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State Clean Energy Resource Project (SCERP)

Efficiency in Action

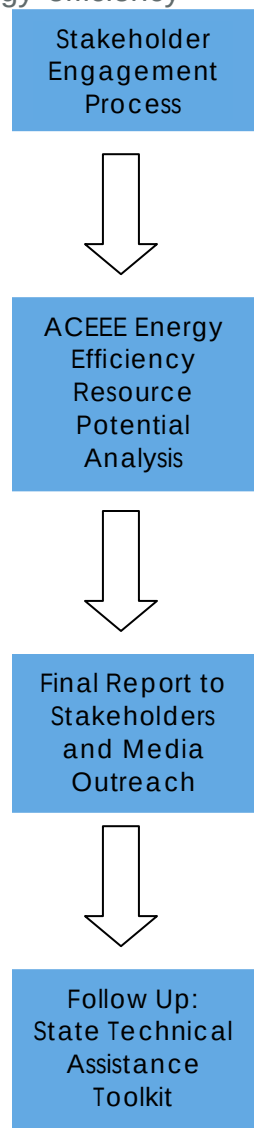
ACEEE and State Energy Policy

May 2010

Introduction

The American Council for an Energy-Efficient Economy (ACEEE) has worked as an unbiased research not-for-profit promoting energy efficiency at the state, regional, and federal level for thirty years, influencing policymakers from state capitals to Capitol Hill. Over the past few years, ACEEE has increasingly worked on the state level, as a growing number of state legislatures and governors are showing interest and leadership in energy efficiency.

ACEEE established a base for further state work with the 2007 publication of the *State Energy Efficiency Scorecard for 2006.*[1] This seminal report, now an annual effort, ranked all 50 states on a point system based on utility spending on energy efficiency programs and public benefits, energy efficiency resource standards (EERS), combined heat and power (CHP) programs, building energy codes, transportation policies, appliance and equipment efficiency standards, tax incentives, and state initiatives for research and development. The latest edition of the report, *The 2009 State Energy Efficiency Scorecard*[2]*,* was published in October 2009.



Using the *Scorecard* as a starting point, ACEEE identified a list of states on the cusp of implementing more progressive energy policies. These states became the focal point of ACEEE's State Clean Energy Resource Project, or SCERP. The intent is to create a series of state assessments of efficiency resources (and in some cases renewable resources), and for ACEEE to serve as a center of information and expertise in order to support clean energy policies at the state level.

SCERP utilizes a multiple step model, based on ACEEE's initial work in Florida and Texas in 2007. The first step is to identify and meet with the appropriate stakeholders (including government officials, utilities, industrial advocates, consumer advocates and environmental groups) to discuss ideas, concerns, and priorities. Following the meetings with state constituents, ACEEE performs its analysis of the state's overall energy efficiency resource potential, and then makes specific energy efficiency policy, regulatory, and program recommendations that become the heart of the final report. The third step is the outreach to the identified stakeholders to share the results of the study, generally through a combination of media events, presentations releases, and other communications tools. Copies of the report are made available at outreach events as well as on the ACEEE Web site. Lastly, ACEEE provides follow-up technical assistance to all SCERP states, mainly through the new online State Technical Assistance Toolkit.[3]

[1] The report is available at www.aceee.org/pubs/e075.htm.
[2] The report is available at www.aceee.org/pubs/e097.htm.
[3] The Toolkit is available at www.aceee.org/energy/state/toolkit.htm

Funding for SCERP comes from a variety of sources including national foundations and the federal government (DOE and EPA), as well as local funders. Being funded primarily through national foundation and governmental organizations confirms the credibility of ACEEE's work as an outside, objective resource. Having local funding from the state is also essential as it adds the value of local buy-in, stakeholder identification, and data acquisition support. ACEEE makes a strong effort to secure in-state funding before a project gets underway.

Following the two initial SCERP reports in Florida and Texas, ACEEE participated in a multi-organization project to analyze the economic and environmental impacts of the Governor of Utah's goal to boost energy efficiency in that state, and following that effort produced a study examining the job creation potential of energy efficiency in support of legislation in Michigan. The next major SCERP project, which culminated in February of 2008, was an energy efficiency resource potential study for Maryland. A study of Virginia's efficiency potential was published in September of 2008, and a transportation policy analysis for New Mexico was released as part of a larger study in November of that year. Potential studies for the states of Ohio, Pennsylvania, and South Carolina were released during 2009. Thus far in 2010 a study has been released for North Carolina and the SCERP process has begun for several additional states.

All of these projects provide analytical foundations on which effective in-state policy initiatives can be based. Through SCERP, ACEEE and its in-state partner organizations are establishing a new level of credibility for state clean energy advocates. Project reports for each state are available for free download on ACEEE's Web site: www.aceee.org/energy/state/scerp.htm.

What We've Accomplished

Since 2007, ACEEE has led or contributed to energy efficiency potential studies in eleven states: Florida, Texas, Utah, Michigan, Maryland, Virginia, New Mexico, Ohio, Pennsylvania, South Carolina, and North Carolina. Many of the recommendations made in these reports have resulted in legislation and/or executive orders, establishing energy efficiency and renewable energy portfolio standards, better building codes, and effective climate policies. More detail follows on each SCERP project in order of publication.

Florida

ACEEE undertook a study in late 2006, with support from the Turner Foundation and the Energy Foundation, to assess the potential for energy efficiency, renewable energy, and demand response to meet Florida's electricity demand. The study, initially released in February of 2007 and finalized in June of 2007, suggested a suite of energy policies that the state could adopt to achieve this potential, including:

- Utility-Sector Energy Efficiency Policies and Programs
- Appliance and Equipment Standards
- Building Energy Codes

- Advanced Building Program
- Improved Combined Heat and Power (CHP) Policies
- Industrial Competitiveness Initiative
- State and Municipal Buildings Program
- Short-Term Public Education and Rate Incentives
- Expanded Research, Development, and Demonstration Efforts
- Renewable Portfolio Standard (RPS)
- Onsite Renewables Program

The study sought to change the direction of the energy policy discussion in the state from a focus on supply-side investments in conventional power to demand-side investments in energy efficiency and renewable energy.

Governor Crist drew upon some of the recommendations in the report when he announced three Executive Orders at the Governor's *Serve to Preserve* Florida Summit on Global Climate Change in July of 2007. The three executive orders announced the Governor's intention to address global climate change, reduce Florida's greenhouse gas emissions, and increase the use of energy efficiency and renewable energy sources throughout the state.

Executive Order 07-126 — Directs the state to reduce its greenhouse gas emissions over time to 40% by 2025. The order specifies that the state will achieve the emissions reductions targets by constructing LEED-certified government buildings and requiring all office space leased by the government to be in energy-efficient buildings.

Executive Order 07-127 — Mandates reductions in greenhouse gas emissions in the state of Florida, and sets target levels: to 2000 levels by 2017, to 1990 levels by 2025, and to 80% of 1990 levels by 2050. Additionally, the Florida Building Commission is tasked with increasing the energy performance of new buildings by 15% from the 2007 Energy Code by 2009, and is charged with considering standards for appliances and lighting. The Order also requests that the Public Service Commission initiate a rulemaking to require utilities to produce at least 20% of their electricity from renewable sources, creating a Renewable Portfolio Standard (RPS).

Executive Order 07-128 — Created the Governor's *Action Team on Energy and Climate Change*, charged with creation of a comprehensive Energy and Climate Change Action Plan that will include policy recommendations addressing Florida energy policy, greenhouse gas emission reduction strategies, market-based regulatory mechanisms (i.e., cap and trade), and other proposals related to energy efficiency and conservation. The Governor has since appointed 27 members to the Action Team, who are tasked with developing strategies beyond the Governor's Executive Order to reduce greenhouse gas emissions.

Many of the report's energy policy proposals were also introduced in legislation, though several failed due to opposition by House Speaker Marco Rubio (R, District 111). Governor Crist vetoed the legislature's 2007 energy bill, saying it did not go far enough.

The 2008 comprehensive energy bill, HB 7135/ S 1544, passed the legislature and was signed into law by the governor at the 2nd Annual Climate Summit.

The 2008 Florida Energy Bill included a number of provisions recommended by the 2007 ACEEE report. Under this legislation, the Public Service Commission (PSC) must develop rules for an energy-efficient portfolio standard (EEPS), which would direct electric utilities to offset 20% of their annual load growth through energy efficiency and conservation, and a Renewable Portfolio Standard (RPS), which would specify that utilities provide a minimum percentage of electricity to their customers from renewable sources. Additionally, the PSC must evaluate the full technical potential of all available demand-side and supply-side efficiency measures using the Total Resource Cost when setting efficiency and demand response goals.

HB 697 (also passed in 2008) provided changes to the Florida Energy Efficiency Code for Building Construction, requiring that the Florida Building Commission (FBC) establish the most current version of the International Energy Conservation Code (IECC) as a baseline code. The FBC also must revise the Florida Energy Efficiency and Conservation Act (the state building energy code) so as to increase efficiency standards by 50% by 2019. Additionally, public buildings must meet recognized green building standards, namely the LEED standard. The 2007 Florida Energy Code was updated in March 2009 with standards 15% better than was originally established for the 2007 code. The 2010 code development effort is well underway at the FBC, with IECC 2009 set as the "base" for Florida (with some local adjustments principally for in-place higher efficiency standards and hot/humid climate accommodations). The current code modification cycle should conclude in 2010 with steps leading to 2010 code implementation in 2011 or early 2012. This will result in the 2012 new home being 20% more efficient than a 2007 new home. Subsequent triennial code cycles, for 2013, 2016 and 2019 are scheduled to require buildings 30%, 40%, and then 50% more efficient than a 2007 new building.

In early 2009, the legislature received the RPS proposal developed by the PSC as directed, but the lawmakers were unable to deliver to the Governor a bill agreeable to both statehouse chambers. The Florida Senate concluded with a "Clean Energy Standard" proposal, in aggregate targeting a 20% renewable energy standard (albeit with a 5% option for nuclear power, cast as a no-/low-carbon resource), but the Florida House did not get any committee support and failed to endorse the PSC RPS recommendation or develop a renewable energy alternative.

In 2009, the PSC pressed through its at-least-every-five-years DSM process mandated by the Florida Energy Efficiency and Conservation Act (FEECA) with the state's five IOUs and its two largest municipal electric utilities (the 7 FEECA utilities). After several rounds of hearings, with only modestly successful intervention by fellow energy efficiency advocates SACE and NRDC, the PSC issued an order with energy efficiency goals for the FEECA utilities of only 3.5% cumulatively of forecast energy sales (GWh) by 2019.[4] This contrasts with the substantially higher targets recommended both by the

[4] Florida PSC Docket Nos. 080407-EG – 080413-EG; Order No. PSC PSC-09-0855-FOF-EG

PSC staff's hired expert consultant and by SACE, NRDC, and their consultants, which were cumulative targets of 8.2% and 9% respectively, of forecast 2019 electricity use across residential, commercial and industrial economic sectors.

The 2010 Florida legislature has received bills proposing again the earlier PSC RPS recommendation (SB 744), the "Clean Energy Standard" (SB 596) and various other measures to adjust elements of efficiency and renewable energy prospects, including PACE funding mechanisms, solar energy incentives, and RE manufacturing investment tax credits.

The PSC released the Renewable Portfolio Standard draft rule on January 30, 2009, which included an aggressive standard of 20% renewable energy production by 2020. The PSC also included interim goals to ramp up to the overall target, including 7% renewable energy production by the beginning of 2013, 12% by 2016, and 18% by 2019.[5]

Texas

The Electric Reliability Council of Texas (ERCOT), which operates the electricity grid for most of Texas, forecasts that peak electricity demand on the ERCOT system will increase by 2.3% annually from 2007 to 2012. In order to keep up with the state's rapid growth in peak demand, Dallas-based utility TXU announced during the summer of 2006 its intention to build 11 new coal-fired power plants. In an effort to present an alternative to coal power and shift the focus away from conventional supply-side solutions, the Energy Foundation approached ACEEE with the idea of developing a report detailing how the increased peak demand could be met through a combination of energy efficiency and renewable energy.

The final report, *Potential for Energy Efficiency, Demand Response, and Onsite Renewable Energy to Meet Texas' Growing Electricity Needs*, was published in March of 2007. The report argued that Texas could attain much more from energy efficiency, the least-cost resource available to meet growing electricity demand. ACEEE's analysis found that a combination of efficiency and renewable energy resources, coupled with expanded demand response programs, could meet 107% of the projected growth in summer peak demand by 2013, negating the need for new coal-fired supply. The portfolio of policy recommendations included:

- Expanded Utility-Sector Energy Efficiency Improvement Program
- New State-Level Appliance and Equipment Standards
- More Stringent Building Energy Codes
- Advanced Energy-Efficient Building Program
- Energy-Efficient State and Municipal Buildings Program
- Short-Term Public Education and Rate Incentives
- Increased Demand Response Programs
- Combined Heat and Power (CHP) Capacity Target

[5] For more information, see www.floridapsc.com/home/news/index.aspx?id=492

- Onsite Renewable Energy Incentives

ACEEE's recommendations were used in the spring of 2007 to support HB 3693, a bill that included many energy efficiency mechanisms intended to alleviate the near-term peak demand crisis. The bill was passed by the Texas legislature during the summer of 2007 and achieved its aim—of the 11 new coal plants originally planned, only 3 will be built. The final bill included provisions to decrease energy consumption in schools, state agencies, and public housing and increase the energy efficiency requirements for state agency equipment purchases. A sales tax holiday was created for certain ENERGY STAR-rated appliances. The bill allows the State Energy Conservation Office to adopt the latest International Residential Code or the International Energy Conservation Code standard, and encourages electric utilities to create efficiency-related incentive programs for customers. Additionally, electric utilities are to create individualized home electric energy reports for the purpose of customer education. The 2007 bill increased Texas' EEPS to 20% of load growth by the end of 2009 and required a study to see whether the target could be increased to 30% of load growth for 2010 and 50% in 2015. The study, released in December 2008, found these targets were reasonable and attainable for the majority of utility service areas. The study did suggest, however, delaying the adoption of the initial proposed energy and peaking savings goals from 2010 to 2012 to allow utilities sufficient time to ramp up programs.

In 2009, the Texas Legislature considered a variety of bills relating to increasing energy efficiency in the state, none of which passed. HB 280 would have required the state's electric utilities to acquire cost-effective energy efficiency equivalent to at least 30% of the utilities' annual demand growth (in the residential and commercial sectors) by the end of 2011; 40% reduced demand growth by the end of 2013; and 50% reduced demand growth by the end of 2015. A similar bill, proposed in the Senate (SB 546), would have required that energy efficiency meet at least 20% of annual growth in demand by Dec. 31 2009; 30% of annual growth (or 0.3% of total peak demand) by 2013; and 50% of annual growth (or 0.7% of total peak demand) by 2016. SB 601 would have altered the energy efficiency performance metric such that electric utilities would need to reduce 0.5% of peak demand by Jan. 1, 2012 and 1% of peak demand by Jan 1, 2015 using energy efficiency.

The PUCT recently proposed a new Energy Efficiency Rule (amends Section 25.181 of the commission's substantive rules). On January 29, 2010, the PUC approved a staff proposal for public comments for publication. The current requirement is that the utilities acquire energy efficiency from REPs and ESCOs equivalent to 20% of the growth in demand within their service territories. The proposal would increase the goal in terms of a percentage of growth in demand, and later change the goal to a more stable baseline as recommended in the PUC's interim study to the total non-industrial load:

- 30% of growth in demand by 2012.
- 40% of growth in demand or .7% of peak demand by 2013, whichever is greater.
- 50% of growth in demand or 1% of peak demand by 2014, whichever is greater.[6]

[6] For more information: www.goodcompanyassociates.com/files/manager/EERuleChange.pdf

Utah

In April of 2006, Governor John Huntsman signed Executive Order 2006-0004, establishing a goal of increasing energy efficiency in Utah by 20% by 2015. To achieve this goal, the Southwest Energy Efficiency Project (SWEEP) and other organizations were brought in to evaluate options and establish the economic and environmental impacts of meeting the governor's goal. ACEEE developed the transportation policy options for the final report, *Utah Energy Efficiency Strategy: Policy Options*, which was published in October of 2007. Transportation options discussed in the report include:

- Development of clean car standards
- Incentives for purchasing more efficient cars and light trucks (feebates)
- "Pay as You Drive" auto insurance
- Development of strategies to decrease the rate of growth in vehicle-miles traveled
- Enforcing highway speed limits
- Improving the efficiency of heavy-duty trucks and goods movement systems
- Replacement tire efficiency standards

As a result of ACEEE's work with SWEEP, and other reports related to energy efficiency in Utah, the Utah state legislature has developed several bills pertaining to the governor's energy savings target. House Bill 106, passed in March of 2008, establishes clean air and efficient vehicle tax incentives, including a $1,000 incentive for vehicles meeting air quality and fuel economy standards, and exempting clean fuels from taxes on motor fuels.

Michigan

In January of 2007, the Michigan Public Service Commission (MPSC) published a report, the *21st Century Electric Energy Plan*, which found that energy efficiency and renewable energy technology could help meet the state's growing need for electricity. The following December, a bill was introduced in the Michigan House of Representatives that would establish a Michigan Energy Efficiency Program (HB 5525). The bill would require electric utilities to create specific efficiency goals for each customer class. Electric utilities would have to save 0.3% energy per year for 2008-2009, ramping up to 1% per year in 2012. Natural gas utilities would do likewise, starting at 0.1% per year in 2008 and increasing to .75% annual savings in 2012.

ACEEE's utility researcher Marty Kushler was deeply involved in crafting HB 5525, and once the bill was introduced he worked with ACEEE staff economist Skip Laitner to develop additional support by producing an analysis of the bill's potential for job creation

in Michigan. ACEEE's report, *More Jobs and Greater Total Wage Income: The Economic Benefits of an Efficiency-Led Clean Energy Strategy to Meet Growing Electricity Needs in Michigan*, analyzed the *21st Century Electric Energy Plan* to determine whether the MSPC's approach would, in addition to saving energy, also be economically beneficial to Michigan. The report asserts that by 2023, the last year of the economic model used, in-state jobs would increase by between 3,900 and 10,000 annually depending on the level of energy efficiency investments. The greater the state's investment, the greater the number of new jobs will be.

The final bill (SB213) was passed by the legislature in September 2008, and contains an EERS that starts with an annual electricity savings requirement of 0.3% of total sales in 2009, ramping up to 1% per year by 2012, and continues at that level each year thereafter (0.75% for natural gas utilities). This signals a major achievement for Michigan, which has had no utility energy efficiency resource programs since 1995.

The new Michigan legislation also authorizes "shareholder incentives" for utilities that exceed the energy savings requirements, and contains a provision allowing for "decoupling" for natural gas utilities that provide energy efficiency programs. The legislative package also includes a renewable portfolio standard (RPS), which ramps up to 10% of total sales by 2015.

Maryland

In 2007, Maryland Governor Martin O'Malley announced a statewide goal to reduce electricity use per capita by 15% by 2015.[7] Although his proposal came too late in the year to influence policy decisions in 2007, it was put on the docket for action in 2008. To assess the energy efficiency potential in Maryland and alert the state to opportunities to meet the Governor's goal, ACEEE published the report, *Energy Efficiency: The First Fuel for a Clean Energy Future — Resources for Meeting Maryland's Electric Needs* in February of 2008. This report evaluates the electricity energy efficiency resources in the state and measures the potential electricity savings and macroeconomic impacts of six key energy policies:

- Development of an EERS to codify the governor's efficiency target and extending it to 2025
- Appliance efficiency standards
- Tighter building codes
- Clean energy RD&D initiative
- CHP-enabling policies
- Expanded utility demand response programs

[7] Based on 2007 levels.

In April of 2008, the Maryland legislature passed two significant bills into law. *EmPOWER Maryland*[8] codifies the governor's aforementioned goal, and establishes a statewide goal of a 15% reduction in per-capita electricity consumption and a 15% reduction in per-capita peak demand, using 2007 as the base level. The Public Service Commission (PSC) will oversee utility plans to achieve 10% reduction in energy consumption and 15% of peak demand reductions by 2015. The other 5% of energy savings will come from a variety of policies, including new and upgraded appliance standards and building codes at the state and federal level, and various energy efficiency programs administered or funded directly by the state. The second bill[9] facilitates the state role by establishing a strategic energy investment fund, to be supported by proceeds of carbon dioxide emission allowances auctions under the Regional Greenhouse Gas Initiative (RGGI). The money will be split, with roughly half going toward energy efficiency programs and consumer education, and the other portion to renewables, and for use as a pass-through rate relief measure. Additional legislation has set a LEED Silver standard for schools and state buildings, and increased the state Renewable Portfolio Standard (RPS) to 20% by 2020, with incentives for solar and geothermal energy production[10].

In May of 2009, the Maryland legislature passed SB 625, implementing the 2010 Maryland Building Performance Standard (MBPS) which references the 2009 IECC. ACEEE played an instrumental role in the crafting and passage of the bill, which went into effect January 1, 2010. With the development of the 2010 International Code Series, the MBPS will likely be updated again during 2011.[11]

ACEEE staff Ed Osann and Harry Misuriello (back row, 1st and 3rd from left) with Governor Martin O'Malley (center), state legislators, and allies at the signing of Maryland Senate Bill 625

ACEEE continues to collaborate with Maryland legislators and allies in promoting energy efficiency in the state. Most recently, in early 2010 ACEEE provided testimony urging the legislature to reject proposals for diverting Regional Greenhouse Gas Initiative (RGGI) funding away from energy efficiency programs.

[8] House Bill 374/Senate Bill 205
[9] House Bill 368/Senate Bill 268
[10] See www.dsireusa.org
[11] For specifics on the 2010 MBPS see http://mdcodes.umbc.edu/dhcd2/mbps.html.

Virginia

ACEEE's efficiency potential analysis for Virginia, *Energizing Virginia: Efficiency First,* was published in September of 2008 as a response to the rising electricity demand correlated with the state's economic and population growth, and a need for energy efficiency analysis for the state. To meet Virginia's growing demand for electricity, ACEEE recommended a suite of energy efficiency policies and programs that could save 28,000 GWh, or 19% of the state's electricity needs in 2025. Suggested policies include:

- Energy Efficiency Resource Standard (EERS)
- Expanded Demand Response Initiatives
- Combined Heat and Power (CHP) Supporting Policies
- Manufacturing Initiative
- State Facilities Initiative
- Local Government Facilities Initiative
- Building Energy Codes
- Appliance and Equipment Efficiency Standards
- Research Development and Deployment (RD&D) Initiative
- Consumer Education and Outreach
- Low-Income Efficiency Programs

The report concluded that if Virginia implemented these policies and programs, it could meet 90% of the increase in electricity demand over the next 18 years.

The ACEEE study identified significant ambiguities in the state's EERS legislation, which was in the form of an enactment clause in the March 2007 electricity restructuring legislation stating that the Commonwealth shall have a goal of reducing electricity consumption by 10% (of 2006 consumption) by 2022. The language has led to confusion among the SCC and utilities. Dominion is currently on track to achieve about 3% energy savings by 2022.

Since the publication of the report, Virginia has continued to work on several of ACEEE's suggested policies and programs, in particular to improve the state's ambiguous efficiency standard by enacting legislation requiring a long-term, mandatory EERS. In December 2008, the Governor's Commission on Climate Change published their final report for Virginia, recommending that the state adopt ACEEE's recommended energy efficiency standards. Specifically, the Commission recommended Virginia require a 19% reduction in electricity demand by 2025.[12] The recommendation was not successful in terms of influencing policy adoption by the state, however helped solidify a policy recommendation for advocates to pursue.

To improve the ACEEE provided model state-level EERS legislative language to in-state advocates as part of a focused technical assistance initiative.[13] ACEEE staff

[12] www.deq.virginia.gov/export/sites/default/info/documents/climate/CCC_Final_Report-Final_12152008.pdf
[13] The EERS Model Language can be accessed at www.aceee.org/energy/state/eers_statemodel.pdf

worked closely with the advocate group to modify the model language, making it specific to the needs of Virginia. As part of this effort, ACEEE provided extensive examples of existing utility programs within an EERS framework, tied to job creation numbers. This was particularly important as Virginia's EERS advocates were promoting their EERS as a jobs bill. The bill, proposed in the Virginia General Assembly by Senator Donald McEachin, included an EERS requiring utilities to reduce energy consumption among their customers by 12.2% by 2022 through energy efficiency programs. The bill was estimated to create between 6,000 and 10,000 new jobs within the state.[14]

Although the bill did not make it out of committee, ACEEE continues to work with in-state advocates to educate legislators regarding the importance of establishing a strong Energy Efficiency Resource Standard. ACEEE staff participated in a workshop run by the Northern Virginia Climate Action Network (NOVACAN) in late February, and there are plans to hold an educational workshop where ACEEE staff can work with in-state legislators and allies as a next step in advancing EERS policy in Virginia. Additionally, the technical assistance required in Virginia helped inform and guide the creation of ACEEE's State Technical Assistance Toolkit.[15]

New Mexico

In 2008 the Southwest Energy Efficiency Project, in conjunction with ETC Group, LLC, and ACEEE, prepared a study for the New Mexico Energy, Minerals, and Natural Resources Department. *New Mexico Energy Efficiency Strategy: Policy Options* contains 25 policy choices for the state which, if implemented, would save energy and water while boosting the economy and reducing harmful greenhouse gas emissions. ACEEE contributed to the chapter on transportation policies, which included 8 policy options: CAFE standards, clean car standards, feebates, pay as you drive (PAYD) insurance, reducing vehicle miles traveled (VMT) growth, enforcing speed limits, replacement tire standards, and an accelerated retirement program. Each policy option was discussed in detail, including energy savings estimates, cost and cost-effectiveness information, and a discussion of environmental, social, and political considerations. [16]

Of the eight policy options, CAFE standards had already been enacted at the federal level, and a clean car standard for new cars and light trucks had been partially adopted at the state level prior to the time of publication. In 2009, the state legislature briefly considered a bill (SB 421) which would encourage insurers to offer mile-based car insurance rating plans. The bill, which died in committee, has not been reconsidered for further action.

[14] The bill, SB71, can be accessed at http://leg1.state.va.us/cgi-bin/legp504.exe?101+sum+SB71
[15] The Toolkit is available at www.aceee.org/energy/state/toolkit.htm.
[16] The report, *New Mexico Energy Efficiency Strategy: Policy Options*, is available online at www.swenergy.org/publications/documents/NM_Strategy-November_2008.pdf.

Ohio

On May 1, 2008, Ohio Governor Ted Strickland signed Senate Bill 221 into law, creating an aggressive EERS that requires investor-owned utilities to save at least 22% of electricity consumption by 2025. ACEEE has found, in a March 2009 analysis of Ohio's efficiency potential, that the mandated EERS is not only achievable, but would also greatly benefit the Ohio economy. By investing in efficiency as the "first fuel," Ohio will create green-collar jobs, alleviate consumer costs by reducing energy bills and stabilizing rates, and lower state operating costs by improving efficiency in state and local government buildings.

The report, *Shaping Ohio's Energy Future: Energy Efficiency Works*, recommends ten innovative programs and policies, half of which would contribute toward the EERS target of 22% electricity savings through improved building efficiencies, manufacturing and agricultural initiatives, and combined heat and power programs. The remaining five programs cover workforce development, improvements to government facilities, establishing appliance standards and building energy codes, and expanding demand response programs. Altogether, the report estimates that by 2025 the recommended programs will reduce projected electricity consumption by 16,235 GWh and save Ohio consumers $19 billion while creating 32,000 new jobs.[17]

ACEEE is continuing to work with in-state advocates to develop comprehensive energy efficiency legislation building on many of the programs and policies discussed in the report. The coalition hopes to leverage the support of Governor Strickland as well as bipartisan support in the House; however pushing this important bill through the Senate later this summer will likely prove a challenge.

Pennsylvania

On May 1st, 2009, ACEEE released its most comprehensive SCERP study to date; "Potential for Energy Efficiency, Demand Response, and Onsite Solar Energy in Pennsylvania," which found that by improving energy efficiency statewide, the Commonwealth would save consumers nearly $5 billion on energy bills per year by 2025. The suggested energy efficiency and solar energy policies and programs would help the state meet almost a quarter of its electricity needs and 15% of its natural gas requirements by 2025. Highlights from the policy suite include a long-term EERS for electricity and natural gas distributors, training and survey efforts to improve building energy code enforcement and compliance, an initiative addressing key barriers to efficiency in the industrial sector, and a public education campaign targeted to consumers.[18]

Prior to the release of ACEEE's study, Pennsylvania passed major energy legislation, establishing a clean energy fund (the Alternative Energy Investment Fund) and setting energy-savings goals for electric utilities (Act 129). In accordance with Act 129, by July 1,

[17] The full report is available for download at www.aceee.org/pubs/e092.htm.
[18] The full report is available for download at www.aceee.org/pubs/e093.htm.

2009 each electric distribution company should develop and file energy efficiency plans with the Public Utility Commission (PUC) to meet the legislative requirements. While these two laws represent a significant achievement for clean energy in Pennsylvania, the SCERP analysis found additional near- and long-term opportunities to improve energy efficiency, which will continue to reduce energy consumption while creating jobs and additional economic benefits.

Although no additional bills have been introduced or pursued as of yet, ACEEE staff members continue to work with in-state allies to help shape utility efficiency plans and prepare for further legislative proceedings, such as the PACE legislation currently being drafted for introduction this spring. In addition, local allies the Keystone Energy Efficiency Alliance (KEEA)[19] are assisting a PUC working group to determine whether utility fuel-switching will become an allowable energy-saving measure under Act 129. In terms of moving forward on the renewable energy front, Penn State University recently won a competitive solar training center proposal through the Department of Energy, and will be launching a multi-faceted solar training program for college students, community colleges and others with an on-line curriculum and classroom training.

South Carolina

ACEEE released its energy efficiency potential study for South Carolina, titled *Minding its Energy Resources: South Carolina's Energy Future*, on November 11th and 12th in Charleston and Columbia, SC, respectively. The media event in Charleston was held at Half Moon Outfitters' 10,000 square foot distribution facility, which recently achieved a Platinum LEED certification—the first Platinum project in South Carolina. The event in Columbia was held at the University of South Carolina's West "Green" Quad, one of first residence halls in the country to be LEED certified. Both events drew an impressive turnout with notable attendees such as State Senator Glenn McConnell, President of the South Carolina Senate; State Senator Paul Campbell (former executive with Alcoa); Dukes Scott, Executive Director of the Office of Regulatory Staff; Michael Couick, President and CEO of the Electric Cooperative of South Carolina, Inc., and other high-level representatives from South Carolina's utilities, business trade associations, and the environmental community. Senator Glenn McConnell spoke strongly about the need for prudent investments in energy efficiency prior to requesting state assistance to build new nuclear power plants, and both Senators present promised to support legislation seeking to introduce cost-effective efficiency policies and programs into law as a means of spurring employment and economic growth in a state that is suffering from a budgetary crisis and an alarmingly high unemployment rate.

The report's energy and water policy analyses resulted in a suite of eleven energy and five water efficiency policy suggestions based on successful models implemented in other states and in-depth consultation with stakeholders in South Carolina. Of the eleven electricity policies, eight could contribute towards an energy efficiency resource standard (EERS), which is suggested be set at 18% of projected sales in 2025. The EERS represents the core of these policies, providing a foundation upon which the

[19] For more information on KEEA, see www.keealliance.org.

other policies may be layered to achieve the greatest savings. It is estimated that the eight policies have the potential to meet 10% of South Carolina's electricity needs by 2025. Our eleven energy policy recommendations, which include three enabling policies, are shown in the text box.

Energy Efficiency Resource Standard

1. Advanced Building Initiative
2. Behavioral Initiative
3. Combined Heat and Power
4. Lead by Example
5. Low-Income Weatherization
6. Manufactured Homes Initiative
7. Manufacturer Initiative
8. Rural and Agricultural Initiative

Enabling Policies

1. Building Energy Codes
2. Workforce Development Initiative
3. Expanded Demand Response Programs

It is important to note that South Carolina has already implemented Lead by Example, Low-Income Weatherization, and Manufactured Homes Initiative policies, and the report attempts to estimate the potential savings that could be realized over the program period and beyond.

Currently the South Carolina Assembly is considering a progressive piece of legislation which would provide home energy retrofits to 225,000 homes – 1 in 10 of all South Carolina homes – through an on-bill financing scheme requiring no credit check or up-front costs to customers.[20] House Bill 4448, introduced in January of 2010, would allow the state's 20 electric co-operatives to provide fixed loans to homeowners interested in participating in the retrofit program, repayable over a decade on their utility bills. Further, the loan would be tied to the home, not the customer, and would be eligible for owners of rental properties. Utilities will benefit by reducing the need to build new, costly power plants, and customers will benefit from lower monthly utility costs. Additionally, the legislation would provide employment for home energy auditors and contractors, keeping money within local communities. ACEEE's analysis for the state projected a potential energy usage reduction of 24% by 2025 – saving $5.1 billion and creating 22,000 new jobs.

(From left) State senator Paul Campbell, ACEEE Researcher Max Neubauer, Beezer Molten of Half-Moon Outfitters, State senator Glenn McConnell, ACEEE Policy Director Suzanne Watson, and Michael Couick, President and CEO of the Electric Cooperative of South Carolina, Inc.

[20] For more information, see www.thestate.com/breakingbiz/story/1149461.html.

North Carolina

On March 18th, 2010, ACEEE released *North Carolina's Energy Future: Electricity, Water, and Transportation Efficiency* in Durham, North Carolina. The report is the first in ACEEE's series of state studies to examine the linkages between electricity, water, and transportation efficiency. North Carolina is one of the fastest growing states in the country, which the study shows will put strain on energy, water, and transportation system resources. The report finds that investments in energy and water efficiency resources can meet a substantial portion of the state's future energy demands by 2025 – nearly 25% of the state's electricity needs and 10% of transportation fuel needs – while creating 38,000 net jobs and saving consumers $3.6 billion in lower energy and water bills. The study highlights a suite of policy options for the state to achieve these benefits, including a stand-alone Energy Efficiency Resource Standard (EERS), vehicle miles traveled (VMT) reduction policies, and updated energy and water codes and standards for new building construction in the state. The full suite of policy initiatives is outlined in the text box.

Electricity

Energy Efficiency Resource Standard (EERS)
Manufacturing Initiative
Rural & Agricultural Initiative
Building Energy Codes
Advanced Energy-Efficient Buildings Initiative
Behavioral Initiative
Public Facilities Performance Contracting
Manufactured Homes Initiative
Combined Heat & Power (CHP)
Expanded Demand Response Programs
Customer Financing for Energy Efficiency
Workforce Development Initiative

Transportation

Heavy-Duty Vehicle Efficiency Incentive Package
Freight Intermodal Investments
Pay-As-You-Drive (PAYD) Insurance
Truck Stop Electrification
Land Use Planning Reforms
Vehicle Electrification

Water

Plumbing efficiency standards
Replacement of inefficient plumbing
Utility system water loss reduction
Water efficient landscape irrigation
Conservation pricing of water and sewer services

In 2007 the North Carolina transportation sector consumed 766,904 billion Btus of energy, approximately 28% of total energy use in the state and 2.6% of total energy consumed by the U.S. transportation sector. To slow this unsustainable growth in fuel use, the state must address not only vehicle fuel efficiency but also the overall efficiency of the transportation system. The six transportation efficiency policies outlined below take advantage of the savings potential for both diesel and gasoline fuels. As the varying demographic make-up of North Carolina necessitates tailored transportation policy packages based on population and accessibility factors, policies applicable to urban, high-density areas may not be suitable for the swathes of the state consisting of highly rural communities. ACEEE's policy recommendations are focused on the primary metropolitan regions in the state.

ACEEE released the report for North Carolina at a press event at Southern Energy Management, a local energy efficiency and solar company based in Durham, North Carolina. ACEEE staff also presented the results to the state's newly-appointed Energy Policy Council and plans to continue to work with the Council on the report's findings and recommendations.

ACEEE researcher Shruti Vaidyanathan explains challenges and opportunities for North Carolina's transportation sector

Next Steps for the State Clean Energy Resource Project

As demonstrated above, ACEEE's project model has been effective at disseminating information and enabling real change. ACEEE plans to roll out analyses for at least two additional states in 2010-2011: Arkansas and Missouri. In conjunction with this work, ACEEE has three ongoing projects that are also a part of our overall state policy and analysis activities. The first is the ACEEE state *Scorecard,*[21] published annually, which ranks states on the basis of their energy efficiency policies and programs. Second is the State Energy Efficiency Policy Database, located on ACEEE's Web site at www.aceee.org/energy/state. The database is a comprehensive gateway to detailed information on a variety of state energy policies, and is a resource that ACEEE updates on an annual basis as part of the research for the *Scorecard*. Finally, ACEEE has established a network of state energy officials and other contacts to further expand our outreach to states. The network receives the quarterly *State Current*[22] newsletter, which covers ongoing state energy efficiency policy and program news and special topics. Network participants are given the opportunity to provide feedback on the state policy database and the *Scorecard*. The increasing convergence of these four ongoing projects, SCERP, *Scorecard*, the on-line database, and the state network indicate a growing demand for and the increasing effectiveness of ACEEE's expanding state policy and analysis activities.

[21] The previous Scorecard report, released in 2009, can be found at www.aceee.org/pubs/e097.htm.
[22] The *State Current* is accessible at www.aceee.org/energy/state/current.htm.