American Council for an Energy-Efficient Economy

Fact Sheet

Energy Efficiency in a Clean Energy Standard

Many proposals for a Clean Energy Standard (CES) have included energy efficiency. Efficiency was included in CES proposals introduced by Senators Lugar (S. 3464) and Graham (S. 20) in the 111th Congress. CES proposals by Third Way and the Center for American Progress also included efficiency. Senator Murkowski proposed an amendment to permit unlimited efficiency in the Renewable Energy Standard (RES) reported out by the Energy and Natural Resources Committee in the last Congress. However, the inclusion of energy efficiency in President Obama's CES proposal remains uncertain.

The definition of what is a "clean" energy source under these proposed CES standards is broader than what is typically included in a Renewable Energy Standard. A CES requires that a certain percentage of electricity generation come from sources other than traditional renewables like wind, solar, and geothermal and may include other "clean" sources such as natural gas, nuclear, and carbon sequestration from coal plants. Energy efficiency is often included as an acceptable form of clean energy used to achieve the CES. This short fact sheet addresses questions about efficiency in a CES.

WHAT WOULD BE THE IMPACTS OF INCLUDING ENERGY EFFICIENCY IN A CES?

Energy efficiency is generally less expensive than other sources of clean power and thus including it would lower the cost of a CES. For example, a recent ACEEE study found that across 14 states with extensive energy efficiency programs, these programs have an average cost to the utility of 2.5 cents per kWh saved.[1] This compares to new power plants with costs of 6 to 34 cents per kWh.[2] Energy efficiency can also be implemented quickly, with programs achieving savings in a year or two. Most new power plants take years to permit and build before they come on line.

Energy efficiency is generally more labor-intensive per dollar invested and thus including efficiency would aid job creation. For example, on a national basis, investing a million dollars in construction and services (sectors where energy efficiency jobs are concentrated) produces 19–20 jobs on average while investing a million dollars in the traditional energy sector produces only 10 jobs on average.[3]

WOULD EFFICIENCY SAVINGS SQUEEZE OUT DEVELOPMENT OF OTHER CLEAN ENERGY SOURCES UNDER A CES?

The ability of efficiency and other resources to compete will depend on the market and on the standard. If clean sources are required to be only 20% of sales in 2035, then efficiency, renewables, and natural gas will likely dominate (many state renewable and efficiency energy standards are already in place). But if the 2035 target is 80% as the President has proposed, a more diverse group of energy sources will be attractive options for meeting the standard. Moreover, because energy efficiency helps lower the overall cost of a CES and provides the regulated community with greater flexibility, it makes passing an aggressive CES more economically and politically feasible. Including energy efficiency will increase the likelihood that a CES, and therefore a market, is created for other clean energy resources.

HOW CAN EFFICIENCY SAVINGS BE MEASURED? CAN SAVINGS CLAIMS BE "GAMED"?

There are established methods for evaluating the savings from energy efficiency programs that can be very rigorous. Techniques have been outlined by DOE, EPA, and a variety of states.[4] But states do differ in their evaluation

requirements. We recommend that in order to provide a firm foundation for program evaluation, the CES implementer (likely DOE or FERC) publish evaluation rules and review evaluations for consistency. Detailed language on evaluation and evaluation reviews was included in Senator Schumer's S. 548 (a stand-alone EERS) bill in the 111th Congress.

SHOULD EFFICIENCY CREDITS BE TRADABLE?

Efficiency opportunities are available in all 50 states and therefore trading for efficiency credits is unnecessary. On the other hand, energy service companies and engineering firms often work on energy efficiency projects with property owners and manufacturers with facilities in multiple states, and argue that they can produce more and lower cost savings if trading is allowed. In the last Congress' S. 548, the compromise was to allow (but not require) states to permit trading within their boundaries or within their local power pool. While we support this compromise, we would rather have efficiency included without trading than to not have efficiency included at all.

Should combined heat and power systems (CHP) be included as part of energy efficiency in a CES? What about efficiency savings from building codes and equipment efficiency standards?

Most proposals for a federal energy efficiency resource standard (EERS) have included CHP and some proposals included codes and standards. For CHP, the consensus has been that they should be credited for the savings that result from CHP relative to use of conventional power plants and industrial boilers. If the CHP system is twice as efficient as the conventional system, then it gets half credit. Detailed definitions and language are in Schumer's S. 548.

Regarding codes and standards, there has been a range of opinions, depending on how high the targets are and the utility role in contributing to the code and standard savings. When savings targets are low, then code and standard savings are generally not included (this was the case in the Waxman-Markey ACES bill in the 111th). When targets are higher, code and standard savings are often included, as in Schumer's S. 548. An in-between approach is to include code and standard savings only when the utility plays a significant role in helping establish the code or standard, with "significant" defined via regulation.

SHOULD THE AMOUNT OF EFFICIENCY INCLUDED IN THE CES BE CAPPED?

All clean sources should be allowed to compete in the market. Putting caps on some resources or floors on other resources tilts the playing field. Also, as discussed above, efficiency is less expensive than other electric resources and therefore capping the amount of efficiency will tend to raise the cost of a CES. If the concern is that without a cap, not enough other clean resources will be developed, the solution is to set a higher target rather than constrain a valuable resource like energy efficiency.

ARE COMPLEMENTARY POLICIES FOR EFFICIENCY A VIABLE ALTERNATIVE TO INCLUDING EFFICIENCY IN A CES?

The President has proposed some unspecified complementary policies to promote energy efficiency, instead of including efficiency in a CES. For example, a variety of efficiency policies were included in the American Clean Energy Leadership Act (ACELA) reported out of the Senate Energy Committee on a bipartisan basis last Congress. While these policies are useful and should be included in an energy bill, their impacts are likely much lower than including efficiency in a CES. For example, in a 2010 analysis of efficiency provisions pending in the Senate, ACEEE found that a strong stand-alone federal energy efficiency standard (10% efficiency savings by 2020) could save 176 TWh of electricity in 2020 (more than enough to power Illinois, New York, or Ohio for a full year), while the other efficiency policies in ACELA would only save about 77 TWh in 2030.[5] Also, if energy efficiency is not a core component of a CES, but only addressed through complementary policies, we are concerned that such complementary policies might be dropped from a bill before it becomes law, particularly if those policies have an upfront cost to the federal government.

1. Friedrich, et al. 2009. *Saving Energy Cost-Effectively: A National Review of the Cost of Energy Saved through Utility-Sector Energy Efficiency Programs*. Report Number U092. Washington, D.C.: American Council for an Energy-Efficient Economy.
2. Lazard Associates. 2009. *Levelized Cost of Energy Analysis Version 3.0*. http://blog.cleanenergy.org/files/ 2009/04/lazard2009_levelizedcostofenergy.pdf.
3. MIG, Inc. 2009 IMPLAN dataset (published in 2010). http://implan.com/.
4. EPA and DOE. 2007. *National Action Plan for Energy Efficiency. Model Energy Efficiency Program Evaluation Impact Guide*. http://www.epa.gov/cleanenergy/documents/suca/evaluation_guide.pdf.
5. Laitner, et al. 2010. *The American Power Act and Enhanced Energy Efficiency Provisions: Impacts on the U.S. Economy*. Report Number E103. Washington, D.C.: American Council for an Energy-Efficient Economy.