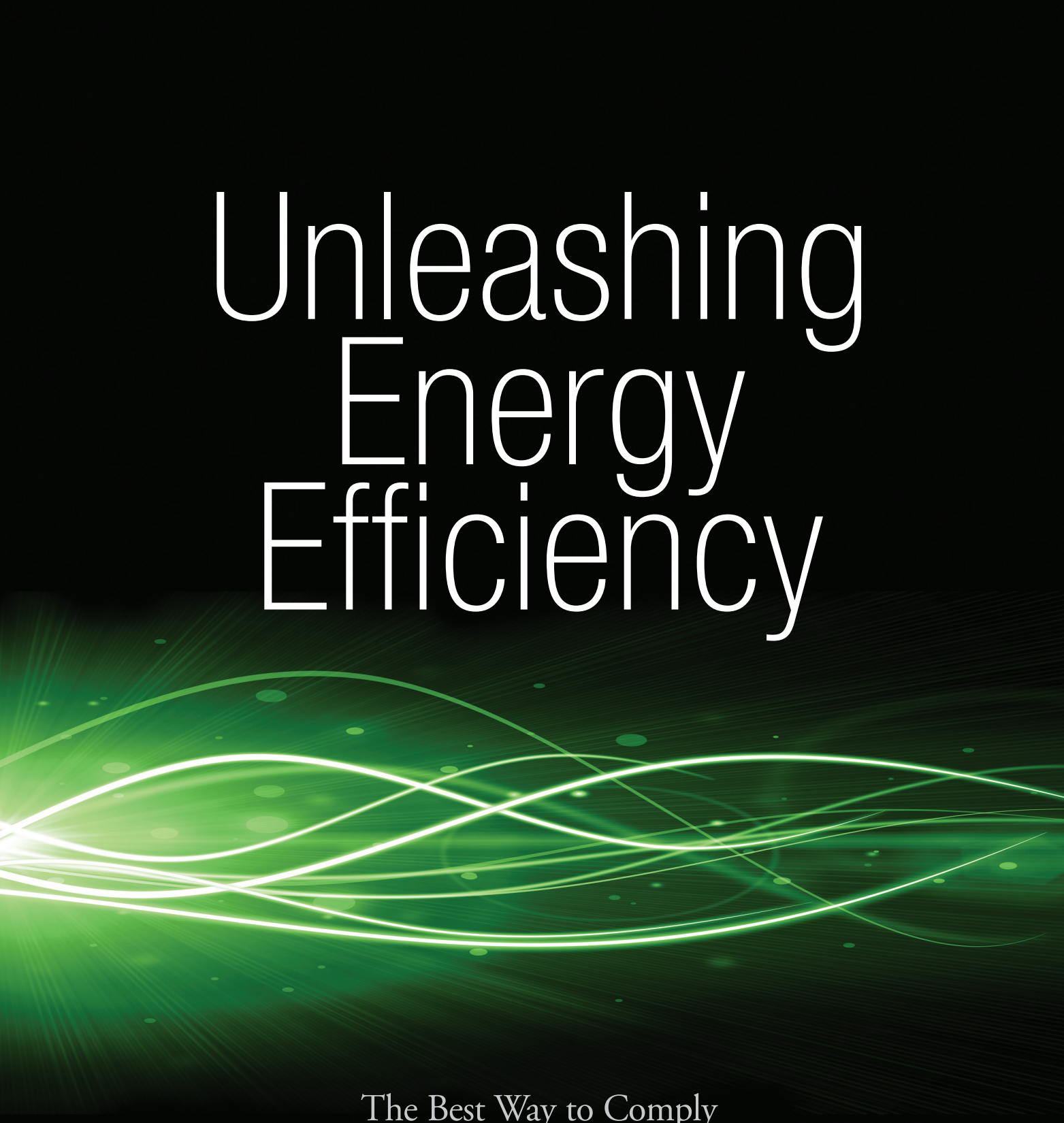
Unleashing Energy Efficiency



The Best Way to Comply with EPA's Clean Power Plan

By Tim Woolf, Erin Malone, Chris Neme, and Robin LeBaron

For over 25 years, utility-funded energy efficiency programs have proven to be a widely available resource for meeting customer demand at low cost. We now have a wealth of experience demonstrating that energy efficiency programs cost a fraction of the cost of generating, transmitting and distributing electricity, and provide a variety of benefits in terms of lower bills, reduced system risk, increased system reliability, reduced environmental impacts and more.

In June 2014, when the U.S. Environmental Protection Agency (EPA) issued proposed regulations[1] under the Clean Air Act (CAA) for reducing greenhouse gas emissions from existing sources in the electricity industry, it created another compelling reason for states to promote energy efficiency programs. Efficiency programs are among the lowest-cost options for reducing carbon emissions, and can play a significant role in reducing the costs of complying with the EPA's new plan (abbreviated here as "CAA 111(d)").

However, if we are to unleash the full potential of energy efficiency programs to comply with CAA 111(d), many states will need to improve their procedures for reviewing and approving utility-funded programs. Enormous reservoirs of low-cost efficiency resources remain untapped, primarily because several regulatory practices and conventions hinder the identification and development of the full potential of energy efficiency resources. In this article, we describe two of the most important of these barriers and propose strategies for addressing them.

- **Outdated Practices.** Many states' practices for evaluating the cost-effectiveness of energy efficiency resources are outdated and overly narrow, thereby leaving a large amount of cost-effective efficiency opportunities out of reach of utility-funded programs. States can modify their efficiency screening practices in several important ways to ensure that they identify all efficiency resources that are in the public interest.
- **Rate Impact Fears.** Many states limit the budgets for utility-funded energy efficiency programs due to unsubstantiated concerns and/or misperceptions about rate impacts. States can address these important concerns directly by properly analyzing the rate impacts of energy efficiency programs, and taking advantages of several opportunities for mitigating any such impacts.

Understanding the Plan

As part of the Clean Power Plan, EPA proposed regulations to reduce CO_2 from existing fossil fuel-fired power plants – the largest single source of greenhouse gas emissions in the country – by 30 percent below 2005 levels by 2030.

How can my state use efficiency to cut CO_2 for the least cost?

For the purpose of setting CO_2 reduction targets, EPA has identified a set of options (called "building blocks") that allow states to achieve meaningful CO_2 reductions at a reasonable cost. These building blocks include: (a) reducing coal-fired emission rates; (b) re-dispatching existing natural gas combined cycle units; (c) crediting a portion of nuclear generation; (d) expanding renewable generation; and (e) expanding end-use energy efficiency. The energy efficiency building block is defined loosely and could consist of utility-funded efficiency programs, building codes, appliance standards and other measures to increase end-use efficiency.

In developing specific CO_2 emission reduction targets for each state, the EPA conducted what could be considered a high-level feasibility assessment of each building block in each state. Accordingly, the emission reduction targets differ from state to state, with individual state emission reduction targets being based on the extent to which they could effectively use each building block.

For the efficiency building block, EPA found that 12 leading states have achieved – or will achieve with existing requirements – annual incremental savings rates of at least 1.5 percent of retail electricity sales. To the EPA, these 12 states provide evidence of an achievable goal for all states. The agency determined that for the efficiency building block, each state's annual incremental

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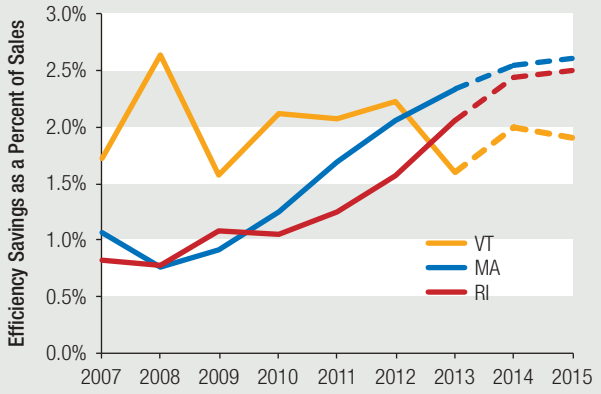
1. US EPA Proposed Rule: CAA Section 111(d) Emission Guidelines for Existing Power Plants, Docket ID No. EPA-HQ-OAR-2013-0602, June 2, 2014.

FIG. 1 NEW ENGLAND'S EXAMPLE

Annual Efficiency Savings of Three Leading States: Actual and Planned



Source: Rhode Island's, Massachusetts's and Vermont's annual efficiency reports for 2007 through 2013, and their efficiency plans for 2014 and 2015

savings rate should increase from its 2012 annual savings rate to a rate of 1.5 percent over a period of years starting in 2017. All states are expected to reach the 1.5 percent annual incremental savings rate by 2025 at the latest.

For the U.S. in total, EPA estimated that end-use energy efficiency could be used to achieve roughly 23 percent of the total CO_2 emissions reduction target by 2030. The energy efficiency portion of each state's CO_2 target varies widely by state, with EPA estimating that energy efficiency could be used to achieve anywhere from as little as 10 percent to over 77 percent of the target, relative to the other building blocks. Energy efficiency is clearly intended to play a significant role in reducing CO_2 emissions.

EPA allows states a tremendous amount of flexibility in determining how they will meet their 111(d) emission rate targets. None of the building blocks described above are required for compliance; they are used only to establish the emission targets each state must meet. States may employ as much or as little of each building block as they see fit, so long as their strategy achieves the required emission performance.

This flexibility puts energy efficiency front and center in the analysis and the process for complying with CAA 111(d). Since energy efficiency is among the lowest-cost options for reducing CO_2 emissions, then, generally speaking, the more energy efficiency that a state can implement the lower the state's cost of compliance will be. In fact, energy efficiency should be seen as a "no regrets" option for complying with CAA 111(d) because, unlike most other compliance options, it can reduce electricity system costs as well as reduce CO_2 emissions.

Therefore, one of the key questions that CAA 111(d) raises for each state is: "How much energy efficiency can my state develop in order to reduce CO_2 emissions at the lowest possible cost?"

Success Stories

Many states have been ramping up their energy efficiency programs in recent years, with several states already achieving annual efficiency savings of 2 percent of retail sales or more, just from utility-funded programs (*i.e.*, not counting additional savings from efficiency codes, standards and other policies). *Figure 1* presents annual utility-funded efficiency savings in recent years for three of the leading states on energy efficiency: Massachusetts, Rhode Island and Vermont. In 2008, both Massachusetts and Rhode Island legislatures passed laws mandating the implementation of all cost-effective energy efficiency resources. The results of those efforts are clear in *Figure 1*, where savings in those states increased significantly after 2008.

Two other states – New York and Arizona – currently have binding energy efficiency resource standards (EERS) that will require utility programs to achieve at least 2 percent annual savings. An additional 13 states[2] have an EERS requiring annual savings of at least 1.0 percent, with most of those at 1.4 percent or higher. Other states, such as California (which has an EERS for utilities set at 0.9 percent), would almost certainly be added to this list if the savings from building codes, equipment standards and other polices were included.[3]

Despite the progress in developing energy efficiency resources in these states, the majority of states still have a long way to go. As of 2011, 35 states had not achieved efficiency savings equal to 1.0 percent of retail sales, and 19 states had yet to achieve even 0.5 percent of sales.

The gap between leading and lagging states shows a vast opportunity for savings.

This gap between the efficiency savings of the leading states and the other states indicates that there remains a vast opportunity for states to significantly increase energy efficiency savings. Some utilities claim that they are not able to achieve savings levels as high as the leading states, because their states are "different," citing electricity prices, avoided costs, demographics or customer demand for efficiency. While it is true that these factors can influence the amount of achievable cost-effective efficiency savings in a state, it is not true that these factors limit the development of cost-effective energy efficiency programs to the extent that savings levels in the 1.5 percent of sales range and higher cannot be met. All states have a large potential for cost-effective efficiency savings, and new efficiency technologies

2. Illinois, Maryland, Maine, Colorado, Minnesota, Connecticut, Iowa, Oregon, Hawaii, Washington, Arkansas, New Mexico, Michigan.
3. American Council for and Energy-Efficient Economy, "2013 State Energy Efficiency Scorecard," Appendix B. Also, see ACEEE, State and Local Policy Database, State Scorecard Rank, available at: http://database.aceee.org/state-scorecard-rank.

and opportunities are constantly emerging.[4]

The biggest difference between the states, and the main reason for such vastly different efficiency results to date, is the regulatory support that each state provides energy efficiency. Cost recovery, treatment of lost revenues, utility incentives, cost-effectiveness screening and consideration of rate impacts – they each play a critical role in determining the amount of efficiency savings that each state will achieve. States that wish to utilize the full potential of efficiency to reduce the cost of compliance with CAA 111(d) should consider options for improving these critical regulatory policies. Improving cost-effectiveness screening practices is one key option available to states for increasing regulatory support of energy efficiency, as discussed in more detail below.

Problematic Practices

The California Standard Practice Manual (CA SPM) has been widely used for many years as a guide for how to apply energy efficiency screening tests. The CA SPM describes several tests that can be used to screen programs for cost-effectiveness, where each test is intended to represent a different "perspective": the Rate Impact Measure (RIM) test, the Participant Cost test, the Utility Cost test, the Total Resource Cost (TRC) test, and the Societal Cost test.

Despite widespread use of the CA SPM, there has been considerable debate for many years about the proper way to define the cost-effectiveness of utility-funded energy efficiency programs. Most states use the Total Resource Cost test, some states use the Utility Cost test, and some states use the Societal Cost test. However, each state applies these tests differently, resulting in very different screening practices across the states.

Furthermore, as states have increased their efficiency activities in recent years, several problems with current efficiency screening practices have become apparent.

First, many states apply the standard screening tests without consideration of their own energy policy goals. This omission often results in understating some of the key benefits of energy efficiency programs.[5]

Second, many states apply the TRC test in a way that is internally inconsistent. This test includes all of the participant costs of an efficiency measure by design. In order to be internally consistent, the test should include all participant benefits, including non-energy benefits. Most states using the TRC test ignore or significantly understate non-energy benefits, leading to results that are inherently skewed against energy efficiency.

Third, many states are reluctant to account for energy efficiency benefits that are uncertain or difficult to quantify. Since efficiency costs are easy to quantify and many efficiency benefits are difficult to quantify, this reluctance often leads to understating some of the benefits of efficiency programs.

And lastly, the five screening tests defined in the CA SPM do not address the one perspective that is most important when deciding whether to approve energy efficiency programs: the public interest perspective.

A Better Framework

These problems with efficiency screening practices led to the development of the National Efficiency Screening Project (NESP).

Energy efficiency means 'no regrets' – it cuts both costs and carbon.

The NESP is a group of organizations and individuals that are working together to improve the way that electricity and natural gas energy efficiency resources are screened for cost-effectiveness. The purpose of this initiative is to improve efficiency screening practices throughout the United States, and to help inform decision makers regarding which efficiency resources are in the public interest and what level of investment is appropriate.

NESP has developed a Resource Value Framework (RVF) as a way to address the efficiency screening problems identified above.[6] The RVF is a set of principles and recommendations to provide guidance for states to develop and implement tests that are consistent with sound principles and best practices. It is designed intentionally to provide each state with the flexibility to ensure that the test they use meets their state's distinct needs and interests, as defined by relevant energy policies and regulatory orders.

The RVF includes the following six principles for screening energy efficiency resources.

1. The Public Interest
2. Energy Policy Goals
3. Symmetry
4. Hard-to-Quantify Benefits
5. Transparency
6. Applicability

First, above all, remember that the ultimate objective of efficiency screening is to determine whether a particular energy efficiency resource is in the public interest. Efficiency screening practices therefore should account for the energy policy goals

4. See, *e.g.*, McKinsey & Company, "Unlocking Energy Efficiency in the US Economy," July 2009.
5. Most states have overlooked the fact that the CA SPM explicitly states that policy goals "are an integral part of the cost-effectiveness evaluation," although it does not provide explicit guidance for taking these considerations into account. California Public Utilities Commission, "California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects," October 2001, page 7.
6. The National Efficiency Screening Project, "The Resource Value Framework: Reforming Energy Efficiency Cost-Effectiveness Screening," August 2014.

of each state, as articulated in legislation, commission orders, regulations, guidelines and other policy directives. These policy goals provide guidance with regard to which efficiency programs are in the public interest.

Moreover, efficiency screening practices should ensure that tests are applied symmetrically. That means that both relevant costs and relevant benefits are included in the screening analysis. For example, a state that chooses to include participant costs in its screening test should also include participant benefits, including non-energy benefits; otherwise, the test will be skewed against energy efficiency resources.

And what about those hard-to-quantify benefits? In particular, efficiency screening practices should not exclude relevant benefits on the grounds that they are difficult to quantify and monetize. Several methods are available to approximate the magnitude of relevant benefits. And to ensure transparency, energy efficiency program administrators should use a standard template to explicitly identify their state's energy policy goals and to document their assumptions and methodologies.

Lastly, the Resource Value Framework enjoys ease of applicability. It can be used by regulators in any state to determine if customer-funded energy efficiency resources are cost-effective. The RVF may also be applicable for evaluating the costs and benefits of other demand-side and supply-side resources, although application in this context has not yet been fully examined.

To return again to the first of the six principles, what does it mean to determine whether an efficiency resource is in the public interest? Utility regulators' primary responsibility is to serve and protect the public interest through oversight of the utility system. In practice, regulators frequently make determinations as to whether utility investments or actions are in the public interest. Such determinations typically require weighing many different factors and considerations, some of which involve tradeoffs (*e.g.*, cost versus reliability) and some of which require consideration of impacts that are not quantified. In making such determinations, regulators consider those factors that are within the bounds of their authority. This same approach can, and should, be applied to screening energy efficiency resources.

Note that the public interest perspective is not the same as the societal perspective. The societal perspective includes all relevant impacts to society, whereas the public interest perspective includes only those impacts that are within the bounds of regulators' scope and authority. Some societal impacts might fall outside those bounds.

Applying the principles outlined above, and properly recognizing the public interest perspective, would significantly improve the efficiency screening practices in many states. They would also make the screening practices, and the rationale behind them, more transparent than they are today. To further encourage transparency, the RVF recommends that a standard template be used to present the specific costs and benefits of each efficiency program, including an indication of how the difficult-to-quantify impacts are accounted for.

Figure 2 presents an example of such a template. Note that it presents an illustrative list of costs and benefits that a state should take into account, depending upon its energy policy goals. States may choose to account for impacts beyond the illustrative impacts presented. Also note that this template should be accompanied by references that provide full documentation for all the assumptions and results presented.

Estimating Rate Impacts

Ever since utility-funded energy efficiency programs were first introduced as a low-cost resource to meet customer demands, many commissioners, consumer advocates, business groups and others have expressed concern that efficiency programs will exert upward pressure on rates. As a result, many states have limited or reduced efficiency program budgets, resulting in widespread lost opportunities for realizing cost-effective energy efficiency savings.

EPA allows states a tremendous amount of flexibility in determining how they will meet their targets.

Although efficiency programs can and do affect rates, the relationship between the two is widely misunderstood. It is important to recognize that energy efficiency programs can influence rates in four ways – upward, due to the need to recover the costs of (1) the program or (2) lost revenues from reduced sales – and downward, as costs are (3) avoided for generation, transmission or distribution, and as (4) energy costs fall at the margin, pushing rates down.

1. **Program Costs.** Many states allow for immediate recovery of efficiency program costs through separate charges, pushing rates up in the short term, *i.e.*, coincident with the program implementation.

2. **Lost Revenues.** Rates might increase because of the need to recover a portion of the revenues that are lost because of reduced sales from the efficiency programs. The magnitude and timing of this impact will depend upon whether a state adopts policies to recover these lost revenues between rate cases.

3. **Avoided Costs.** Efficiency programs can help avoid generation, transmission and distribution costs. The timing and the magnitude of any reductions in rates will depend upon the specific costs avoided, as well as the frequency of utility rate cases.

4. **Falling Marginal Costs**. This effect – rates dropping as marginal costs fall – is most obvious in regions with competitive wholesale energy markets, and is often referred to as the price

FIG. 2 **TEMPLATE – THE RESOURCE VALUE FRAMEWORK**

An illustrative list of costs and benefits that states should consider in meeting energy policy goals.

Program Name:		Date:	
1. Key Assumptions, Parameters and Summary of Results			
Analysis Level	❑ Program		
	❑ Portfolio		
Measure Life		Discount Rate	
Projected Annual Savings		Projected Lifetime Utility Savings	
2. Monetized Utility Costs		**Monetized Utility Benefits**	
Program Administration		Avoided Energy Costs	
Incentives Paid to Participants		Avoided Capacity Costs	
Shareholder Incentive		Avoided T&D Costs	
Other Utility Costs		Wholesale Market Price Suppression	
		Avoided Environmental Compliance Costs	
		Other Utility System Benefits	
NPV Total Utility Cost		NPV Total Utility Benefits	
3. Monetized Participant Costs		**Monetized Participant Benefits**	
Participant Contribution		Participants' Savings of Other Fuels	
Participant's Increased O&M Costs		Participant Non-Energy Benefits:	
Other Participant Costs		Participants' Water and Sewer Savings	
		Participants' Reduced O&M Costs	
		Participants' Health Impacts	
		Participant Employee Productivity	
		Participant Comfort	
		Additional Low-Income Participant Benefits	
		Other Participant Non-Energy Benefits	
NPV Total Participant Cost		NPV Total Participant Benefits	
4. Monetized Public Costs		**Monetized Public Benefits**	
Public Costs		Public Benefits of Low Income Programs	
		Reduced Environmental Impacts (if monetized)	
		Public Fuel and Water Savings	
		Reduced Public Health Care Costs	
		Other Public Benefits	
NPV Total Public Costs		**NPV Total Public Benefits**	

Total Monetized Costs and Benefits			
Total Costs		Total Benefits	
Benefit- Cost Ratio		Net Benefits	
5. Non-Monetized Public Costs and Benefits			
Non-Monetized Benefits		**Comments**	
Promotion of Customer Equity			
Reduced Risk			
Increased Reliability			
Reduced Environmental Impacts (if not monetized)			
Increased Jobs and Economic Development			
6. Determination:			
❑ Program is in the public interest		❑ Program is not in the Public Interest	

suppression effect. Energy efficiency can also cause the marginal costs of vertically integrated utilities to fall.

Many states limit efficiency program funding because of concerns about rate impacts – without even estimating what those impacts will be. In these cases, the mere perception of rate increases creates a barrier to energy efficiency.

In those cases where there is an estimate of rate impacts, the estimate is frequently limited to the first impact described above (the recovery of program costs) because it is the most obvious impact and the easiest to identify and quantify. This practice provides a misleading indication of the actual rate impacts, by ignoring the other effects.

Those estimates of rate impacts that do account for the recovery of lost revenues often overstate the lost revenues, by ignoring opportunities to offset lost revenues (*e.g.*, through increased off-system sales), by oversimplifying the ratemaking process (*e.g.*, by assuming rate cases occur every year), or by not accounting for the actual relationship between sales and rates.

Further, the downward pressure on rates as a result of avoided costs is often understated due to the long-term nature of those effects. Efficiency programs typically result in costs in the first year, with avoided cost savings stretching five, ten, even twenty years into the future. If the estimate of rate impacts does not include all of those years during in which the savings occur beyond the costs, then the estimate will significantly understate the downward pressure on rates as a result of efficiency programs.

Consequently, most estimates of rate impacts from energy efficiency programs—to the extent they are undertaken at all—grossly overstate the likely rate impacts. Overstatement of rate impacts has led some stakeholders to reach the conclusion that energy efficiency is generally bad for customers: a very misleading conclusion, given that efficiency often costs less than one-third to one-half of supply-side resources.

A more thoughtful approach to rate impacts requires recognizing that the central issue is about customer equity. All customers experience some benefits from energy efficiency programs, in terms of reduced transmission and distribution costs, reduced costs of environmental compliance, reduced risk, increased reliability and price suppression effects in wholesale electricity markets. However, efficiency program participants experience even greater benefits than non-participants, as a result of reduced electricity bills. Therefore, to the extent that rates are increased as a result of energy efficiency programs, participants will experience greater benefits than non-participants.

In order to understand fully the equity issues raised by energy efficiency programs, it is necessary to properly consider three related questions:

- How much are rates likely to increase?
- How much are bills likely to be reduced by the energy efficiency?
- What portion of customers is likely to participate and experience net bill savings?

Providing answers to all three of these questions can help illustrate how customers will fare overall under proposed efficiency programs. This information is necessary for regulators to properly balance the tradeoffs between the many benefits of energy efficiency programs, especially reduced bills, and the customer equity concerns raised by rate impacts.

The Vermont Study

Synapse Energy Economics, an energy consulting firm in Cambridge, Massachusetts, recently estimated the rate, bill and participation impacts of the Long-Term Efficiency Plan in Vermont on behalf of the Vermont Department of Public Service.[7] Vermont has been a national leader in efficiency savings for many years, and the Long-Term Efficiency Plan assumes continued aggressive efficiency programs with annual savings of approximately 1.5 percent of retail sales for the next 20 years.

The results will probably be surprising to those concerned about rate impacts of energy efficiency. Synapse found that the long-term average rate impacts for the 20-year plan are likely to be relatively modest. Over the long term, meaning the 20-year period of the plan plus the time period for which savings and benefits attributed to the efficiency programs will be experienced, the plan results in a roughly 0.5 percent increase in rates for business customers with demand charges; a roughly 1.0 percent increase in rates for business customers without demand charges; and less than a 3 percent increase in rates for residential customers.[8]

Many states limit efficiency program funding because of concerns about rate impacts – even without knowing what those impacts will be.

Given the magnitude of efficiency savings already achieved in Vermont, combined with the magnitude of efficiency savings included in the 20-year plan, it is clear that states with less efficiency experience and lower efficiency goals would see rate impacts considerably lower than those estimated in Vermont.

The Vermont study also found that participating customers will be able to more than offset these rate impacts through participation in the efficiency programs. Even the program with the smallest per-customer savings, the Efficient Products

7. Synapse Energy Economics, Inc. "Rate and Bill Impacts of Vermont Energy Efficiency Programs," April 14, 2014.
8. The annual rate impacts tend to be higher in the early years and lower, including net rate reductions, in the later years.

program (which includes retail lighting purchases), is expected to reduce a typical residential customer's consumption by roughly 5 percent, resulting in a net reduction in the electricity bill of 2 percent (after accounting for the rate increase). Other programs offer participants significantly greater savings opportunities, as much as 15 to 30 percent.

Even more interesting are the customer participation results. From 2002 through 2012, Efficiency Vermont has already: served the majority of its customers through the Efficient Products program; served roughly 30 percent of business customers through its business retrofit program; and served over 10 percent of residential customers through its residential retrofit program. By the end of the 20-year plan, Efficiency Vermont could serve the vast majority of business customers and as much as 60 percent of residential customers through its retrofit programs. This finding comes in addition to the participation in the Efficient Products program, which would serve the vast majority of customers, including participation multiple times by some customers.[9]

The specific findings of the Vermont study must be used with some caution, however, given the uncertainties and data limitations inherent in such forecasts.[10] Nonetheless, the general findings are clear and robust. With one of the most aggressive, long-term efficiency plans in the country, Vermont is achieving efficiency savings comparable or higher than those used by the EPA in setting the 111(d) CO_2 reduction targets. The Vermont plan is likely to produce only modest rate impacts, yet achieve net bill reductions for the vast majority of customers participating in the programs.

Participation is Key

Ultimately, regulators need to balance the tradeoffs between increased rates, and all the benefits of efficiency, particularly reduced bills. Fortunately, program participation can have a natural countervailing impact on rates. Those states offering very modest efficiency programs will likely not experience any noticeable rate impacts, but will have low participation rates. Those states offering very aggressive efficiency programs will likely see modest rate impacts, but these will be offset by much higher participation rates. In the case of aggressive efficiency programs, this is likely to be a perfectly appropriate tradeoff.

Furthermore, there are several steps that utilities and regulators can take to increase customer participation. It is widely recognized that rate impacts of efficiency programs can be mitigated by reducing the costs of the programs themselves. It is much less widely recognized that rate impacts can also be offset by taking steps to increase customer participation in the efficiency programs. Since long-term rate impacts of efficiency programs tend to be modest, even the purchase of a few efficient light bulbs or similar measures can completely offset rate impacts from efficiency programs.

Customer participation can be increased through program design practices. For example, programs can provide efficiency opportunities for all relevant end-use types; provide opportunities for all customer types to participate; and tailor customer financial incentives and technical support to assist each of these customer types in overcoming the barriers to energy efficiency, specifically pursuing hard-to-reach customers or those customers that have not participated much historically.

A more thoughtful approach on rate impacts will focus on customer equity.

More importantly, customer participation can be increased through a variety of regulatory policy options, including larger program budgets to increase participation, better data gathering to document participation, and incorporation of participation rates within both program goals and utility shareholder incentives.

Boosting program budgets to boost participation might run exactly opposite to the typical response to rate impact concerns, but might in fact result in a much better way to address customer equity and to maximize the benefits of energy efficiency. And the extent to which customers participate in energy efficiency programs is not well documented or analyzed in any state with which we are familiar, despite the critical importance of this information.

Moreover, make the goal of increased participation explicit, and require efficiency program administrators to express customer participation rates in efficiency plans and in setting efficiency goals, in the same way that energy savings and capacity savings are expressed in plans and goals. And along those same lines, incorporate participation rates in utility shareholder incentive. Many states offer shareholder incentives to encourage utilities to design and implement successful efficiency programs. These incentives could be modified to encourage desired levels of customer participation, as well as to encourage energy and capacity savings.

Adoption of these practices can result in widespread adoption of efficiency measures, significantly reduced utility system costs, reduced bills across the vast majority of customers and minimal customer equity concerns.

9. The Vermont Public Service Board found these results helpful in approving the proposed 20-year plan, stating that the "breadth of customer participation is a key component not only in understanding the implications of rate and bill impacts, but also in building customer support for potentially more aggressive energy efficiency budgets in the future." Vermont Public Service Board, "Order Re: Energy Efficiency Utility Budgets for Demand Resource Plans," July 9, 2014.
10. One of the key limitations in the data is the extent to which customers participate in programs multiple times.

The Takeaway

The EPA's proposed regulations have highlighted the importance of states to identify and implement cost-effective energy efficiency programs – not only for the familiar benefits of reduced cost, reduced risk, and improved reliability, but also for the benefit of being able to comply with CAA 111(d) at the lowest possible cost. Consequently, proper identification and implementation of energy efficiency programs is as much a consumer issue as it is an environmental issue.

Regulators and other stakeholders in each state should take stock of their current policies supporting utility-funded energy efficiency programs to ensure that the state is able to make the most of this important opportunity. States should ensure that their efficiency screening practices are consistent with their own energy policy goals and will identify all efficiency resources that are in the public interest. States should also address any concerns about rate impacts head-on, to avoid perpetuating misperceptions about the potential for rate impacts, and to be able to make well-informed decisions about the full impact of efficiency on customers.