SWEEP
SOUTHWEST ENERGY EFFICIENCY PROJECT

2014 Annual Report

HIGHLIGHTS

The Southwest Energy Efficiency Project (SWEEP) had another successful year in 2014. Funding for electric utility energy efficiency and demand response programs implemented in the region grew by more than $50 million in 2014 compared to funding in 2013. The energy savings resulting from utility programs in the region increased as well, and Arizona continued to be the leading state in the nation outside of New England with respect to energy savings achieved from electric utility energy efficiency programs. With SWEEP's support, over 30 states, cities or counties adopted or made progress towards adopting the 2012 International Energy Conservation Code (IECC) in 2014, and a few began the process of adopting the 2015 IECC. SWEEP continued to advance policies to facilitate deployment of electric vehicles in 2014, including initiating new legislation that was adopted in Colorado and Utah. SWEEP reestablished programs to support industrial energy efficiency improvements in 2014, and continued to lead the region's efforts to increase the adoption of clean and cost-effective Combined Heat and Power systems. Finally, SWEEP expanded its assistance to state and local governments in the Southwest in 2014 including making extensive input to the *Utah Energy Efficiency and Conservation Plan* issued by Governor Herbert.

UTILITY PROGRAM

SWEEP played a major role in the expansion of utility energy efficiency programs in the Southwest region in 2014. SWEEP advocated for increased funding for utility demand-side management (DSM) programs as an intervener in proceedings before state public utility commissions in most of our states. In addition, we influenced energy efficiency programs and policies through advising utilities and through interactions with state policy makers. We estimate that total DSM program funding across electric utilities in the region increased to around $395 million in 2014, up about $54 million relative to funding in 2013 (see table below). Funding growth was especially strong in Nevada and Utah this past year.

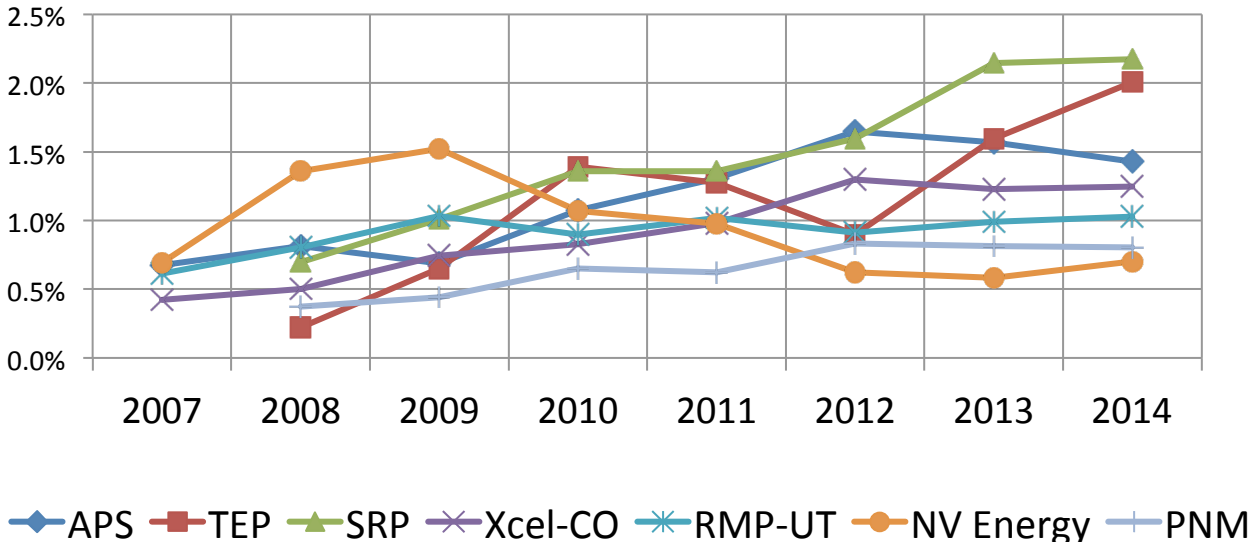
The energy savings achieved by electric utilities in the region in aggregate also increased in 2014, relative to savings achieved in 2012 and 2013. The chart below shows the energy savings achieved by the seven largest electric utilities in the region each year as a fraction of retail electricity sales over the past eight years. The leading utilities, Salt River Project (SRP) and Tucson Electric Power Co. (TEP) in Arizona, achieved savings equal or greater to 2.0 percent of their electricity sales in 2014. Three other major utilities – Arizona Public Service (APS), Xcel Energy-CO, and Rocky Mountain Power (RMP) – saved

between 1.0-1.5 percent of sales from their 2014 programs. For comparison, no utility in the region saved more than 1.0 percent of sales in 2007 and only one did in 2008. In addition, all seven major utilities were above the national average savings percentage as of 2014 which was approximately 0.6 percent of retail electricity sales.

Table 1 | Electric Utility DSM Spending in the Southwest, 2002-14

State	DSM program budget (million $ per year)							
	2002	2004	2006	2008	2010	2012	2013	2014
AZ	4	4	19	45	94	127	120	126
CO	11	21	18	28	66	96	93	96
NV	3	11	30	55	46	38	39	52
NM	1	1	1	10	24	29	29	34
UT	9	16	27	36	51	47	55	82
WY	~0	~0	~0	~0	3	4	5	5
Region	**29**	**54**	**95**	**174**	**284**	**340**	**341**	**395**

Figure 1 | Energy Savings Achieved by Major Electric Utilities in the Southwest (savings as a percentage of retail sales)



The utilities in the region are helping their customers save hundreds of millions of dollars through DSM programs implemented each year. Major electric utilities in the region estimate that their 2014 programs

will provide households and businesses about $700 million in net economic benefits over the lifetime of energy efficiency measures installed last year.

Arizona

Electric utilities in Arizona spent about $126 million on energy efficiency programs in 2014. More importantly, two of Arizona's larger electric utilities – SRP and TEP – were in the top tier of utilities nationwide in terms of energy efficiency program performance. Notably, SRP achieved energy savings of 2.3 percent of its retail energy sales in its 2014 fiscal year, which ended in April 2014. According to ACEEE, Arizona continues to be the leading state in the nation outside of New England with respect to energy savings achievement from electric utility programs.

SWEEP advised APS, TEP and SRP on how to maximize cost-effective energy savings including supporting approval of new programs and expansion of the efficiency measures within existing programs. Of particular note, the Arizona Corporation Commission (ACC) approved TEP's new DSM programs plan in December, 2014. This plan includes a number of new and modified programs and had been pending at the ACC for quite some time.

SWEEP was successful in fending off any attacks on Arizona's very strong energy efficiency resource standard (EERS) at the ACC in 2014. This work involved active participation in several Commission workshops on energy efficiency; significant outreach to businesses, other organizations, and new allies to urge them to oppose a rollback of the EERS; publishing editorials and other news coverage regarding the strong benefits that the standard has produced; and work with the utilities to ensure that they are not undermining the standard. SWEEP also helped organize a set of workshops to educate the ACC about the innovative technologies and programs design strategies that the utilities can employ to achieve the standard in the future. The workshops were well-received by the Commission.

Colorado

Xcel Energy, the main investor-owned utility in the state, helped its customers reduce their electricity use by about 1.3 percent per year from efficiency programs implemented in 2014, 25 percent more savings than were realized in 2011. Xcel surpassed its energy savings goal once again in 2014 while underspending its approved electric DSM budget. Xcel also helped its customers save 607,000 dekatherms of natural gas per year from natural gas efficiency programs implemented in 2014.

Due in part to SWEEP's recommendations, Xcel implemented a number of innovative programs in 2014 including a multifamily housing pilot program, a wifi-enabled smart thermostat program, and a shift to upstream incentives for LED lamps in the commercial sector. In addition, SWEEP provided recommendations to Xcel Energy for its 2015-16 DSM plan, participated in Settlement negotiations regarding this plan, and recommended a number of modifications that were included in a Settlement agreement.

SWEEP worked extensively on a DSM Strategic Issues docket that reviewed and modified the energy savings goals for Xcel's programs during 2015-2020, the disincentive removal and shareholder incentive mechanism, and other key policies guiding Xcel Energy's energy efficiency programs starting in 2015.

SWEEP advocated for increasing the energy savings goals in the future while Xcel Energy proposed significantly cutting the savings goals. The outcome in this docket was generally favorable. The Public Utilities Commission (PUC) decided to increase the energy savings goal to 400 GWh/yr for traditional energy efficiency programs implemented during 2015-2020, equal to about 1.35 percent of projected retail electric sales (savings measured on a net savings basis). The PUC also approved a new shareholder incentive formula. Moreover, this was the first docket where a new set of Commissioners ruled on energy efficiency policy and all expressed support for strong utility efficiency programs.

Nevada

During 2014, SWEEP worked on a docket at the Public Utilities Commission of Nevada (PUCN) reviewing a new three-year DSM plan for Sierra Pacific Power Company in northern Nevada, as well as a revised 2014 DSM plan for Nevada Power in southern Nevada (the two utilities are part of NV Energy). We influenced the utility's filing, and we advocated for maximizing program participation and the net economic benefits from the DSM programs of both operating companies in our testimony. The docket concluded with approval of two new programs that were supported by SWEEP—a residential lighting program focused on promoting LED lamps and a Home Energy Reports pilot program.

NV Energy spent a total of $52 million on its DSM programs in 2014, compared to only $39 million in 2013. More significant, NV Energy indicates that the annual energy savings resulting from its programs increased to about 207 GWh per year in 2014, a 21 percent increase compared to savings achieved in 2013. Thus, NV Energy reversed the decline in savings achievement that began in 2010.

In addition, SWEEP worked on new policies to stimulate greater levels of utility energy efficiency investment in Nevada in 2014. Specifically we developed proposals for: 1) Energy Efficiency Resource Standards, 2) decoupling as an alternative to the controversial lost revenue recovery mechanism now in place, and 3) a shareholder incentive mechanism based on the performance of the utility's energy efficiency programs. We presented these proposals to legislators, NV Energy, PUCN commissioners and other stakeholders in advance of the 2015 legislative session.

SWEEP also proposed a decoupling mechanism in a rulemaking that was opened by the PUCN to consider alternatives to lost revenue recovery, which has been very controversial and problematic in Nevada. Both the staff of the PUCN and the state's consumer advocate also supported some form of decoupling, although NV Energy did not. The rulemaking will be completed in spring, 2015.

New Mexico

In New Mexico, SWEEP participated in a DSM plan review dockets for Public Service Company of New Mexico (PNM) and Southwestern Public Service Co. (SPS) during 2014. In both dockets, SWEEP prepared a number of recommendations for enhancing the DSM plans filed by the utilities and complying with the requirements of the revised Efficient Use of Energy Act. A number of our recommendations were accepted by SPS, and a settlement agreement was reached and approved by the New Mexico Public Regulation Commission (PRC) in this docket.

SWEEP also provided detailed recommendations to PNM on ways it could expand and improve the performance of its DSM programs. PNM filed a new two-year DSM plan with the PRC in October, 2014. PNM accepted a number of our recommendations which in turn should help to increase energy savings achievement in the future. SWEEP began working on the docket to review and approve the plan after it was filed, and advocated additional modifications to the plan that would further increase energy savings. This docket should conclude in May, 2015.

Utah

Rocky Mountain Power (RMP), a subsidiary of PacifiCorp, is the one investor-owned electric utility in Utah. SWEEP and its partner Utah Clean Energy (UCE) engaged in a number of activities aimed at expanding the scope and positive impacts of RMP's DSM programs in 2014. We provided advice as RMP revised its efficiency programs for residential customers, we supported expansion of the utility's Home Energy Reports program, and we advocated for a small business direct installation program. Many of our recommendations were accepted by RMP and other stakeholders, and RMP ramped up its energy efficiency and load management programs in 2014. Program funding in 2014 was about 50 percent greater than the level in 2012, and energy savings increased significantly in 2014 as well.

SWEEP and UCE also provided input into a new Integrated Resource Plan (IRP) that PacifiCorp worked on during 2014. In particular, we commented in detail on a new DSM market potential study that PacifiCorp undertook as part of the IRP development process. The market potential study shows much greater cost-effective energy savings potential compared to PacifiCorp's last market potential study, which bodes well for the IRP determining that investment in DSM programs should continue to expand in 2016 and beyond.

With financial support from SWEEP, UCE intervened in RMP's 2014 rate case, recommending residential rate design components that facilitate energy efficient behavior. Specifically, UCE recommended maintenance of a low monthly fixed customer charge, residential energy rates consistent with long run marginal costs and elimination of the monthly minimum bill. UCE also participated in settlement negotiations. The settlement agreement in the rate case raised the monthly fixed charge by $1.00 and maintains the current relationship between the customer charge and the minimum bill. Thus, the new fixed charge is $6.00 per month and the minimum bill is $2.00 above that. Because the settled rate increase was significantly lower than what the Company had initially proposed, residential electricity rates will remain nearly the same.

SWEEP and UCE also provided input on the natural gas energy efficiency programs implemented by Questar Gas Company in 2014. Questar Gas, the sole investor-owned gas utility in Utah, spent $26.3 million on energy efficiency programs and helped its customers save 600,000 dekatherms of gas per year through efficiency programs implemented in 2014.

Wyoming

SWEEP continued to provide recommendations for increasing the effectiveness of Rocky Mountain Power's DSM programs in Wyoming in 2014 (RMP is the largest electric utility in Wyoming). RMP

proposed numerous revisions to its DSM programs during the course of the year including expanding the list of efficiency measures eligible for rebates, supporting Strategic Energy Management by its large customers, and implementing a Home Energy Reports pilot program. SWEEP supported these proposals, and the program improvements were approved by the Wyoming Public Service Commission (PSC). These changes should lead to higher energy savings in the future.

Other Activities

SWEEP published a report titled *Upstream Utility Incentive Programs: Experience and Lessons Learned* in 2014. The report reviews the experience with upstream incentive programs that work through manufacturers and distributors, compared to downstream programs which provide rebates directly to consumers. Upstream utility incentive programs have the potential to dramatically increase the market penetration of energy-efficient technologies. SWEEP is using the report to advocate for greater use of upstream incentives by utilities in the Southwest.
http://www.swenergy.org/data/sites/1/media/documents/publications/documents/Upstream_Utility_Incentive_Programs_05-2014.pdf

SWEEP's Utility Program team also wrote a paper titled *Maintaining High Levels of Energy Savings from Utility Energy Efficiency Programs: Strategies from the Southwest*. The paper, which was presented at the 2014 ACEEE Summer Study on Energy Efficiency in Buildings, discusses seven strategies that utilities are starting to implement to maintain or increase energy savings in the face of strengthening federal appliance and lighting standards, rising baselines due to newer building energy codes, and diminishing savings potential from CFLs. The paper shows that if all of these strategies are employed, utilities should be able to maintain savings of at least 1.5 percent per year during 2015-2020.
http://swenergy.org/data/sites/1/media/documents/publications/documents/2014%20ACEEE%20SS%20paper%20final.pdf

BUILDINGS PROGRAM

Building Code Education and Implementation

The SWEEP buildings program continued to advance the adoption of the newest energy codes, the 2012 and 2015 International Energy Conservation Code (IECC), in 2014. SWEEP was successful in helping convince additional municipalities to adopt the 2012 IECC in Arizona, bringing the percentage of new construction affected by the 2012 IECC in the state up to 60 percent. In New Mexico, the state included the 2012 IECC in the initial discussions for energy code advancements. And in Colorado, a number of communities were added to the list of those that have adopted the 2012 IECC, bringing the percentage of new construction affected by the 2012 IECC up to 25 percent in the state.
In Arizona, the jurisdictions of Buckeye, Camp Verde, Casa Grande, Chandler, Maricopa City, Peoria, Surprise and Coconino County all adopted the 2012 IECC in 2014. In Colorado, SWEEP supported adoption of the 2012 IECC in approximately 20 jurisdictions including Breckenridge, Broomfield, Dillon, Frisco, Larimer County, Mountain Village, Silverthorne, Summit County, Snowmass, Thornton, Weld

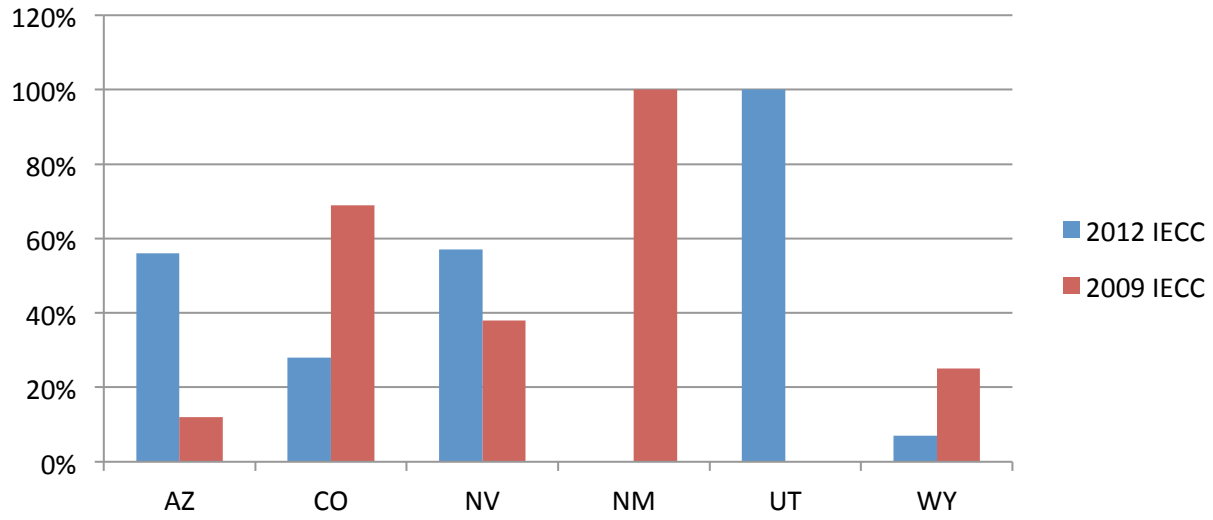
County, Carbondale, Federal Heights, Fort Collins, Frederick, Greenwood Village, Louisville, Lafayette, Loveland, Cherry Hills Village, and Superior.

There were 93,000 residential building permits issued across the SWEEP region in 2014, a nine percent increase relative to the number of permits issued in 2013. A high percentage of construction occurring in the region happens in communities that have adopted either the 2012 or 2009 IECC (see chart below).

In 2014, SWEEP led a large stakeholder group that successfully fought a proposal in the Arizona legislature that would have prevented the adoption of state-of-the-art energy or green codes at the local level. Extensive educational efforts and coordination with other key stakeholders prevented adoption of this proposal.

SWEEP also met with the City and County of Denver to discuss the results of a recent commercial energy code compliance study. The group outlined several key priority areas such as documentation management, use of National Fenestration Rating Council (NFRC) ratings, and use of COMcheck. SWEEP assisted the City and County of Denver in following up on these items. SWEEP also communicated with Denver in support of adopting the 2015 IECC. The initial position of the Denver Mayor's office as well as key committees is to move forward with adoption of the 2015 IECC.

Figure 2 | Percentage of New Construction Affected by the 2009 or 2012 IECC in the Southwest



Note: Utah adopted the 2012 IECC for commercial buildings and a modified version similar to the 2009 IECC for residential buildings.

The SWEEP Buildings Program held its first Southwest Energy Codes Conference in November 2014 in Denver, where 50 stakeholders from across the southwest and nationally gathered to discuss the status of energy codes and how they impact and advance energy savings in the region. This new biennial conference serves the Southwest states by focusing on the challenges and opportunities present in the diverse climate of the southwest region. The 2014 conference featured 24 dynamic and concise presentations on energy codes. Participants from five southwest states along with national energy code

experts attended the event. Participants learned about the newest energy codes – the 2015 IECC and ASHRAE 90.1-2013 – and opportunities to improve code adoption and compliance in the region.

Energy Codes and Utility DSM Programs

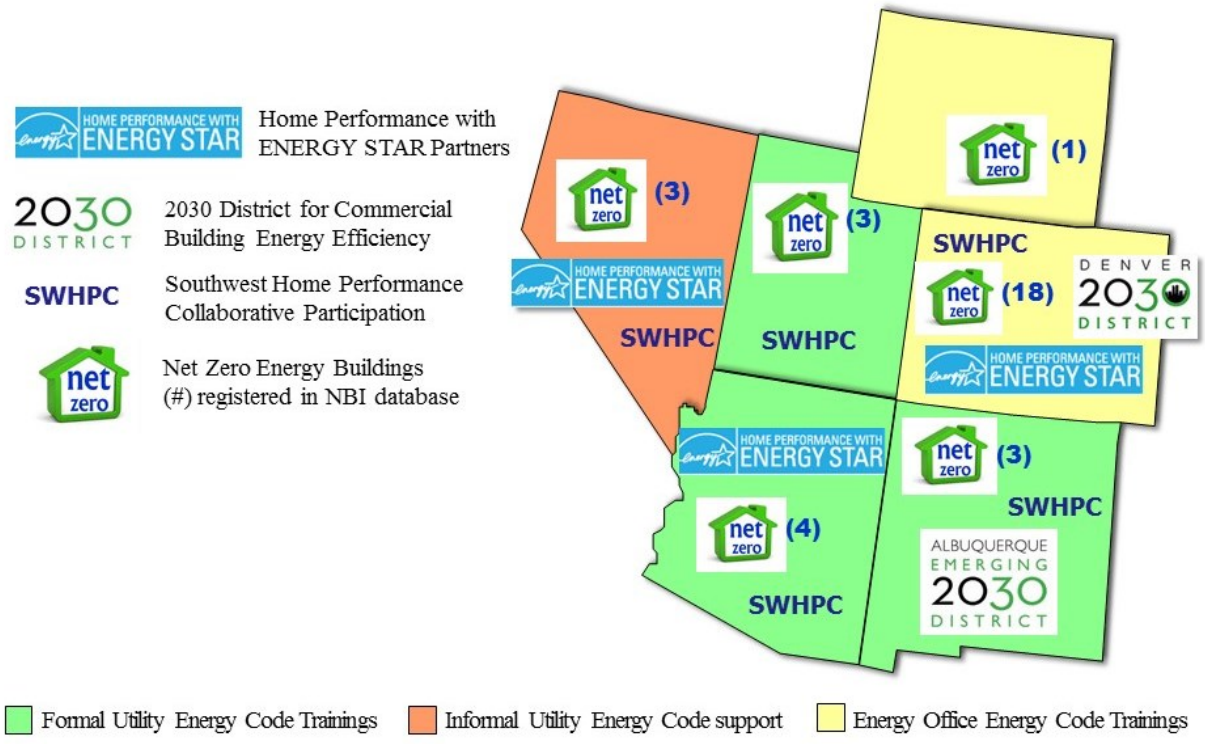
SWEEP has advocated to state energy offices and utilities the importance of energy code training as a mechanism for improving the energy efficiency of new homes and commercial buildings. In 2014, at SWEEP's urging, PNM initiated an energy code training program for the building industry as well as local code officials. PNM will continue to support code training in 2015 and 2016. This is important because the state energy office does not have the resources to conduct energy code training. In addition, in 2014, TEP received approval to implement an energy code support program; the new program kicks off in 2015.

Beyond Energy Code Activity

SWEEP continues to be active in the Southwest Home Performance Collaborative which covers the SWEEP states and Texas. The leadership changed in 2014 with key staff members at both APS and EnergyFit Nevada leaving their organizations. This has required additional time from SWEEP to coordinate the meetings. Collaborative members continue to show interest in learning from each other, but there is relatively little interest in expanding home performance programs because of the challenge of passing utility program cost effectiveness tests, as well the loss of ARRA funds which supported some of these programs. In 2014, SWEEP advised utilities and others on ways to implement whole house retrofit programs as cost effectively as possible.

In 2014, SWEEP submitted comments to the Colorado PUC as part of a docket on data access and privacy regulations. SWEEP partnered with the Institute for Market Transformation (IMT) and National Resources Defense Council (NRDC) to submit comments calling for reform of the onerous "15/15 rule" now on the books, which requires utility data aggregation for the purpose of whole building benchmarking and reporting only if the building contains at least 15 tenants with no single tenant comprising more than 15 percent of the total energy use. SWEEP, IMT, and NRDC argued in favor of a more relaxed standard for aggregation so that communities and building owners can more easily benchmark the energy performance of their buildings. SWEEP also recommended that utilities directly upload utility data into the ENERGY STAR Portfolio Manager tool. A Recommended Decision in this docket supported a much less onerous data aggregation standard than is currently in place, consistent with the recommendations of SWEEP, IMT and NRDC.

Figure 3 | Beyond Energy Code Adoption: Moving the Bar



SWEEP staff drafted a proposal in Colorado which would require commercial building benchmarking and energy rating disclosure at the time of sale. The proposal would require disclosure of energy consumption in large commercial and multifamily buildings. Additionally, the proposal encourages utilities to use ENERGY STAR Portfolio Manager "Web Services" where utilities can quickly transfer historical and monthly energy use in an electronic format. SWEEP consulted with several different stakeholders to discuss and refine the proposal and met with the Denver Department of Environmental Health to discuss strategies for implementing it. However, with opposition from the major utility in the state, the proposal did not advance in the 2014 legislative session. Denver is in the process of developing a voluntary benchmarking and disclosure program under the City Energy Project and SWEEP is supporting this effort.

SWEEP developed a number of state tax credit proposals for energy efficiency upgrades in new and existing buildings in Colorado in 2014. This was done in response to indications that there was excess state revenue and an appetite for tax credit proposals in the state legislature. One of our proposals, for tax credits for deep retrofit of single family homes, received support from the Colorado Energy Office which developed it into a CEO-backed bill. A second proposal, tax credits for highly efficient new commercial and multifamily buildings as well as for deep retrofit of multifamily buildings, was developed into a bill that received broad support by the private sector as well as other stakeholders including other clean energy and environmental groups. Both tax credit proposals were adopted by the Colorado House of Representatives but failed to advance in the state Senate, due mainly to political bickering in the 2015 legislative session.

On a positive note, SWEEP supported an extension of the Sustainable Building tax credits that was adopted by the New Mexico legislature in early 2015. Funding had run out for these popular credits for green and energy-efficient residential and commercial buildings (primarily new homes and new commercial buildings). These state tax credits are tiered in order to encourage very high levels of energy and environmental performance. For details, see http://www.nmlegis.gov/Sessions/15%20Regular/final/SB0279.pdf.

TRANSPORTATION PROGRAM

SWEEP's transportation program worked in 2014 with states, local governments and utilities to: 1) accelerate the purchase of electric vehicles; 2) improve the energy efficiency of trucks; 3) advocate for bus rapid transit (BRT) and multimodal transportation funding; 4) support the use of congestion pricing in managed lanes; and 5) raise awareness of the recent trend towards declining passenger vehicle miles traveled (VMT) per capita.

Electric Vehicles

In Utah, three policies that SWEEP advocated to support the adoption of electric vehicles (EVs) were adopted in 2014:

- HB 19 (http://le.utah.gov/~2014/bills/static/hb0019.html) clarifies that businesses and governments that install electric vehicle charging stations and "sell" the electricity to drivers are not regulated as public utilities.

- HB 74 (http://le.utah.gov/~2014/bills/static/HB0074.html) created $1500 EV tax credit.

- SB 99 (http://le.utah.gov/~2014/bills/static/SB0099.html) requires the state fleet to transition to 50 percent clean vehicles, meeting Tier 2, Bin 2 EPA standards, which include EVs, by Jan. 1, 2018.

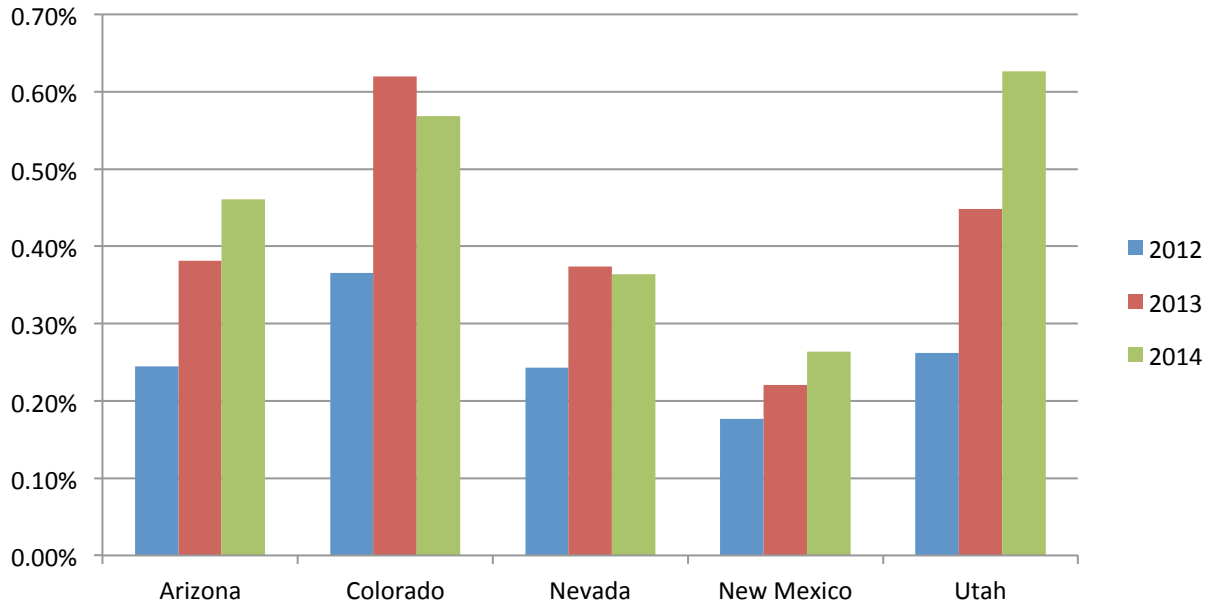
In Colorado, an EV policy that SWEEP proposed was passed in the 2014 legislative session. SB 28 broadened the allowable uses of the state Electric Vehicle Infrastructure Fund to allow investment in charging infrastructure where it will do the most to support the EV market. http://www.leg.state.co.us/Clics/CLICS2014A/csl.nsf/fsbillcont3/0EA7E915E4D734A487257C360075FEA7?Open&file=028_ren.pdf

In addition, SWEEP was successful in convincing the major utility, Xcel Energy, to modify their net metering policies to include future electricity demand from an EV.

SWEEP also worked with industry partners and the Colorado Department of Transportation (CDOT) to secure funding for a network of direct current (DC) fast charging stations on major statewide corridors. CDOT and Colorado Energy Office (CEO) agreed to include DC fast charging in a $15 million grant program that was initially targeted only at compressed natural gas (CNG) fueling stations along major corridors.

Colorado and Utah continued to rank as two of the top ten states for EV sales in 2014. The highest market penetration for EVs in the United States was in Oregon and California, where EVs represented 1.6 percent and 1.4 percent of new vehicle sales respectively. In Colorado and Utah, EVs represented around 0.6 percent of new vehicle sales (see chart below). In addition, EV sales are increasing in the other southwest states of Arizona, Nevada and New Mexico.

Figure 4 | Fraction of New Vehicle Sales that are Electric Vehicles in the Southwest



Heavy Duty Vehicles

SWEEP worked with the Colorado Motor Carriers Association in 2014 to establish tax credits for medium and heavy-duty trucks that operate using alternative fuels. The tax credits also create incentives for fleets to adopt energy saving practices from the EPA SmartWay Program. This proposal was originally a CNG vehicle incentive, and we successfully argued to broaden it to include EVs, hydraulic hybrids, and EPA SmartWay efficiency improvements. For EVs, it established a $15,000 tax credit for medium duty vehicles and $20,000 for heavy-duty vehicles.
http://www.leg.state.co.us/clics/clics2014a/csl.nsf/fsbillcont3/C2861ABC32788A7D87257C3000070D50?open&file=1326_01.pdf

Another innovative aspect of this legislation was language to tie future tax credits for electric and CNG trucks to the lifecycle greenhouse gas emissions, including fugitive methane leaks throughout the natural gas fuel cycle.

SWEEP also worked with CDOT and CEO on a $15 million CMAQ-funded program to support alternative fuel medium- and heavy-duty vehicles. Initially, the agencies proposed funding only CNG

trucks; we succeeded in getting this broadened to include electric trucks and buses, with grants of up to $35,000 per vehicle. http://cleanairfleets.org/programs/alt-fuels-colorado

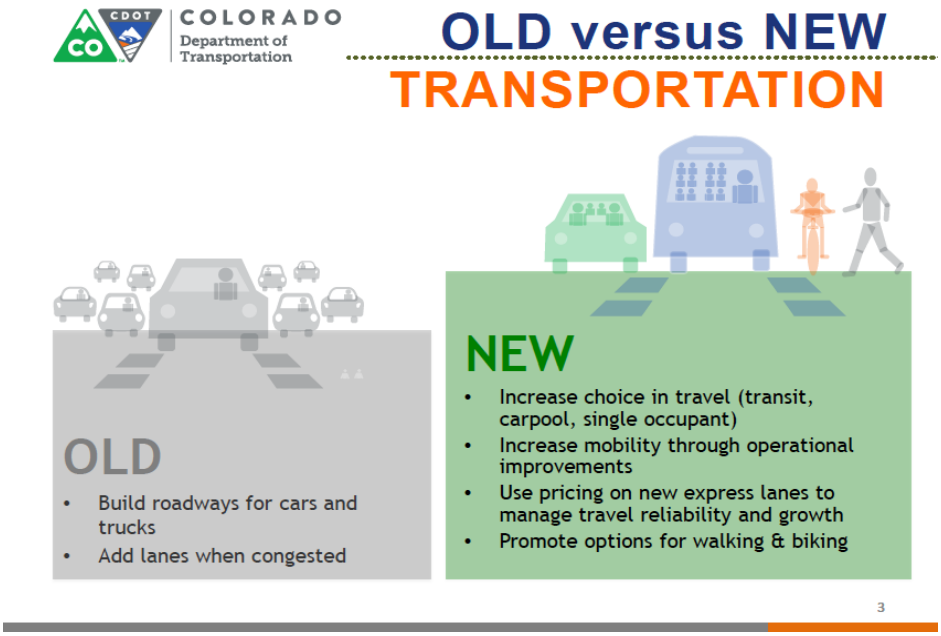
In response to the urban air quality problems in the Wasatch Front in Utah, policy makers updated the state's clean fuel grant program. We supported focusing this on the replacement of older, dirtier and less efficient vehicles, and to include grants for electric and diesel electric hybrids, not just CNG vehicles. HB 61 broadened the Clean Fuels and Vehicle Technology program to support EV charging and plug-in hybrids. http://le.utah.gov/~2014/bills/hbillhtm/hb0061.htm

Bus Rapid Transit and Multimodal Transportation Funding

SWEEP worked with CDOT in 2014 to help them transition from a highway department to a true multimodal transportation department. CDOT is now reflecting this vision in its goals, as indicated in CDOT's slide below.

As part of this effort, SWEEP participated in a statewide coalition considering a 2014 state transportation funding ballot issue. This effort was suspended after poll results suggested that a state tax increase was not winnable in 2014. However, we were able to help craft the poll questions, and the results were important for helping key public and private sector decision makers understand that future efforts must focus on much more than simply expanding highways. The polling showed that there is far more public support for expanded transit, safe routes for children, and bicycle and pedestrian infrastructure, than there is for expanding roads.

Figure 5 | Old versus New Transportation



Graphic reprinted courtesy of Colorado Department of Transportation

We also participated in the study in 2014 that is defining the remaining portion of the Denver area FasTracks transit system. Earlier plans called for commuter rail in the northwestern portion of the region, but it is now clear that far better service can be offered at much lower cost through a robust bus rapid transit (BRT) system, and that rail service is probably not feasible. There were significant challenges getting political and community leaders to shift their support from rail to BRT. We were very successful in building support for BRT options, helping to get a favorable editorial by the Denver Post (http://www.denverpost.com/editorials/ci_25137100/rtds-northwest-corridor-its-time-board-brt) and a favorable vote by the board of the Regional Transportation District (RTD) to put the rail on hold and move the BRT plan forward. We are now exploring new funding mechanisms, including one that would impose new parking fees and bond against these revenues to invest in BRT. We also published a concept paper for a much-expanded regional BRT network in the metro Denver area. http://www.swenergy.org/data/sites/1/media/documents/publications/documents/Regional_BRT_in_Denver_Oct_2014.pdf

Managed lanes

In Colorado, SWEEP worked in 2014 to get additional policy direction stating that managed lanes shall be designed to maximize travel of *people* (not just vehicles). Doing so would make the most of the transportation investment. We are also advocating that a portion of toll revenues support transit and/or travel demand management. Some of our recommendations were incorporated into policy adopted by the state transportation enterprise in July. http://www.coloradodot.info/programs/high-performance-transportation-enterprise-hpte/informational/hpte-transparency-policy.pdf

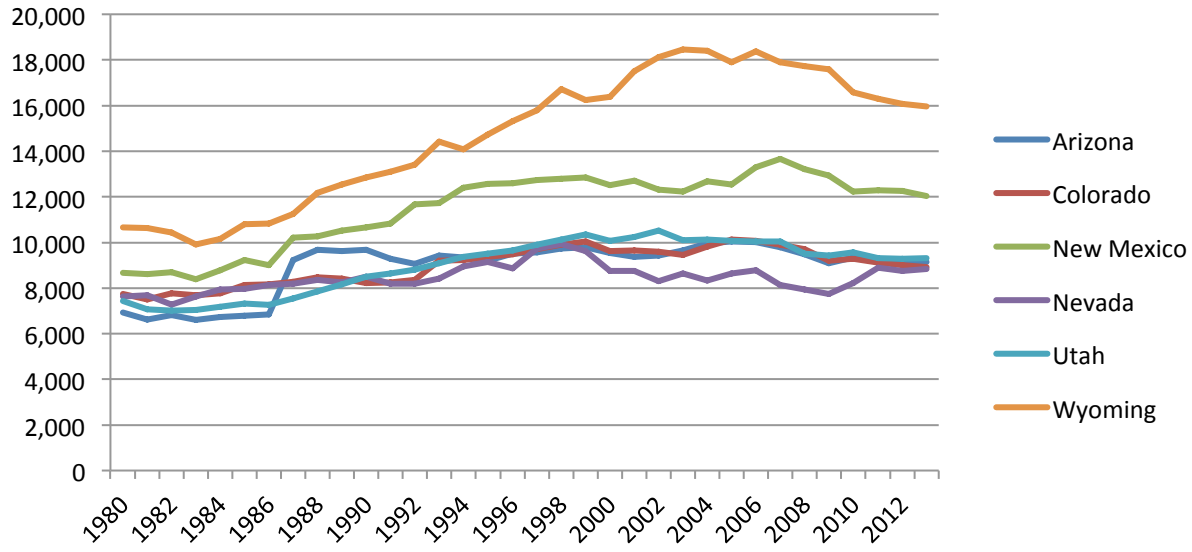
SWEEP also completed a well-received policy analysis supporting an improved managed lane policy, released in April. http://swenergy.org/data/sites/1/media/documents/publications/documents/Managed_Lanes_in_CO_April_2014.pdf

Vehicle Use Trends

After fifty years of annual growth, VMT per capita began flattening out and even declining approximately a decade ago. The most recent data are available for 2013. The chart below shows VMT per capita from 2000 to 2013 in the six southwestern states.

This trend is extremely important to achieving reduced energy use and emissions from transportation. At the previous rate of VMT growth, efforts to increase the efficiency of the vehicle fleet were largely offset by increases in driving. If the decline in VMT per capita can be sustained, significant reductions in total energy use for personal transportation will be possible. SWEEP worked in 2014 to educate transportation planners and other policy makers about these trends. Increasing the awareness of the trends is particularly important in order to avoid excessive planning for, and investment in, highway expansion.

Figure 6 | Passenger Vehicle Use Trends in the Southwest (VMT per capita)



INDUSTRIAL AND CHP PROGRAMS

Industrial Energy Efficiency

With renewed funding from the U.S. Department of Energy (DOE), SWEEP restarted the Colorado Industrial Energy Challenge (CIEC) program in 2014. We began by re-engaging previous members of the program, encouraging them to recommit to participation and to renew their five-year energy goals. Twenty industrial facilities in Colorado are participating in the renewed program. SWEEP organized and led two successful networking meetings in 2014 where facilities managers at current and prospective member companies learned about new energy-saving strategies and technologies and discussed recent successes and challenges.

The Utah Industrial Energy Challenge (UIEC) also was restarted in 2014. Working through our partner Utah Clean Energy (UCE), SWEEP conducted a survey of which industrial energy efficiency topics companies are interested in for networking meetings. Top responses included energy management and information systems (EMIS), lighting efficiency, and achieving efficiency improvements through behavioral change. SWEEP and UCE organized and led a successful networking meeting at eBay's data center in the Salt Lake City area.

SWEEP worked on improving the design of utility energy efficiency programs so that they are more attractive to industrial customers in 2014. SWEEP recommended changes related to industrial efficiency as part of our comments on comprehensive DSM programs implemented by Xcel Energy in Colorado; PNM in New Mexico; Sierra Pacific Power Co. in Nevada; and TEP, APS, and SRP in Arizona. Partly due to our recommendations, Xcel Energy and PNM proposed improvements to their offerings for large customers. Xcel will implement an EMIS program to complement its other industrial offerings related to strategic energy management (SEM). PNM is adding training for energy managers.

The oil and gas sector has typically been a challenging sector for energy efficiency improvements and utility DSM program participation. In 2014, SWEEP organized a webcast for utilities in our region on how to achieve more energy savings from this sector. The presenter emphasized that it takes persistent effort to reach out and engage with these customers, but the effort is worthwhile. Participants included Rocky Mountain Power (Utah and Wyoming), Xcel Energy (Colorado and New Mexico), and Black Hills Energy (Colorado).

Utility SEM programs were another area where SWEEP continued to focus its efforts in 2014. We helped to plan and organize a national webinar for more than 60 utilities and consultants on the challenges and opportunities presented by utility SEM programs. Several utilities that attended the webinar are planning to create new SEM programs in the near future.

Combined Heat and Power (CHP)

SWEEP continued to lead the region's efforts to increase the adoption of clean, cost-effective, reliable, and well-designed CHP systems. Through a contract with DOE (which includes CHP technical assistance and promotion in Texas and Oklahoma as well as in southwest states), SWEEP worked directly with regional businesses and organizations interested in CHP to help them evaluate technical and financial feasibility and walk them through the project development process, thus reducing the upfront barriers to CHP adoption. In 2014, we provided technical assistance and CHP feasibility evaluations to approximately 40 city and county buildings, military bases, universities, hospitals and manufacturing facilities.

Examples of recent and notable CHP installations in our region include a 3,200-kW system in Utah fueled by renewable biogas from swine waste, a 100-kW system at a hotel in Arizona, an 850-kW system in Texas fueled by renewable biogas at a wastewater treatment plant, and a number of new systems at industrial and manufacturing facilities in Texas. In addition, the University of Colorado at Boulder is restarting and expanding its CHP system to meet its greenhouse gas reduction goals and save the campus money.

To help inform companies interested in CHP, SWEEP published a short paper, *Financing Options for Combined Heat and Power Systems*. Lack of capital and/or lack of financing options is often a significant barrier to implementation of CHP projects. The paper discusses capital leases, operating leases and energy service agreements in particular.
http://www.swenergy.org/data/sites/1/media/documents/publications/documents/Financing_Options_for_CHP_Feb_2014.pdf

SWEEP also addressed policy barriers to CHP through intervention in utility regulatory dockets, briefings to utility personnel and regulators, and research and information sharing on best-practice policies. At SWEEP's urging, Xcel Energy-CO proposed some new incentives for fuel-free and emission-free waste heat to power (WHP) systems that qualify under Colorado's Renewable Energy Standard. We provided testimony to the Colorado PUC regarding Xcel Energy's proposed WHP incentives. Our testimony recommended larger size thresholds for WHP systems to be eligible for incentives as well as more

attractive incentives, along with recommendations to reform onerous standby rates. The administrative law judge and the PUC ruled in favor of SWEEP's recommendations for higher and stronger incentives.

SWEEP also intervened and prepared formal comments to Utah's Public Service Commission (PRC) on standby rates in RMP's service territory in the state. Our comments made detailed suggestions for how the standby rates for CHP projects could be improved to be more fair, market-based and transparent. The docket reached a Settlement Agreement between the parties that was accepted by the Commission. The Settlement Agreement includes much lower standby rate components than were originally proposed and includes several best-practice standby rate design principles. In addition, standby rates will now apply only to systems between 1-15 MW. Systems smaller than 1 MW will be on the regular General Service tariff, and systems larger than 15 MW can negotiate a special contract.

SWEEP collaborated with ACEEE, Alliance for Industrial Efficiency, Institute for Industrial Productivity and other industry stakeholder groups on comments to EPA clarifying how CHP should be treated under the Section 111(d) Clean Power Plan. Our joint comments emphasized that EPA should allow smaller, non-regulated CHP facilities to help states achieve compliance with the CO_2 emissions standards. SWEEP also submitted its own comments to EPA on how CHP should be treated under Section 111(d). Our comments addressed how to properly calculate greenhouse gas emission reductions from CHP, including the equivalent amount of electricity savings to credit for unregulated CHP facilities, and the equivalent amount of thermal output to credit for regulated CHP facilities.

SWEEP also arranged briefings on CHP and district energy/micro-grids for the members of the Arizona Corporation Commission (ACC). As a result of the briefings, one commissioner moved that the ACC again take up the issue of interconnection standards, a key barrier to CHP in Arizona. SWEEP wrote a memo to the Commission, outlining the reasons for approving a new interconnection standard for CHP, tracing the status and history of interconnection development in Arizona, and noting best-practice policies for streamlined interconnection standards. We expect the ACC to move forward in revamping the state's interconnection standards in 2015.

FEDERAL, STATE AND LOCAL ENGAGEMENT

SWEEP was very engaged in efforts to influence EPA's Section 111(d) Clean Power Plan rule in 2014. Working with the other REEOs, we advocated that the EPA include energy efficiency potential in establishing state emissions reduction goals and allow states to use energy efficiency as one of its compliance strategies. This approach was adopted by the EPA in the proposed rule issued in June, 2014. Following the proposed rule's release, SWEEP met with state energy and environmental officials to discuss the contribution that energy efficiency could make as a cost-effective CO_2 emissions reduction strategy. We also prepared detailed comments on energy efficiency-related aspects of the proposed rule that were submitted to the EPA in November. Our comprehensive comments can be viewed at: http://www.swenergy.org/news/regional?Year=2014#459

SWEEP's comments on the proposed rule included the following recommendations:

- Increase the amount of energy savings assumed in the energy efficiency building block for the purpose of establishing state CO_2 emissions reduction goals.
- Allow states to include a wide range of utility and non-utility energy efficiency policies and programs in their state implementation plans.
- Allow states to get credit for CO_2 emissions reductions from the adoption of CHP systems.
- Provide energy savings credits based on the gross energy savings from energy efficiency policies and programs.
- Allow states to include energy efficiency policies and programs in their implementation efforts without each specific policy or program being directly enforceable by the EPA.
- Require evaluation of all energy efficiency programs that claim energy savings credits using guidance and protocols established by the EPA.
- Allow states to adjust mass-based CO_2 emissions reductions goals so that they do not discourage the adoption of EVs.

In addition to submitting comprehensive comments, SWEEP submitted specific comments to the EPA on the treatment of combined heat and power in the rule and how the rule can be modified to best support adoption of electric vehicles. Many of our recommendations were also reflected in comments submitted by the other REEOs.

SWEEP supports state and local government efforts to improve energy efficiency with public sector buildings and facilities, as well as more broadly in a state or community as a whole. In 2014, we were especially active in Utah, where we provided extensive input on the *Energy Efficiency and Conservation Plan* issued by Governor Herbert. http://www.swenergy.org/news/regional?Year=2014#445

In addition, our partner UCE participated in Utah's Clean Air Action Team, which developed a set of recommendations to reduce air pollution in Utah that included a number of energy efficiency recommendations: 1) adopt the 2015 IECC in Utah, 2) move forward with Property Assessed Clean Energy (PACE) financing for energy efficiency retrofits, 3) require HERS ratings for all homes listed in MLS platforms, and 4) increase awareness of utility energy efficiency incentive programs. http://www.swenergy.org/Data/Sites/1/media/documents/news/news/file/Utah%20Clean%20Air%20Action%20Team%202015%20Recommendations.pdf

One of the mechanisms that we used to support most of this work is a Local Government Working Group. This group provides opportunities for outreach to public sector entities at both the local and state level, peer-to-peer support, and identification and showcasing of best practices. The group grew to over 100 participants from all six southwest states in 2014. In addition, we developed informal partnerships with the Alliance for a Sustainable Colorado, International Council for Local Environmental Initiatives (ICLEI) and the Urban Sustainability Directors Network that will facilitate the ongoing growth and evolution of the group.

In 2014, we developed and distributed a survey to the Local Government Working Group to collect information on data tracking and management practices, energy savings goals and progress towards goals, progress in adopting LED street lighting, energy efficiency financing practices, and more. We received responses from 30 local governments and four states: the data was compiled and used for developing follow-up activities such as webinars in areas of high interest to Working Group members.

Xcel Energy-CO is pursuing a new LED street lighting program as well as enhanced rebate opportunities for outdoor LED lighting. Working with local government partners, SWEEP encouraged the utility to move forward with the program. We recommended specific program strategies, commented on initial proposals, and engaged in the PUC review process. One success is related to a shift from custom rebates to more customer-friendly prescriptive rebates for outdoor LED lights. The other is related to a new opt-in rate tariff option for cities that wish to have Xcel-owned poles in their community retrofitted with LED fixtures. Xcel Energy proposed replacing old sodium vapor street lights with energy-efficient LED lights at no upfront cost to the communities. The charge per light fixture, as proposed, will offer some cost savings to communities while cutting electricity use by around 50 percent. The new street lighting program and tariff are expected to be approved in 2015.

SWEEP was also active in discussions regarding PACE financing programs in Colorado and Utah in 2014. In particular, we supported our partner UCE to lead and convene an advisory committee that provided recommendations on the design, structure and administration of a PACE program for energy efficiency improvements of commercial buildings in Utah. The Utah Office of Energy Development is expected to launch and administer the commercial PACE program in 2015.

SWEEP supported an array of efforts to improve data access and utilization in 2014. We hosted two webinars for members of the Local Government Working Group, one on mandatory benchmarking and reporting policies and the other on data access and utilization more generally. With our partner UCE, we supported the data accelerator effort in Salt Lake City. Much progress was made in 2014 and public sector entities (and others) throughout the Rocky Mountain Power service territory in Utah will have access to digital utility information in 2015.

SWEEP provided direct technical assistance to individual local and state governments in 2014 in the areas of LED outdoor lighting, financing of public sector energy efficiency projects, guidance on navigating regulatory and programmatic frameworks, and program design/financing. In addition, SWEEP assisted the Colorado Energy Office in an effort to demonstrate and encourage the use of performance contracting and energy service company (ESCO)-led energy retrofits of privately-owned commercial buildings in Colorado.

COMMUNICATIONS

Through efforts to support the initiatives of our program staff and state representatives, SWEEP communications generated 120 positive media stories and broadcasts covering energy efficiency work in all of our program areas in 2014. SWEEP's communications efforts helped support the adoption of key policies in several of our states. Highlights include:

- During a year in which three states scrapped their energy efficiency resource goals (Ohio, Indiana and Florida), SWEEP communications played an important role in countering a fourth proposed rollback, this one in Arizona. In close coordination with SWEEP's state representatives in Arizona, SWEEP communications implemented a press campaign that developed messaging and focused upon making influential voices heard in major newspapers and legislative press. The response was very positive, resulting in more than 30 articles and broadcasts that conveyed our messaging.


ARIZONA REPUBL
azcentral.com
January-June, APS subsidized 1 million low-energy bulbs,
NCAA
Valley
Final
ded customers with more than 2,000 home energy audits,

- SWEEP communications supported a policy change to Colorado's utility data privacy rules that was heard by an administrative law judge at the Colorado PUC. We worked with a prominent Denver developer to develop an op-ed that appeared in the Denver Post. As a result, the developer received a call from a state legislator who promised legislative support if the PUC did not loosen strict utility data privacy rules. We also generated public radio and media coverage of the issue. The result was that a preliminary decision did loosen data privacy rules.

- SWEEP communications issued several press releases and generated 12 different media stories about our transportation initiatives in Colorado.

- In anticipation of a legislative effort in early 2015 to establish an energy efficiency resource goal in Nevada, SWEEP communications successfully placed 12 different stories on the benefits of energy efficiency to Nevada businesses and citizens, including several articles that noted that utility investment in energy efficiency was declining in that state.

- Also in Nevada, SWEEP communications supported a SWEEP report showing that Nevada needs stronger policies to support sales and use of electric vehicles. Our press release tied the report to news that Tesla would be locating its battery factory in Nevada, and that hook resulted in at least 24 different media stories covering our report.


Electric car report: Nevada needs to do more

- SWEEP used the national Earth Day, Electric Vehicle week and ACEEE State Energy Efficiency Scorecard to generate positive stories about energy efficiency and efficient transportation in 2014.

- We doubled our Twitter social media following to almost 1,000 and kept our "klout" score to 45 through retweets, favorites and click-throughs. Also, we used Twitter to support campaigns of other regional energy efficiency organizations.

- With the help of Resource Media, we conducted a well-received in-house staff training on effective PowerPoint presentation techniques.

SWEEP communications continues to strengthen our relationships with reporters and thought leaders in our region, and this paid off well during our efforts in Arizona and Nevada. Several reporters now regularly contact SWEEP for comment on utility energy efficiency issues. SWEEP continues to develop relationships with the press and work on story development. All of the noteworthy 2014 press coverage is available on SWEEP's web site at http://swenergy.org/press-coverage.

In addition to the significant communications milestones listed above, SWEEP communications activity in 2014 included the following accomplishments in each state:

- **In Arizona**, SWEEP generated TV coverage and opinion supporting the state's new Efficiency First Arizona business coalition. We placed a stories recognizing APS for an energy efficiency award and TEP for its appliance recycling program and BrightEE awards program.

- **In Colorado**, SWEEP generated articles about business energy efficiency, CHP, utility solar programs for electric vehicle charging, and energy efficiency programs that benefit residents of low-income housing.

- **In Nevada**, SWEEP developed several stories on building energy efficiency.

- **In New Mexico**, SWEEP worked with the Green Chamber of Commerce to place an op-ed telling about the benefits of energy efficiency for small businesses. We generated media coverage in support of two legislative bills: one involving tax credits for efficient new buildings and another involving tax credits for electric vehicle purchases. Finally, we supported with media coverage a challenge to the state's energy efficiency construction code.

- **In Utah**, SWEEP worked closely UCE to showcase our report summarizing the air quality benefits of EVs and Utah laws that support use and purchase of electric vehicles. We also placed stories on business energy efficiency.

- **In Wyoming**, SWEEP developed relationship with a key reporter who actively covers energy efficiency; SWEEP was mentioned in an energy efficiency story he authored.

OTHER ACTIVITIES

SWEEP organized its ***Eleventh Annual Southwest Regional Energy Efficiency Workshop*** in Tempe, AZ in 2014. The workshop provided a forum for discussion of the latest trends and emerging themes in utility DSM programs in the region. The 2014 workshop also featured presentations on new and emerging technologies, net zero buildings, new homes programs, gamification of energy efficiency and the role of energy efficiency programs in EPA's Clean Power Plan. Presentations from the 2014 workshop are available at http://swenergy.org/workshop-archives.

SWEEP continued its partnership with the U.S. DOE and other regional energy efficiency organizations (REEOs) in 2014. With funding from DOE, all six REEOs are working within their regions in areas of mutual interest such as building code education and support, assistance to state and local governments, advancing energy efficiency in the industrial sector, and promoting emerging technologies within utility DSM programs. And as mentioned above, the REEOs have been collaborating in comments and outreach related to EPA's Clean Power Plan.

SWEEP started a new SWEEP Allies Program in 2014. The Program involves solicitation of financial support from energy efficiency businesses and other organizations that support SWEEP's mission. The Allies Program was launched in 2014 with 23 initial participants.

STAFF AND STATE REPRESENTATIVES (June 2015)

Howard Geller, Executive Director
Jim Meyers, Senior Associate and Director of Buildings Program
Will Toor, Senior Associate and Director of Transportation Program
Neil Kolwey, Senior Associate and Director of Industrial Program
Christine Brinker, Senior Associate and Director of the Southwest Combined Heat and Power Technical Assistance Partnership
Gene Dilworth, Operations Director
Suzanne Pletcher, Director of Communications
Mike Salisbury, Senior Associate
Ellen Zuckerman, Senior Associate
Ann Livingston, Program Manager for State and Local Engagement
Lauren Smith, Program Associate
Jeff Schlegel, Arizona Representative
Tammy Fiebelkorn, New Mexico Representative
Tom Polikalas, Nevada Representative
Kevin Emerson and **Sarah Wright**, Utah Representatives

PUBLICATIONS

The following reports were published in 2014 and are available on the SWEEP web site at http://swenergy.org/publications.

W. Toor and M. Salisbury. **Considering a Regional Network of Bus Rapid Transit in the Denver Metro Area**. Oct. 2014.

H. Geller, J. Schlegel and E. Zuckerman. **Maintaining High Levels of Energy Savings from Utility Energy Efficiency Programs: Strategies from the Southwest**. Sept. 2014.

M. Salisbury. **Air Quality and Economic Benefits of Electric Vehicles in Nevada**. Sept. 2014.

M. Salisbury. **NV Energy: Leading the Way on Electric Vehicles**. Aug. 2014.

M. Quaid and H. Geller. **Upstream Utility Incentive Programs: Experience and Lessons Learned**. May 2014.

W. Toor and M. Salisbury. **Managed Highway Lanes in Colorado: Everyone Benefits from Including Carpools and Public Transit.** April 2014.

M. Salisbury. **Policies to Promote Electric Vehicles in the Southwest: A State Government Report Card (2014 Edition)**. April 2014.

N. Kolwey. **Financing Options for Combined Heat and Power Systems**. Feb. 2014.

M. Salisbury. **Air Quality and Economic Benefits of Electric Vehicles in New Mexico**. Jan. 2014.

SUPPORTERS

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ACS Energy
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CLEAResult
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FirstFuel
Franklin Energy
General Motors
Honeywell
Itron
Jaco Environmental
Johns Manville
Leidos
Lockheed Martin
Nexant
Nissan
Opower
Osram Syvania
Philips
Proctor Engineering Group
Simplot
Tendril
The Edison Foundation Institute for Electric Innovation
The Weidt Group

This list includes all SWEEP Allies as of June 2015. More info about SWEEP Allies is available at http://swenergy.org/allies.