grant from DOE for the development of a statewide EV readiness plan. SWEEP is helping to develop the infrastructure element of the EV readiness plan.

SWEEP also prepared an analysis for the Colorado PUC that demonstrated the economic benefits that can be achieved for the general public, ratepayers and utilities if additional electric power is consumed at night to recharge EVs. Currently the grid has sufficient excess capacity during the night to supply all the power demand needed to drive 75% of all vehicle-miles travelled statewide. Charging EVs during these off-peak hours is a primary objective to avoid the need for additional electric generating capacity to fuel EVs. SWEEP argued that to help achieve these benefits utilities should provide the initial capital investment to install EV charging infrastructure. The objective is to reduce or eliminate the capital cost for EV owners to install charging facilities in return for commitments from EV users to schedule EV charging during nighttime hours.

So far, Xcel Energy has not agreed to this approach. However, after months of discussions and encouraged by SWEEP, Xcel has agreed to offer time-of-use (TOU) rates for EV owners in order to provide price incentives for owners to charge their vehicles during off-peak periods. We expect that Xcel will submit its specific TOU rates proposal to the Colorado PUC this coming summer.

Nevada Transportation Blueprint

In February, SWEEP published the *Nevada Transportation Blueprint* and presented the findings of the report to the Nevada State Senate Committee on Transportation. The Blueprint identifies transportation sector strategies that Nevada could implement that would add billions of dollars to the state economy, reduce its dependence on imported oil, save consumers money and create local jobs by improving the efficiency of the transportation system. The fifteen strategies outlined in this report, if adopted, would avoid the import of over 600 million barrels of oil by 2050, thereby saving the state \$38-57 billion and contributing to the creation of thousands of new jobs in the state. The average household could be expected to save up to \$900 in 2020 and \$1,500 in 2050 by adoption of these strategies. The Blueprint has been discussed with policy makers and we are hopeful it will influence future transportation policy in the state.

Figure 3: Potential Reductions in CO₂ Emissions from Transportation Policies

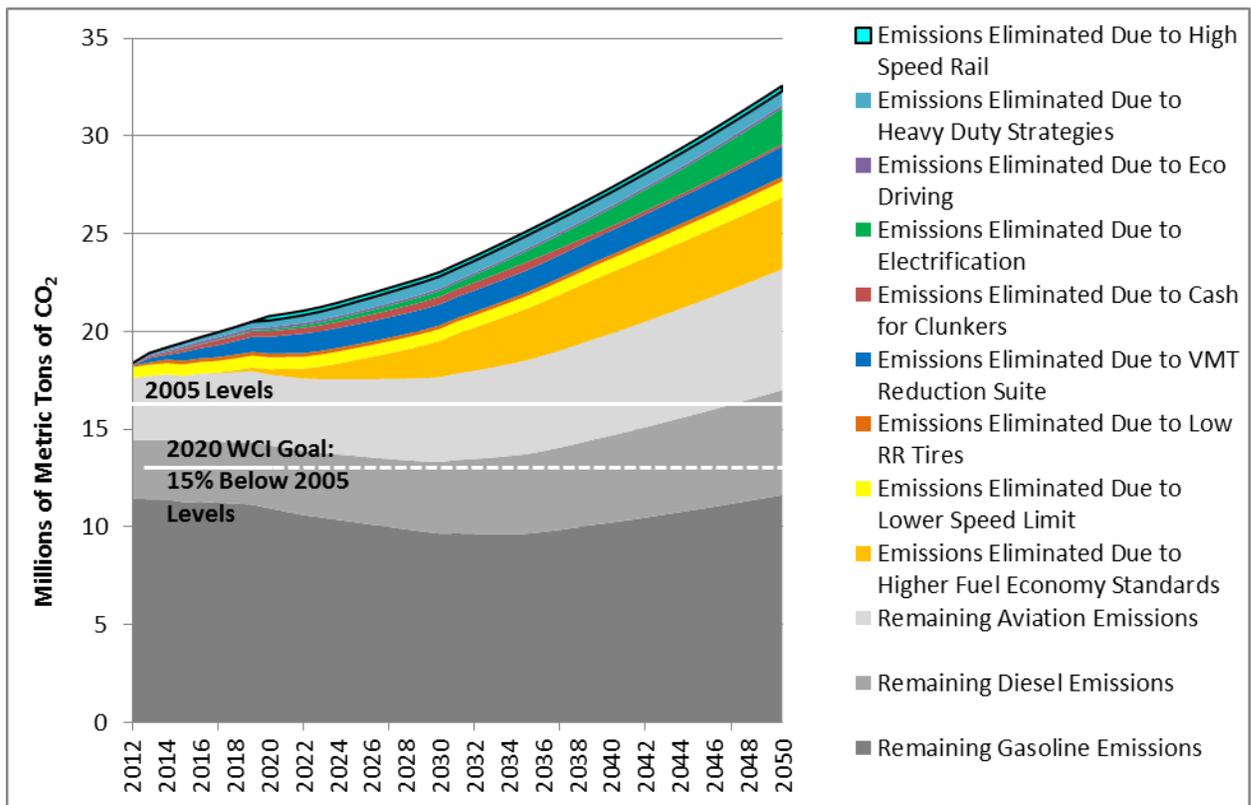
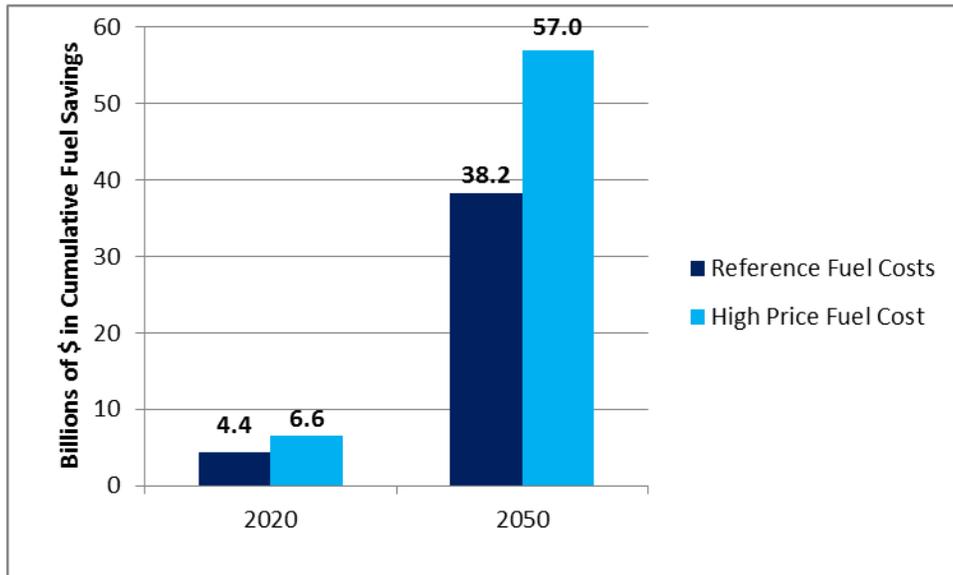


Figure 4: Cumulative Fuel Cost Savings (in 2009 dollars) for Nevada in 2020 and 2050 with Adoption of Blueprint Strategies



Transit Development in Colorado

The Colorado Department of Transportation (CDOT) is proposing interregional transit investments including a rail line linking the Denver and Ft. Collins metropolitan areas, and a fixed guideway system in the I-70 corridor linking the Denver metro area with the mountain towns of Silverthorn, Dillon, Frisco, Copper Mountain, Vail and Eagle. These transit proposals face opposition from various stakeholders because of: 1) cost, 2) the lack of adequate transportation funding, and 3) the diversion of resources from highway improvements. SWEEP provided the affected communities and stakeholders sound arguments as to why the transit portion of these corridor improvements should be given highest priority.

For the I-70 project we conducted an analysis that shows the effect of the expected doubling of the price of gasoline between 2010 and 2025 on the willingness of recreational visitors to drive to the mountain towns for skiing and other discretionary travel. Using a widely used DOT price elasticity factor, we demonstrated that if only the highway were built the mountain towns would suffer about 10% loss in economic activity as a result of fewer visitors. But if the transit facility were built, travel costs would not rise with fuel prices and visitor trips would remain stable. We presented this analysis to the board of the I-70 coalition, made up mostly of local elected officials and business leaders, and elicited their support for the imposition of user fees in the corridor to help ensure that the entire proposal, both fixed guideway and highway, are built.

In October 2011 SWEEP submitted comments on the EIS for the proposed expansion of the I-25 North corridor linking Denver and Ft. Collins. The proposal

includes a new commuter rail link not previously included in the regional plans for Denver or Ft. Collins. The rail link has a lot of appeal to cities in the corridor and offers the opportunity to help shape development in the corridor in the areas served by rail.

Unfortunately, CDOT has prioritized the expansion of the highway by adding four new lanes before 2025 while deferring the funding for the commuter rail service until 2075. This result will ensure that the tripling of the population expected by 2075 will be served by highway-oriented sprawl development that will contribute to VMT growth and increased GHG emissions, rather than the transit-oriented development that could reduce per capita VMT and GHG emissions. In response SWEEP is helping to build support for Rail First, a campaign designed to reverse CDOT's priorities by committing available revenues to the commuter rail service before expanding highway capacity.

Industrial Program

With funding from the Department of Energy and the Colorado Governor’s Energy Office (GEO), SWEEP launched the Colorado Industrial Energy Challenge (CIEC) program in 2010. The program recruits industrial facilities in Colorado to commit to a five-year energy goal and provides free technical assistance, networking opportunities, training, and recognition from the Governor.

Under SWEEP’s leadership, the CIEC held its second recognition event in 2011, including presentations of “Excellence in Energy Efficiency” awards to five companies and recognition to seven additional companies who joined the program since the 2010 recognition event. As of the end of 2011, the CIEC program had 25 industrial participants, who spend an average of \$4.3 million per year on energy. In 2011 SWEEP led three successful networking meetings, two training workshops, and one webinar. The CIEC program completed eleven energy assessments for partner companies in 2011. From 2010-2011, CIEC members achieved energy savings of 803,000 MMBtu/yr, about 4.8% of the companies’ total annual consumption (see table).

Table 5: Energy Savings from CIEC Program

Total Energy Consumption in 2010 (MMBtu/yr)*	16,569,000
Energy Savings from 2010-2011 (MMBtu/yr)	803,100
Energy Savings (percentage of 2010 consumption)	4.8%
Value of Energy Savings (\$/yr)	\$4,820,000

*Based on data from 16 member companies.

SWEEP is also participating in a state industrial energy efficiency program in Utah. SWEEPS helped to plan and organize training workshops and provided input on recognition events for participating companies. The Utah program is similar to the Colorado program but does not include technical assistance.

As part of its efforts to promote more industrial energy efficiency throughout the southwest region, SWEEP helped the Western Governors Association organize a workshop on industrial energy efficiency in Boise, ID in March 2011. SWEEP along with ACEEE wrote a background report titled *Industrial Energy Efficiency Programs and Supporting Policies: A White Paper* for the workshop. It included policy recommendations that were approved by the WGA at its annual meeting in June. The WGA resolution on industrial energy efficiency is available at http://www.swenergy.org/reports/WGA_Industrial_EE_Resolution-2011.pdf. SWEEP also led a workshop on industrial energy efficiency in September, 2011 that was sponsored by the U.S. DOE as part of the State and Local Energy Efficiency Action Network.

SWEEP also had a productive year in encouraging the use of recycled energy (including combined heat and power, waste energy recovery, and district energy) in the Southwest. SWEEP received continued funding from the U.S. DOE to co-lead the U.S. DOE Intermountain Clean Energy Application Center, one of eight centers nationally that helps facilitate clean, efficient, and well-designed recycled energy systems, through the three-pronged strategy of education and outreach, policy and regulatory work, and technical assistance.

SWEEP launched a series of state-by-state workshops and tours in 2011 called “Recycled Energy in Action.” Workshops in Utah and New Mexico highlighted successful, reliable, and economically-beneficial recycled energy projects in local communities, educated potential adopters about the steps to pursue a recycled energy project, and expanded our network of regional stakeholders and project developers. In addition to those workshops, we also presented at other conferences and meetings around the region, including for the Western Governors Association, state energy offices, trade associations, and local governments.

Publications and other educational tools completed in 2011 include a briefing on capturing waste heat from natural gas compressor stations and turning it into pollution-free and fuel-free power, several case studies of successful local projects, and the launch of a new national project profile search tool. Each of these is available from the Center’s website, www.intermountaincleanenergy.org.

On the policy front, SWEEP continued to push for the removal of long-standing barriers to recycled energy and advocated for its proper recognition as an efficient and reliable resource, including in utility demand-side management plans and in utility integrated resource plans. Of note, Xcel Energy agreed in a Settlement Agreement to encourage waste-heat-to-power projects through outreach activities, incentives, or both. We are working with utilities in Arizona, Utah, and New Mexico on similar areas.

In addition to our recycled energy policy and education work, SWEEP and its partners provided numerous businesses with feasibility assessments to help determine if CHP is a good technical and economic fit for a facility, answers to specific technical or regulatory questions, and assistance in navigating barriers that would have otherwise prevented individual projects from moving forward. Several recycled energy projects are currently being installed following assistance from us in 2011.

Other Regional Activities

SWEEP along with other regional energy efficiency organizations continued to provide technical assistance to American Recovery and Reinvestment Act (ARRA) grantees in 2011. This technical assistance was funded by the U.S. DOE through Oak Ridge National Laboratory. In 2011, SWEEP responded to numerous technical assistance requests by states, cities and counties. SWEEP continued providing concentrated assistance to Boulder County which is implementing a major ARRA-funded buildings retrofit program. In addition, SWEEP organized and presented webinars for ARRA grantees on various topics and made a presentation on the topic of Utility Partnering at a national meeting of ARRA recipients.

Realizing that cooling and ventilation of buildings can account for more than 25% of electricity consumption in buildings and can add up to more than 50% of the summertime peak electrical demand, SWEEP initiated a new Energy Efficient Cooling Information Service (EECIS) in 2011. SWEEP partnered in this endeavor with the Western Cooling Efficiency Center (WCEC) at the University of California, Davis. As part of the EECIS, SWEEP is organizing and hosting webinars for the utilities and other sponsors of the WCEC. We are also developing a website and distributing a monthly newsletter to educate utilities in ways they can demonstrate, test and promote state-of-the-art cooling technologies and strategies within their DSM programs.

SWEEP began preparation of a major new study in 2011 that examines in detail the following questions: 1) Is it possible to achieve 20% electricity savings by 2020 from utility programs implemented during 2010-2020 in each of the SWEEP states? 2) What would be the economic costs and benefits of achieving this ambitious target in each state and for the region? 3) What would be the environmental and job creation benefits of achieving the target? 4) What are the barriers to and additional policies necessary in each state in order to achieve the target? Answering these questions in an in-depth and highly credible way should greatly help us as we try to move utility efficiency programs “to the next level” in the coming years. The study will be completed and released in mid-2012.

SWEEP organized its *Eighth Annual Southwest Regional Energy Efficiency Workshop* in Salt Lake City in 2011. The workshop provided a forum for discussion of the latest developments regarding utility DSM programs in the region, state and federal policy efforts, and emerging energy efficiency technologies. The 2011 workshop featured presentations on leading market transformation, utility energy efficiency finance, building code support, Home Performance with ENERGY STAR and industrial energy management support programs. Presentations from the 2011 workshop are available at <http://www.swenergy.org/events/annual/2011/index.html>.

At the regional workshop, SWEEP presented the “2011 Leadership in Energy Efficiency” awards to three individuals who have demonstrated a strong commitment to advancing energy efficiency. James Wontor leads the energy efficiency programs implemented by Arizona Public Service Company, Denise Richerson-Smith leads energy efficiency programs implemented by Tucson Electric Power, and Deborah Kimberly

leads energy efficiency programs implemented by the Salt River Project. All three electric utilities operating in Arizona have greatly expanded their energy efficiency programs in recent years, with a combined budget increasing from about \$45 million in 2008 to \$110 million in 2011. Households and businesses in Arizona are saving hundreds of millions of dollars as a result of the energy efficiency programs implemented under the leadership of these three individuals.

In addition, SWEEP made numerous presentations at local and state forums as well as national conferences in 2011. These presentations and papers are helping to educate policy makers, energy professionals, and other stakeholders about energy efficiency opportunities, progress and potential in the Southwest.

Figure 5: Winners of the 2011 Leadership in Energy Efficiency Award: Debbie Kimberly (SRP), James Wontor (APS), and Denise Richerson-Smith (TEP)



Publications

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

M.C. Salisbury and R.E. Yuhnke. **Nevada Transportation Blueprint**. Feb. 2011.

J.C. Martel. **Residential New Construction Programs Offered by Utility Companies in the Southwest**. Feb. 2011.

N. Kolwey and A. Chittum. **Industrial Energy Efficiency Programs and Supporting Policies: A White Paper**. March 2011.

M. Salisbury. **What Can Cities and Counties Do to Promote the Deployment of Electric Vehicles?** March 2011.

K. Freischlag. **Review of Leading Rural Electric Cooperative Efficiency Programs**. June 2011.

J.C. Martel. **A Review of Residential Retrofit Programs Offered by Utilities in the Southwest**. Aug. 2011.

M.H. Brown and H. Braithwaite. **Energy Efficiency Finance: Options and Roles for Utilities**. Oct. 2011.

Webinars that SWEEP developed and presented to ARRA grantees are available at: <http://www1.eere.energy.gov/wip/solutioncenter/webcasts/default.html>.

Supporters

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Energy Foundation
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Maureen Quaid, Senior Associate in Utility Program
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