

# **Comments of the American Council for an Energy-Efficient Economy on The Clean Energy Standard Act of 2012, S. 2146**

Submitted to the Senate Committee on Energy and Natural Resources

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## **Introduction**

I am pleased to submit this statement for the record in conjunction with the hearing today on S. 2146.

We thank Senator Bingaman and his cosponsors for introducing this bill to create a national clean energy standard (CES) as it helps advance the discussion on ways to encourage a cleaner electricity supply in the United States. We think a national CES would be very useful for spurring a gradual transition from today's current electricity supply mix to one that is much cleaner, thereby advancing our environmental objectives while also helping to build a strong economy. In particular, we appreciate that the bill includes combined heat and power (CHP) as an eligible resource. Expanding use of CHP in the United States is an important approach for saving energy, reducing costs, and reducing emissions because CHP systems are significantly more efficient than separate power generation and steam systems. However, we are troubled by the fact that S. 2146 relegates other energy efficiency savings to second class status – energy efficiency is not included in the initial CES but instead is left to a report that will make recommendations to Congress but that will require further congressional action down the road in order to add energy efficiency to the standard.

We strongly urge that S. 2146 be amended to explicitly include energy efficiency as an eligible resource. Energy efficiency should be included because:

1. Energy efficiency is generally the lowest cost resource available to electricity providers. Including energy efficiency will reduce the cost to consumers of a CES.
2. Energy efficiency is generally the cleanest resource.
3. Energy efficiency standards for electric utilities work – half the states now have and are successfully implementing such energy efficiency standards.
4. Exclusion of energy efficiency from the CES tilts the playing field, increasing rather than decreasing the barriers to energy efficiency.

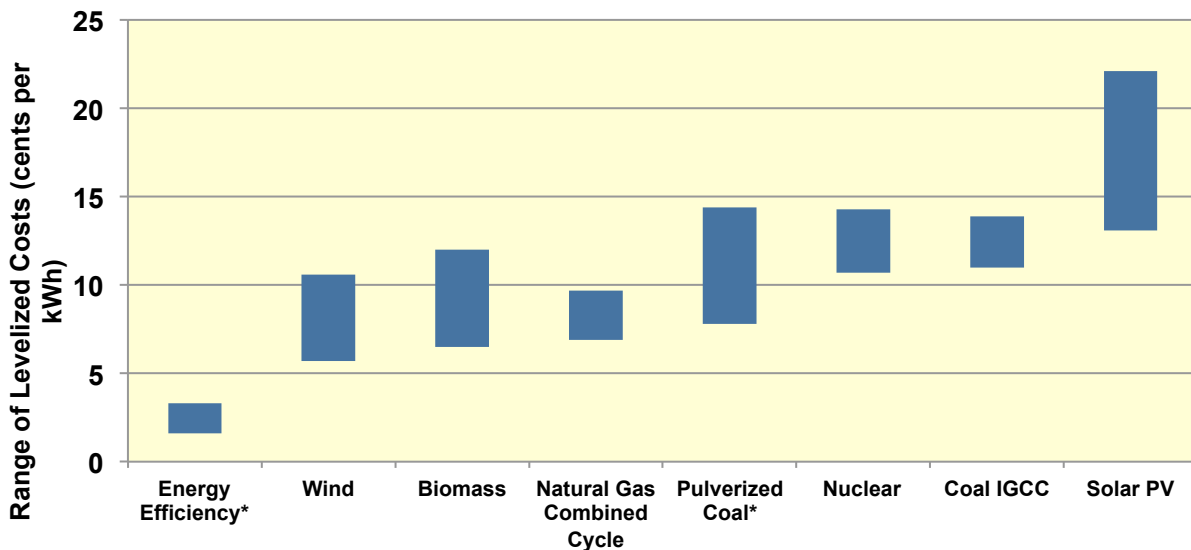
- Energy efficiency will create more jobs -- investments in energy efficiency generate more jobs per dollar invested than other electricity resources.

In the paragraphs below we elaborate on these points and also make some suggestions on how energy efficiency can be incorporated into a national CES.

### Including Energy Efficiency Will Reduce the Cost of a CES

Energy efficiency is generally the least expensive resource available to power providers as shown in the graph below. Energy efficiency generally has costs to the power provider of less than half the next cheapest options.

Levelized Cost Per kWh to the Utility for Different Electricity Resources.



Sources: Energy efficiency data were gathered from 14 states and compiled in an ACEEE study.<sup>1</sup> All other data from Lazard Ltd.<sup>2</sup>

Since energy efficiency is lower cost than other resources that will be encouraged under the CES, inclusion of energy efficiency will reduce the cost of the CES. This is illustrated by the November 2011 report by EIA that analyzed several CES options.<sup>3</sup> While the primary analysis did not include energy efficiency, one of the alternative cases that EIA examined illustrated the positive impacts of energy efficiency in reducing the costs of a CES. Specifically, the analysis included a case in which electricity use would be reduced by 6.7% in 2035 as a result of

<sup>1</sup> Friedrich, Katherine, Maggie Eldridge, Dan York, Pattie Witte, and Marty Kushler. 2009. *Saving Energy Cost-Effectively: A National Review of the Cost of Energy Saved Through Utility-Sector Energy Efficiency Programs*. Report U092. <http://www.aceee.org/research-report/u092>. Washington D.C.: American Council for an Energy-Efficient Economy.

<sup>2</sup> Lazard, Ltd. 2011. *Levelized cost of energy analysis – version 5.0*. New York, NY: Lazard Limited. [http://j.mp/Lazard\\_LCOE\\_ver5](http://j.mp/Lazard_LCOE_ver5)

<sup>3</sup> EIA. 2011. *Analysis of Impacts of a Clean Energy Standard as requested by Chairman Bingaman*. Washington, DC: Energy Information Administration.

stronger energy efficiency standards and building codes. EIA found that these energy efficiency savings reduced the annual cost of the Basecase Clean Energy Standard (BCES) by \$57 billion in 2035, the last year of the analysis. These savings include \$44 billion in lower annual electricity expenditures and \$13 billion in lower annual natural gas expenditures outside of the power sector. Electricity costs decline because electricity use is down and because electric rates are lower (by an average of 0.3 cents per kWh) than in the BCES case. The savings in electricity also mean that less natural gas is needed by the electric power sector, reducing natural gas demand and lowering the price of natural gas for all users by an average of 40 cents per thousand cubic feet.

The energy efficiency standards and codes case that EIA examined included only modest efficiency savings— i.e., the 6.7% saved in 2035 works out to an average reduction of 0.3% per year. ACEEE's recent *State Energy Efficiency Scorecard*<sup>4</sup> found that five states (Vermont, Nevada, Hawaii, Rhode Island, and Minnesota) are already saving more than 1% per year, not including standards and codes, with the highest saving at 1.6% per year. Many other states are now ramping up to these levels of savings. Allowing energy efficiency to fully participate in a CES would potentially increase the efficiency savings by a factor of 3-5 compared to the case EIA examined. So if 6.7% energy efficiency savings saves \$57 billion, then 20% efficiency savings will likely save considerably more—reducing the cost of electricity services with a CES to less than the cost of electricity services if no CES were enacted. Of course this is a rough approximation; we recommend that EIA be tasked with conducting a specific analysis on this scenario.

### **Including Energy Efficiency Will Reduce Emissions**

The cleanest power is power we do not need to produce. A primary purpose of the CES is to reduce emissions of criteria pollutants (e.g. nitrogen oxides) as well as greenhouse gases. The November 2011 EIA analysis discussed above found that relative to the BCES, including efficiency savings from standards and codes would reduce 2035 nitrogen oxide emissions by 7%, mercury emissions by 6% and carbon dioxide emissions by 14%. If energy efficiency is added to the CES, energy efficiency savings will be much greater than just the standards and codes savings that EIA modeled, producing even larger emissions savings.

### **Energy Efficiency Resource Standards Are in Place in Half the States and Have Been Proven to Work**

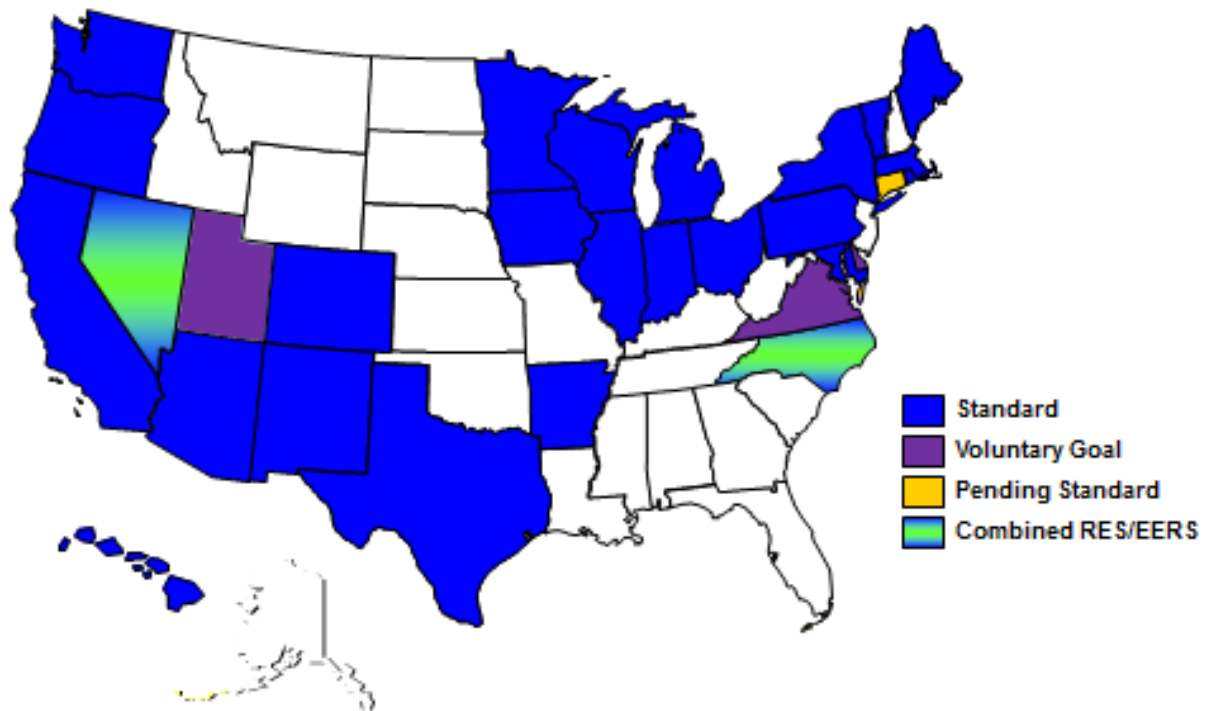
Twenty-five states now have mandatory energy efficiency targets. We call these Energy Efficiency Resource Standards (EERS). This includes two states (Nevada and North Carolina) with a combined EERS/Renewable Energy Standard. These states are shown in the map below. A 2011 evaluation of EERS implementation in the 19 states that have been implementing their EERS for at least two years found that that all but three states are meeting or

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<sup>4</sup> Sciortino et al. 2011. *State Energy Efficiency Scorecard*. Washington, DC: American Council for an Energy-Efficient Economy. <http://www.aceee.org/research-report/e115>.

close to meeting their targets.<sup>5</sup> One of the three has since caught up. In addition, our 2011 *State Scorecard* (referenced above) found that eight other states (Connecticut, Idaho, Montana, Nebraska, New Hampshire, New Jersey, South Dakota and Utah) plus the District of Columbia have used energy efficiency in the most recent year to save at least 0.2% of electricity sales. Thus, a substantial majority of states are already implementing significant energy efficiency programs, allowing them to quickly ramp-up activities to help meet early-year CES targets at modest cost.

States with Energy Efficiency Resource Standards as of April, 2012



Source: ACEEE analysis.

### Excluding Energy Efficiency from the CES Unfairly “Tilts the Playing Field”

Energy efficiency and natural gas are now often competing in the market as the low-cost resources for meeting electricity needs. It makes no sense to “put a finger on the scale” and allow only natural gas to participate in a CES, and not energy efficiency as that would create a market incentive for utilities to invest in new natural gas power plants instead of energy efficiency programs. In order to “level the playing field,” energy efficiency should be added to

<sup>5</sup> Sciortino et al. 2011. *Energy Efficiency Resource Standards: A Progress Report on State Experience*. Washington, DC: American Council for an Energy-Efficient Economy. <http://www.aceee.org/research-report/u112>.

the CES. If there is a concern that this would mean that the resulting mix does not adequately promote renewable energy and other advanced energy sources, then the targets can be increased. Energy efficiency produces no emissions and therefore is “cleaner” than many of the resources now included in CES proposals.

Alternatively, if the intent of the CES is not to reduce emissions but is instead designed to encourage use of advanced, low-carbon resources that have difficulty competing with efficiency and natural gas, then the standard could be retitled an Advanced Energy Standard, and only more expensive energy sources that need some help (e.g., renewables, nuclear, and coal with carbon capture and storage) would be included. In such a case, the targets would need to be lower than those now in S. 2146.

### **Including Energy Efficiency Will Create More Jobs**

Energy efficiency measures tend to be labor intensive, creating more jobs than capital-intensive investments such as power plants. ACEEE economic analyses have generally found that energy-efficiency investments generate about 20 jobs per million dollars invested (includes direct, indirect, and induced jobs) while investments in the energy sector generate about 10 jobs per million dollars invested.<sup>6</sup> The net difference is about 10 jobs per million dollars invested.

In 2009, ACEEE examined the job impacts of an EERS that reduces nationwide electricity use by 15% in 2020 and natural gas use by 10% in 2020. Based on a detailed input-output economic analysis, we concluded that such a policy would, by 2020, create 222,000 net jobs relative to the EIA Reference Case scenario (net jobs means jobs from efficiency investments after adjusting for the fact that lower electricity demand results in fewer power plants and reduces the amount of fuel needed for power generation).<sup>7</sup> These are a substantial number of jobs.

### **Incorporating Energy Efficiency into a National CES**

In terms of modifying S. 2146 to include energy efficiency, we recommend that definitions and implementation provisions be drawn from S. 548, introduced by Senator Schumer in the 111th Congress. Using this approach, the legislation would establish evaluation principles and DOE would establish national guidelines for evaluation of energy efficiency savings. DOE could draw on its own prior work as well as regional evaluation guidelines that have been developed in the northwest<sup>8</sup> and are now being developed in the northeast.<sup>9</sup> States or utilities and their contractors would be responsible for conducting evaluations. We recommend that states be encouraged to oversee utility implementation of the evaluation portions of the CES, including reviewing and approving evaluations. DOE would review such state-approved evaluations on a spot basis to see where the evaluation guidelines needed to be improved and to look for any

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<sup>6</sup> <http://www.aceee.org/files/pdf/fact-sheet/ee-job-creation.pdf> .

<sup>7</sup> Furrey et al. 2009. *Laying the Foundation for Implementing a Federal Energy Efficiency Resource Standard*. Washington, DC: American Council for an Energy-Efficient Economy. <http://www.aceee.org/research-report/e091> .

<sup>8</sup> <http://www.nwcouncil.org/energy/rtf/subcommittees/deemed/Default.asp> .

<sup>9</sup> <http://neep.org/emv-forum> .

gross abuse. In addition, if a state Public Utility Commission elected not to review utility evaluations, then DOE would need to conduct this review. Furthermore, since energy efficiency opportunities exist in all states, we do not think interstate trading of energy efficiency credits is needed or desirable. Trading of energy efficiency credits would add unneeded complication and would mean that some states will not get their share of energy efficiency benefits. Intrastate trading could be allowed with approval of the state Public Utility Commission.

## **Conclusion**

Energy efficiency is our cheapest and cleanest energy resource. In order to reduce the cost of the CES and also further reduce electric sector emissions, energy efficiency should be included in the CES. Including energy efficiency will save money so that we can better afford to use advanced energy resources such as renewables, nuclear and coal with carbon capture and storage to meet the balance of our future energy demand. S. 2146 should be amended to specifically include energy efficiency as an eligible clean energy resource.