

**Comments of the American Council for an Energy-Efficient Economy (ACEEE)
On Electricity and Natural Gas Resource Portfolio Standards
To the
U.S. House of Representatives
Committee on Energy and Commerce**

1. Purpose of Portfolio Standards Proposals

- a. ACEEE believes that adopting a national Energy Efficiency Resource Standard (EERS) as part of federal energy policy for the utility sector is the most effective action Congress can take to bring down high wholesale electricity and natural gas prices, reduce consumer and business energy bills, improve utility system reliability, and reduce carbon dioxide emissions. An EERS is a simple, market-based way to ensure that utilities acquire a significant share of the abundant economic potential for energy efficiency, which numerous studies estimate to be 25% of today's total U.S. electricity usage. With advances in technology and practice this resources can grow in the future to meet an even greater portion of our energy needs.
- b. It is appropriate, and necessary, that government set EERS and other portfolio standards, because market forces alone will not yield the economic results needed to moderate energy prices, reduce customer bills, improve reliability, and reduce carbon dioxide emissions. Some 17 states have reached this conclusion, and have instituted or are developing EERS. Those with EERS in place are Hawaii, California, Nevada, Colorado, Texas, Minnesota, Pennsylvania, Virginia, Vermont, and Connecticut. States with EERS under development include Washington, Illinois, North Carolina, Maryland, New Jersey, New York, and Massachusetts. States have set EERS targets because they have found that market and regulatory barriers chronically inhibit efficiency investment in most electricity and natural gas markets, and that price signals alone do not yield rates of investment in efficiency that would address the multiple challenges of high and volatile energy prices, worsening reliability, and a growing urgency to curb carbon dioxide emissions.¹
- c. The specific purpose of an EERS is to moderate energy demand growth. Slowing demand growth creates multiple benefits as described above in terms of energy prices, reliability, and emissions. However, EERS is also a crucial

¹ ACEEE research on these issues:

Steve Nadel. 2007. *Energy Efficiency and Resource Standards: Experience and Recommendations*, <http://aceee.org/pubs/e063.htm>,

ACEEE's Analysis of Impacts of Energy Efficiency and Renewable Energy on Natural Gas Markets, <http://aceee.org/energy/efnatgas-study.htm>,

Prepared by ACEEE for International Energy Agency. 2007. *Analysis of Impacts of Energy Efficiency and Renewable Energy on Natural Gas Markets*, <http://www.aceee.org/energy/IEAMarketbarriers.pdf>,

Marty Kushler, Dan York and Patti Witte. 2006. *Aligning Utility Interests with Energy Efficiency Objectives: A Review of Recent Efforts at Decoupling and Performance Initiatives*, <http://aceee.org/pubs/u061.htm>.

complement to renewable portfolio standards. Without EERS, renewable standards such as the 15% in 2020 target under consideration in the Senate will not keep up with demand growth, which is projected in the EIA 2007 *Annual Energy Outlook* to exceed 20% in 2020. But an EERS that reaches 10% of electricity sales in 2020, combined with a 15% RPS, would displace more than 100% of demand growth. This combined strategy would mean reductions in power sector carbon dioxide emissions beginning in about 10 years using policies already proven to work in many states.

- d. Even if Congress were to adopt an economy-wide greenhouse gas emissions policy, an EERS would still be necessary, and would be even more advisable than otherwise. ACEEE's experience as a stakeholder in the Regional Greenhouse Gas Initiative (RGGI), a multi-state power sector carbon cap and trade policy stretching from Maryland to Maine shows that increased energy efficiency investment brings down carbon prices, reduces energy bills, and produces positive economic growth for the region.² However, RGGI's designers also recognized that despite efficiency's crucial role in making RGGI affordable, the very design of the cap and trade system would prevent the emissions trading market from investing in efficiency. As in most cap and trade systems, RGGI sets the cap on power generators. If end-users of electricity save energy through efficiency investments, they don't directly reduce carbon emissions over the course of the compliance period. If energy use decreases, be it from efficiency, from mild weather, or from economic conditions, the allowance owners can simply sell excess allowances, or can run high-emitting plants more hours over the compliance period. This is a fundamental structural problem with cap and trade designs where the cap is set "upstream".

To address this problem, the RGGI states took two actions: (1) allocating at least 25% of emission allowances for public goods purposes, especially energy efficiency; and (2) pursuing complementary policies, including an EERS. To date, six of the RGGI states have or are considering an EERS, and EERS's carbon benefits is a key driver.

- e. ACEEE has studied the impacts of EERS policies nationally and at the state level. These analyses show:
 - i. EERS tend to reduce wholesale electricity prices, wholesale natural gas prices, and utility customer energy bills.^{3, 4, 5, 6, 7}

² William R. Prindle, Anna Monis Shipley, and R. Neal Elliott. 2006. *Energy Efficiency's Role in a Carbon Cap-and-Trade System: Modeling Results from the Regional Greenhouse Gas Initiative*, <http://aceee.org/pubs/e064.htm>.

³ Steve Nadel. 2006. *ibid.*.

⁴ ACEEE research on Analysis of Impacts of Energy Efficiency and Renewable Energy on Natural Gas Markets, [ibid](#),

⁵ William R. Prindle, Anna Monis Shipley, and R. Neal Elliott. 2006. *Ibid.*

⁶ Neal Elliott, et al. 2007a. *Potential for Energy Efficiency and Renewable Energy to Meet Florida's Growing Energy Demand*, <http://aceee.org/pubs/e072.htm>.

- ii. EERS can reduce greenhouse gas emissions substantially; on a national level, a 10% EERS target in 2020 would reduce carbon dioxide emissions by 343 million metric tons below the AEO Reference Case forecast.⁸
- iii. A 10% EERS in 2020 would reduce U.S. electricity generation capacity needs by 135,000 MW, which is more than the AEO 2007 reference case forecast for growth in U.S. capacity additions in the 2010-2020 period. This would reduce the strain on regional power grids and local distribution systems, and thus improve reliability. Combined with expanded demand response efforts, as proposed in the Energy and Commerce Committee's discussion drafts would meet the need for growing peak generation capacity.
- iv. Energy efficiency investment has been consistently shown to create positive economic growth impacts, in total employment, gross economic output, and in personal income. Efficiency stimulates more labor-intensive economic sectors than does supply-side investment, thus creating more jobs. Because the life cycle cost of efficiency is typically lower than that of energy supply resources, it reduces net economic costs.^{9, 10}
- v. Efficiency can result in productive and profitable utility capital investment. Many states, along with their EERS policies, are revising their ratemaking and other regulatory policies so that utilities can enjoy earnings on energy efficiency investments comparable to earnings they receive on supply-side investments.

2. Portfolio Inclusions and Exclusions

- a. ACEEE recommends that portfolio resources be chosen on the basis of: (1) resources that are most effective at reducing the total long-term cost of energy services to customers; (2) resources that are most subject to market and regulatory barriers; (3) resources that have the least total environmental impact on a life-cycle basis; and (4) resources that are most effective in reducing greenhouse gas emissions.
- b. ACEEE believes that energy efficiency resources should be a core part of utility resource standards. Efficiency technologies should include end-use efficiency technologies installed in utility customer facilities, combined heat and power (CHP) systems in customer facilities, and recycled energy technologies.¹¹ We believe that because of their unique nature, efficiency

⁷ Neal Elliott, et al. 2007b. *Potential for Energy Efficiency, Demand Response, and Onsite Renewable Energy to Meet Texas's Growing Electricity Needs*, <http://aceee.org/pubs/e073.htm>

⁸ Nadel. 2006. *ibid.*

⁹ Prindle, et al. 2006. *ibid.*

¹⁰ John "Skip" Laitner. Forthcoming. *The Economic Benefits of an Energy Efficiency and Onsite Renewable Energy Strategy*. ACEEE.

to Meet Growing Electricity Needs in Texas

¹¹ Recycled energy is means electrical and/or mechanical power, or thermal energy produced by modification of an existing system to recapture energy that would otherwise be wasted.

resources should not be commingled directly with other resource types (e.g., renewables) in a single standard.

- c. We recommend that energy efficiency resource standards be kept separate from other resource types. This can be accomplished through separate standards, as is practiced in California, Colorado, Texas, and Minnesota. It can also be accomplished by including efficiency in renewable portfolio standards, with specific limitations separating efficiency and renewable resource requirements, as is practiced in Nevada, Pennsylvania, and Connecticut.
- d. We believe that new investment should comprise the great majority of resources acquired under such standards. Base years can be set to encourage early action, but over the course of a multi-year standard, there is a substantial public policy benefit only if the policy results in substantial additional resource investment.
- e. To the extent energy efficiency is included:
 - i. Savings would be measured and verified under rules set by the administrating agency. The states have developed robust, reliable, and well-tested methods for measurement and verification over the last 25 years, and these have been used to approve results and utility cost recovery for billions of dollars of efficiency investment.
 - ii. ACEEE recommends that the base amount for an EERS should be a recent historical year, typically the most recent full year for which utility sales data is available.

3. Percentage Requirement and Timing

- a. ACEEE recommends that a national EERS be designed to achieve savings of 10% of electricity sales and 5% of natural gas sales, as a final target over a 10-year period with lower interim-year targets.
- b. We recommend that the EERS be set to reach its maximum savings level in 2020, and that it be subject to reauthorization as we gain a better understanding of the true magnitude of the efficiency resource.
- c. We recommend a relatively straightforward ramp up of savings, with consistent new increments of savings required each year. Since energy savings typically persist for several years, this would have the effect of ramping up or cumulatively total savings over time.
- d. We recommend a maximum price of 6 cents per kWh for electricity and 60 cents per therm for natural gas as a buyout option. This is lower than the forecast average retail price for electricity in the U.S., and will thus ensure that an EERS does not drive up electricity prices. States across the U.S. are delivering energy efficiency savings today at an average of 3 cents per kWh and 25 cents per therm.

4. Relationship to State Portfolio Standards and Utility Regulation

- a. We recommend that a federal portfolio standard set a minimum national standard for distribution utilities, allowing states to set higher standards if they

choose. State should not be pre-empted from setting higher standards. ACEEE's recommended EERS target would require savings of 1% of sales per year as a minimum. Several states EERS targets already exceed that level, including California, Minnesota, and New York. We see no value in requiring an EERS with no minimum target; this would allow states to set standards so low as to be meaningless. We do not recommend undifferentiated standards that let a wide variety of resource type compete. Even though efficiency would be very competitive in price terms against almost any new generation source known today, we recognize the need for fuel diversity, low-carbon generation, maintaining reliability, and other factors that may justify separating resource targets. For states with existing EERS, we recommend that their existing laws and regulations be allowed to apply toward federal EERS compliance, but that they should not be exempted from the EERS requirement outright. Some states have EERS, for example, whose authorizations do not extend as far into the future as our recommended federal policy.

- b.** State regulatory agencies should be allowed to determine the cost recovery, revenue stability, and utility earnings policies that are appropriate to their law and regulatory practices. We have found, through observing state efficiency programs in the utility sector for two decades, that the benefits of programs such as those that would be generated by a federal EERS outweigh the costs. The additional compliance costs of a federal standard would be minimal compared to what a state-mandated EERS would cost. We do recommend a national credit trading system to keep the costs of such resource standards to a minimum.

5. Utility Coverage

- a.** We recommend that retail distribution utilities be covered by a federal EERS. We recommend that a minimum size limit, set in terms of annual energy sales, be established so that smaller entities with more limited resource acquisition capabilities can be exempted.
- b.** We do not recommend setting EERS at the wholesale level. Wholesale power and natural gas markets are disconnected from the end-use markets where most efficiency resources are found, and it is the retail distribution utility that has the most appropriate customer relationships to assess and acquire efficiency resources.
- c.** We do not believe discretionary exemptions should be set other than based on size.

6. Administration and Enforcement

- a.** A federal agency or designated entity should administer a federal EERS standard. A national entity is needed to set complete and consistent rules, to monitor compliance and enforce penalties, and to assess performance and recommend policy modifications. ACEEE is open to an administrative role for any federal agency that demonstrates knowledge and experience with utility markets, efficiency technologies, and utility market monitoring functions. We

would also recommend considered a designated new entity, under a federal agency's supervision, to play some or all of the roles needed to administer an EERS.

- b.** The federal administrative entity should establish a procedure for states to apply for administration rights for the EERS within their boundaries, subject to federal guidelines and reporting requirements.
- c.** We recommend a penalty payment level of at least 6 cents per kWh for electricity and 60 cents per therm for natural gas for failure to comply with the EERS.

7. Credits and Trading

- a.** Tradable credits should be used as the compliance mechanism for a federal EERS. Given differing levels of experience and capability between utilities from state to state, it would be economically efficient to allow a tradable credit system to keep the costs of the program to a minimum.
- b.** Credit trading should be permitted on a national basis. States as well as the federal administrator should be allowed to limit the amount of credits acquired through trading as opposed to acquired directly through a covered utility's customers. This would be especially important in the early years of an EERS, as markets develop, to limit any unexpected credit quality or implementation issues.
- c.** ACEEE recommends a buyout prices of 6 cents per kWh for electricity and 60 cents per therm for natural gas for an EERS, which would have the effect of setting a credit cap at that level.
- d.** We have not formulated a recommendation on an initial allowance policy.
- e.** EERS credit trading should be appropriately coordinated with other credit trading systems, including air quality cap and trade credits and carbon dioxide cap and trade credits. The most important principle in such coordination should be that the emission-reduction attribute, as well as the EERS-compliance value, of an energy efficiency credit be counted only once. In carbon cap and trade systems, as mentioned earlier, there is the possibility of double-counting if energy efficiency credits are traded in the same market as carbon allowances tied to the generation sources in the power system where the efficiency savings are achieved. "White tags", analogous to "green tags" or "renewable energy certificates", can be used for this purpose.
- f.** We have not formulated recommendations on contract lengths.