

Alliance to Save Energy

Response to U.S. House Committee on Energy and Commerce Questions on Clean Energy Portfolio Standards

July 6, 2007

1. Purpose of Portfolio Standards Proposals

1.a.

Establish electricity and natural gas portfolio standards: A federal portfolio standard represents a flexible, market-based, and effective approach to deploying energy efficiency as an “energy resource” for meeting customer needs and addressing growing demand, in part, through energy-efficiency programs rather than the construction of new supply capacity. Utility energy-efficiency programs have proven to be very effective in deploying energy-efficiency technologies and practices, reducing utility bills, and improving air quality. A portfolio standard is a sensible policy because it not only will require utilities to establish and/or expand existing energy efficiency programs but also will ensure real energy savings from such programs through a performance requirement. It is an appropriate federal policy because it will help address national energy-related issues including natural gas supply and prices, global warming, grid reliability and energy security.

An energy-efficiency resource standard should apply both to retail electricity suppliers and to natural gas suppliers. Energy efficiency is a proven resource displacing not only electricity but also natural gas demand. Because natural gas markets are so tight, natural gas savings—either in direct consumer natural gas consumption or in natural gas use for electricity due to reductions in electricity use—may be even more valuable economically than electricity savings.

1.b.

A portfolio standard can overcome market and policy failures and address climate change: It often is cheaper, cleaner, and quicker to meet customer needs by helping the customers save energy than by producing it. However, utilities usually are more focused on ensuring sufficient energy production than on other ways to meet their customers’ needs. This circumstance is exacerbated by traditional rate structures that penalize utilities for efforts that reduce their sales. Thus government policies to require energy savings, along with regulatory rules that allow utilities to be rewarded for investments in energy efficiency commensurate to the utilities’ returns on energy sales, are appropriate in order to ensure that utilities best serve consumer needs. State planning requirements have proven effective in some states but have been easily subverted elsewhere, and they are possible only where there are still regulated, integrated utilities. Thus several states have turned to energy-efficiency performance requirements.

An efficiency resource standard also is an important way to reduce carbon emissions. Many studies have found that energy efficiency is the most cost-effective way to achieve major greenhouse gas emission reductions in the near and medium terms. Yet, a carbon cap-and-trade program, which is promoted by many as an effective means of controlling CO₂ emissions, may or may not encourage end-use energy efficiency depending on the allocation of credits and use of offsets. Direct allocation of credits to energy-efficiency programs, or parallel policies such as an efficiency resource standard, are critical to ensuring that we use as much cost-effective energy efficiency as possible before paying for other means of reducing carbon emissions.

1.c.

Purpose is use of clean and economical resources to meet customer needs: The purpose of an efficiency resource standard is to require that electric and natural gas utilities use a clean and economical energy resource—energy efficiency—to meet at least some guaranteed portion of their customers needs.

The purpose of a broader portfolio standard might be to create a flexible, market-based system to require use of clean energy resources including energy efficiency in order to meet customer energy needs, reduce environmental impacts, foster innovation, overcome market barriers, and reduce utility costs.

1.d.

A portfolio standard complements climate policy: As indicated in the answer to 1.b., a greenhouse gas policy may not necessarily provide incentives for end-use energy efficiency. Most end uses will not be directly regulated, and depending on the allocation of credits, reduction in electricity and natural gas consumption may not yield benefits to the utilities (e.g., if utilities are allocated emission credits based on the power they produce, and need credits based on their carbon emissions, then end-use efficiency reduces the credits they receive as well as reducing their need for credits). Thus it is important to adopt parallel policies such as a portfolio standard that can help achieve greenhouse gas emission reductions at a lower cost by ensuring the deployment of energy efficiency as an energy resource.

1.e.

Please see answers of the American Council for an Energy-Efficient Economy.

2. Portfolio Inclusions and Exclusions

2.a-b.

Include resources that serve the goals and that the standard will help: Energy resources should be included if they meet the environmental and other purposes of the policy, and if they would not be fully utilized without the policy due to market barriers or failures.

The policy should be written to allow energy savings, and not just generation sources, as an included resource. Energy savings include end-use energy efficiency, combined heat and power at distributed sites (but only counting the savings compared to separate boiler heat and central

electricity generation), recycled energy, and reductions in electric and natural gas distribution system losses.

2.c.

Many different structures could work: There are many ways different resources can be treated, including establishing separate standards (as in Texas), setting separate tiers (as in Connecticut), including a set-aside or a portion of the target for which some resources are excluded (as in Nevada), or giving more credit per kilowatt-hour to certain sources. One reason for treating various resources differently could be because they serve different goals, but more often such action is justified by the long-term benefits of giving a toehold in the market to certain resources that cannot now compete economically. We believe a portfolio standard can work well with or without separate tiers. However, we also believe that regardless of the structure the standard should encourage or require electric and natural gas utilities to use cost-effective energy efficiency measures to the fullest extent practicable, not just as an after-thought but as a first resource.. Such “preference” for energy efficiency is justified by its unique combination of economic, environmental and security benefits.

2.d.

Only new resources should be eligible: As there are vast amounts of energy efficiency in use today, and adding rewards for it will not serve the purpose of increasing energy efficiency, we think credit should focus on new sources. An ideal bill would make measures eligible from the beginning of discussion of the bill (e.g., from the beginning of the year of enactment) to avoid discouraging action while people wait for the bill to pass.

2.e.

Recycled thermal energy can count as natural gas savings: An energy efficiency resource standard should be applied to natural gas as well as electricity. Then thermal energy from eligible sources (including recycling of thermal energy and reduction of demand for thermal energy) can be counted as natural gas savings to the extent they displace natural gas.

2.f.i-ii.

Careful M&V of savings is needed and is possible: Measurement and verification (M&V) of savings from energy efficiency measures is a significant challenge, but one with which we have a lot of experience. State Public Utility Commissions (PUCs) have overseen billions of dollars in investment in energy efficiency over many years. The PUCs typically require utility energy-efficiency programs to demonstrate savings, often with independent verification, and state-run programs often have similar requirements.

There are several protocols for M&V, including the California Energy Efficiency Evaluation Protocols, the International Performance Measurement and Verification Protocol (IPMVP), the Pennsylvania rules for its Clean Energy Portfolio Standard, and others. For common measures it is often possible to use “deemed savings” that employ standard estimates of energy savings and project lifetimes. For other measures, “impact evaluations” using field measurements and detailed protocols, may be necessary.

The baseline is “business as usual.” It will depend on the measure and can be specified in regulations—new equipment will typically be compared to an average for new equipment (or equipment that meets a legal standard), while improvements to an existing facility may compare to a historical baseline for that facility, corrected for weather or operational changes if necessary.

It is important to note that energy efficiency resource standards set targets for estimated savings from energy efficiency programs; they do not set limits on utility sales, and savings are not determined based on overall sales, as it is generally too difficult to project baseline sales in the absence of the programs. The savings target, however, can be set as a percentage of the most recent year’s sales, or as a function of sales in recent years corrected for factors such as weather.

3. Percentage Requirement and Timing

Energy efficiency target should be 10% electricity and 5% natural gas savings by 2020: The targets obviously depend on what resources are eligible. A number of studies have found that large cost-effective electricity and natural gas savings are available. For example a 2000 study by several national laboratories estimated that energy efficiency policies and programs could reduce U.S. demand for electricity by 24% and demand for natural gas by 12% over a 20-year span. A 2007 report by the McKinsey Global Institute found that we could reduce energy use in new and existing buildings by more than one quarter by 2020 with measures that pay for themselves in less than ten years.

Based on these studies, and a number of “potential” studies in states and regions, we recommend that an energy efficiency resource standard require new savings of at least 10% of electricity and 5% of natural gas use by 2020. This also could be the expected efficiency contribution to a broader portfolio standard. We recommend a “ramp-up” in the percentage requirement that is slower in the first few years to allow states with few programs to build the necessary infrastructure and then is “straight-lined” to the target.

We believe that these targets are sufficiently conservative and therefore no off-ramp or contingency is necessary, but a buy-out provision could be included to allow utilities to buy credits at a reasonable price if they believe they cannot meet the targets through their own programs. The proceeds from the sale could be distributed for state-run energy-efficiency programs, perhaps with a preference for using the funds in the utility’s area. For a pure generation standard, the buy-out price logically would be set above the added increment in cost for use of the intended resources. But efficiency is frequently cheaper than standard generation; nonetheless, because efficiency has revenue impacts as well as cost impacts, using efficiency may not make financial sense for the utility even if it helps the customers. In addition, as discussed above, there are other market barriers to utility efficiency programs. On balance, a buyout price near the cost of efficiency programs (perhaps 3.5 cents per kilowatt-hour) seems reasonable.

4. Relationship to State Portfolio Standards and Utility Regulation

4.a.

Federal standard should be coordinated with existing state policies: Utility energy resources have traditionally been under state regulation, and any federal policy should be designed carefully to work in conjunction with state policies and regulators. We believe a federal portfolio standard should set a requirement (both levels and eligible sources) that applies in all states in order to achieve our national energy goals. But the standard should be coordinated with, and not override, state policies. Thus we believe a federal standard should not preempt state targets, and that (unless prohibited by the state) the same energy savings should be able to qualify for both state and federal requirements.

4.b.

States should be encouraged to allow cost recovery and provide incentives: Regulated utilities should be allowed to recover reasonable costs for meeting federal requirements. In addition, and importantly, under traditional ratemaking policies, utilities often are penalized financially by energy-efficiency measures beyond the cost of the measures themselves. This is because revenues are mostly proportional to sales while many costs are fixed, i.e., a decrease in sales due to successful energy efficiency programs will typically decrease revenues more than it decreases costs. The best solution is through adjustments to rates that match utilities' revenues with their fixed costs, or through incentives for successful efficiency programs that compensate for revenue losses. Fixed-cost customer rate designs, which discourage energy efficiency, should be avoided.

Notwithstanding these comments, it is unclear as to whether there is a compelling national interest in removing utility rates from state purview. The proper role of the federal government probably is to put forth effective models for addressing these issues and then requiring state regulators to consider them.

5. Utility Coverage

All utilities should be covered except very small ones: To be fair and effective, a portfolio requirement should apply as widely as possible to electric and natural gas utilities. However, it would make sense to exempt the smallest utilities in order to reduce compliance and enforcement costs. No other exemptions should be necessary, as energy efficiency is available everywhere.

All electricity and natural gas should be covered under a standard, but only once, so wholesale sales should be included only if there is no subsequent retail sale. Natural gas used in central power plants also should be exempt as the electricity is covered.

6. Administration and Enforcement

States should administer with FERC as backstop: The most effective enforcement is likely to come from the states, but there needs to be a federal backstop. This can be accomplished with state opt-in for enforcement. A federal agency should set rules for eligibility and administration. We think the Federal Energy Regulatory Commission (FERC) is best suited to this task as a regulatory agency that has intimate familiarity with utility operations. States with or without their own portfolio requirements could take over enforcement of the standard for utilities under their jurisdiction, and we hope most would choose to do so. In addition, states could apply their

own rules as long as they were at least as strict as the federal rules. In states that do not accept responsibility, FERC would administer and enforce the standard.

A penalty should apply to utilities that fail to meet the standard based on the number of kilowatt-hours or therms by which they fall short. The rate should be set at a level above the expected cost of meeting the standard and above the buy-out price, if any, (e.g. 7 cents/kWh would be reasonable). Like the buy-out fees, any collected penalties should be distributed for state-run energy-efficiency programs.

7. Credits and Trading

7.a-b.

States and regions should be allowed to set up credit trading: Given that the efficiency resource is available everywhere, credit trading is not necessary to ensure the workability of an energy-efficiency standard. Also, as noted above, a “buy-out” price could provide another option for utilities that fail to meet the requisite energy savings. And, a credit trading program has potential downsides. Credit trading could exacerbate the issue of measurement and verification of savings by increasing the potential impact of exaggerated savings. Allowing companies other than utilities to earn credits also could dramatically increase “free-riders” (credits for savings that would have occurred with or without the standard), and would make administration and enforcement of the validity of savings much more difficult. Credit trading could also make efficiency and other resources less useful for meeting utility needs by making it harder to predict where they will displace the need for energy. And, of course, establishing a credit trading program adds enormous complication.

On the other hand, credit trading increases flexibility and could reduce the overall cost of meeting the targets. It also could provide more confidence to covered utilities that a standard is achievable. Allowing companies other than utilities to earn credits would greatly increase the scope of participants, foster innovation, and ensure that committed service providers are available. And credit trading could create a more stable market for eligible resources, monetizing their value and helping to enable financing of the projects.

On balance, we believe the best approach to a credit trading program, should it be made a part of any national energy-efficiency resource standard, would be to allow states, or compacts of states following regional transmission boundaries, to choose whether to allow trading. We suggest that states or compacts be allowed to set up credit trading systems within their jurisdictions. This would place the problem of enforcement on the agencies with the most regulatory experience in this area, and would allow experimentation with a number of different approaches.

7.c.

A buy-out option should cap costs: A buy-out provision (allowing utilities to buy credits from the government at a fixed price), as discussed in the answer to question 3, should effectively cap the price of credits.

7.d. and f.

Only utilities should earn credits unless savings can be shown to be additional: For energy efficiency, the simplest administration would be to allow only regulated distribution utilities to earn credits, but also allow them to contract with other companies to do energy-efficiency projects within the utility's territory. Under such a scheme, the utility would be responsible for ensuring the energy savings are valid. An exception could be made for combined heat and power, as some utilities may be especially reluctant to fund "competing" electricity generation. In addition, states that choose to administer ratepayer-funded, energy-efficiency programs themselves (or through a contractor), rather than by having utilities run the programs, should be allowed to earn credits for the savings.

As described in the answer to question 7.a., both the benefits and the drawbacks of credit trading would be greatly increased by allowing other entities to earn and sell credits, particularly energy service providers. The benefits seem worth the costs only if one can ensure that most of the savings are real and would not have happened in the absence of the portfolio standard (i.e., the savings are "additional" to a "business-as-usual" scenario).

7.e.

Coordinate credits or harmonize M&V and other criteria: Because energy efficiency and other clean resources have multiple benefits, they should be eligible for credit for all appropriate attributes; but they should not be double-counted for any one benefit. Depending on how a climate change policy is set up, this coordination could be achieved by incorporating a portfolio standard into a cap-and-trade system. If not, separate credits would be much more beneficial for financing projects if the other criteria for eligibility were similar, so that a project could qualify for multiple credits with a minimum of time, hassle, and uncertainty.