



National Association of
State Energy Officials

TESTIMONY OF
MARK SYLVIA
COMMISSIONER
MASSACHUSETTS DEPARTMENT OF ENERGY
RESOURCES
ON BEHALF OF
THE NATIONAL ASSOCIATION OF STATE ENERGY
OFFICIALS
BEFORE THE
SUBCOMMITTEE ON ENERGY OF THE
SENATE COMMITTEE ON ENERGY AND NATURAL
RESOURCES
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“ENERGY EFFICIENCY LEGISLATION”

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KATE MARKS

My name is Mark Sylvia. I am Commissioner of the Massachusetts Department of Energy Resources (DOER). I am very pleased to be here today. I am appearing before the Subcommittee on behalf of the National Association of State Energy Officials (NASEO). NASEO represents the 56 states, territories and the District of Columbia on energy matters. The state energy officials generally represent their Governors and address a range of energy issues. Our primary focus is the development and implementation of rational energy policies in the context of economic development, promotion of a diverse portfolio and working with the private and public sectors to achieve these goals. As a NASEO member I am very pleased to serve on the Board of Directors. As energy directors we share “best practices” and work across party lines and across state lines to move the country forward.

In general, NASEO supports the bills that the Subcommittee is considering today. I would be remiss if I did not offer some additional context with respect to the Shaheen-Portman bill (S. 761). NASEO worked with the bi-partisan sponsors as well as the Committee Staff of this Committee, on both sides of the aisle, in developing this rational legislation. We certainly urge swift floor action and, we hope, passage by the Senate. We will continue to support House action on their companion legislation, also introduced on a bi-partisan basis, by Representatives’ McKinley and Welch. S. 761 addresses a variety of matters, and certainly relevant to today’s discussion is the private commercial buildings energy financing program included as Section 201 to that bill. Some of the pieces of legislation that you are debating today are complementary to that provision of S. 761.

Reauthorization of the State Energy Program and the Weatherization Assistance Program

Senators’ Coons, Collins and Reed have introduced a bill to reauthorize the State Energy Program (SEP) and the Weatherization Assistance Program (WAP), “The Weatherization Enhancement and Local Energy Efficiency Investment and Accountability Act”. These two programs are critical to our nation and need to be continued. The bill reauthorizes SEP at a lower funding level than the level contained in the 2007 reauthorization, but otherwise recognizes that the program has been a success because it encourages state flexibility. After the original authorization in the 1970s, Congress has modified the underlying statute to increase that flexibility through the State Energy Efficiency Programs Improvement Act of 1990, the Energy Policy Act of 1992, the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. Many of the bills that you are considering today are intended to expand on many of the pilot programs developed in SEP. The goals of the states’ implementation of SEP include:

- Support the public and private sectors;
- Strengthen America’s competitive position and energy security;
- Provide high value programs and projects that facilitate the private sector delivery of energy innovation;
- Maximize energy, environmental, and economic benefits;
- Increase market acceptance of energy efficiency and domestic energy resources; and
- Use innovative approaches to reach market segments and meet policy goals.

The provisions regarding WAP in this bill make some changes to the underlying statute. I should stress that the underlying program is robust and has been a success. With changing times, we all recognize that certain modifications can help this program in the 21st century. The bill would strengthen standards for weatherization services, something that has been worked on by state and local officials, community action agencies, the private sector and DOE. Over the years, training has certainly improved and DOE and the states have had a strong partnership in expanding these activities. I should also note that Oak Ridge National Laboratory has been extremely helpful in assisting in this effort. Regional training centers have also been established to update the program. New technologies have been used for the first time in WAP, such as blower-door testing programs. In addition to reauthorizing the basic program, also at a reduced funding level, the bill would establish an innovation program that would encourage other potential participants to seek out opportunities to weatherize dwellings of low-income Americans, those with disabilities, the elderly and an expanding population of returning veterans. Organizations such as Habitat for Humanity and Rebuilding Together, that have a track record of helping people with volunteer labor, are the types of groups that we hope will participate in the program. We also hope that the community action agencies and existing non-profit entities that deliver WAP services will also participate in the innovation program.

Some examples of the states' accomplishments utilizing WAP funding, include:

- Served over 7.4 million low-income homes since the program's inception, with millions more high-energy use units still eligible and in dire need of services;
- Saves low-income families an average of \$250 to \$450 per year in heating, cooling, and electric costs, depending on their housing type, location, and fuel source;
- Returns \$2.51 for every dollar spent in energy and non-energy benefits over the life of the weatherized home;
- Serves as a foundation for residential energy efficiency retrofit standards, technical skills, and workforce training for the emerging broader residential energy efficiency retrofit market;
- Impacts communities through local purchasing and jobs, supporting over 10,000 local, American businesses nationwide; and
- Decreases national energy consumption by the equivalent of 24.1 million barrels of oil annually.

Following enactment of landmark environmental and economic legislation in 2008, Massachusetts, has used funding for the energy efficiency and renewable energy investments from a variety of sources, including ratepayer funds, RGGI auction proceeds, renewable energy credits, and the forward capacity market created through the New England Independent System Operator. Massachusetts also uses SEP funds, which support the core functions of the Department of Energy Resources (DOER), including oversight of the state's energy efficiency programs, recognized by ACEEE as the best in the nation for the last two years.

SEP funding awarded to Massachusetts enables DOER to support the state as an innovation hub for energy policy and technology. In FY2013 Massachusetts used federal SEP funding to 1) conduct energy reliability planning and monitoring; 2) develop an energy data and analysis database to be used for public and private energy market analyses; 3) support the

Commonwealth's Renewable Portfolio Standard to enhance our state's robust solar and emerging renewable heating and cooling markets; and 4) fund education and infrastructure enhancement to facilitate a transition to alternative forms of transportation, including expanded use of biofuels and electric vehicles. Following are a few examples:

- We have leveraged federal funds through our Leading by Examples (LBE) program to procure \$122.3 million in additional public and utility investments for state facility improvements estimated to produce greenhouse gas emission reductions equivalent to removing 139,802 cars from the road. In addition, LBE project investments generated 1,162 construction-related jobs.
- The majority of LBE funding, \$9.7 million, went toward supporting the Enterprise Energy Management System (EEMS) program, which installed 1,291 real-time energy meters at 469 buildings to enhance energy efficiency planning. EEMS is the largest project of its kind in the United States. Other LBE projects include: 238 energy efficiency measures by the Division of Capital Asset Management and Maintenance, low emissivity ceilings at five public ice skating rinks, 86 small-scale energy efficiency and lighting projects, and the purchase of 7,464 LED light bulbs for 58 state facilities. Overall, LBE's investment of funds helped reduce energy use and GHG emissions at more than 200 state-owned facilities.
- SEP funds led to a wide variety of innovative initiatives, ranging from deep energy retrofits at commercial and residential buildings that achieved greater than 50% savings, creative new energy outreach strategies, pellet boiler installations at schools and residences, real-time metering at dozens of state facilities, envelope, lighting and HVAC improvements at state buildings, and over 9 megawatts of solar installations across public and private entities. The SEP program for the past five years is projected to save \$290M over the lifetime of the projects.

A few other examples of state innovation utilizing SEP funding to leverage other public and private sector resources include:

- **Idaho's** K-12 Energy Efficiency Project began with a pilot in the Homedale School District that replaced two failed compressors, a blower motor, multiple thermostats and outside air damper actuators; at a cost of \$11,196, these projects provide an estimated \$18,000 in yearly savings to the district. With the success of the K-pilot, the state moved forward with the K-12 Energy Efficiency project to audit 894 K-12 school buildings throughout Idaho; continued with HVAC and control system tune-ups on 836 of the buildings resulting in an estimated yearly energy savings of up to \$3.9 million dollars; and Energy Expert Software was installed in 91 schools.
- **Michigan** utilizes SEP funding to leverage private sector resources to upgrade energy efficiency in state buildings. Over 25 loans and grants have been made through the Michigan Clean Energy Advanced Manufacturing program. One example of a private sector project is a Michigan based company that manufactures biomass gasification systems for waste to energy projects. The firm built a pilot scale biomass gasification center and an advanced manufacturing rapid prototyping center. Their labs are capable

of characterizing many types of biomass giving them the ability to optimize their gasification technology.

- **North Dakota** operates a cost-shared training initiative implemented by North Dakota State University that helps farmers adopt conserving farming practices to lower production cost. To date, 43 workshops have been held with 861 participants. Another SEP---supported program has provided 23 grants to state agencies, cities and towns to incorporate energy efficiency equipment into their facilities to reduce energy usage. The SEP funding provides for energy efficiency measures that have a payback of less than ten years.
- In **Washington** the state's transportation and commerce departments leveraged SEP funds and teaming up to implement the nation's first "electric highway," an initial network of public access electric vehicle recharging locations along Interstate 5. The infrastructure will enable electric vehicle drivers to travel the length of the state along the 276 miles of Interstate-5 between Washington's borders with Oregon and Canada.

We strongly support reauthorization of SEP and WAP.

Our biggest challenge in 2013 and now looking at 2014 is the lack of funding for the programs. SEP has received approximately \$50 million in each the past three years (post-sequester - \$47 million), with \$36.6 million going to the base, formula program in FY'13. We really want to see the base, formula program receive the maximum amount of funding because, by its nature, it encourages innovation and flexibility at the state level. The most recent comprehensive study showed that for every Federal dollar invested approximately \$11 is leveraged and over \$7 is saved in energy costs.

For WAP, the House passed a \$68 million funding level in FY'12, which was maintained through the FY'13 Continuing Resolution. We are very concerned that the House Energy and Water Development Appropriations Subcommittee has continued to cut the program. Though the Subcommittee marked-up their version of the FY'14 bill on June 18th, we have not seen the details, other than a 50% cut in the overall Energy Efficiency and Renewable Energy accounts. A national program cannot be run on \$68 million. Funding in FY'11 for WAP was \$174 million. The Senate Energy and Water Development Appropriations Subcommittee was scheduled to act today. We remain hopeful. 40 Senators signed a "Dear Colleague" letter supporting a funding level of \$57 million for SEP and \$230 million for WAP.

We urge the Committee to approve this legislation. It is good for the country and cost-effective. The changes in the bill will only make the program better.

State Energy Race to the Top (S. 1209)

Senators' Warner and Manchin have introduced the State Energy Race to the Top legislation (S. 1209), which would authorize \$200 million to further encourage innovation at the state level. The proposal would provide \$60 million to up to 25 states to offer amended plans

for policy and program changes. After 18 months, a smaller group of states would share a larger portion of funds (up to 6 states) based upon their success in implementing their plans. This would be a voluntary, competitive program operated by DOE. It is focused on improving energy productivity. One key facet of the bill, is that it is based on improvements from where states are now, without an arbitrary set of absolute goals. Based upon the Administration's recommendation, there is a set-aside for consumer-owned utilities and tribes of \$25 million. Each state is in a different position, with different resources and priorities. The fine work of the Alliance to Save Energy's, Commission on Energy Policy, recommended a Race to the Top. A wide variety of groups support this effort.

NASEO also strongly supports this legislation.

The Residential Energy Savings Act of 2013 (S. 1200)

Senators' Sanders and Wyden have introduced the Residential Energy Savings Act of 2013 (S. 1200). It would provide homeowners with access to low-cost loans for energy efficiency upgrades. Funds would run through the states and tribes, but the bill encourages cooperation with local utilities, financial institutions and others. The key objective is to reduce the financing barriers by limiting up-front costs. As energy cost savings generated through buildings upgrades payback over time, financing programs can be catalysts for energy efficiency investment.

In Massachusetts, the Mass Save® HEAT loan program has closed 18,371 zero interest loans valued at nearly \$155 million from 2006-2012, for residential energy efficiency upgrades. The program has been a great success, but we have had to promote it tirelessly, as consumers often do not understand the value of investing in energy efficiency. This program is offered through 40 local banks across Massachusetts.

A number of other states' programs are worth stressing, including the following:

- **Delaware's** SEP funds have supported rebates and loans for residential efficiency measures through which 3,000 homeowners have improved their home's energy efficiency. Through the same program, 96 solar electric systems, 14 geothermal system installations, one wind system, and one solar thermal hot water system have been supported with SEP funding since 2010.
- **Louisiana's** Energy Office manages an SEP-funded Home Energy Rebate Option Program (HERO) that offers cash rebates for energy retrofits and provides training and quality control for the energy raters who certify efficiency projects. During the past two years, more than 1,100 existing homes were retrofitted, resulting in a 30 percent average increase in energy efficiency per home completed. SEP funding also supported energy efficiency designs in 565 new homes, resulting in a 35 percent average increase in energy efficiency per home. For the commercial portion of the program, 89 energy retrofits were completed, resulting in a 25% average increase in energy efficiency.

- **Nebraska's** Energy Office has operated the Dollar and Energy Saving Loan Program for more than 21 years, which finances energy efficient improvements in homes, farms, ranches, businesses, industrial facilities, schools, and other buildings. SEP funds are leveraged with utility and other funds for a total loan pool of \$36 million. Between 1990 and 2011, 27,339 projects totaling more than \$258.7 million have been financed with low-interest loans from the Energy Office and the state's 894 participating lender locations. Although the overwhelming majority of loans are for residential projects, in the summer of 2011 the first two public compressed natural gas stations in Omaha were financed with low-interest loans. Defaults of only \$106,000 on the \$258 million in loans has occurred since the program began.
- **Oregon**, in 2010, issued nearly 77,000 Residential Energy Tax Credits with SEP funding, saving more than \$4 million in energy costs for Oregonians. SEP has also helped fund more than \$11 million of projects in 60 urban and rural school districts across Oregon in the past two years providing for lighting upgrades, window replacements, HVAC improvements, and biomass boiler installations, resulting in enhanced learning environments, reduced energy bills, and contractor jobs. SEP also provided for energy audits that provided work for audit firms and students in the local college energy management program in 101 rural Eastern Oregon school districts participating in the Governor's School Energy Audit Initiative.

Consumers need more information on energy efficiency. In working with the Senators' staffs we believe this proposal can really encourage innovation and public-private partnerships. This will build on the work of the revolving loan programs that are operated in over 35 states. Other opportunities include, guarantees, bond financing, on-bill financing, etc. In order to reduce the cost to the U.S. Treasury, the bill is designed through loans to states and tribes. The key criteria are: 1) reduction in energy use and increased energy efficiency; 2) leveraging of non-federal funds; and 3) consumer-friendly financing options.

Separate legislation that is not jurisdictional to this Committee would also have a positive impact on residential energy efficiency. The Sensible Accounting to Value Energy Act of 2013 (SAVE Act), introduced by Senators Bennet and Isakson, would encourage the consideration of energy costs in the appraisal process. NASEO supports enabling the consideration of the energy performance of residential properties through the appraisal process. This will be a true market transformation that will build awareness of energy performance and allow for greater transparency to facilitate more informed real estate investments. DOER is managing a residential "HomeMPG" project, also funded through a competitive SEP grant award, to provide property owners in Western Massachusetts with better information about the energy performance of their homes. The Colorado Energy Office recently launched a new partnership with The Appraisal Institute to incorporate building energy elements into a Green Multiple Listing Services (MLS) program.

Benchmarking and CHP bills

Subcommittee Chairman Franken has introduced two innovative bills to promote: 1) building benchmarking – to encourage entities to utilize available resources so they know what they are using in terms of energy; and 2) Combined Heat and Power (Local Energy Supply and Resiliency Act of 2013). We support both bills.

Benchmarking has been used in increasing numbers of jurisdictions so that businesses and consumers know how much energy they are using and can help bridge the “information gap.” As noted above, helping consumers understand their energy use and their energy use patterns is a key first step in appropriately increasing energy efficiency as well as energy conservation behavior. The bill would facilitate benchmarking of federally-leased buildings, require a benchmarking study, and establish a small competitive grant program.

There are a number of good state models in the area of public facility efficiency improvements and benchmarking, such as the following:

- **Alaska’s** program which established a \$250 million Alaska Energy Efficiency Revolving Loan Fund (AEERLF) to finance public facility energy efficiency improvements, using SEP funds to benchmark 1,300 public facilities in order to identify high-energy use buildings and provide an Investment Grade Audit. SEP funding was also used to develop the Alaska Retrofit Information System (ARIS) database that holds 60,000 records of residential energy audits and benchmark data from the 1,300 public facilities.
- In addition to **Minnesota’s** groundbreaking benchmarking of state facilities and the creation of a model Energy Savings Performance Contracting Program, 36 facilities were retrofit across the state which are now realizing more than \$3 million in permanent, ongoing annual energy savings through a one-time, \$4.1 million energy upgrade grant program. The grants, funded through SEP, were completed during the past year and are contributing significant energy-savings to commercial, industrial, and nonprofit facilities across Minnesota.

Combined Heat and Power (CHP), district heating and cooling, and waste-heat-to power are an enormous untapped resource in the United States. This bill will help begin to address the economic necessity of encouraging us not to waste energy. Industrial and commercial facilities throughout the United States presently use these technologies. Unfortunately, the up-front costs tend to be high. The positive impacts on economic productivity, especially when measured against our foreign competition, is critical to our nation’s future. Flexible actions are the key to success. A number of the state energy offices are involved in promoting these activities. Ohio is among the states taking action to support industrial efficiency and CHP through actions such as the state’s Energy Efficiency Program for Manufacturers (EPPM) program, which provides facilitation services and financial assistance to Ohio manufacturers to diagnose, plan, and implement cost-effective energy improvements at their facilities, estimates energy savings of 28,331,432 kwh/year (electric) and 876,349 MMBTU/year (gas, oil, other)

through \$21 million in grants supported by SEP. There are other examples and district heating systems have been operational for decades. The benefits for economic development cannot be overstated.

Combined Heat and Power (CHP) can be a cornerstone to efficiency gains and add resiliency, as communities and businesses diversify their fuel supply. Massachusetts has been effective in driving more adoption of CHP in our industrial, commercial, institutional, and multi-unit residential sectors. The Commonwealth deploys two mechanisms to support CHP. The first is through the energy efficiency programs, based on projected energy savings. The second is through the Alternative Energy Portfolio Standard, where annual payments are achieved as a matter of system performance.

The success of these programs is supported by the Northeast CHP Application Center, one of the regional Centers supported by DOE across the country. The Northeast CHP Application Center, co-located at Pace University and the University of Massachusetts Amherst, provides important policy and market support and technical assessments directly to industry. Federal funding for this Center is highly leveraged by our programs and affords opportunities for industrial facilities to drive down their energy costs.

Tenant Star (S. 1191)

The Bennet–Ayotte “Better Buildings Act” (Tenant Star) (S. 1191) would help address the “split incentives” problem that exists which discourages energy efficiency investments by both tenants and landlords. The people paying the bill don’t generally get the benefits of energy efficiency investments. This voluntary effort should help break down these problems. Tenant Star should be read in conjunction with Section 201 of Shaheen-Portman (S. 761), which would help provide financing for large and small commercial building energy efficiency retrofits.

Massachusetts believes that there is a need for a transformation of the manner in which commercial markets consider energy use and cost. Information about the energy performance of a building can be difficult to ascertain and the incentive programs do not always benefit the bill payer.

In recent years state energy offices and their private sector allies have tried to address problems such as the split incentive, in both the residential and commercial markets, and to provide market actors with more accessible and accurate information about the energy performance of building assets, with which we believe they are better able to make informed investments.

For example, a 2012 analysis of the potential gas and electric savings in Massachusetts’ commercial sector suggests that nearly 38 percent of the electric savings and 55 percent of the gas savings reside in office buildings. In such properties, where a high proportion of occupants lease space from the building owner, investments in the building’s major assets may be a low priority for owners as the performance benefit, in the form of lower utility bills and increased comfort accrue to the tenant. For this reason, DOER and one of the state’s largest utilities,

Northeast Utilities, have convened a Commercial Real Estate Working Group to address problems such as this split incentive. Additionally, DOER's Building Asset Rating (BAR) pilot, which is funded by a competitive SEP grant, seeks to develop new, low cost methods to assess the energy performance of buildings. These new methods conduct an analysis in a fraction of the time and cost of conventional techniques and with a lower barrier to information, DOER hopes they will provide the market with more information about building energy use to drive increased investment in energy efficiency.

NASEO also supports this bill.

School Retrofits Legislation (S. 1084)

NASEO also supports the Udall-Collins "Streamlining Energy Efficiency for Schools Act" (S. 1084). Both Senators have worked on school energy issues for many years. NASEO worked with Senator Udall's staff in the House when they were first developing energy efficiency schools legislation. Many of the innovations in school energy efficiency programs stemmed from the Institutional Conservation Program (ICP)(42 U.S.C. 6371e), which has not been funded for many years. This program began in the 1970s, but in 1986, through an amendment to an annual appropriations bill pushed by Iowa and Oregon (and their Senators), these states were able to utilize their ICP funds to promote alternative delivery systems. Oregon had prepared bond financing, which it implemented, while using the small amount of federal ICP dollars to support the private financing. It produced much greater leverage. In Iowa, they established a Schools Facilities Program, in which the state energy office utilized an RFP to bring in the best financing available, developed fill-in-the-blank forms for the school superintendents, pre-qualified engineers to evaluate energy efficiency upgrade options and do all the legal work necessary to get the program going. The hundreds of school districts utilized this program, with private financing, and it achieved over 100% of projected savings with net-present-value paybacks of less than 6 years for measures.

In Massachusetts, we have several relevant models that we have implemented in both state and local facilities. The schools sector has been a real test-bed for energy service performance contracts, and we would expect that the Udall-Collins bill will help with this set of activities. The states stand ready to help implement S. 1084, in conjunction with the schools.

We support the legislation.

Non-Profit Grants Program (S. 717)

Senators' Hoeven and Klobuchar have introduced "The Non-Profit Energy Efficiency Act" (S. 717), which is intended to provide funding from DOE to non-profits, including religious institutions, to provide energy efficiency upgrades to these facilities. A number of state energy offices have programs targeted to non-profits and look forward to expanding those activities. S. 717 could be a key asset in this effort. We are concerned that the \$50 million authorization

takes funds, generically, from the buildings technology office at DOE, which is already underfunded. We hope to work with the sponsors and the outside groups to identify alternatives. Otherwise, the bill is well-grounded and provides the opportunity for states to work with these institutions. We have not had the opportunity to examine individual state laws or constitutional constraints that may limit the ability in certain areas to provide funding. We have been assured by the outside groups that this situation has been addressed.

CONCLUSION

We applaud the Subcommittee for holding this hearing. As noted above, we support the legislation being considered and we encourage an early mark-up, with full Senate consideration quickly.