



American Council for an Energy-Efficient Economy

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State Clean Energy Resource Project (SCERP)

Efficiency in Action

ACEEE and State Energy Policy

June 2009

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 over a quarter of a century, influencing policymakers from state capitals to Capitol Hill. Over the past few years, ACEEE has worked more and more on the state level, as a growing number of state legislatures and governors are showing interest and leadership in energy efficiency.

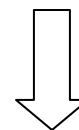
ACEEE established a base for further state work with the 2007 publication of the *State Energy Efficiency Scorecard for 2006*.¹ This seminal report ranked all 50 states on a point system based on utility spending on energy efficiency programs and public benefits, energy efficiency resource standards (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. A second edition of the report, *The 2008 State Energy Efficiency Scorecard*², was published in October 2008, and ACEEE plans to continue to update the *Scorecard* on an annual basis.

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.

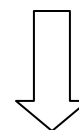
SCERP utilizes a tripartite model, based on ACEEE's initial work in Florida and Texas in 2007. The first step is to identify and meet with the appropriate stakeholders (including government officials, utilities, industrial advocates, consumer advocates and environmental groups) to discuss ideas, concerns, 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 last step is the outreach to the identified stakeholders to share the results of the study, generally through a combination of press releases, conference presentations, and other communication tools. Copies of the report are made available at outreach events as well as on the ACEEE Web site.

Funding for SCERP comes from a variety of sources including national foundations and the federal government (DOE and EPA), as

Stakeholder
Engagement
Process



ACEEE Energy
Efficiency
Resource
Potential
Analysis



Final Report to
Stakeholders
and Media
Outreach

¹ The report is available at www.aceee.org/pubs/e075.htm.

² The report is available at www.aceee.org/pubs/e086.htm.

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 some 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 studies for the states of Ohio and Pennsylvania were released in March and May of 2009, respectively. Many of the recommendations made in these reports resulted in legislation and/or executive orders, establishing energy efficiency and renewable energy portfolio standards, better building codes, and effective climate policies.

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 eight states: Florida, Maryland, Michigan, Ohio, Pennsylvania, Texas, Utah, and Virginia. More detail follows on each SCERP project in order of their occurrence.

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 goal of this study was 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 *HAction 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 11). 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 same 2nd Annual Climate Summit mentioned above.

The 2008 Florida Energy Bill includes a number of provisions recommended by the 2007 ACEEE report. Under this legislation, the Public Service Commission (PSC) is

required to 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.³ Additionally, the PSC is directed to 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.

There are also changes to the Florida Energy Efficiency Code for Building Construction — the energy bill requires 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.

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, TXU, a Dallas-based utility, 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. 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
- Onsite Renewable Energy Incentives

³ Subject to legislative ratification. The RPS draft rule is due in early 2009.

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.

The report, as discussed above, made the case that much greater efficiency is possible in Texas and that it is the least-cost resource available to meet growing electricity demand. 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 bill doubled Texas' EEPS from 10% to 20% of load growth and directed a study to consider further increases to 30% and 50%. This study is now underway and will be considered by the legislature in 2009. Of the 11 new coal plants originally planned, only 3 will be built.

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 (SWEET) 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 SWEET, 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 a factual 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. Their research found 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 is a significant achievement for Michigan, which has had no utility energy efficiency resource programs since 1995.

This 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 2015.⁴ 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

⁴ Based on 2007 levels.

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, while extending it to 2025
- Appliance efficiency standards
- Tighter building codes
- Clean energy RD&D initiative
- CHP-enabling policies
- Expanded utility demand response programs

In April of 2008, the Maryland legislature passed two significant bills into law. *EmPOWER Maryland*⁵ 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) is charged with overseeing 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 bill⁶ facilitates the state role by establishing a strategic energy investment fund, to be supported by proceeds of upcoming 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.

ACEEE's staff is currently involved with advising the implementation of the legislation at both the PSC and the Maryland Energy Administration. In addition, we are involved with a coalition that is seeking to advance building energy code improvements and expanded code enforcement.

Virginia

ACEEE's efficiency potential analysis for Virginia, *Energizing Virginia: Efficiency First*, was published in September of 2008 as a response to rising electricity demand, due to economic and population growth, and a need for energy efficiency analysis for the state. To meet Virginia's growing demand for electricity, ACEEE advises 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

⁵ House Bill 374/Senate Bill 205

⁶ House Bill 368/Senate Bill 268

- 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

These policies and programs are proven to slow or reduce future demand for electricity, in the case of Virginia, they would meet 90% of the increase in the state's electricity needs over the next 18 years.

Since the publication of the report, Virginia has made progress on several of ACEEE's suggested policies and programs. In December 2008, the Governor's Commission on Climate Change published their final report on 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 2025.⁷

Prior to the publication of ACEEE's analysis, ACEEE staff working with various in-state groups made recommendations for an educational program which resulted in the Virginia legislature order for a Consumer Education Plan (§§ 56-592, 56-592.1), "for the development and implementation of an electric energy consumer education program for retail customers."⁸ In December of 2008, the Commonwealth of Virginia State Corporation Commission (SCC) submitted a 5-year *Consumer Education Plan*. The educational program, "Virginia Energy Sense," covers energy efficiency, conservation, demand-side management, and renewable energy topics. Beginning July 1, 2009, the program will support Virginia's efforts to reduce consumer electricity consumption by 10% by 2022.

In addition, the ACEEE study identified significant ambiguities in the EERS legislation that have led to confusion among the SCC and utilities. ACEEE has provided model state EERS legislation to champions within the assembly who are seeking to address this challenge with clarified direction. Currently, the SCC is preparing for a hearing in September 2009 to assess the potential for energy efficiency in the state, one of several hearings required by legislation passed in reaction to ACEEE's report. ACEEE staff will likely provide information on our study's findings as part of the process.

⁷ http://www.deq.virginia.gov/export/sites/default/info/documents/climate/CCC_Final_Report-Final_12152008.pdf

⁸ <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+56-592>
<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+56-592.1>

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 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.⁹

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.¹⁰

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,

⁹ The full report is available for download at www.aceee.org/pubs/e092.htm.

¹⁰ 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. ACEEE staff members are currently working with in-state allies to help shape utility efficiency plans and prepare for further legislative proceedings.

What's Next

As demonstrated above, ACEEE's process model, SCERP, has been effective at enabling real change. ACEEE plans to roll out analyses for four additional states in 2009 and 2010: North Carolina, South Carolina, Tennessee and Arkansas. In conjunction with this work, ACEEE has three ongoing projects that are also a part of the overall State Policy Analysis program. The first is an update of the ACEEE state *Scorecard*,¹¹ which ranks states on the basis of their energy efficiency policies and programs. The second project 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 plans to continue to update and expand. Finally, ACEEE has established a network of state energy officials to further expand our outreach to states. The network receives the quarterly *State Current* newsletter, which covers ongoing state energy efficiency policy and program news and special topics. The *State Current* is accessible at www.aceee.org/energy/state/current.htm. Network participants will additionally be 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 state policy web site, and the state network indicate a growing demand for and the increasing effectiveness of ACEEE's expanding State Policy Analysis program.

¹¹ The previous *Scorecard* report, released in 2008, can be found at www.aceee.org/pubs/e086.htm.