UNDERTAKING JT4.1

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 11.

To determine whether any of the Synapse team reviewed Order in Council 467/2014 in developing its recommendations.

RESPONSE

We confirm that we have not reviewed the referenced document.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.2

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 17.

To advise why, given that Synapse has not reviewed financing options in detail in Ontario, and given that Union has done a study as part of their evidence that suggests that their customers, at least, do not think that financing is a high priority, why has Synapse come forward with a proposal to establish a working group on utility financing of retrofits?

RESPONSE

We find that Union's study does not provide sufficient information to conclude that financing is unnecessary in Ontario. The key finding from Union's research is that customers prefer incentives over financing. However, this finding is not new nor is it surprising considering that obtaining financing requires additional time and effort, and that customers sometimes incur interest charges. What is noteworthy is that this finding has not precluded other jurisdictions from pursuing financing options as a complement to incentives.

For example, there are cases where incentives do not cover 100 percent of the cost of the efficiency upgrades, especially as customers are encouraged to install more measures or more comprehensive measures that generate greater savings. Further, some efficiency upgrades are unplanned and require a quick response to address damaged or failing equipment. Customers impacted by unplanned equipment issues may not have the savings available to cover the higher upfront cost of more efficient equipment, and would benefit from financing opportunities.

Union's study also lacks detail at the customer segment level. The study is not detailed enough to determine if there are certain residential and C&I customer segments that would benefit from financing opportunities more so then other customer segments. Residential customer segments can include homeowners with good credit, homeowners with poor credit, and renters. C&I customer segments can include industrial customers, large commercial buildings, small commercial buildings, government/municipal buildings, schools, and hospitals. These breakouts would provide additional and useful insight regarding the importance of financing to different customer segments. Such breakouts would also help identify whether customer financing needs are being fully met by the market and how they could be better addressed.

More research and discussion is needed, because financing can be an important tool in an environment where capped budgets require careful consideration of the level of incentives available to each customer. We recommend that a third party lead the next phase of this investigation, with the utilities

participating in the discussions. Such a working group environment can provide additional insight into overcoming market and participation barriers.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.3

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 26.

To review and comment on Exh. M.GEC.1.EP.5.

RESPONSE

In Exh. M.GEC.1.EP.5, Mr. Neme states:

> I disagree with Synapse's suggestion to drop the requirement that customers install at least two major measures to participate. I think the requirement promotes greater comprehensiveness and good retrofit practice. Frankly, Synapse's concern about leaving on the table savings from customers who may only want to replace a furnace is misplaced. Synapse may not have been aware that equipment standards in Ontario already mandate that all new furnaces be condensing, so there are limited additional savings possible in that market. Further, one should always perform air sealing (one of the eligible major measures) before installing insulation. To not do so not only "leaves savings on the table" that will rarely be captured later, it could also degrade the effectiveness of the insulation itself by allowing moisture to get trapped and absorbed by the insulation material.

In response, please refer to Exh. M.Staff.EP.3, part d, where Synapse states:

> Our recommendation is simply that customers looking to install one measure should not be turned away from the program; our recommendation is not that the utilities should only focus on one measure per customer or should remove focus from installing two measures per customer.

We do not disagree with Mr. Neme that an offering that focuses on installing two measures promotes comprehensive and good retrofit practice. Further, we agree with Mr. Neme that some types of measures are complimentary, such as insulation and air sealing, and that they should be installed at the same time.

However, some customers may only be interested in or can afford to install stand-alone measures such as new windows or water heating systems at one time. For example, when a boiler or furnace breaks, there may be cases where installing just the new energy efficient boiler or furnace is the only cost-effective opportunity at that time. Further, there may be customers who treated windows or installed wall insulation a few years ago either on their own or through one of the gas or electric utilities' DSM programs. For such customers, there may not be additional efficiency opportunities when they replace

their old heating system. We believe energy efficiency programs should not turn away such customers from participating. It is overly restrictive to mandate that at least two measures are installed as a prerequisite to participation, and we do not think such a program requirement is necessary.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.4

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 29.

To examine further Energy Probe's requests for analysis.

RESPONSE

In response to Enbridge Interrogatory #4 (Exh. M.Staff.EGDI.4), Synapse explained that we were asked by the OEB Staff to review the proposed DSM programs and comment on the program design elements that could be modified or improved. We were not asked to identify a specific quantitative outcome resulting from any recommendation, nor were we asked to quantitatively assess how our recommendations might affect the program budgets. Consequently, we have not prepared such quantitative estimates because they are outside of our scope of work for the OEB Staff.

In our report we make the following points regarding budget constraints:

> Lastly, as Ontario's gas DSM programs are subject to a budget guideline maximum, as set out in the OEB's DSM framework, we recommend the utilities take a cautious and balanced approach when considering adopting our recommendations so that new changes would not push the utilities' programs over the current proposed budgets. Some of our recommendations (such as improving program design and adding new measures) would increase program participation, which would result in an increase in incentive amounts and budget. On the other hand, other recommendations (such as reducing freeridership, eliminating unnecessary measures, and providing financing) would decrease program budgets. In summary, both utilities should consider and balance potential improvements on participation rates, energy savings, cost-effectiveness, and a potential increase or decrease in budget from each recommendation, and determine which recommendations to adopt within their constraints. (Exhibit L.OEBStaff.1, page 2.)

At this point we wish to make one clarification to the text quoted above. While it is true that the utilities should balance our recommended program improvements with their budget limitations, it is of course ultimately the Board that must decide on the appropriate balance.

At a minimum, we recommend that the Board should direct the utilities to adopt all of our recommendations that are likely to reduce program costs. The Board should also consider directing the utilities to adopt all of our recommendations that are expected to be relatively low cost but with significant benefits.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.5

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 33.

To advise what literature or materials did Synapse review, what research did Synapse undertake, about the history of low-income DSM programming offered by Union and Enbridge in Ontario over the last ten years.

RESPONSE

Synapse focused its review on the utilities current plan filings. Synapse did not review past plans and reports for information about previous low-income offerings.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.6

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 33.

To advise Synapse's awareness of the low-income working group and the discussions that were had within that group between stakeholders, intervenors, and the companies over the last two years when discussing DSM and the programming and low-income customer needs.

RESPONSE

Synapse's awareness of low-income working group discussions was supplemented through OEB Staff clarifications and OEB Staff interrogatories regarding the utilities low-income program proposals.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.7

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 34.

To advise whether Synapse requested any specific materials about low-income DSM before preparing its report and, if there was a request, to provide the information about the discussion or the terms of reference or whatever there may be.

RESPONSE

Synapse's review of the utility filings and subsequent phone discussions with OEB Staff contributed to our understanding of low-income specific issues in Ontario.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.8

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 36.

To confirm if there is anything in addition to what appears in Enbridge Interrogatory 3, with respect to low income multi-family dwellings and low-income new construction programs.

RESPONSE

No, there was nothing reviewed in addition to what appears in Enbridge Interrogatory 3.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.9

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 37.

To confirm whether union's proposal to pilot or demo the market rate part of its multi-res program this year and then launch it next year makes good sense and fits within Synapse's recommendations.

RESPONSE

Yes, the pilot or demo is reasonable given that it is coupled with a launch next year.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.10

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 38.

To provide a response to LIEN's Interrogatory No. 1; to advise what local condition or low income customer-specific information for Union's territory forms the basis for Synapse's recommendation that Union offer a similar new construction low income offering to that that Enbridge is offering as a pilot.

RESPONSE

This recommendation is not based on a detailed assessment of local conditions or low-income customer specific information. This recommendation is based on our understanding that there typically are significant savings opportunities from low-income new construction programs, and that ignoring this sector and market altogether can result in significant lost opportunities.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.11

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 41.

To review Union's furnace end of life upgrade program or offering and Union's home weatherization offering and advise whether Synapse considers them to be incremental rather than duplicative.

RESPONSE

If the Furnace-End of Life offering is "trying to capture those low income customers [with furnaces that have failed] who aren't going to be covered and qualified for, and participate in the home weatherization offer", Synapse considers this program to be incremental to the Home Weatherization program (Transcript of Technical Conference, page 40).

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.12

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 56.

Synapse to provide any additional information related to direct large-volume customer energy efficiency and conservation measures Synapse has directly done, or been involved with.

RESPONSE

The authors of the Synapse report (including Mr. Woolf) have not directly designed or implemented engineering projects involving the measures that were listed in response to APPRO-3 (motors, CHP, compressors, pumps, lighting, air handling, process changes, and energy management systems).

Synapse's experience with these measures is in the area of program/offering design and review including cost effectiveness, based on utility or third party reports of actual energy savings and cost.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.13

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 64.

To provide examples of some of the lower interest rates in on-bill financing programs.

RESPONSE

The following two reports provide information on low interest loans from several on-bill financing programs and other financing programs in North America.

- SEE Action (2014). Financing Energy Improvements on Utility Bills, Technical Appendix – Case Studies, available at https://www4.eere.energy.gov/seeaction/publication/financing-energy-improvements-utility-bills-market-updates-and-key-program-design
- Brown, Matthew and H. Brainthwaite (2011). Energy Efficiency Finance – Options and Roles for Utilities, Appendix A. Southwest Energy Efficiency Project, available at http://www.swenergy.org/data/sites/1/media/documents/publications/documents/Energy_Efficiency_Finance_Options_for_Utilities_Oct_2011.pdf

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.14

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 68.

To review the Manitoba program and provide some thoughts.

RESPONSE

We believe that the Manitoba program summarized in Union's response to Board Staff Interrogatory 1 is worthy of consideration in Ontario.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.15

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 72.

To describe mechanisms in which the shareholder incentive could be tweaked to give utilities a financial incentive to propose DSM plans that are as aggressive as possible in terms of gas savings.

RESPONSE

We are not aware of any particular modifications to the current shareholder incentives that would encourage the utilities to propose DSM plans that are as aggressive as possible in terms of gas savings.

However, other policy mechanisms can be used to encourage utilities to propose aggressive levels of gas savings, and to discourage utilities from understating the potential amount of gas savings. One of the most influential policy requirements is to mandate achievement of all cost-effective energy efficiency resources. The American Council for an Energy Efficient Economy (ACEEE) released a report on the effectiveness of the seven states in the United States that have enforced all cost-effectiveness energy efficiency requirements, and determined that:

> On average, states with all cost-effective mandates are targeting and achieving savings that are significantly higher than states with more traditional EERS policies. These states are pushing the envelope, attempting to capture efficiency in traditionally hard-to-reach markets. Though some express doubt that high levels of savings are sustainable, targets continue to rise, and in coming years targets will reach over 2% of annual electricity sales in several states.[1]

This ACEEE report also discusses the target setting processes in each jurisdiction, the importance of allowing stakeholder comments, and the incentive structures that can ensure successful achievement of savings. For convenience, this ACEEE report is provided as Exhibit JT4.5, Attachment 1.

[1] See, Gilleo, A., "Picking All the Fruit: All Cost-Effective Energy Efficiency Mandates," 2014, available at: http://aceee.org/files/proceedings/2014/data/papers/8-377.pdf.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

Picking All the Fruit: All Cost-Effective Energy Efficiency Mandates

Annie Gilleo, American Council for an Energy-Efficient Economy

ABSTRACT

As of April 2014, 25 states have adopted and fully funded an energy efficiency resource standard (EERS) policy. Though every state requires that efficiency programs be cost-effective, seven of these states have chosen to enforce *all* cost-effective efficiency requirements, in which utilities are required to determine and invest in the maximum amount of cost-effective efficiency feasible. In this paper, we examine policies and progress in the seven states with all cost-effective efficiency mandates. States use a variety of methods to determine cost-effectiveness, but typically rely on the total resource cost test to assess efficiency programs. Stakeholder groups also play a significant role in determining final multiyear efficiency targets. Though mandates in these seven states require investments in the complete set of available cost-effective efficiency resources, in reality targets tend to be slightly more conservative than what potential studies suggest is achievable. Nonetheless, on average, states with all cost-effective mandates are targeting and achieving savings that are significantly higher than states with more traditional EERS policies. These states are pushing the envelope, attempting to capture efficiency in traditionally hard-to-reach markets. Though some express doubt that high levels of savings are sustainable, targets continue to rise, and in coming years targets will reach over 2% of annual electricity sales in several states.

Introduction

Over the past decade, more than half of states have adopted policies establishing mandatory energy savings targets that utilities and third-party program administrators must meet through customer energy efficiency programs. The policies that create the framework for these mandatory energy savings targets are called energy efficiency resources standards (EERS). Similar to renewable energy standards, EERS policies create a binding, long-term vision for the role of energy efficiency within a state's energy portfolio. As of April 2014, a total of 25 states have adopted and fully funded an EERS policy. Figure 1 shows all states implementing an EERS.[1] These states are both geographically and politically diverse, and they have embraced energy efficiency for a variety of reasons, including customer cost savings, economic development, grid reliability, and pollution control.

In the absence of federal requirements for energy savings, states with EERS policies are leading the way with highly effective, forward-looking energy efficiency policies. These long-term savings targets not only set out a long-term vision for a state's energy portfolio, but also spur utilities and nonutility program administrators to invest in deeper savings measures. By setting long-term targets, EERS policies go beyond annual program planning to allow utilities to incorporate energy efficiency into their long-term integrated resource plans. Multiyear targets

[1] Indiana rolled back its EERS in early 2014, but is included in some research for this paper since its EERS was in effect in 2012. At the time of writing, the Ohio Senate passed a bill canceling annual EERS targets for two years. This bill is not considered in this paper.

offer regulatory certainty and encourage utilities to think of efficiency as a resource equivalent to supply-side assets as they plan to meet their customers' energy needs.

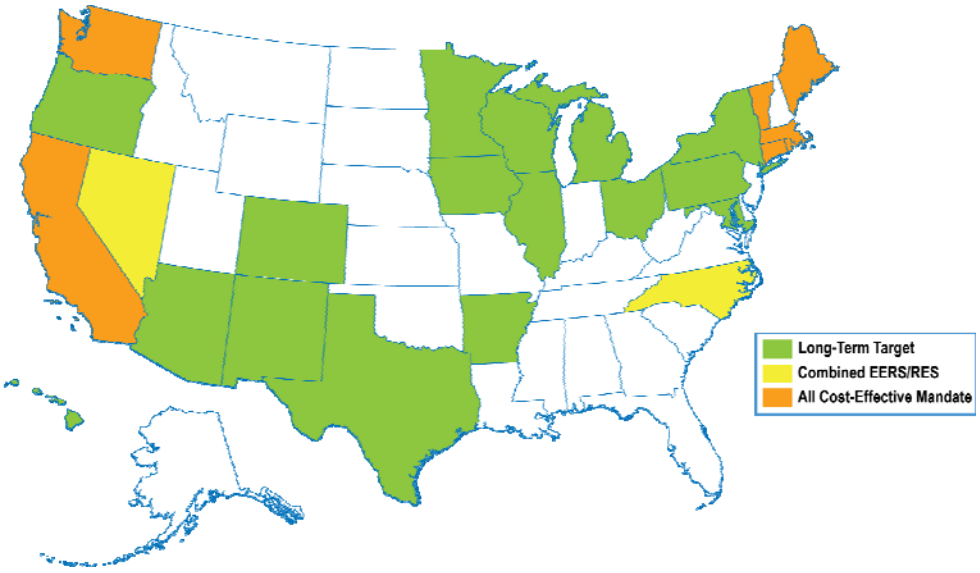

Figure 1. States with EERS policies in place as of April 2014. *Source*: ACEEE (2014).

As a means to establish targets, several states have chosen to enforce "all cost-effective" efficiency requirements, under which utilities and program administrators are required to define and invest in the highest level of efficiency determined to be cost-effective. While all cost-effective requirements are not in themselves definitive savings targets, they do require utilities and program administrators to determine—and achieve—the maximum amount of cost-effective efficiency available in any given year.[2] Therefore, the American Council for an Energy-Efficient Economy (ACEEE) considers states with all cost-effective requirements to have EERS policies in place once these policies lead to multiyear savings targets. In fact, some of these states are testing the limits of achievable efficiency. In this report, we examine the policies and progress in seven states with all cost-effective efficiency mandates.

California, Connecticut, Maine, Massachusetts, Rhode Island, Vermont, and Washington have all enacted legislation that requires utilities and program administrators to capture all cost-effective efficiency resources available to them. All cost-effective efficiency mandates are unique to typical EERS targets in that they require an additional level of analysis by utilities and other stakeholders to determine maximum levels of cost-effective efficiency available within a state. Policymakers choose to set targets in this way in order to avoid artificially limiting the level of efficiency captured by program administrators. For example, a state with a traditional EERS policy may set a savings target of 1% per year. More energy efficiency may be available within the state, but utilities will likely not be incentivized to pursue efficiency beyond the required 1% level. In a state with an all cost-effective efficiency requirement, no artificial

[2] Note that all cost-effective mandates are distinct from requirements for cost-effective energy efficiency more generally. All cost-effective mandates go beyond simple cost-effectiveness requirements to direct utilities and program administrators to plan to achieve the *maximum* amount of energy savings available within the state through efficiency. Other states have alternative cost-effectiveness criteria that may constrict, rather than maximize, the level of available energy efficiency measures. For example, Illinois, Michigan, Wisconsin, Pennsylvania, and Texas have cost-caps in place that limit the costs utilities may incur.

savings target is set in statute for efficiency measures. These states have prioritized energy efficiency as a resource, requiring that customer needs be met to the greatest extent possible through energy efficiency. To fulfill this requirement, program administrators must clearly define the level of efficiency they believe to be cost-effective—in essence, they must set efficiency targets. All cost-effective mandates offer some flexibility in target determination, recognizing that energy efficiency potential in a state may change over time as electricity prices fluctuate and new efficiency programs are tried and tested. However, each piece of legislation has led to the setting of multiyear targets, serving the same purpose as a more traditional EERS.

The legislative language requiring implementation of all cost-effective efficiency measures is given in Table 1, below. Though each piece of legislation is worded differently, the spirit is typically the same. Each requires that utilities or third-party program administrators maximize the amount of cost-effective efficiency captured to their best ability. Methods for determining specific cost-effective efficiency targets are left largely to public utility commissions (PUCs) and advisory bodies, and are discussed further below.

Table 1. Legislative language requiring all cost-effective energy efficiency

State	All Cost-Effective Efficiency Language	Policy Source
California	The commission in consultation with the Public Utilities Commission and local publicly owned electric utilities, in a public process that allows input from other stakeholders, shall develop a statewide estimate of all potentially achievable cost-effective electricity and natural gas efficiency savings and establish targets for statewide annual energy efficiency savings and demand reduction for the next 10-year period.	California PRC § 25310
Connecticut	Resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost-effective, reliable, and feasible.	Public Act No. 07-242
Maine	The commission shall select capacity resources that are competitive and the lowest price when compared to other available offers.… The commission shall choose among capacity resources in the following order of priority: 1) New interruptible, demand response or energy efficiency capacity resources located in this state It is an objective of the triennial plan to design, coordinate, and integrate sustained energy efficiency and weatherization programs that are available to all energy consumers [and] that advance the targets of…capturing all cost-effective energy efficiency resources available for electric and natural gas utility ratepayers.	M.R.S.A. §3210-C M.R.S.A §10104, sub-§4
Massachusetts	The department shall require a mandatory charge of 2.5 mills[3] per kilowatt-hour for all consumers, except those served by a municipal lighting plant, to fund energy	MA Gen L ch. 25 § 19

[3] A mill is a tenth of a cent.

State	All Cost-Effective Efficiency Language	Policy Source
	efficiency programs including, but not limited to, demand side management programs… In authorizing such programs, the department shall ensure that they are delivered in a cost-effective manner capturing all available efficiency opportunities, minimizing administrative costs to the fullest extent practicable, and utilizing competitive procurement processes to the fullest extent practicable.	
Rhode Island	Least cost procurement…shall include procurement of energy efficiency and energy conservation measures that are prudent and reliable and when measures are lower cost than acquisition of additional supply, including supply for periods of high demand.… The commission shall issue an order approving all energy efficiency measures that are cost-effective and lower-cost than acquisition of additional supply.	Rhode Island Code § 39-1-27.7
Vermont	The charge established by the Board…shall be in an amount determined by the Board by rule or order that is consistent with the principles of least cost integrated planning.… As circumstances and programs evolve, the amount of the charge shall be reviewed for unrealized energy efficiency potential and shall be adjusted as necessary in order to realize all reasonably available, cost-effective energy efficiency savings.	30 V.S.A. § 209
Washington	Each qualifying utility shall pursue all available conservation that is cost-effective, reliable and feasible.… By January 1, 2010,…each qualifying utility shall identify its achievable cost-effective conservation potential through 2019. At least every two years thereafter, the qualifying utility shall review and update this assessment for the subsequent ten-year period.	RCW 19.285.040

The above table lists all states currently implementing an all cost-effective energy efficiency mandate. However, in compiling the list of similar legislation, it became clear that other states have codified, but not enforced, such mandates. In Hawaii, HRS § 269-92 requires the public utility commission to establish energy efficiency portfolio standards (EEPS) that will "maximize cost-effective energy-efficiency programs and technologies." At face value, this language seems equivalent to a requirement for the acquisition of all cost-effective energy efficiency. However, the law goes on to require that the state's EEPS be designed to achieve 4,300 gigawatt-hours (GWh) of electricity-use reductions by 2030. To date, the Hawaii Public Utilities Commission (PUC) has chosen to approve program portfolios designed to achieve the 4,300 GWh target set forth in the law, rather than exploring the less explicit all cost-effective efficiency mandate. The requirement to maximize cost-effective energy efficiency programs remains in state code, however, giving the PUC the option to enforce that portion of the law (and thereby adjust savings targets up or down) should it choose to do so.

New Mexico is another state where *specific* energy savings targets and all cost-effective efficiency mandates were at odds. The Efficient Use of Energy Act, passed in 2005, required public utilities providing electricity and natural gas service to New Mexico customers to acquire all cost-effective and achievable energy efficiency and load management resources available in their service territories. In 2008, amendments to the law set specific electricity savings targets of 5% in 2014 and 10% by 2020. The New Mexico Public Regulation Commission (PRC) enforced these targets until they were amended in 2013 with the passage of House Bill 267. The bill lowered the 2020 target to 8% of retail electricity sales, and struck the word *all* from the phrase "all cost-effective." Though the PRC was already implementing the specific percentage targets rather than the all cost-effective mandate in practice, removing the word *all* from state code clarified the PRC's charge. By their very nature, all cost-effective mandates must be continually updated, and for this reason are not compatible with specific energy unit or percentage legislative savings targets.

The Target Setting Process

In general, states with all cost-effective mandates have similar processes for setting targets. Most begin with an energy efficiency potential study, in which the long-term efficiency available within a state or service territory is calculated.[4] Potential studies have been conducted by states and utilities since the 1980s. The goal of such studies is to quantify the size of the energy efficiency resources within an available region—a state or service territory. Typically, potential studies look at three categories of efficiency potential: technical potential, in which all efficiency measures are considered that are feasible given the current state of technology; economic potential, which looks at the portion of technical potential that is cost-effective; and achievable potential, or the portion of economic potential that is likely attainable given the current market. Though potential studies are carefully informed, they nonetheless face some common shortcomings. For example, they may face issues with sales and savings forecasts, fail to fully incorporate savings from codes and standards, come up against policy constraints, or exclude measures and savings opportunities.[5] Despite these pitfalls, potential studies are useful in that they can provide the long-term view, and also inform short-term targets. This is typically a starting point for the seven states surveyed for this report, rather than a straightforward end point. Targets are typically approved or reviewed by stakeholders in a formal or informal context before they are finalized. State rules may also require adjustments—either making targets more aggressive than a potential study would suggest, or giving program administrators some leeway. States with all cost-effective efficiency mandates tend to set firm savings targets in three-year cycles. As circumstances change, potential studies are typically updated or a new study is commissioned, and the target-setting process begins again. While the process is similar in each state, there are several notable differences, outlined below.

[4] While this is typically true, it is not a rule that states with all cost-effective mandates begin the target setting process with a potential study. Efficiency Vermont is currently working on a long-term potential study, but earlier targets were set in the absence of a potential study using historical performance data.
[5] See Eldridge, Elliott, and Neubauer 2008 and Kramer and Reed 2012 for further information on potential studies.

Cost-Effective Determinations

Not all determinations of cost-effectiveness are created equal, and the means by which utilities determine whether their efficiency offerings are cost-effective can have a significant effect on efficiency portfolios. Cost-effectiveness tests are often influenced by political will and policy judgments, reflecting the priorities of policymakers and regulators. There are a range of tests for cost-effectiveness, but the seven states surveyed in this report tend to rely on three:

- *The total resource cost (TRC) test,* which includes the costs and benefits experienced by the entire customer base, including nonparticipants. Costs include those incurred by the efficiency program administrator and those borne by participants, while benefits include avoided utility costs and non-energy benefits.
- *The utility cost test (UCT),* which includes only the energy costs and benefits experienced by the efficiency program administrator.
- *The participant cost test (PCT),* which includes the costs and benefits experienced by efficiency program participants. Costs include the direct costs of purchasing and installing an efficiency measure, while benefits include reduced energy bills and financial incentives for participating in the program.[6]

Most states rely primarily on the TRC, and use the other tests for different levels of evaluation. Vermont is the single state surveyed for this report to rely heavily on the societal cost test (SCT), which includes the costs and benefits experienced by all members of society (C. Hakstian, Consultant, Vermont Energy Investment Corporation, pers. comm., February 18, 2014). Table 2, below, shows the types of cost-effectiveness tests used most regularly in each state that has an all cost-effective efficiency mandate as well as the level at which those tests are applied.

Table 2. Cost-effectiveness determinations

State	Primary cost-effectiveness test	Other tests	Level at which benefit–cost test is applied
California[1]	TRC	PCT, UCT	Portfolio
Connecticut[2]	TRC	UCT	Portfolio, program
Maine	TRC	-	Portfolio, program
Massachusetts	TRC	-	Varies
Rhode Island[3]	TRC	-	Program
Vermont[4]	SCT	UCT	Portfolio, program
Washington	TRC	PCT, UCT	Portfolio

Sources: ACEEE (2013); [1]D. Mackin, pers. comm.; [2]D. Duva, pers. comm.; [3]S. Huntington, pers. comm.; [4]C. Hakstian, pers. comm.

Both the nature of cost-effectiveness tests and the level at which each is used can have an influence on the overall portfolio of programs offered by a utility or program administrator.

[6] For more information on cost-effectiveness screening, see Woolf et al. (2012).

Screening for cost-effectiveness at the portfolio or program level may allow for more flexibility in program offerings than screening at the measure level does.[7] Typically, states with all cost-effective mandates have chosen to screen at more than one level, ensuring that they offer a wide range of programs that are cost-effective when taken individually and as a whole. However, it should also be noted that in any given test there is some room for subjectivity. Recently, many have argued that the TRC test as commonly applied ignores critical non-energy benefits (Neme and Kushler 2010). Since states are able to tailor tests to include the costs and benefits they deem relevant, each may include different assumptions within their cost-benefit testing.

Stakeholder Involvement

Cost-effectiveness is not typically the only requirement for approval of an efficiency program portfolio in the seven states surveyed. As with any process, target setting is subject to some political interference. In some cases, this results in higher targets. In others, there is a downward adjustment. The nature of an adjustment is due both to internal circumstances within the state (e.g., prioritizing environmental benefits) and the extent of stakeholder involvement. Investments in energy efficiency affect all energy consumers, and states use a variety of strategies to incorporate feedback from stakeholder groups. Many states allow—or even encourage—feedback during the regulatory review process. Others have mandatory requirements for stakeholder involvement, specifying the types of stakeholders that must contribute to efficiency plans and the ways in which they must do so. Vermont has the most limited stakeholder involvement of the seven states with all cost-effective efficiency mandates. The state does not convene a formal stakeholder group or actively seek public input during the target setting process (although the public may intervene in the regulatory process). Efficiency Vermont, which implements the majority of the efficiency programs for the state, uses a societal screening tool to determine all programs that are cost-effective. Rather than set targets that are equivalent to the savings expected as calculated in the screening tool, Efficiency Vermont sets targets that are about 10% higher than expected savings (C. Hakstian, Consultant, Vermont Energy Investment Corporation, pers. comm., February 18, 2014).

Several utilities in states with all cost-effective mandates incorporate public comment in more traditional ways. Burlington Electric also implements efficiency programs within the state of Vermont, and, as a distribution utility, it must include efficiency within its integrated resource plan (IRP). Since targets are imbedded in the IRP, customers and advocates are able to comment on them. Burlington Electric's targets must pass through a local electric commission and the city council before going to the utility commission. Through this fairly traditional process, customers can influence Burlington Electric's overall portfolio, including its efficiency targets. Historically, there has been little opposition to the utility's proposed targets (C. Burns, Director of Energy Services, Burlington Electric District, pers. comm., February 2014). Washington utilities work within a similar context, proposing targets using methods outlined by the Northwest Power and Conservation Council. Efficiency and consumer advocates, along with other interveners, are able to comment both on the methodology used to calculate efficiency potential within the state (at Northwest Power and Conservation Council meetings) and on specific utility demand-side management plans (at meetings sponsored by investor-owned utilities). Like Burlington Electric, utilities in Washington have found that, though the public is able to participate in the resource

[7] See Energy Efficiency Screening Coalition (2013) for more information on screening levels.

planning process, there has been little interest (C. Murray, Washington Department of Commerce, pers. comm., February 2014).

Rhode Island, Connecticut, and Massachusetts all have formalized stakeholder groups that oversee and approve efficiency targets. Connecticut established its Energy Efficiency Board nearly 15 years ago during utility restructuring (Howland 2013). The Massachusetts Energy Efficiency Advisory Council and the Rhode Island Energy Efficiency and Resource Management Council were established more recently. Legislation in all three states requires that specific stakeholder types be represented on the councils. In all three states, these stakeholder boards are actively involved in the target setting process, assessing the program portfolios utilities put forth and providing recommendations to state regulatory bodies. California also has a public stakeholder process that involves utilities, ratepayer groups, environmental and industry groups, and state agencies throughout the target development process. Stakeholder comments are put on record and incorporated into final target determinations (D. Mackin, Regulatory Analyst, California Public Utilities Commission, pers. comm., February 2014). By emphasizing stakeholder involvement, states are transforming energy efficiency markets. Program portfolios reflect the priorities of a wide range of groups rather than the at-times politics-limited goals of PUCs.

Final Targets

States with all cost-effective targets have set some of the most aggressive targets in the country. Of the states with electricity EERS policies in place in 2012, targets ranged from about 0.15% incremental annual electricity savings (Texas) to 2.4% annual incremental savings in Massachusetts (Downs and Cui, 2014). Targets for states with all cost-effective energy efficiency mandates were on average notably higher than targets in states with EERS policies that did not reference all cost-effective efficiency. This disparity is shown in Figure 2, with an average electricity savings target of 1.58% in the seven states with all cost-effective mandates compared to an average target of 0.96% in other states with EERS policies. This figure may be skewed by states with less aggressive targets. Texas, Nevada, and North Carolina, for example, all set targets under 0.5% in 2012.[8] However, the difference between median targets is similarly obvious: 1.4% in states with all cost-effective mandates compared to about 1% in states with EERS policies that do not require all cost-effective efficiency.

[8] Nevada and North Carolina have combined RPS–EERS policies. Targets are considered the maximum amount of efficiency allowable under these policies. See Downs and Cui (2014) for more details.

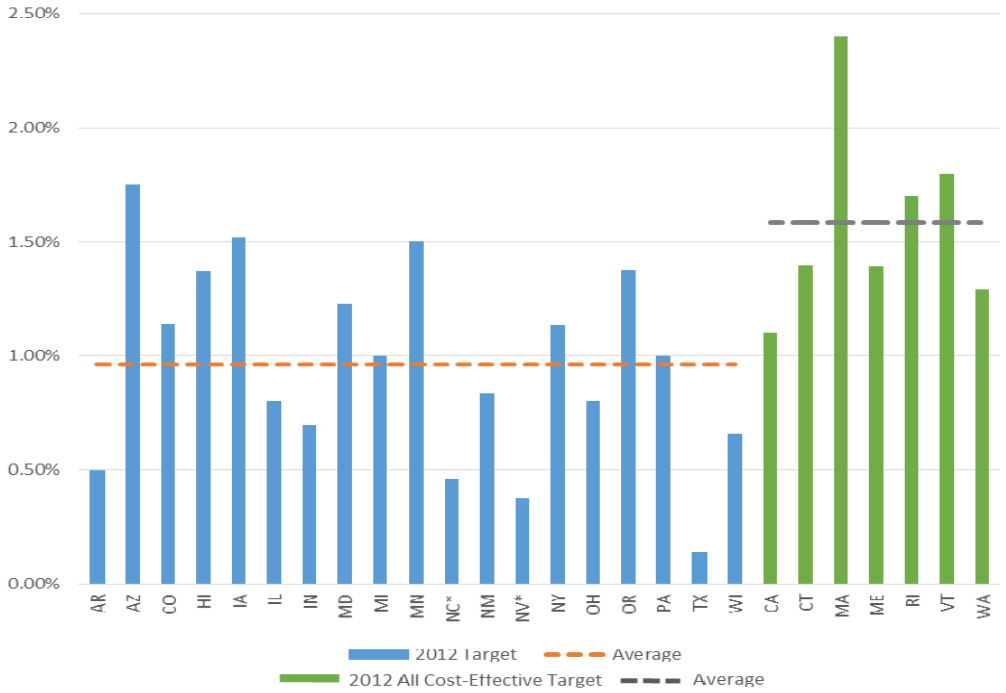

Figure 2. Incremental electricity savings targets, 2012. States with all cost-effective efficiency mandates are shown in green. All other states with EERS policies are shown in blue. Note that Indiana's EERS was rolled back in early 2014. *Source:* Adapted from Downs and Cui (2014).

Incentivizing Success

Setting targets alone does not ensure success. Many states with EERS policies in place have also implemented complementary rules that help remove disincentives for investments in efficiency. In many cases, these policies go beyond simply removing a disincentive, offering utilities financial benefits for meeting or exceeding savings targets.[9] The three main mechanisms utility regulators have used to incentivize success include:

- *Program cost recovery* allows utilities to recover investments in energy efficiency either by treating these investments as capital expenses in rate cases or by adding costs of efficiency programs to the rate base and capitalizing them as they would investments in power plants.
- *Decoupling or implementation of a lost revenue adjustment mechanism (LRAM).* Decoupling is a mechanism that allows utilities to recover investments in efficiency independent of the volume of electricity or natural gas sold. Regular true-ups ensure that utilities recover costs equal to allowed fixed costs. LRAM is a rate adjustment mechanism that allows utilities to recover "lost" revenues due to energy savings resulting from efficiency programs. LRAM allows for upward adjustment of rates to recover costs, but does not allow for the "symmetrical" true-up accounted for in decoupling.
- *Performance incentives* reward utilities financially for meeting energy savings goals. Performance incentives may be offered for meeting or surpassing goals, or may increase

[9] For a complete discussion on utility business models and the "three-legged stool," see York and Kushler (2011).

in proportion to the level of savings achieved by a utility. These incentives are typically awarded by the PUC upon verification of the achievement of goals.

Performance incentives in California, Connecticut, Massachusetts, Rhode Island, and Vermont take slightly different forms, but all emphasize achievement of efficiency program goals. Incentives are largely based on overall portfolio energy savings. However, shareholder incentives can also be used to reward additional outcomes. In Connecticut, performance incentives are program specific and may include actions targeted at specific customer classes. In Massachusetts, program administrators receive incentives based on the value of net benefits created in their plan and other design features. Incentives can be received prior to ex-post evaluation of the complete three-year portfolio, although a large portion of the incentive is directly tied to energy savings performance. Similarly, Efficiency Vermont receives performance awards based on operations and quantifiable performance indicators, including total net benefits. While energy savings is the major goal of these efficiency programs, incentive design allows emphasis on simultaneous non-energy benefits. Table 3, below, outlines the mechanisms these states use to remove barriers to efficiency implementation and encourage program administrators to meet targets. The table also outlines states with penalty mechanisms, or regulatory sanctions for utilities and program administrators that fail to meet savings targets.

Table 3. Utility business models and performance incentives

	Decoupling or LRAM		Performance incentives		Penalty mechanism	
	Electric	NG	Electric	NG	Electric	NG
California	Yes	Yes	Yes	Yes	No	No
Connecticut	Yes	Yes	Yes	Yes	No	No
Maine	No	No	No	No	No	No
Massachusetts	Yes	Yes	Yes	Yes	No	No
Rhode Island	Yes	Yes	Yes	Yes	No	No
Vermont	Yes	Yes	Yes	No	No	No
Washington	Yes	Yes	No	No	No	No

Source: Downs et al. (2013)

These methods of incentivizing success have been widely embraced by states with all cost-effective energy efficiency mandates. Maine is the only state surveyed that does not rely on performance incentives or an adjustment to the traditional utility business model. However, the state's efficiency programs are administered by an independent third-party rather than an energy provider. Efficiency Maine does not face the same disincentives to invest in efficiency as a distribution utility might.[10]

[10] Having a third-party administrator does not necessarily remove incentives as a useful tool for regulators. Vermont has used financial incentives to encourage success in its third-party administrator.

Achieving Notable Savings

States with all cost-effective mandates have challenged themselves to invest heavily in energy efficiency, with targets of between 1 and 2.5% in 2012. California, Vermont, and Washington exceeded their aggressive savings targets, while Maine and Rhode Island achieved 96% and 93% of their 2012 goals, respectively. Massachusetts and Connecticut were not far behind, both achieving over 80% of the savings they planned for in 2012 (Downs and Cui, 2014). On average, the seven states with all cost-effective efficiency mandates saved 1.5% of their electric retail sales in 2012, while other EERS states saved just under 1%. While there are likely several factors driving these seven states to achieve such high levels of savings, their cost-effective mandates and robust stakeholder involvement are certainly major motivations. Figure 3, below, shows savings in 2012 for all states with EERS policies in place.

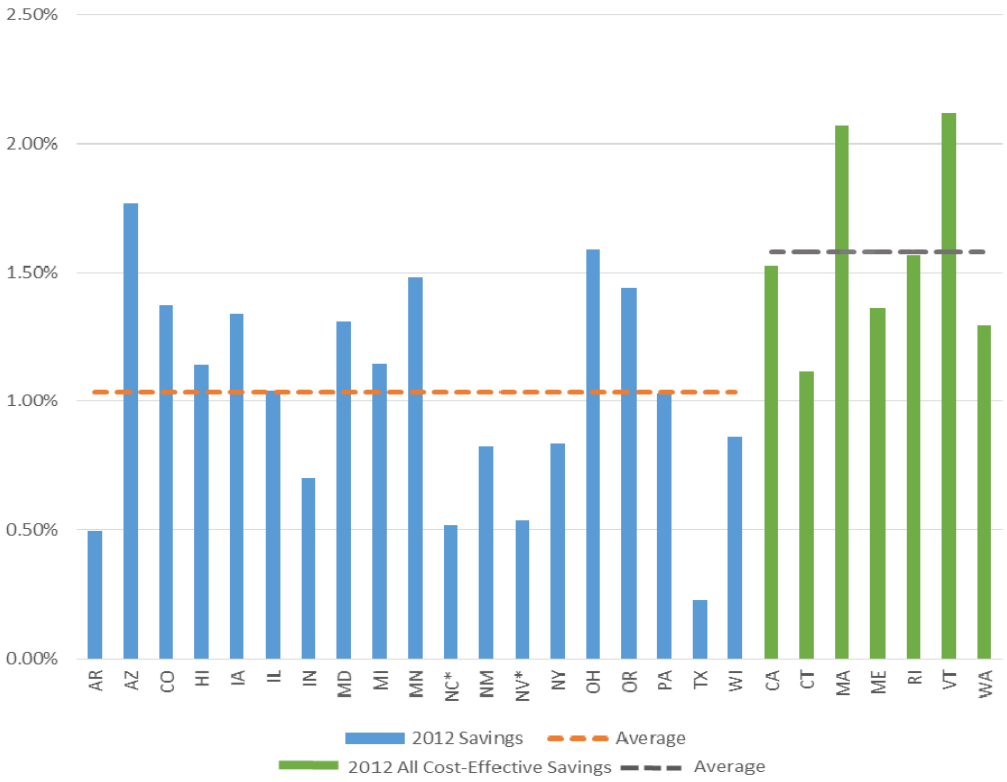

Figure 3. Incremental electricity savings, 2012. States with all cost-effective efficiency mandates are shown in green. All other states with EERS policies are shown in blue. *Source:* Adapted from Downs and Cui (2014).

States with all cost-effective energy efficiency mandates are capturing some of the highest levels of electricity savings in the country. As these states search for ways to realize broader and deeper savings, they must determine whether the ambitious savings targets they have set for themselves are achievable and sustainable. Efficiency program administrators in several states have expressed that they are finding it more challenging to hit aggressive targets as efficiency programs mature and the most basic programs are completed. In California, though efficiency portfolios are still cost-effective, the cost–benefit ratio is somewhat lower than it was in years past (D. Mackin, CPUC, pers. comm., February 19, 2014). Massachusetts has also

struggled with meeting its targets, though it continues to aim for the highest level of savings in the country.

Even as states exhaust more traditional energy efficiency offerings, new opportunities continue to present themselves. Compact fluorescent lighting (CFL) programs are being replaced by light-emitting diode (LED) lighting programs. Program administrators are beginning to reach out to once-hard-to-reach customers in multifamily buildings and mobile homes. Behavior programs are making up a growing portion of efficiency portfolios, and utilities are expanding market transformation efforts beyond lighting. In Rhode Island, a recent review of its 2010 potential study found that though specific circumstances have changed, annual energy efficiency targets upwards of 2.5% remain feasible over the next ten-year period (RIPUC 2013).

States also continue to revise their methodologies in order to better account for available potential. In Washington, utilities have moved from the Northwest Power and Conservation Council's calculator method for determining available cost-effective efficiency to a system that takes into account the evolving utility landscape in which adjustments to potential are made every few years. Using the calculator method, utilities were seeing available potential drop as they implemented efficiency programs. Using resource planning, utilities continue to find new sources of available cost-effective efficiency. This reinforces the idea that low-hanging fruit can grow back. Technology continues to improve and new program strategies are developed. Though states with all cost-effective efficiency mandates are stretching themselves to achieve aggressive targets, they have not yet reached the upper bounds of energy efficiency.

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UNDERTAKING JT4.16

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 79.

If confidentiality allows, Synapse to file a copy of a document prepared with respect to large industrial customers who were requesting relief from efficiency surcharges in New Jersey.

RESPONSE

The New Jersey Division of Rate Counsel's comments before the New Jersey Board of Public Utilities on the Societal Benefits Charge (SBC) credit program proposals are attached as JT4.16, Attachment 1 and JT4.16, Attachment 2. Synapse provided input and advice to the Division of Rate Counsel during development of these comments, however the opinions ultimately expressed therein are the Division of Rate Counsel's opinions.

Witnesses: T. Woolf
K. Takahashi
E. Malone
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KIM GUADAGNO
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STEFANIE A. BRAND
Director

April 12, 2013

Via Overnight Delivery and Electronic Mail
Honorable Kristi Izzo, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
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Trenton, New Jersey 08625-0350

Re: In The Matter of the Implementation of A2528/S2344 N.J.S.A. 48:3-60.3 and The SBC Credit Program
BPU Docket No.: EO12100940

Dear Secretary Izzo:

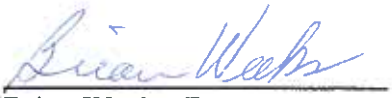
We enclose an original and ten copies of comments submitted on behalf of the New Jersey Division of Rate Counsel in connection with the above-captioned matter. Copies of the comments are being provided to the Board by electronic mail and overnight delivery. Hard copies will be provided upon request to our office.

We also enclose one additional copy of the comments. Please stamp and date the extra copy as "filed" and return it in our self-addressed stamped envelope.

Thank you for your consideration and assistance.

Respectfully submitted,

STEFANIE A. BRAND
Director, Division of Rate Counsel

By: 
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Comments of the New Jersey Division of Rate Counsel

Docket No. EO12100940
In the Matter of the Implementation of A2528/S2344 (N.J.S.A. 48:3-60.3) and the SBC Credit Program

April 12, 2013

The Division of Rate Counsel ("Rate Counsel") would like to thank the Board of Public Utilities ("Board") for the opportunity to present comments in response to the Office of Clean Energy's ("OCE") hearing notice and request for comments titled "SBC Credit – Rule Process Hearing" ("hearing notice") circulated to stakeholders by email on March 27, 2013. OCE provided notice at the April 2, 2013 hearing that the original due date for comments, April 5, 2013, would be extended to April 12, 2013.

The hearing notice solicits input on procedures associated with the implementation and administration of an SBC credit program ("SBC Credit Program") pursuant to the enactment of A2528/S2344 (P.L. 2011, c. 216), now codified as N.J.S.A. 48:3-60.3 ("the SBC Credit Act" or "the Act"), which would allow Commercial and Industrial ("C&I") ratepayers to recover a portion of their costs incurred for energy efficiency projects through credits against their payments due for the Societal Benefits Charge ("SBC"). Additionally, the hearing notice invites comments on the issues reserved for consideration in a rulemaking proceeding on page 30 of the December 20, 2012 Board Order in Docket No. EO12100940 ("December 20 Order").

With these April 12th comments, Rate Counsel supplements and incorporates by reference its December 7, 2012 comments on the Implementation of A2528/S2344 and the SBC Credit Program. In addition, these comments consider the SBC Credit Program proposal as presented in Appendix A and the bulleted items on page 30 of the December 20 Order. Rate

Counsel specifically addresses the first and third bulleted items, namely, the concept of a tiered SBC Credit Program as proposed by NJLEUC to meet the parameters of the Act including the amount of the credit under N.J.S.A. 48:3-60.3(b) ("Application of SBC Tiers") and consideration whether further modifications should be made to the Energy Reduction Threshold standards.

I. Annual Cap on SBC Credits Relative to SBC Contributions

In its December 7, 2012 comments, Rate Counsel set forth its concerns about the potential for SBC Credit Program expenses to cause disruption to the other programs funded by the SBC, including the Clean Energy Program ("CEP"), social programs, nuclear plant decommissioning, gas plant remediation, public education activities, and the Universal Service Fund. In order to protect against adverse impacts to these other SBC-funded programs, Rate Counsel expresses its support for a cap on credits relative to SBC contributions, such as the cap of 50% of annual pre-tax SBC contributions per utility account and 50% of qualifying project costs as adopted in Appendix A to the December 20 Order.[1] This cap should be implemented alongside an overall budget limit for the SBC Credit Program, as set forth in Rate Counsel's December 7 comments.

II. Energy Reduction Thresholds

On p. 21 of the December 20 Order, the Board clarifies that it intends for C&I customers to be able to qualify for the SBC Credit Program under any of the three alternative annual energy reduction thresholds: 15%, 100,000 kWh, or 350 mmBtu. Rate Counsel recommends that the Board retain the 15% energy savings requirement for commercial and industrial buildings, but

[1] In its December 7, 2012 comments, Rate Counsel suggested a limit on SBC credits to 50% of a percentage equal to the CEP portion of the annual SBC charges attributable to the fuel type at issue. Rate Counsel notes that it continues to support that proposal for a cap on SBC credits relative to SBC contributions, which is more stringent than the cap set forth in Appendix A, i.e. an annual cap of 50% of annual pre-tax SBC contributions per utility account.

rescind the 100,000 kWh and 350 mmBtu absolute annual energy savings targets. If the Board finds that an alternative threshold is needed, Rate Counsel suggests allowing applicants to request a custom savings threshold, such as the 4% custom savings threshold currently used by the Pay for Performance ("P4P") program, for projects that meet certain criteria.

Rate Counsel has several concerns with the use of 100,000 kWh and 350 mmBtu thresholds. These absolute savings requirements do not fit well for all customer sizes. For example, while the 100,000 kWh threshold is too high for small commercial customers, it is too low for large C&I customers. By way of illustration, for the top 25 large electricity users in PSE&G's service area, an annual savings of 100,000 kWh would amount to just a small fraction of a percent of the participant's load; in fact, as little as 0.06% of such a large user's annual load. **Figure 1** below presents this case for the largest and the 25th largest electricity users in PSE&G's service area.[2] Rate Counsel is concerned that these absolute kWh and mmBtu annual savings thresholds would allow large energy users to engage in "cream skimming," i.e. pursuing only the lowest-cost energy efficiency measures while failing to implement other cost-effective but not lowest-cost opportunities.

[2] Annual consumption levels were estimated by assuming that the CEP portion of the SBC is 0.4 cents per kWh and applying that rate to the total CEP SBC amounts paid by PSE&G's 25 largest electricity-using customers as provided in PSE&G's March 16, 2012 letter to Michael Winka, BPU Office of Clean Energy, regarding the SBC Law Providing for C&I Credits – Utility-Specific Questions.

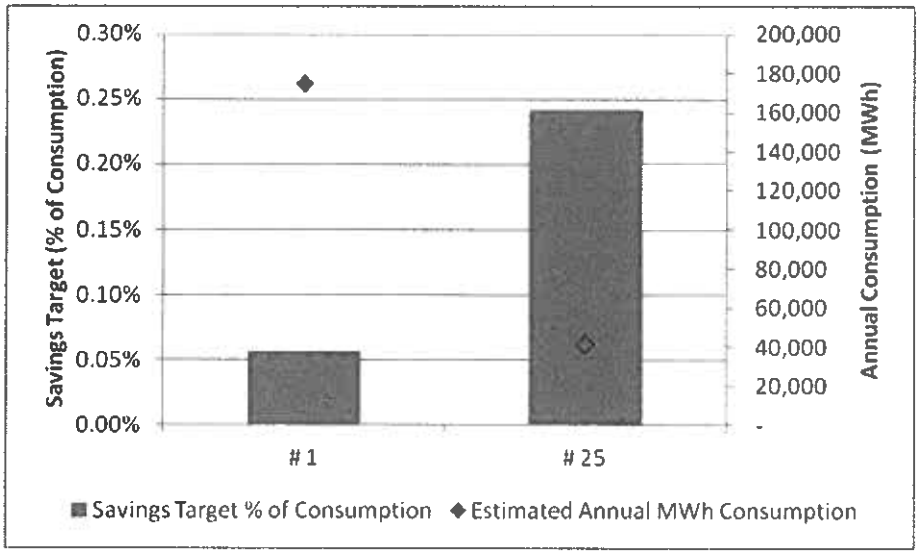

Figure 1. Savings Target as a Percent of Consumption for the Largest and the 25th Largest Energy Users in PSE&G's Service Area

Further, Rate Counsel notes that these absolute thresholds are currently available to participants of the P4P program, but the actual P4P target is 100,000 kWh, 350 mmBtu, or 4% of total building source energy consumption, *whichever is greater* (emphasis added).[3] In addition, the P4P custom savings thresholds are only available to qualified projects, which must involve:

- A manufacturing facility, including such industries as plastics and packaging, chemicals, petrochemicals, metals, paper and pulp, transportation, biotechnology, pharmaceutical, food and beverage, mining and mineral processing, general manufacturing, equipment manufacturers and data centers.
- Manufacturing and/or process-related loads, including data center consumption, consume 50% or more of total facility energy consumption.

[3] Source: TRC, New Jersey's Clean Energy Program 2013 Program Descriptions and Budget: Commercial & Industrial Energy Efficiency Programs Managed by TRC as C&I Market Manager, January 17, 2013, page 43.

If the Board finds that an alternative to the 15% threshold is needed for the SBC Credit Program, Rate Counsel suggests allowing applicants to request a custom savings threshold for projects that meet the criteria used to determine eligibility for the P4P custom savings threshold (as set forth above). Rate Counsel suggests that 4% is a reasonable minimum efficiency target, considering that best practices in manufacturing energy efficiency indicate that manufacturers could save 6% to 25% energy, according to the Superior Energy Performance certification pilot conducted by U.S. Department of Energy.[4] For example, it is reported that Volvo Trucks in Virginia achieved 25.8% energy savings in 2012, and Dow Chemical Company in Texas achieved 17% energy savings in 2011.[5]

Assuming that small businesses are better served by CEP C&I programs, the SBC Credit Program should have a single savings threshold of 15% of annual electric or gas consumption except for projects that qualify for the custom savings target.

III. Application of SBC Tiers

Based on its finding that the Board can award different SBC credit amounts to different customers, NJLEUC suggested a "tiered" SBC credit program.[6] If implemented carefully, the

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[4] http://www.superiorenergyperformance.net/results.html.

[5] Ibid.; see also the website for the Industrial Energy Management Information Center at U.S. EPA, which provides a list of energy efficiency potential studies for various types of industrial customers including brewing, cement, chemical, food processing, forest products, petrochemical, petroleum refining, pharmaceuticals, pulp & paper, steel & iron, and textiles. The studies are available at http://www.energystar.gov/index.cfm?c=industry.bus_industry_info_center.

[6] The relevant excerpt from NJLEUC's comments is as follows:

> The Board may appropriately distinguish between C&I customers on the basis of factors it deems relevant including, among others, the size of the customer's contribution to the SBC, the customer's total electric and/or natural gas usage, the nature of the customer's business and facilities, the benefits received by the customer from participation in other OCE programs, the customer's investments

tiers as proposed by NJLEUC could potentially avoid the scenario in which the SBC Credit Program expenses require disruption to the CEP or other SBC-funded programs. However, Rate Counsel finds it would be politically difficult and administratively burdensome to set different SBC credit amounts for different customers. For example, if a tier was based on "the nature of the customer's business," which types of businesses would be entitled to preferential treatment? Designing this program would likely involve a lengthy stakeholder process, and could be subject to multiple challenges. As an example of potential administrative challenges, verifying the customer's reductions in energy usage achieved by historical investments for each facility would require significant time and effort up front, before the customer's eligibility can be determined. Moreover, Board Staff would need to promulgate regulations that fairly and rationally distinguish between types of C&I customers' businesses.

Instead, Rate Counsel believes that setting a single SBC credit limit, such as an annual cap of 50% of the participant's annual SBC contributions as proposed by Staff, is simple, clear, and avoids customer confusion. It also accounts for different customer sizes and provides C&I customers with flexibility to decide the extent to which they want to invest in energy efficiency measures that qualify for credits within the 50% limit.

Rate Counsel also notes that NJLEUC's description of how the credits would be used is very vague. For example, would the tiers be used to determine which entities can participate, the

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> in energy efficiency measures and reductions in energy usage achieved, and the customer's ability to aggregate utility accounts to facilitate bookkeeping and maximize the benefit of the credit. The markup of the first SBC Straw that was previously submitted by NJLEUC demonstrates why such factors are relevant and how individual SBC credits may appropriately be determined based upon these distinctions.

Comments of the New Jersey Large Energy Users Coalition regarding the SBC Credit Program Straw Proposals, December 7, 2012, p. 5.

amount of the incentive, or both? Also, NJLEUC's proposed criteria as the basis of the tiers are unclear.

CONCLUSION

Rate Counsel respectfully requests that the Board incorporate its December 7, 2012 comments, as incorporated by reference and supplemented by these April 12th comments, into its rulemaking proceeding in this matter.

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STEFANIE A. BRAND
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December 7, 2012

Via Overnight Delivery and Electronic Mail
Honorable Kristi Izzo, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, New Jersey 08625-0350

Re: In the Matter of the Implementation of A2528/S2344 N.J.S.A. 48:3-60.3) and the SBC Credit Program-
BPU Docket No.: EO12100940

Dear Secretary Izzo:

Enclosed please find an original and ten copies of comments submitted on behalf of the New Jersey Division of Rate Counsel in connection with the above-captioned matter. Copies of the comments are being provided to the Board by electronic mail and overnight delivery. Hard copies will be provided upon request to our office.

We are enclosing one additional copy of the comments. Please stamp and date the extra copy as "filed" and return it in our self-addressed stamped envelope.

Thank you for your consideration and assistance.

Respectfully submitted,

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In the Matter of the Implementation of A2528/S2344 (N.J.S.A. 48:3-60.3) and the SBC Credit Program - A2528/S2344
Docket No. EO12100940

Comments of the New Jersey Division of Rate Counsel

December 7, 2012

Introduction

The Division of Rate Counsel ("Rate Counsel") would like to thank the Board of Public Utilities ("Board") for the opportunity to present comments on the Straw Proposals ("Straw Proposals") circulated by the Office of Clean Energy ("OCE") to stakeholders for comment on October 4, 2012 ("Straw 1") and November 29, 2012 ("Straw 2"). The Straw Proposals contemplate the implementation of a SBC credit program ("SBC Credit Program", "the Program") pursuant to the enactment of A2528/S2344 (P.L. 2011, c. 216; "the Legislation" "the Act", "SBC Credit Act"), now codified as N.J.S.A. 48:3-60.3, which would allow Commercial and Industrial ("C&I") ratepayers to recover a portion of their costs incurred for energy efficiency ("EE") projects through credits against their payments due for the Societal Benefits Charge ("SBC").

A variety of economic and equity issues arise from the design, administration, and funding of a SBC Credit Program consistent with the Act. The SBC Credit Program could affect a wide range of stakeholders, and the level of impacts on other SBC-funded programs is potentially significant and disruptive, as discussed further in the remainder of these comments.

Rate Counsel's comments focus on the OCE's most recent Straw Proposal, Straw 2, and not on the portions of Straw 1 that have been modified. Rate Counsel reserves its right to submit additional comments should the Board contemplate items from the earlier Straw proposal.

I. RULEMAKING

The Straw Proposals bear the characteristics of an administrative agency action that, in order to be valid, must be promulgated in accordance with the rulemaking procedures of the Administrative Procedure Act. See Metromedia, Inc. v. Director, Div. of Taxation, 97 N.J. 313, 328, 331-32 (1984). Among other characteristics, the revised Straw Proposal:

(1) is intended to have wide coverage encompassing a large segment, i.e. all C&I ratepayers;

(2) is intended to be applied generally and uniformly to all C&I ratepayers;

(3) is designed to operate only prospectively;

(4) prescribes a legal standard or directive that is not otherwise expressly provided by or clearly and obviously inferable from the enabling SBC Credit Program statute;

(5) reflects a Board policy that was not previously expressed in any official and explicit agency determination, adjudication or rule; and

(6) reflects a decision on administrative regulatory policy interpreting the SBC Credit Program Act for the first time.

For this reason Rate Counsel maintains that the Board must initiate a rulemaking proceeding to consider the full breadth of issues associated with the SBC Credit Program and to develop a set of minimum filing requirements for SBC Credit Program applicants. Rate Counsel suggests that only once the costs and other issues associated with alternative mechanisms for providing credits have been presented and considered in the context of a formal rulemaking proceeding should the OCE and the utilities make plans to implement changes to their computer/billing systems, consistent with Rate Counsel's comments in section V.A. below.

II. SBC CREDIT PROGRAM BUDGET LIMIT

An important consideration for the creation of the Credit Program is the extent to which it would reduce funding for other programs funded by the SBC. The SBC-funded programs under the Electric Discount and Energy Competition Act ("EDECA"), N.J.S.A. 48:3-49 to -98.1, include the Clean Energy Program ("CEP"), social programs, nuclear plant decommissioning, gas plant remediation, public education activities, and the Universal Service Fund. See N.J.S.A. 48:3-60(a)(3), (1), (2), (4) and (5) and N.J.S.A. 48:3-60(b). If the Board places no limit on funding for the new SBC Credit Program, and participants are allowed credits for the Program against 100% of their SBC payments (as proposed in Straw 1) or even against 50% of their SBC payments (as proposed in Straw 2), SBC credits granted under the Program could exceed the entire CEP budget, and thus reduce the portion of the total SBC collections that the Board now allocates to the other programs funded by the SBC pursuant to the EDECA.

The utilities' responses dated March 16, 2012 to the March 1, 2012 General Questions presented by the BPU to stakeholders illustrate the problem that a SBC credit program could cause. According to the utilities' responses, total SBC collections from C&I customers - representing the maximum amount that SBC Credit Program participants could claim in a year under Straw 1 - totaled roughly $424 million for a 12-month period generally corresponding to calendar year 2011.[1] In comparison, the entire 2011 CEP budget was $319.5 million (including $77 million in legislative re-appropriations).[2] Thus, for 2011 the total SBC credits that could

[1] PSE&G's SBC collections were reported for the period of March 1, 2011 to February 29, 2012. All other utilities reported SBC collections for calendar year 2011. Rate Counsel summed each of PSE&G's Estimated Gas SBC Components (roughly $60 million) for the calculation of total statewide SBC collections ($424 million) rather than using PSE&G's calculation of total Estimated Gas SBC collections ($1,244.5 million, per its response to the March 1, 2012 General Questions).

[2] Staff Draft Straw Proposal: NJCEP 2013 through 2016 Funding Level Now the NJCEP 2014 through 2017 Funding Level Comprehensive Energy Efficiency and Renewable Energy Resource Analysis, August 21, 2012.

have been potentially claimed if Straw 1 were already in place exceeded the CEP budget by about $104.5 million. Assuming that Straw 2 were already in place, total SBC credits from C&I customers could have totaled about $212 million, and the CEP budget in 2011 could have been diminished by as much as two-thirds if reductions in SBC funding due to the SBC Credit Program were absorbed entirely by the CEP budget rather than by other SBC-funded programs.

If SBC Credit Program expenses overwhelm the CEP portion of the annual SBC funds, the Board could be faced with either decreasing the portion allocated to other SBC-funded programs or subjecting ratepayers to an increase in the SBC charge to cover any deficiency in the allocation to those other SBC-funded programs. With respect to the SBC-funded CEP programs, without budget limits, uncertainty about SBC Credit Program participation and expenses will complicate CEP budgeting and destabilize the Board's SBC-funded EE programs, which would erode marketplace confidence and threaten the EE infrastructure that the CEP has developed over the years. To avoid these potential outcomes, Rate Counsel recommends that the Board put in place a total budget limit for the SBC Credit Program, limited perhaps to some percentage of the Board's total CEP budget.

Based on the March 1, 2012 questions to stakeholders concerning the implementation of A2528/S2344[3], the discussion of 2014 to 2017 CEP budgets during the October 9, 2012 Energy Efficiency Subcommittee meeting, and stakeholder discussions on October 24, 2012, it appears that the OCE has assumed that the Legislation does not allow the Board to set a total budget or

[3] The sixth question of the March 1, 2012 General Questions to stakeholders reads as follows:

> The Act states that the C&I ratepayer "shall be allowed a credit against the societal benefits charge." The SBC funds a number of societal programs in addition to the Clean Energy funds for energy efficiency. These other programs have nothing to do with energy efficiency, and the Board may have little discretion in funding them. To the extent that some of the other SBC programs, like the Universal Service Fund, Lifeline, nuclear decommissioning and manufactured gas plant remediation costs are nondiscretionary, how should the funding of these nondiscretionary programs be achieved if there is a reduction in the total SBC from the energy efficiency SBC credit?

funding limit for the SBC Credit Program. Rate Counsel maintains that the Board does indeed have the authority to implement a total budget limit. The SBC Credit Act does not limit the Board's ability to budget and proactively plan for the SBC Credit Program. Rather, the Act empowers the Board to set the amount of the SBC credit in any calendar year for each customer.

N.J.S.A. 48:3-60.3(c) also states that the "amount of the credit to be allowed under this section in any calendar year against the societal benefits charge for each commercial or industrial ratepayer that is subject to such charge pursuant to section 12 of P.L.1999, c. 23 (C.48:3-60) shall be determined by the board." (Emphasis added.) Moreover, N.J.S.A. 48:3-60.3(d) states that the "maximum amount of the credit…shall not exceed 100 percent of the commercial or industrial ratepayer's liability for such charge that would otherwise be due in each calendar year." (Emphasis added). This provision authorizes the Board to determine the amount of the credit, which may be less than 100% of the SBC charge, available to SBC Credit Program participants. Nothing in the Legislation requires the Board to set the maximum level of the credit for the SBC Credit Program as the entire amount of the participant's SBC charge. Notably, the Legislation does not contemplate how the Board should make such a determination, e.g., whether the Board should consider the amount of the credit for each customer individually or in aggregate, or whether funding decisions should be made as part of a prospective budgeting process or on a running basis. Thus, the Legislation may be reasonably interpreted as delegating to the Board authority to manage funding for the SBC Credit Program, including the amount, structure and other operant criteria.

Given the potential hazards of not implementing a budget limit for SBC credits, Rate Counsel finds that it is in ratepayers' interest for the Board to set an overall budget limit for the SBC Credit Program. Rate Counsel envisions that such a budget limit could reflect the OCE's

expectation for the number of participants in the SBC Credit Program. The Board could base the budget limit on its experience with the CEP's Pay for Performance ("P4P") program, given these programs' similarities: both promote comprehensive whole-building energy efficiency upgrades and have detailed application and monitoring and verification processes.

The total SBC Credit Program budget should be adjusted (semi-annually or quarterly) based on the initial response for the first few years. Increases in the SBC Credit Program budget could be offset by decreases in the P4P budget. For example, the SBC Credit Program budget limit could be set at 50% or less of the P4P program budget for the first year and adjusted in the following years based on the initial response. The total budget limit for the SBC Credit Program could be tied to the total budget for the P4P program given these programs' similarities.

In addition, the Board should limit each participant's SBC credits. Straw 2 places a limit on the SBC credit equivalent to 50 percent of the participant's annual SBC contribution. While the credit limit proposed in Straw 2 is a step in the right direction, Rate Counsel proposes limiting each Program participant's credits on an annual basis to50% of a percentage equal to the CEP portion of the annual SBC charges attributable to the specific fuel type at issue, in the participant's utility service territory. For example, if 29% of a participant's natural gas SBC charge is allocated to the CEP by its gas utility, then the maximum credit available to an SBC Credit Program participant would be 14.5% of its entire SBC contribution per year for up to 10 years or until it receives a credit for up to 50% of its qualifying EE project costs. This method would fine-tune the credit to the actual SBC activity over time. Thereby, other ratepayers would not be subjected to an increase in their SBC charge to cover any deficiency in SBC funds for programs other than the CEP budget. The methodology for calculating the specific percentage limit for each utility should be determined in the context of a formal rulemaking proceeding.

III. ENERGY SAVINGS TARGETS AND TABULATION

In addition to dollar limits, the Board should set total energy savings targets for the SBC Credit Program in the aggregate as well as tabulate actual savings attributable to the Program. The savings targets and tabulations of actual energy savings would assist the Board in determining the amount of the SBC credit in future years. The energy savings figures would also assist the Board in evaluating other clean energy programs and budgets.

IV. CONTINUATION OF THE CEP PAY FOR PERFORMANCE PROGRAM

Since many C&I customers lack the resources, capability, and willingness to implement or manage their own EE projects, the CEP should continue to offer a variety of EE programs for C&I customers; the introduction of the SBC Credit Program should not affect this principle. To the extent that such programs are adopted in the Board's Comprehensive Resource Analysis process, the Board should continue to offer P4P programs or similar programs for C&I customers who do not elect to participate in the SBC Credit Program. However, C&I customers should be permitted to elect to participate in either the SBC Credit or P4P program, but not both.

V. ADDITIONAL COMMENTS AND RECOMMENDATIONS

Rate Counsel offers the following comments and recommendations that apply to either a budgeted or non-budgeted SBC Credit Program.

A. Computer System Upgrades and Administrative Costs

Straw 2 provides that the C&I market manager or a "future Program Administrator" (collectively, the "Administrator") will oversee much of the SBC Credit Program, including

training, review of applications, site inspections, and the issuance and tracking of SBC credits, among other duties. Under Straw 1, many of these functions were assigned to the utilities.

The investments that the utilities and the OCE are contemplating to upgrade their computer systems in order to allow them to provide billing credits and administer the SBC Credit Program may be substantial. (Refer to the March 16, 2012 responses of Atlantic City Electric, Elizabethtown Gas, JCP&L, Public Service Electric and Gas, and the joint responses of the utilities submitted by PSE&G.) Rate Counsel notes that the Act does not specify that credits against SBC charges must be on the participant's utility bill. Rate Counsel thus recommends that OCE should collect data and estimate the costs of different options for accounting for the SBC Program credits. Such options should include a variety of credit payment intervals (monthly, quarterly, annually) and should include at a minimum: (1) OCE issuing checks directly to SBC Credit Program participants and (2) on-bill credits to SBC Credit Program participants by the utilities. Only once this information has been presented and considered in the context of a formal rulemaking proceeding should the OCE and the utilities make plans to implement changes to their computer/billing systems.

Utilities might also incur administrative costs in administering the Program. The cost of the computer upgrades and other administrative costs, to the extent not already recovered in base rates, should be assessed in some manner to the SBC Credit Program. Likewise, costs incurred by the OCE or the Administrator to administer the SBC Credit Program should be assessed to the SBC Credit Program participants through some yet to be determined mechanism. The determination of the cost recovery method could be part of the rulemaking proceeding.

The rulemaking proceedings should also clarify the mechanism by which SBC Program participants will receive their credit from the Administrator (e.g., an on-bill credit, reduced future

SBC contributions, periodic or lump sum reimbursements, or some other form). In any event, Rate Counsel recommends that all administrative costs of the SBC Credit Program should be borne by participants in the Program and not by other ratepayers.

B. Definitions of Participant and Eligible Entity

The terms and interrelationships between a "C&I ratepayer," an "Eligible Entity," a "utility account" and a "participant" in Straw 2 require definition and clarification. For example, Straw 2 states that "the maximum credit per entity is 50% of eligible project costs, with an annual cap of 50% of annual SBC contributions per utility account" (emphasis added) but that "the credit can be carried over for up to ten additional years if the initial credit exceeds 50% of the ratepayer's annual SBC contributions." Whether the maximum credit is limited by terms of the ratepayer's annual SBC contributions, aggregated between multiple accounts, or the annual SBC contributions associated with a single utility account will have vastly different implications for potential participants, the CEP and SBC Credit Program administrator(s), utilities, and other stakeholders. Rate Counsel recommends that these terms be clearly defined in the final rule, and that such definitions should be developed with careful consideration of the potential impacts to utility and OCE billing and administration systems and ratepayers.

C. Withholding to Account for Administrative Costs and CEP Benefits

Within a rulemaking proceeding, the Board should consider whether to retain a portion of each participant's SBC contributions to cover the costs of SBC Credit Program administration. In addition, the rulemaking should include consideration of withholding adequate credits for programs that are necessary and needed from a societal perspective, such as the low income program Comfort Partners, and to account for CEP benefits that accrue to all electric and natural

gas consumers in the state. Even when SBC Credit Program participants cannot directly participate in CEP, they will benefit from CEP's market transformation efforts (e.g., educational and training programs for consumers and trade allies, and research and development programs) as well as lower wholesale electricity prices due to lower energy consumption on aggregate. The American Council for an Energy Efficiency Economy ("ACEEE") reported that Arizona and Massachusetts require their self-direct customers to contribute 15% of their SBC charges to offset the cost of self-direct program administration.[4]

D. Energy Reduction Target and Measures

Straw 1 would have required Final EE Plans to include a package of measures that achieve an energy reduction target ("ERT") of at least 15% of total building source energy consumption while allowing for lower percentage thresholds for facilities with energy consumption heavily weighted by process loads. As an alternative to the 15% ERT, Straw 2 would allow ERTs of 100,000 kWh in annual electric savings or 350,000 MMBtu in annual gas savings. Rate Counsel is concerned that the specific kWh and MMBtu ERTs, as alternatives to a reduction of 15%, may introduce unintended consequences into the effects of the Program. Most importantly, these alternative thresholds could lead to a flood of applications to the SBC Credit Program by medium to large energy users because these minimum thresholds are likely to be much lower than what would be achieved with comprehensive whole building energy-saving measures that would reach 15% energy savings per building for such customers. This would allow medium to large energy users to apply for Program credit for simple energy-saving solutions, and could lead to a flood of applications, which would cause problems with funding

[4] ACEEE 2011, Follow the Leaders: Improving Large Customer Self-Direct Programs, October 2011, pages 31 and 33.

for the CEP and other SBC-funded programs. Rate Counsel recommends that the Board either allow further consideration and comment on the potential effects of these alternative ERTs or simply establish a clear minimum standard such as 15%.

E. Application Requirements

1. Primary Source of Energy Savings

The SBC Credit Program rule should state that the primary source of energy savings must be either electricity or natural gas, rather than another energy source, because the SBC Credit Program is funded by the SBC charge levied on electric and natural gas ratepayers.

2. Lifetime Energy Savings

For the projection of energy savings, Rate Counsel recommends that applicants also submit projected lifetime energy savings in MWh and Therms and capacity reduction in kW in addition to projected annual savings. This information should be provided in the Executive Summary and the main body of the Final Energy Efficiency Plan.

3. Definition of Source Energy

The purpose of the Program is to reduce the "total building source energy consumption," but Straw 2 does not define this term within the body of the Straw Proposal.

F. Monitoring, Verification, and Reporting

1. Monitoring and Verification Protocol

Rate Counsel supports Straw 2's requirements for the use of the International Performance Measurement & Verification Protocols ("IPMVP")'s Option D as well as for the

post-construction benchmarking reports to demonstrate savings each year of post-construction consumption.

2. Follow-up Reporting

Rate Counsel supports Straw 2's provision that requires verification of projected energy savings using post-retrofit billing data and the EPA Portfolio Manager methodology. Actual consumption data should be useful for measurement and verification activities for this Program, and will become instrumental in modifying energy savings projections if necessary. The accuracy of the energy savings projection is important, because the savings from this Program can and should be incorporated into the State's strategies to meet the Energy Master Plan.

F. No funding of 100% of Project Costs

Both Straw proposals suggest allowing the total of federal, state, utility, and credit funds for an EE project to equal up to 100% of the total project cost. Rate Counsel opposes the use of ratepayer funds for any incentive that pays 100% of the applicant's total costs, and furthermore maintains that total incentives should not pay 100% of the applicant's incremental costs of energy efficiency measures (or the additional costs of energy-efficient measures beyond the costs of standard measures) unless it is absolutely necessary to gain participation and promote efficiency for specific market segments (e.g., low-income customers in the Comfort Partners program) or measures (e.g., important emerging measures) in order to promote public benefits. When no standard measures exist, e.g., for building insulation, the incremental costs are equal to the total installed costs. Rate Counsel has consistently maintained that incentives should be less than 100% of total costs, and in general should be less than 100% of incremental costs, in the interest of fairness to ratepayers, and in order to maximize savings and minimize free riders (participants who would have adopted the EE measure even in the absence of program

incentives) as well as to assure that program participants have a stake in the successful implementation and ongoing operation of energy efficiency measures. See, e.g. I/M/O the Petition of New Jersey Natural Gas Company for Approval of Energy Efficiency Programs With an Associated Cost Recovery Mechanism, NJ BPU Dkt. Nos. EO09010056 and EO09100057 (Order dated June 17, 2009), Stipulation, ¶ 20 (provision that combined ARRA, CEP and utility-provided incentives will not fund 100% of a project's costs).

G. Additional Program Elements

Program enhancements that could be considered in a rulemaking proceeding include the following:

1. Increased flexibility in the construction period, as opposed to the requirement in Straw 2 that all work must be completed within 12 months of Final Energy Efficiency Plan approval with potential extensions for a period of up to six months with satisfactory proof of project advancement (in the form of copies of permits, equipment invoices, installation invoices, etc.);

2. Implementing a financing mechanism to help with financial hurdles that will persist with a long credit payment schedule; and

3. Streamlining the application and audit processes for the SBC Credit Program, consistent with the findings of Applied Energy Group ("AEG", the Program Coordinator for the CEP) in its June 2012 Evaluation of New Jersey's Clean Energy Programs, while still ensuring that it results in real and verifiable energy savings.

CONCLUSION

Rate Counsel respectfully submits that the Board should open a rulemaking proceeding to consider the issues set forth above.

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August 18, 2015 Technical Conference Transcript, page 82.

Synapse to provide its view on whether Union's targets are credible.

RESPONSE

As stated in Synapse's report, the numbers provided in Union's plan indicate that the company's programs will result in substantial savings, with Union's 2016 annual saving at 0.47 percent of 2014 actual sales at a cost of $0.05 per m3. (Exh. L.OEBStaff.1, page 3). While the plan overall will result in substantial savings, the savings goals are not aggressive and could be strengthened considerably. This is particularly true for the residential sector as the projected saving for this sector is about 0.2 percent of 2014 actual sector sales. For comparison, the Massachusetts gas program administrators achieved 1.35 percent of sales in 2014, and are currently expected to achieve 1.44 percent of sales annually from 2016 through 2018.[2]

Our report provides numerous recommendations that would improve Union's proposed program design and implementation, thereby increasing savings and participation rates. If Union were to adopt most of our recommendations, then it is likely their targets would be more reasonable and more credible.

[2] See Massachusetts Energy Efficiency Advisory Council, "Comments regarding the April 30th Draft 2016-2018 Energy Efficiency Plan, Resolution approved July 21, 2015," page 2, available at http://ma-eeac.org/wordpress/wp-content/uploads/Final-EEAC-July-Resolution-7-21-15.pdf

Witnesses: T. Woolf
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A. Napoleon

UNDERTAKING JT4.18

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 85.

Synapse to confirm that they are not aware of any natural gas utilities that currently use DSM programs to avoid or defer natural gas transportation and distribution investments, and that's why no list was developed; (b) in the event that there are gas utilities in the united states that have undertaken or used DSM programs to avoid or defer natural gas infrastructure spending, to describe their understanding as to its applicability here; (c) to advise why, if there are utilities that do so, why it's not set out in the report.

RESPONSE

(a) Synapse did not develop a list of gas utilities that currently use DSM program to avoid or defer natural gas transportation and distribution investments because (i) we had limited time, and (ii) it was not a high priority to do so. Instead, we presented the only two examples that we are aware of.

(b) If there are gas utilities in the US or Canada that use DSM programs to avoid or defer natural gas infrastructure spending, then there may be lessons from those experiences that would be relevant to Ontario.

(c) As described in response to (a), we simply reported the only two examples that we are aware of.

Witnesses: T. Woolf
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