By electronic mail

November 13, 2019

EnergyEfficiency@bpu.nj.gov

NJ Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 35
Trenton, New Jersey 08625- 0350

ATTN: Aida Camacho-Welch, BPU Secretary

Re: Cost Recovery

Dear Secretary Camacho-Welch,

On behalf of AARP's 1.3 million New Jersey members please accept these comments in response to the Board's stakeholder questions concerning New Jersey's Energy Efficiency Transition and the Technical Meeting on Cost Recovery.

Cost Recovery Stakeholder Questions:

1. **Should recovery mechanisms be the same or different for programs administered or implemented by utilities versus non-utility parties?**

Recovery mechanisms should depend upon the incentives built into the circumstances of the party. For example, utilities have many incentives, including performing their lawful duties as a condition of the grant of monopoly. Their underlying incentive is to maximize profits. Government parties operate on different incentives as a rule and do not require monetary incentives.

In the case of investor-owned utilities, care must be taken to prevent over-recovery, as happens when multiple mechanisms are put in place to affect the utility's recovery of costs related to efficiency programs,

AARP New Jersey, 303 George St., Suite 505, New Brunswick, NJ 08901 (866) 542-8165 www.aarp.org/nj

2. Topic 1: Recovery of Program Costs

a. Should costs associated with efficiency program investments be expensed or amortized? If amortized, what is the appropriate amortization period, and what should the rate for the carrying costs be?

If rates will be lower, AARP prefers expensing of costs. If costs are amortized, the period should be at least as long as the expected life of the measures installed with that funding. If there is a return, it should be set at the cost of debt.

b. Should costs be allocated by sector (e.g., residential, commercial, industrial)? If yes, how would you recommend doing the allocation?

AARP opposes schemes that recover costs only from residential customers. The utility benefits that come from energy efficiency do not depend on the customer class where the savings are achieved. They are spread to all classes, without regard to the source of the savings. The funds needed to achieve them should likewise be shared by all classes.

3. Topic 2: Potential for Recovery of Lost Revenues

a. Should there be a mechanism to recover lost revenues?

b. If the Board allows for recovery of lost revenues, what should the lost revenue recovery mechanism be?

c. If the Board allows for recovery of lost revenues:

> *i. What methods should the Board employ to calculate lost revenues associated with energy savings?*
> *ii. Should other factors (e.g., weather, nonprogram-related reductions) be taken into account?*

d. If the Board allows for recovery of lost revenues, should authorized return on equity be subject to adjustment based on reduced risk?

The impact on affordability of any mechanism should be the paramount concern in order to e**nsure service affordability for all**. Utility rates should be based on prudent use of ratepayer money. Households with lower and low to moderate fixed incomes must be taken into account. Too many New Jersey families are struggling to afford their utility bills now.

Lost revenue recovery is one method for addressing the claimed disincentive utilities face when considering efficiency investments. If utilities are allowed to collect "lost revenue,"

AARP New Jersey, 303 George St., Suite 505, New Brunswick, NJ 08901 (866) 542-8165 www.aarp.org/nj

they should only be rewarded for savings reductions their programs produce. Accordingly, weather- and economy-driven changes in sales should not be counted.

Any time the return on equity is set, it should reflect actual risks; accordingly, as risks are reduced through lost-revenue recovery, the utility return on equity should be correspondingly adjusted downward

AARP opposes decoupling, an automatic rate increase mechanism that the utilities are not entitled to under the regulatory compact, and a significant shift of risk to the consumer. A survey of decoupling rate impacts among electric utilities over a ten-year period showed that most rate adjustments are within plus or minus 2% of the retail rate.[1] About 80% were within 3% plus or minus.[2] However small these may appear to persons with ample disposable income, they can be hard on lower-income customers. And, as the Board is aware, customers generally *will* notice a 2% increase.

Further, almost twice as many adjustments were surcharges (rate increases) rather than refunds (rate decreases).[3] Not only are such surcharges unfair to customers for whom energy efficiency programs are not usable, they would discourage a participant if an efficiency choice leads to higher rates. Consumers should not pay higher utility bills for using less energy. Customers do not see these automatic adjustments as inherently fair, as shown by the strong reaction to rate increases following the widespread outages caused by the 2012 Derecho.[4]

The American Council for an Energy Efficiency Economy (ACEEE) includes the presence of decoupling and incentives in it ranking of energy efficiency efforts by state.[5] However, this business model only gets 2 points out of 19 in the utility category.[6] Nine of the states (including New Jersey) got no points for this factor and scored yet in the top half of the rankings. They do not have such mechanisms, and yet ranked high.[7] Among these states are Illinois, Michigan, New Jersey, and Pennsylvania, states that have long devoted utility

---

[1] Pamela Morgan, *A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs and Observations*, 2012, at p. 4 [the most recent ACEEE report on impacts of decoupling]. Available on registration from ACEEE via: https://aceee.org/collaborative-report/decade-of-decoupling. Last viewed November 13, 2019. The U.S. Energy Information Administration reports the average residential customer electric bill for 2018 as $106.80. An increase of $2.30 cents per month would thus be an increase of approximately 2%.

[2] *Id.*

[3] *Id*

[4] Consumers in Maryland, which had decoupled sales and revenue, expressed anger because they suffered outages from this major storm, but had to make the utility whole for lost sales. https://www.baltimoresun.com/maryland/bs-xpm-2012-08-09-bs-md-bge-charge-reviewed-20120809-story,amp.html

[5] ACEEE, The 2019 State Energy Efficiency Scorecard, October 2019, available at https://aceee.org/research-report/u1908, last viewed November 12, 2019.

[6] Note also that the utility category represents less than half the ACEEE total state score. *Id.*

[7] All of the top 10 states did have such mechanisms. Note, however, that the ACEEE scoring cannot identify causality between any of the criteria and actual results in efficiency, because states get points for factors, such as decoupling, that are not shown to drive efficiency. *Id.*

AARP New Jersey, 303 George St., Suite 505, New Brunswick, NJ 08901 (866) 542-8165 www.aarp.org/nj

attention to energy efficiency.[8] Decoupling has been introduced largely in states that already had vigorous energy efficiency program; the state dedication to efficiency preceded to the adoption of such mechanisms, in other words.

4. Topic 3: Performance Incentives and Penalties

As noted above, the Clean Energy Act at N.J.S.A. 48:3-87.9(e)(2) provides that cost recovery should include performance incentives or penalties as determined by the Board through an accounting mechanism established pursuant to N.J.S.A. 48:3-98.1.

a. How should performance incentives be structured? How should performance penalties be structured?

i. Should incentives and penalties be handled as a percentage adjustment to earnings or as specific dollar amounts? Why? How?

AARP generally opposes performance incentives. Utilities should not need performance incentives to meet the targets approved by the Board. Only if there is extraordinarily good performance should performance incentives be considered. If performance incentives are included, the utilities' performance criteria should include the extent to which all customers can obtain direct benefits by participating in utility programs. ACEEE notes that savings results cannot be tied solely to the presence or absence of performance incentives.[9]

If performance measures are considered, whatever mechanism is selected should minimize cost to consumers and not reward the utility for something it was already doing. A baseline should be used to only reward incremental performance.

b. The Board establishes performance incentives and penalties, what level of total incentives and penalties is reasonable?

AARP recommends the absolute minimum so as to not increase rates. Any incentives and penalties should be capped.

---

[8] *Id.*

[9] ACEEE, Snapshot of Energy Efficiency Performance Incentives for Electric Utilities, December 2018, at 4. Available at https://aceee.org/topic-brief/pims-121118.. Last viewed November 12, 2019.

AARP New Jersey, 303 George St., Suite 505, New Brunswick, NJ 08901 (866) 542-8165 www.aarp.org/nj

Thank you for considering AARP's comments.

Sincerely,

Evelyn Liebman
AARP NJ Director of Advocacy

Cc: Stephanie Hunsinger, AARP NJ State Director
Kathleen Frangione, Chief Policy Advisor – Office of the Governor of New Jersey
Stefanie Brand, Director, NJ Division of Rate Counsel

AARP is a nonprofit, nonpartisan organization with a membership that helps people 50+ have independence, choice and control in ways that are beneficial and affordable to them and society as a whole. AARP does not endorse candidates for public office or make contributions to either political campaigns or candidates. We produce AARP The Magazine, the definitive voice for 50+ Americans and the world's largest-circulation magazine with over 35.1 million readers; AARP Bulletin, the go-to news source for AARP's millions of members and Americans 50+; AARP VIVA, the only bilingual U.S. publication dedicated exclusively to the 50+ Hispanic community; and our website, AARP.org. AARP Foundation is an affiliated charity that provides security, protection, and empowerment to older persons in need with support from thousands of volunteers, donors, and sponsors. We have staffed offices in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Island

Philip J. Passanante
Assistant General Counsel

92DC42
PO Box 6066
Newark, DE 19714-6066

500 N. Wakefield Drive
Newark, DE 19702

302.429.3105 - Telephone
302.429.3801 - Facsimile
philip.passanante@pepcoholdings.com

atlanticcityelectric.com

atlantic city electric.
An Exelon Company

November 14, 2019

VIA ELECTRONIC MAIL
EnergyEfficiency@bpu.nj.gov
aida.camcacho@bpu.nj.gov
board.secretary@bpu.nj.gov

Aida Camacho-Welch
Secretary of the Board
Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, New Jersey 08625-0350

RE: Atlantic City Electric Company
Comments Filed in Connection with Energy Efficiency Technical Meeting – Cost Recovery

Dear Secretary Camacho-Welch:

On behalf of Atlantic City Electric ("ACE" or the "Company"), please accept these comments in response to the Energy Efficiency Technical Meeting on Cost Recovery that took place on Thursday, October 31, 2019. The Technical Meeting continued stakeholder engagement on the energy efficiency transition and was focused on cost recovery, performance incentives and penalties related to implementation of New Jersey's next generation of energy efficiency and peak demand programs.

Background

The Clean Energy Act (the "Act") states that "[e]ach electric public utility and gas public utility shall file annually with the [New Jersey Board of Public Utilities (herein, the "Board")]) a petition to recover on a full and current basis through a surcharge all reasonable and prudent costs incurred as a result of energy efficiency programs and peak demand reduction programs required pursuant to this section, including but not limited to recovery of and on capital investment, and the revenue impact of sales losses resulting from implementation of the energy efficiency and peak demand reduction schedules, which shall be determined by the [B]oard pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1)."[1]

[1] N.J.S.A. 48:3-87.9(e)(1).

The Act further specifies that "[i]f an electric public utility or gas public utility achieves the performance targets established in the quantitative performance indicators, the public utility shall receive an incentive as determined by the [B]oard through an accounting mechanism established pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1) for its energy efficiency measures and peak demand reduction measures for the following year. The incentive shall scale in a linear fashion to a maximum established by the [B]oard that reflects the extra value of achieving greater savings."[2]

Adjustments related to incentives or penalties determined by the Board may be made through either: (1) adjustments of the electric public utility's or gas public utility's return on equity related to energy efficiency or peak demand reduction programs or (2) a specified dollar amount reflecting the incentive structure.[3]

Overview

The Company appreciates the opportunity to participate in this important discussion, as policy decisions regarding cost recovery, performance incentives and penalties will directly impact program design, administration, implementation, and cost. Therefore, it is critically important that the Board select cost recovery mechanisms and incentives that will enable the State and its utilities to achieve the goals of the Act.

In order to develop a comprehensive strategy that can achieve high energy savings and corollary customer benefits while promoting effectiveness and certainty, it is necessary to allow full cost recovery, including lost sales revenue and a recovery of and on the utility's energy efficiency investment. This approach goes beyond mere compliance, optimizing use of the tools provided for in the Act to place energy efficiency and demand response as a resource on equal footing with other grid infrastructure improvements and as a preferred option for meeting customer needs. Additionally, since the Act allows for recovery of all reasonable and prudent costs incurred as a result of energy efficiency programs required pursuant to the legislation, the appropriate approach for determining which costs are "prudent and reasonable" (and, therefore, recoverable by the utility) is to define *a priori* that all costs related to programs and budgets approved by the Board should be deemed *per se* reasonable and prudent.

This is advantageous to customers because energy efficiency is typically the lowest cost resource; energy efficiency can avoid or delay more costly infrastructure investment, resulting in net savings to customers, regardless of whether they participate or not. Thus, policies that promote the continued growth in energy efficiency are good for all customers, with those participating customers receiving additional benefit through lower energy bills. According to the American Council for an Energy Efficient Economy ("ACEEE"), a comprehensive policy strategy for setting specific energy efficiency targets and for utilities to earn a return on efficiency investments is a best practice associated with achieving high energy savings, noting that a comprehensive policy requires: (1) program cost recovery; (2) full revenue decoupling; and (3) earnings opportunities

[2] N.J.S.A. 48:3-87.9(e)(2).
[3] *See* N.J.S.A. 48:3-87.9(e)(4).

tied to performance targets. In this light, the Company's answers to the BPU-asked questions are below.

Question: Should recovery mechanisms be the same or different for programs administered or implemented by utilities versus non-utility parties?

Whether the programs are administered and delivered by the utilities or non-utilities, the cost recovery and incentive framework should aim to address the incentives and disincentives faced by the utility[4]. Ultimately, the utility is the entity realizing lost revenues due to customers' increased energy efficiency from program participation.

Program costs, regardless of program administrator, include costs related to administration, marketing, evaluation, measurement and verification and the cost of rebates. Lost investment, which will be realized by the utility regardless of program administrator, includes forgone return on investment from capital investments avoided by energy efficiency programs. Lost sales revenue (lost revenue), also realized by the utility, includes forgone recovery of fixed costs embedded in volumetric rates due to lower electricity sales. In order to achieve the goals of the Act, utilities should be compensated for these impacts as a result of implementing the energy efficiency programs, regardless of who administers them.

Topic 1: Recovery of Program Costs

Question: Should costs associated with efficiency program investments be expensed or amortized? If amortized, what is the appropriate amortization period, and what should the rate for the carrying costs be?

Under generally accepted accounting principles ("GAAP") for regulated utilities, "[r]egulators capitalize expenses that, in unregulated firms, would be expensed in the current accounting period. Those capitalized costs are then amortized as they are included in rates."[5] The Company recommends amortization of program costs and calculation of a return on programs and services, with costs amortized over a common period with other New Jersey utilities. According to the National Action Plan for Energy Efficiency ("NAPEE")[6], a seminal work on the financial

---

[4] In the Maryland Collaborative Report, questions over whether the cost recovery discussion extended beyond utility-managed programs to include, for example, cost recovery for AMI, were resolved in favor of a focus on utility-managed programs. To the extent that this question references a similar uncertainty, the Company supports the Maryland resolution. *See* Public Service Commission of Maryland, Case No. 9111, Report of the Advanced Metering Initiatives and Demand Side Management Collaborative, filed July 6, 2007, p. 7.

[5] David W. Wirick, The National Regulatory Research Institute ("NRRI"), and John J. Gibbons, California Public Utilities Commission (Retired), Generally Accepted Accounting Principles for Regulated Utilities: Evolution and Impacts, p. 5, *available at* https://pubs.naruc.org/pub/FA85D820-AE63-44EE-A453-F83281D70355.

[6] *See* U.S. Environmental Protection Agency ("EPA") and U.S. Department of Energy ("DOE"), National Action Plan for Energy Efficiency, Aligning Utility Incentives with Investment in Energy Efficiency (2007), Chapter 4.3 Capitalization and Amortization of Energy Efficiency Program Costs, *available at* https://www.epa.gov/sites/production/files/2015-08/documents/incentives.pdf. "A principle argument made in favor of capitalizing energy efficiency program costs is that this treatment places demand-and supply-side expenditures on an equal financial footing." The National Action Plan for Energy Efficiency was a private-public initiative to create a

structure of energy efficiency programs, advantages to amortization and capitalization include the following:

- amortization places energy efficiency investments on more of an equal footing with supply-side investment with respect to cost recovery;
- capitalization of energy efficiency programs can defer the need for new supply-side investment, which decreases customer costs in the long-run;
- amortization allows customers to pay for the measure over its useful life; and
- amortization smoothes the rate impacts of large swings in annual energy efficiency spending.

The creation of a regulatory asset that is recovered over a period of time through rates represents a compromise between immediately expensing a cost (which would mean an immediate loss to shareholders) and an immediate charge to ratepayers (which would mean an immediate increase in rates).[7] In light of this, the choice of amortization period for recovery of program costs should balance rate impacts. A shorter amortization period will result in a higher annual rate impact, while a longer amortization period will spread out costs.

When determining the appropriate amortization period for energy efficiency investments, the Company believes that the Board should apply the fundamental principles of ratemaking. Specifically, the period of cost recovery for an investment should correspond with the period over which customers receive the benefits provided by the investment. In following this principle, customers benefit from a utility investment at the same time as they pay for that investment. This approach would put energy efficiency investments on an equal footing with supply side investments, from both a shareholder and customer perspective, would reduce the cost burden on customers, and would better match the recovery period with the time period during which the investments are providing benefits.

Regarding process, ACE recommends that a regulatory asset be created for the unamortized balance with a rate of return based on the weighted average cost of capital ("WACC") earned on this balance.[8] A utility's revenue requirement should equal the return from the regulatory asset plus the amortization realized from the capitalized program costs, with the rate for any given

---

sustainable, aggressive national commitment to energy efficiency through the collaborative efforts of gas and electric utilities, utility regulators, and other partner organizations. Such a commitment can take advantage of large opportunities in U.S. homes, buildings, and schools to reduce energy use, save billions on customer energy bills, and reduce the need for new power supplies. NAPEE was a private-public initiative to create a sustainable, aggressive national commitment to energy efficiency through the collaborative efforts of gas and electric utilities, utility regulators, and other partner organizations. NAPEE's recommendations continue to be advanced to this day under the EPA/DOE-led State and Local Government Energy Efficiency Action Network (SEEAction) initiative.

[7] *See* David W. Wirick, The National Regulatory Research Institute ("NRRI"), and John J. Gibbons, California Public Utilities Commission (Retired), Generally Accepted Accounting Principles for Regulated Utilities: Evolution and Impacts, p. 5, *available at* https://pubs.naruc.org/pub/FA85D820-AE63-44EE-A453-F83281D70355

[8] *See* Christina Simeone, Rate Decoupling: Economic and Design Considerations, Kleinman Center for Energy Policy (April 2016), p. 16, *available at* http://ipu.msu.edu/wp-content/uploads/2017/09/Rate-Decoupling-Simeone-2016.pdf. "[R]ealization of decoupling's effectiveness to achieve policy goals may well be predicated on the [rate of return] equaling the firm's cost of capital."

program year reflecting the revenue requirement divided by the forecasted sales. Advantages to this method include matching program costs with the time period in which the energy efficiency benefits are received, which is a key ratemaking principle.[9] Amortization with a minimum of a five-year schedule avoids intergenerational inequities and initial rate shock, putting energy efficiency on the same playing field as traditional "poles and wires" investments from an earnings perspective.

The Company recommends recovery of amortized costs through a system benefits charge, as this is the method used in Maryland for that state's successful EmPOWER programs.[10] Through this method, the customer realizes a per-kilowatt-hour surcharge on their bill to fund energy efficiency programs. The surcharge amount is established by an annual filing by each utility, subject to approval based on the level of forecasted expenditures for the next program year and any required "true-up" adjustments for over or under collections from the prior year.[11] Under the Maryland model, expenses associated with conservation and energy efficiency programs are amortized over a five-year period, and capital investments are amortized over a period that represents the useful life of the investment.[12]

With regard to the appropriate return on equity value for energy efficiency, ACE recommends use of the WACC as approved by the Board. According to GAAP for regulated utilities, "[t]he weighted average cost of capital is often used as the overall rate of return when determining revenue requirements."[13] Whether the item is a transformer or other equipment, or energy efficiency and demand response programs, the WACC represents the utility's costs to finance all of its distribution investments. WACC ensures that energy efficiency investments are on a level playing field with all other competing distribution investments, and therefore encourages utilities to continue to support energy efficiency by directly addressing the potential financial bias against investment in energy efficiency programs.

Applying a utility's authorized return on equity is fully consistent with other statutes addressing public utility investments in energy efficiency programs. For example, the Act permits utility investments in energy efficiency programs and provides that such investments "may be

---

[9] *See* Maryland Public Service Commission, Cost of Service Ratemaking Overview Before the House Economic Matters Committee (January 2019), slide 6, available at https://www.psc.state.md.us/wp-content/uploads/MD-PSC-Ratemaking-Overview-House-ECM_01102019.pdf. It is a key ratemaking principle that there is a "need to ensure that revenues, expenses and rate base use consistent periods" which "assures that costs and benefits affect similar customers during the same period."

[10] *See* Public Service Commission of Maryland, The EmPOWER Maryland Energy Efficiency Act Report of 2019, filed July 2019, p. 2, *available at* https://www.psc.state.md.us/wp-content/uploads/2019-EmPOWER-Maryland-Energy-Efficiency-Act-Standard-Report.pdf "Program-to-date, the Utilities' EmPOWER Maryland programs have saved a total of 8,092,181 megawatt-hours ("MWh") and 2,335 megawatt ("MW"). The expected savings associated with EmPOWER Maryland programs is approximately $9.0 billion over the life of the installed measures for the EE&C programs."

[11] Public Service Commission of Maryland, Case No. 9111, Order No. 81637 dated September 28, 2007, p. 6-7

[12] Public Service Commission of Maryland, Case No. 9111, Order No. 81637 dated September 28, 2007, p. 6

[13] David W. Wirick, The National Regulatory Research Institute ("NRRI"), and John J. Gibbons, California Public Utilities Commission (Retired), Generally Accepted Accounting Principles for Regulated Utilities: Evolution and Impacts, p. 159, *available at* https://pubs.naruc.org/pub/FA85D820-AE63-44EE-A453-F83281D70355.

eligible for rate treatment approved by the [B]oard, including a return on equity, or other incentives or rate mechanisms that decouple utility revenue from sales of electricity and gas."[14] Allowing for a return on equity also ensures that utilities offer necessary but often more expensive programs, like income-qualified ones, in its program portfolio. Otherwise, the motivation could be to design a program portfolio based on cost minimization, which may only allow for programs that meet the needs of a specific customer class. While the provision is permissive, the Board's well-established practice has been to permit recovery of prudently incurred costs associated with energy efficiency programs, including a return of and on the utility's capital investment at the utility's authorized return on equity.[15]

Finally, setting the rate of return based on the utility's WACC will give decoupling the best chance of succeeding. According to a 2009 study by Steve Kihm, Research Director of the Energy Center of Wisconsin, decoupling has the best chance of working if "a regulator keeps allowed rates of return close to a utility's cost of capital. … Under this condition, decoupling will make the utility largely indifferent between sales promotion and energy efficiency."[16]

Question: Should costs be allocated by sector (e.g., residential, commercial, industrial)? If yes, how would you recommend doing the allocation?

In order to preserve administrative simplicity, costs should not be allocated by sector. These programs advance New Jersey's specific energy, environmental, economic and equity policy objectives by providing social benefits to all. Further, allocating by sector would limit the flexibility to direct funds where they are most needed. One potential exception could be self-direct programs for large commercial and industrial customers, in which industrial customers concerned about perceived inequities in what they contribute versus what they receive in the form of rebates, may choose to establish their own funding pool from which to draw incentives, in which the extent of rebates available to them would be matched by what they pay in.[17]

---

[14] *See* N.J.S.A. 48:3-98.1(a)(1); N.J.S.A. 48:3-98.1(b).

[15] The Board has repeatedly authorized utilities to earn their full authorized ROE on energy efficiency investments. See, e.g., I/M/O the Petition of Public Service Electric and Gas Company for Approval of Changes in Its Electric Green Programs Recovery Charge and its Gas Green Programs Recovery Charge ("2014 PSE&G Green Programs Cost Recovery Filing"), Amended Order Approving Stipulation, BPU Docket Nos. ER14070651 and GR14070652 (dated May 19, 2015) (including numerous schedules reflecting inclusion of a return of and on investments); In re the Petition of South Jersey Gas Company for Approval of an Energy Efficiency Program with an Associated Energy Efficiency Tracker Pursuant to N.J.S.A. 48:3-98.1, BPU Docket No. GO12050363, Order (dated June 21, 2013); I/M/O the Petition of South Jersey Gas Company for Approval to Continue Its Energy Efficiency Programs and Energy Efficiency Tracker Pursuant to N.J.S.A. 48:3-98.1, BPU Docket No. GR15010090, Order (dated August 19, 2015) at Paragraph 22 of the approved Stipulation.

[16] Steve Kihm, When Revenue Decoupling Will Work and When It Won't (October 2009), *available at* https://www.seventhwave.org/sites/default/files/kihmdecouplingarticle2009.pdf.

[17] *SEE*Action Report, Industrial Energy Efficiency: Designing Effective State Programs for the Industrial Sector (March 2014), p. 41, *available at* https://energy.gov/eere/amo/downloads/industrial-energy-efficiency-designing-effective-state-programs-industrial-sector.

Topic 2: Potential for Recovery of Lost Revenues

Question: Should there be a mechanism to recover lost revenues?

Yes, a mechanism for the utility to recover lost revenues is necessary to stabilize utility revenue and address the Throughput Incentive, which has been identified by many as the primary barrier to aggressive utility investment in energy efficiency.[18] (The Throughput Incentive is a utility's incentive to increase sales as a means of increasing revenue and profits.) Utility recovery of lost revenues is authorized by the Act and New Jersey's Regional Greenhouse Gas Initiative (or RGGI) law, indicating that the State recognizes the need for lost revenue recovery to enable successful programs.[19]

Energy efficiency reduces the sales revenue collected by utilities because the rate case, where the revenue requirement is determined, assumes a certain level of sales over which the revenue will be recovered. If energy efficiency exceeds what is projected in the sales forecast, the utility will fail to recover its allowed revenue requirement, including the contribution to fixed costs and its margin (profit). The sales can be trued up in the next rate case, but the margin is lost, hence the term "lost margins." Because of lost margins and under-recovery of fixed costs, utilities have a disincentive to promote energy efficiency to their customers because these programs result in less use of the utilities' product.

Question: If the Board allows for recovery of lost revenues, what should the lost revenue recovery mechanism be?

ACE recommends full decoupling for recovery of lost revenues. The primary objective of decoupling is to remove the Throughput Incentive – a utility's incentive to increase sales as a means of increasing revenue and profits. By removing the Throughput Incentive, the utility is willing to promote energy efficiency as revenues will not decrease from customer adoption of energy-saving measures. Decoupling also stabilizes utility revenues, protecting the utility against lost revenues and customers against increasing costs. Additionally, no forecasting technique can ever be exact; full decoupling addresses the shortfalls of forecasting while removing the Throughput Incentive.

Decoupling is a rate adjustment mechanism that separates a utility's revenue recovery from the volume of sales.[20] In contrast to traditional regulation that sets rates and lets revenue fluctuate with sales volumes, decoupling allows regulators to set the revenue target and periodically adjusts the rate to ensure recovery of the allowed revenue. Rate adjustments recover uncollected approved costs or refund recoveries in excess of the approved revenue over a given period. As such, under

[18] *See* NAPEE, Aligning Utility Incentives with Investment in Energy Efficiency (2007), ES-3.
[19] *See* N.J.S.A. 48:3-98.1.
[20] Because of broader revenue implications, decoupling is typically addressed in separate proceeding or as part of a rate case, not in an energy efficiency docket.

decoupling, a utility will recover its allowed revenue requirement – as set by regulators -- regardless of changes in sales.[21]

Decoupling does not result in an increase in costs for customers. Rather, it is a revenue stabilization mechanism that allows utilities to recover the revenue authorized in a rate case proceeding. The only increased costs related to decoupling are from carrying charges on balances in the balancing/deferral account, which are common in utility accounting.

It is instructive to note that decoupling mechanisms have been in place for over a decade. In fact, the New Jersey gas utilities have operated under a form of decoupling for 13 years. A May 2013 study titled A Decade of Decoupling for US Energy Utilities found that decoupling rate adjustments are mostly within +/- two percent of retail rates, resulting in minor positive and negative rate adjustments that are less than other price fluctuations, such as the price of natural gas.

Question: If the Board allows for recovery of lost revenues, what methods should the Board employ to calculate lost revenues associated with energy savings?

The scope of decoupling mechanisms can vary, but are generally characterized as full, partial or limited. Under full decoupling, a utility will receive its approved revenue requirement due to any and all variations in sales (*e.g*., due to weather, efficiency, economic activity, etc.).[22] Under partial decoupling, a utility recovers only a portion of the difference between allowed and actual revenue (*e.g.*, 90% of the revenue shortfall is recovered through the rate adjustment).[23] Under limited decoupling, only specified causes of variations in sales result in rate adjustments. Causes could include weather, energy efficiency programs, and/or economic conditions.[24]

The allowed revenue requirement is typically determined as part of a general rate case and includes fixed costs and a rate of return. Under a total revenue model, the total allowed revenue is predetermined and will not change between rate cases. In contrast, the revenue-per-customer model recalculates the allowed revenue requirement based on customer count, recognizing that the changes in the number of customers can affect costs.

Decoupling price adjustments can be implemented on a deferral basis or billing cycle basis. In deferral decoupling, a utility calculates the over or under collection of revenue in a balancing or deferral account. The account will track under-recovered or excess revenues for true-up in the following month Rate adjustments can be implemented monthly, quarterly, semi-annually, or annually. In Maryland, for example, decoupling price adjustments are implemented on a deferral basis, with the rider calculated on a monthly basis accounting for any true-up (over or under

---

[21] *See* NAPEE, Aligning Utility Incentives with Investment in Energy Efficiency (2007), ES-3.
[22] *See* Regulatory Assistance Project, Revenue Regulation and Decoupling: A Guide to Theory and Application, p. 11-13, *available at* http://www.raponline.org/wp-content/uploads/2016/11/rap-revenue-regulation-decoupling-guide-second-printing-2016-november.pdf.
[23] *Ibid.*
[24] *Ibid.*

recovery in the previous month).[25] For this initiative, the Company recommends following the Maryland model by using deferral decoupling.

Question: If the Board allows for recovery of lost revenues, should other factors (e.g., weather, nonprogram-related reductions) be taken into account?

The Company recommends full decoupling, which looks at total level of sales regardless of why changes in sales occurred. Parsing out why sales were lower in a given period is analytically intensive with questionable accuracy. Many factors affect sales, which makes it extremely difficult to confidently determine causes. Additionally, no forecasting technique can ever be exact. Full decoupling is an elegant solution to the shortfalls of forecasting that also addresses the Throughput Incentive and ensures that customers never overpay for distribution services.

Some limited or partial decoupling mechanisms use weather-normalized use per customer to calculate the amount of under or excess revenue recovery. By excluding weather, the utility retains the risk that weather will reduce revenues, but retains the benefit if weather increases sales and revenues. However, weather normalization can result in rate adjustments that do not reflect the differences between actual and authorized revenue levels. For example, in Minnesota, during CenterPoint Energy's 2012 evaluation period, the weather was much warmer than the normal weather assumed in the rate case.[26] As a result, the utility's actual non-commodity gas revenues were $20 million lower than the weather-normalized revenues used in the rate adjustment calculation. However, the weather-normalization of actual revenues showed a total over-collection of $2.6 million, resulting in a refund to customers even though the utility significantly under-recovered the allowed revenue.[27]

Question: If the Board allows for recovery of lost revenues, should authorized return on equity be subject to adjustment based on reduced risk?

No, the authorized return on equity should not be subject to adjustment based on reduced risk.

While some may argue that a decoupling mechanism reduces earnings volatility, this reduced risk should not be reflected in a lower return on equity. According to "A Decade of Decoupling," several state public utility commissions have noted the absence of empirical

---

[25] *See* Public Service Commission of Maryland, Case No. 9111, Order No. 81637 dated September 28, 2007, pp. 6-7.

[26] *See* Public Utilities Commission of the State of Minnesota, Docket No. G-008/GR-17-285, Direct Testimony of Mr. Burl M. Drews re Revenue Decoupling Rider, August 2, 2017, *available at* https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7B2013A45D-0000-C6BF-ABF5-2F025D149F60%7D&documentTitle=20178-134460-06.

[27] *See* Public Utilities Commission of the State of Minnesota, Docket No. G-008/GR-17-285, Direct Testimony of Mr. Burl M. Drews re Revenue Decoupling Rider, August 2, 2017, *available at* https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7B2013A45D-0000-C6BF-ABF5-2F025D149F60%7D&documentTitle=20178-134460-06.

evidence regarding how, if at all, decoupling affects risk.[28] There has also been a reluctance to make a specific adjustment separate from all the other considerations influencing a decision regarding return on equity. Other arguments against return on equity reductions include:

- Decoupling adjustments can include refunds, which represent lost opportunities for additional revenue. It is not clear that the risk of under-collection outweighs the lost opportunity of collecting additional revenues.
- The decoupling adjustments are likely to be small. It follows that the impact on risk is also small.
- When the mechanism is limited in scope, the impact on risk is also limited and may be negligible.
- Other risk changes may offset the effect of decoupling.
- Where decoupling is implemented to support enhanced energy efficiency efforts, adopting a reduction in allowed return on equity essentially punishes a utility for pursuing energy efficiency programs.
- Research by the Brattle Group found that decoupling does not affect the estimated cost of capital for utilities in a statistically significant way.[29]
- Not all risks or sources of variance in earnings affect the cost of capital equally, because investors can simply avoid certain risks. Simply reducing total risk does not imply that the cost of capital has been reduced. The risk reduced must be part of a company's business risk to affect its cost of capital, so only reductions in business risk justify a reduction in a regulated company's allowed return on equity.

Topic 3: Performance Incentives and Penalties

Question: How should performance incentives be structured? How should performance penalties be structured?

As noted above, the Act at N.J.S.A. 48:3-87.9(e)(2) provides that cost recovery should include performance incentives or penalties as determined by the Board through an accounting mechanism established pursuant to N.J.S.A. 48:3-98.1. Common performance incentives include shared savings, a rate of return adder, and performance targets. The Company recommends application of performance targets to incent positive program outcomes. A performance target allows award of a percentage of spend for achieving or exceeding threshold performance goals. For a performance target to be effective, any incentive formula must be consistent with desired

[28] Pamela Morgan, Graceful Systems LLC, A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs, and Observations (May 2013), *available at* https://www.leg.state.nv.us/App/InterimCommittee/REL/Document/2613.

[29] The Brattle Group, The Impact of Revenue Decoupling on the Cost of Capital for Electric Utilities: An Empirical Investigation (March 2014), p.17, *available at* https://brattlefiles.blob.core.windows.net/files/6081_effect_of_electric_decoupling_on_the_cost_of_capital.pdf.

outcomes; ensure a reasonable magnitude for incentives; tie incentive formula to actions within the control of utilities; and allow incentives to evolve.[30]

ACE does not believe that a penalty is required, as it is already subject to reasonableness review, and notes that inappropriately strident targets and/or earnings eligibility thresholds can have the effect of sending counterproductive signals to the utility regarding performance. Penalties for program non-performance should be reserved for a complete lack of commitment. To meet high energy-saving goals, experimentation and innovation is warranted, and there should be an allowance for learning the market. Therefore, a program administrator offering a program portfolio with a good-faith effort should not be penalized. For this reason, if the Board chooses to employ penalty provisions, a deadband (or neutral zone) should be included, representing a level of energy savings in which there are no incentives awarded and no penalties assessed. For example, Idaho Power utilized a neutral zone in its Performance-Based Demand-Side Management Incentive Pilot in 2007, in which "[a]nything in between 5.0% and the annual target was a deadband for which there was no incentive or penalty."[31]

Question: Should incentives and penalties be handled as a percentage adjustment to earnings or as specific dollar amounts? Why? How?

Regarding penalties, ACE is already subject to a reasonableness review, so a penalty mechanism is not required.

Performance incentives should be achievable, linear, meaningful, and clear in order to allow utilities to achieve the long-term goals of the Act. The Company recommends that incentives should be a percent of net benefits. The objective of the performance mechanism should be to incent, induce, and reward consistently excellent performance, not to strive for symmetry between rewards and penalties in a manner that makes energy efficiency programs seem like more of a gamble from the utility perspective.

If the Board chooses to pursue penalties, they should be specified as dollar amounts as opposed to being tied to net benefits (*i.e.*, increasing net benefits should not increase penalties to avoid a perverse incentive to minimize risk through reduction of net benefits). According to ACEEE, **"**the most common thresholds for shared net benefits mechanisms are in the range of 70–85% of energy savings targets. Typically, the amount of the incentive itself is calculated as

---

[30] *See* Melissa Whited, Tim Woolf, Alice Napoleo, Synapse Energy Economics, Inc., prepared for the Western Interstate Energy Board, Utility Performance Incentive Mechanisms – A Handbook (March 2015), p. 4, *available at* https://www.synapse-energy.com/sites/default/files/Utility%20Performance%20Incentive%20Mechanisms%2014-098_0.pdf.

[31] Sara Hayes, Steven Nadel, Martin Kushler, and Dan York, ACEEE, Carrots for Utilities: Providing Financial Returns for Utility Investments in Energy Efficiency (January 2011), p. 35, citing 44 Performance-Based Demand-Side Management Incentive Pilot 2007 Performance Update. Filed with the Idaho Public Utilities Commission March 14, 2008.
http://www.puc.idaho.gov/internet/cases/elec/IPC/IPCE0632/company/20080317PB%20DSM%202007%20UPDATE.PDF
available at http://aceee.org/sites/default/files/publications/researchreports/U111.pdf.

percentage of the net benefits of energy savings achieved."[32] For example, New Hampshire offers utilities a performance incentive of up to 8-12% of total program budgets for meeting cost effectiveness and savings goals.[33] Hawaiian Electric must meet four energy efficiency targets to be eligible for incentives calculated based on net system benefits up to 5%.[34]

Question: Should incentives and penalties be scalable based on performance? If so, in what manner?

Yes, incentives should be scalable based on performance. A near-universal characteristic of energy efficiency incentive mechanisms is that they all provide greater rewards for additional energy savings up to the level of the maximum incentive.[35] In this initiative, the Company respectfully submits that incentives should be tied to performance such that the award increases as achievement increases. For example, Arizona allows for shared savings calculated as a share of net economic benefits up to 10% of total demand-side management spending.[36] In Minnesota, utilities are eligible for a specific share of net benefits based on cost effectiveness test; at 150% of the savings target, utilities are eligible to receive 30% of the conservation expenditure.[37]

Question: How should incentives and penalties be reconciled? Should incentives and penalties be "refunded" to ratepayers through rate reduction?

As stated previously, ACE recommends that forecasted program costs are capitalized and amortized. A regulatory asset should be created for the unamortized balance with a return, based on the WACC, earned on this balance.[38] For reconciliation of incentives and penalties, both can become part of the regulatory asset account that feeds the surcharge, with symmetrical adjustments allowing for surcharges when incentives are awarded and refunds when penalties are assessed.[39]

---

[32] Seth Nowak, Brendon Baatz, Annie Gilleo, Martin Kushler, Maggie Molina, and Dan York, ACEEE, Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency (May 2015), p. 10, *available at* https://aceee.org/sites/default/files/publications/researchreports/u1504.pdf.
[33] ICF International, Briefing for the Maryland Energy Administration, Utility Performance Standards, Oversight, and Cost Recovery (September 2007), p. 29.
[34] *Ibid.*
[35] Seth Nowak, Brendon Baatz, Annie Gilleo, Martin Kushler, Maggie Molina, and Dan York, ACEEE, Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency (May 2015), p. 10, *available at* https://aceee.org/sites/default/files/publications/researchreports/u1504.pdf.
[36] ICF International, Briefing for the Maryland Energy Administration, Utility Performance Standards, Oversight, and Cost Recovery (September 2007), p. 29.
[37] *Ibid.*
[38] *See* Christina Simeone, Rate Decoupling: Economic and Design Considerations, Kleinman Center for Energy Policy (April 2016), p. 16, *available at* http://ipu.msu.edu/wp-content/uploads/2017/09/Rate-Decoupling-Simeone-2016.pdf. "[R]ealization of decoupling's effectiveness to achieve policy goals may well be predicated on the [rate of return] equaling the firm's cost of capital."
[39] *See* Regulatory Assistance Project, Revenue Regulation and Decoupling: A Guide to Theory and Application, p. CS57, *available at* http://www.raponline.org/wp-content/uploads/2016/11/rap-revenue-regulation-decoupling-guide-second-printing-2016-november.pdf. "The allocation of revenue regulation revenue surpluses or deficits should be symmetrical so that overpayments are credited to customers just as underpayments are paid by those same customers."

Question: If the Board establishes performance incentives and penalties, what level of total incentives and penalties is reasonable?

Capping total incentives and penalties can promote reasonableness and certainty. If the Board wishes to establish a cap on total incentives and penalties, this can be done as an absolute cap or a relative cap. According to ACEEE, "[s]ome caps are absolute dollar amounts, such as in those states that budget a set pool of funds from which incentives may be awarded."[40] Here, as the Company is recommending an award of a percentage of spend for achieving or exceeding threshold performance goals, a relative cap is more appropriate, and can be "expressed as a maximum percentage of program budgets or percentage of total net benefits." [41]

Thank you for your attention and consideration in this matter. Feel free to contact the undersigned if you have any questions or if ACE can be of further assistance.

Respectfully submitted,

/jpr
Philip J. Passanante
An Attorney at Law of the
State of New Jersey

[40] Seth Nowak, Brendon Baatz, Annie Gilleo, Martin Kushler, Maggie Molina, and Dan York, ACEEE, Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency (May 2015), p. 10, *available at* https://aceee.org/sites/default/files/publications/researchreports/u1504.pdf.
[41] Seth Nowak, Brendon Baatz, Annie Gilleo, Martin Kushler, Maggie Molina, and Dan York, ACEEE, Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency (May 2015), p. 10, *available at* https://aceee.org/sites/default/files/publications/researchreports/u1504.pdf.

Bloomenergy™

November 14, 2019

Filed Electronically via EnergyEfficiency@bpu.nj.gov
Aida Camacho-Welch, Secretary of the Board
Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Post Office Box 350
Trenton, New Jersey 08625-0350

Re: Energy Efficiency Technical Meeting – Cost Recovery

Dear Secretary Camacho-Welch:

Please accept the following comments of Bloom Energy Corporation ("Bloom Energy") in response to the October 31, 2019 Energy Efficiency Technical Meeting – Cost Recovery and associated materials.

I. Introduction

Bloom Energy is a manufacturer of solid oxide fuel cell systems that produce on-site power for many of the world's most demanding customers. The Bloom "Energy Server" fuel cell generates electricity through an electrochemical process without combustion and therefore does not produce the local forms of "criteria" air pollutants associated with combustion technologies or consume or discharge water. Bloom Energy Servers are designed in a modular fault-tolerant format that provides mission critical reliability with no downtime for maintenance. Bloom Energy systems have been proven resilient through disruptive events including hurricanes, earthquakes, utility outages, physical damage, and fire damage. As a result, Bloom Energy servers are used by many of the world's leading companies to secure their critical business processes from the risk of utility outages.

Bloom Energy has installed over 350MW of its solid oxide fuel cell systems for customers in eleven U.S. states as well as in Japan, South Korea, and India. A growing percentage of

Bloom Energy's business is focused on grid-islanding and micro-grid projects that are designed to operate indefinitely in the event of an outage of the electric grid. In 2018 our fuel cell powered distributed generation and microgrid projects operated through over 500 electric grid outages worldwide.

II. Comments

Bloom Energy supports the energy efficiency targets established in the 2018 Clean Energy Act, which direct the Board of Public Utilities ("Board"), within five years, to require each electric public utility to achieve annual reductions of at least two percent of its average annual electricity usage and each natural gas public utility to achieve annual reductions of at least 0.75 percent of its average annual natural gas usage.[1] Although prices for renewable electricity continue to decline, energy efficiency remains the least-cost energy resource while delivering a host of additional benefits, including grid reliability and resilience, improving air and water quality, promoting equity, and enhancing health and comfort.[2] Efficiency is also among the largest energy-sector employers, accounting for more than 2.3 million jobs in 2018.[3] According, the Board should ensure that each public utility pursues all cost effective energy efficiency measures available within its service territory.

A. Cost Recovery

It would be a mistake for the Board to consider recovery of energy efficiency program costs without taking into account how traditional cost-of-service rate designs tend to discourage the achievement of energy efficiency goals by regulated utilities. Specifically, the Board uses a traditional cost-of-service rate design that premises utility profits on

---

[1] N.J.S.A. 48:3-87.9(a).
[2] American Council for an Energy-Efficient Economy, *The 2019 State Energy Efficiency Scorecard*, Report U1908, at p. 1 (Oct. 2019) available at https://aceee.org/sites/default/files/publications/researchreports/u1908.pdf.
[3] *Id*.

selling more energy because utilities recover much of their authorized costs through the per unit energy charge. Consequently, if sales decrease, the utility's profit and actual return on equity ("ROE") decreases; and conversely, if sales increase, profit and ROE increases. This regulatory framework provides a "throughput incentive" to utilities to increase sales and resist efforts that would decrease sales. This throughput incentive directly conflicts with state goals to conserve energy, reduce peak demand, and transition to a clean energy future. It makes little sense for the state to uphold a traditional ratemaking framework, which creates a business model that is in direct tension with state priorities to address climate change by reducing energy use.

Decoupling mechanisms are best practices among leading energy efficiency states to sever the link between a utility's sales and revenue. Decoupling mechanisms remove the disincentive to promote conservation, energy efficiency, and "behind-the-meter" distributed generation that New Jersey utilities currently face because of their traditional rate design. Under a decoupling mechanism, a utility would recover its costs through rates designed on a revenue per-customer basis, rather than on the basis of revenue per-kWh sold. Decoupling mechanisms balance the interests of the utility and its customers because it compares the utility's allowed revenue to its actual revenue during a billing month, places the difference in a deferral account, and recovers or refunds the balance through a periodic rate adjustment. By removing utilities' disincentive to promote conservation and energy efficiency, decoupling mechanisms help align the interests of utilities, their customers, and the state. Accordingly, the Board should implement decoupling mechanisms for each New Jersey utility to align their business models (and culture) with the annual energy savings that are mandated by state law.

B. Performance Incentives

The Board's performance-based policy approach should also reflect the multiple goals of the state's clean energy transition. In addition to its energy efficiency goals, New Jersey has established goals of 100% clean energy and 80% greenhouse gas emissions reductions by 2050. More recently, Governor Murphy issued Executive Order No. 89 to establish a Statewide Climate Change Resilience Strategy that will include short- and long-term action plans to promote the mitigation, adaptation, and resilience of New Jersey's economy, communities, infrastructure, and natural resources.

In order to address evolving priorities such as decarbonization, cost, equity, and enhanced system and customer resilience, the Board should establish performance incentives that incorporate multiple goals to better align the energy efficiency programs with the state's various energy objectives. Moreover, the performance incentives should reflect the variety of benefits that energy efficiency measures provide such as enhanced system and customer resilience, improving air and water quality, promoting equity, and enhancing health and comfort.

It is also critically important that the Board recognize the increasingly apparent impacts of climate induced severe weather and the resulting challenges for the electric distribution system. Driven in part by climate change, weather related outages of the electric grid are up eighty percent over the last fifteen years – and over ninety percent of the electric outages in the United States are a function of failures of the distribution system. This new reality requires that past assumptions and approaches be reconsidered in light of recent experiences. A specific area that warrants reconsideration involves the frequency and duration of electric distribution grid interruptions that should be assumed going forward, as well as the degree to which the modern economy is dependent upon an un-interrupted supply of electricity.

Recent experience in California indicates that a much greater level of attention needs to be paid to the possibility that back-up generation will be used to a much greater extent in the future than it has in the past. The Public Safety Power Shut-offs ("PSPS") that have occurred in California over the course of the last few weeks have resulted in unprecedented levels of generator use, increased generator sales, and harmful levels of generator associated local air pollution. As New Jersey knows too well from the experience of Superstorm Sandy, these types of extended outages are not limited to California and can be expected to increase in both frequency and duration. Accordingly, the Board's performance incentives should be designed to encourage and reward utilities for enhancing system and customer resilience in ways that also advance New Jersey's clean energy objectives.

Bloom Energy appreciates the opportunity to provide these comments in response to the October 31, 2019 Energy Efficiency Technical Meeting – Cost Recovery and associated materials. We look forward to working with the Board and Staff as the energy efficiency programs are developed and will stand ready to provide additional information in whatever way is most helpful to the process.

Very truly yours,

/S/

Charles Fox
Senior Director, Regulatory Affairs
& Business Development
Bloom Energy Corporation
PO Box 8902
Princeton, NJ 08543
212-920-7151
charles.fox@bloomenergy.com

Aida Camacho-Welch
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Post Office Box 350
Trenton, NJ 08625-0350

Re: New Jersey Energy Efficiency Transition Stakeholder Group, Energy Efficiency Technical Meeting – Cost Recovery, October 31, 2019, Written Comment.

<u>Introduction</u>

The Energy Efficiency Alliance of New Jersey ("EEA-NJ") is a trade association dedicated to expanding the market for energy efficiency in the Garden State. Together with its sister organization, the Keystone Energy Efficiency Alliance ("KEEA"), EEA-NJ has more than 60 business members who provide energy efficiency products and services across the state, and support an industry that accounts for more than 30,000 New Jersey jobs. Our membership is large and diverse, with experience designing and implementing a variety of demand side management solutions and energy efficiency programs across the globe. Simply stated, our members understand what works and what does not when it comes to successful demand side reduction programs.

EEA-NJ appreciates the opportunity to engage with the New Jersey Board of Public Utilities ("BPU" or "Board") on program cost recovery under the Clean Energy Act ("CEA" or "Act"). With these comments and the individual comments of our member companies and partners, EEA-NJ hopes to provide the BPU with the information required to create a thriving market for energy efficiency in New Jersey.

<u>Clean Energy Act and Cost Recovery</u>

The Clean Energy Act directs both the BPU and New Jersey's electric and gas utilities to act to reduce energy usage in the Garden State. Specifically, the CEA requires that each electric utility achieve a minimum 2% reduction in energy usage per year, while each natural gas utility must achieve a minimum .75% reduction per year.[1] One year from passage of the Act, the BPU is required to "conduct and complete a study to determine the energy savings targets for full economic, cost-effective reductions and the time frame for achieving these reduction", and accept comments and suggestions from interested parties.[2] Regarding program cost recovery, the CEA clearly states that utilities can recover energy efficiency programs' costs, "including the revenue impact of sales losses resulting from implementation of the energy efficiency and peak

[1] The Clean Energy Act, N.J.S.A. §48:3-87.9(a).
[2] The Clean Energy Act, §48:3-87.9(b).

demand reduction schedules" and receive incentives and penalties tied to their performance in such programs.[3] EEA-NJ would like to submit the following comments concerning this mandate.

In designing cost recovery for energy efficiency programs, the Board needs to prioritize:

- Identifying cost recovery mechanisms that align with policy goals of the CEA to streamline utility fillings.
- Incentivizing utility investment in energy efficiency programs through cost recovery and performance incentives that align utility business models with a flourishing energy efficient market in New Jersey.
- Protecting customers from excessive system costs and ensuring that programs and cost recovery reduce utility bills overall.

Questions from Stakeholder Meeting Agenda

1. **Should recovery mechanisms be the same or different for programs administered or implemented by utilities versus non-utility parties?**

If there are separate entities running programs (i.e. utilities, third parties, and state or municipal governments), recovery mechanisms should be different. The CEA places the responsibility on regulated utilities to achieve the Act's minimum required energy efficiency targets.[4] A utility is a state regulated monopoly; therefore, it experiences investment, recovery, and day-to-day business operations differently than businesses operating in the marketplace. Moreover, the traditional utility business model features a throughput incentive, in which a utility's profits and ability to raise capital for investment are primarily generated through increased energy sales. The throughput incentive is at odds with the policy goal of the CEA – reduce energy consumption. To ensure a successful and robust energy efficiency transition, utilities must be incentivized to lead the way through changing the way they do business and cost recovery mechanisms will be a key part of this process. Therefore, the recovery mechanisms should be different for utility versus non-utility parties.

---

[3] The Clean Energy Act, §48:3-87.9(c) ("In establishing quantitative performance indicators, the board shall use a methodology that incorporates weather, economic factors, customer growth, outage-adjusted efficiency factors, and any other appropriate factors to ensure that the public utilities' incentives or penalties ...are **based upon performance**") (emphasis added).

[4] The Clean Energy Act, §48:3-87.9(a) (Each **electric public utility shall be required to achieve** annual reductions in the use of electricity of two percent of the average annual usage in the prior three years within five years of implementation of its electric energy efficiency program.") (emphasis added).

2. **Topic 1: Recovery of Programs Costs**

   a. **Should Costs associated with efficiency program investments be expensed or amortized? If, amortized, what is the appropriate amortization period, and what should the rate for the carrying costs be?**

Energy efficiency program investments should be amortized over the estimated useful life of measures if utilities meet performance targets. Using utility capital to fund energy efficiency programs encourages utilities to reframe their business model by making any investments in energy efficiency easily translatable to a utility's normal course of business.[5] Additionally, amortization reduces bill impacts and allows for a ramp up in investment without a rate shock to customers. Finally, amortization can also be utilized as a performance incentive.[6] For example, amortization at a certain rate of return can be allowed if a threshold savings above the minimum target is achieved, and if utilities fail to meet the performance targets, energy efficiency investment can be expensed.

Rates for carrying costs should be tied to performance. As ACEEE has suggested amortization can also be used as an incentive because it allows utilities to earn back more than what was originally expended.[7] This incentive can be used to prioritize energy efficiency policy goals in an exchange that utilities are familiar with through tying higher rates to better performance, or similar policy goals.

An example of such a policy is the New York Public Service Commission's Reforming the Energy Vision proceeding, which uses Earnings Adjustment Mechanisms that are "not more than 100 basis points [of allowed equity on return] total from all new incentives, alongside a regulatory assets construction."[8] For example, Consolidated Edison Company of New York has investments that are treated as regulatory assets with a 10-year amortization period that incorporates return on equity incentives.

Additionally in Illinois, the Illinois Public Act 99-0906, provides incentives for energy efficiency performance though through return on equity to electric utilities based on their performance.[9] In this plan, utilities have the option to amortize costs over the average life of

---

[5] ACEEE, Aligning Utility Business Models with Energy Efficiency, available at: https://aceee.org/sector/state-policy/toolkit/aligning-utility.

[6] ACEEE, Topic Brief: Snapshot of Energy Efficiency Performance Incentives for Electric Utilities, December 2018, available at https://aceee.org/topic-brief/pims-121118. ("The opportunity for competitive returns on investments in energy efficiency can also drive a utility culture shift that makes energy efficiency a core part of the business.").

[7] ACEEE, Technical Brief Re: Pennsylvania Public Utilities Commission's request for comparison of the Pennsylvania models and practices with those used in other states, February 19, 2019, available at https://aceee.org/sites/default/files/models-comparison-pa.pdf, pg. 12 ("Amortizing the recovery by the utility of the cost of programs over multiple years may also be considered a rate of return incentive in some instances.").

[8] NY PSC, Order Adopting a Regulatory Policy Framework and Implementation Plan, Case 14-M-0101, February 26 (Albany: NY PSC, 2015); NY PSC, Order Adopting a Ratemaking and Utility Revenue Model Policy Framework, Case 14-M-0101, May 19 (Albany: NY PSC, 2016).

[9] Illinois' Future Energy Jobs Act, P.A. 99-0906 (d)(3)(C), available at http://www.ilga.gov/legislation/publicacts/99/099-0906.htmhttp://www.ilga.gov/legislation/publicacts/99/099-0906.htm.

benefits and earn a return on these costs.[10] They can earn an extra 2% on their return by exceeding goals or may lose 2% for falling short, and rate increases are capped until 2030 to protect against a utility over performing.

b. **Should Costs be allocated by sector (e.g. residential, commercial, industrial)? If yes, how would you recommend doing the allocation?**

Yes, costs should be allocated by sector as this is the usual course of business. The allocations should be done on a case-by-case basis depending on the stated goals of the BPU, the current conditions of the market, and other factors that the BPU may decide are relevant (societal benefits, environmental benefits, program incentives and penalties). The BPU should be sure to put in costs recovery mechanisms that account for programs targeted to sectors where it is unlikely that costs will be recovered. For example, low- and moderate-income (LMI) programs should not be recovered solely from LMI households, but rather be recovered from all residential customers.

3. **<u>Topic 2: Potential for Recovery of Lost Revenues</u>.**

a. **Should there be a mechanism to recover lost revenues?**

Yes, a robust energy efficiency program must address the throughput incentive that exists in the current utility business model.[11] This is clearly stated in the Clean Energy Act.[12] Energy efficiency programs prioritize reducing energy usage, yet utilities rely on energy sales for business. The best way to address this dynamic is to remove the incentive for utilities to sell electricity through the use of symmetrical revenue decoupling.

b. **If the Board allows for recovery of lost revenues, what should the lost revenue recovery mechanism be?**

Symmetrical revenue decoupling should be used as the lost revenue recovery mechanism. Symmetrical revenue decoupling can serve to remove any disincentive that may exist for utilities to pursue energy efficiency programs by addressing the inevitable decline in sales through accommodating for that lost revenue. Additionally, it utilizes a true-up or periodic adjustment mechanism which protects ratepayers through utilizing both an upward and downward rate

[10] Jim Zolnierek, Chief of Public Utilities Bureau, Overview of Illinois Public Act 99-0906 PowerPoint, available at https://pubs.naruc.org/pub.cfm?id=E5BC7881-971A-4E55-722D-61A92B8ABFB6.
[11] ACEEE, Aligning Utility Business Models with Energy Efficiency, available at: https://aceee.org/sector/state-policy/toolkit/aligning-utility.
[12] The Clean Energy Act, §48:3-87.9(c).

adjustment. And, it is the most commonly used or proposed mechanism in states with robust energy efficiency programs.[13]

Symmetrical revenue decoupling would provide numerous advantages to energy efficiency in New Jersey. First, it would prevent utilities from seeking increased fixed charges to cover rising costs. To the extent that a customer's bill is a fixed charge, it increases the payback period for demand-side efficiency measures and reduces customer control over bills. Therefore, keeping rates largely volumetric using symmetrical revenue decoupling would keep control in the hands of customers, and stop the trend of increasing customer charges.

Second, rate changes under this decoupling mechanism are symmetrical and typically modest in size; in the event of over-collection, customers are refunded through a bill credit. Alternatively, if a utility under-collects, a surcharge is added to customers' bills. It is well documented that revenue decoupling does not usually result in more than a three percent change in customer's bills each period—and usually much less.[14] Finally, revenue decoupling mechanisms can be designed with additional consumer protections that mitigate potential rate shocks and ensure sufficient oversight of utility operations. A decoupling collar, or cap, can be set to ensure that upward rate adjustments due to decoupling do not exceed a certain threshold to further protect customers. The vast majority of rate adjustments would fall under 2 percent, so setting a cap at that level is reasonable.

Below, EEA-NJ has highlighted some example states that utilize this form of symmetrical decoupling:[15]

- In California, all the investor-owned electric and gas utilities have decoupling, which is an integral policy for California's "big, bold" energy efficiency initiative.[16] The revenue decoupling program is combined with performance incentives for meeting or exceeding energy efficiency targets. Revenue requirements are adjusted for customer growth, productivity, weather, and inflation on an annual basis with rate cases every three or four years, varying by utility.
- In Illinois, the two largest electric utilities do not have an explicit decoupling rider for energy efficiency purposes. However, as part of the automatic metering infrastructure installation process, these utilities are using formula rates that adjust every year based on actual costs and actual sales in the previous years.[17]
- In Hawaii, the Hawaii PUC issued its final Decision and Order approving the implementation of the decoupling mechanism for the Hawaiian Electric Company. For

[13] ACEEE, Aligning Utility Business Models with Energy Efficiency, available at: https://aceee.org/sector/state-policy/toolkit/aligning-utility.; *See also* Maggie Cleveland, Logan Dunning, and Jesse Heibel, The National Conference of State Legislatures: State Policies for Utility Investment in Energy Efficiency, April 2019, available at http://www.ncsl.org/Portals/1/Documents/energy/Utility_Incentives_4_2019_33375.pdf?ver=2019-04-04-154310-703.

[14] Pamela Morgan, A DECADE OF DECOUPLING FOR US ENERGY UTILITIES: RATE IMPACTS, DESIGNS, AND OBSERVATIONS (Dec. 2012).

[15] Maggie Cleveland, Logan Dunning, and Jesse Heibel, The National Conference of State Legislatures: State Policies for Utility Investment in Energy Efficiency, April 2019, available at http://www.ncsl.org/Portals/1/Documents/energy/Utility_Incentives_4_2019_33375.pdf?ver=2019-04-04-154310-703.

[16] CA Code Sec. 9 Section 739(3) and Sec. 10 Section 739.10 as amended by A.B. XI 29; Decisions 98-03-063 & 07-09-043.

[17] Ilj. Rev. Stat. ch 220, §5/16-108.5, available at http://www.ilga.gov/legislation/ilcs/documents/022000050K16-108.5.htm.

this decoupling mechanism, utilities are required to report on their performance in their rate cases as the basis for review, modification, continuation, or possible termination of the decoupling mechanism.[18]

c. **If the Board allows for recovery of lost revenues:**

i. **What methods should the Board employ to calculate lost revenues associated with energy savings?**

EEA-NJ does not have a comment on this question.

ii. **Should other factors (e.g. weather, nonprogram-related reductions) be taken into account?**

Yes, other factors should be taken into account as only reductions due to utility investment in energy efficiency are relevant to addressing the throughput incentive. See example from California in answer to question 3.b. for further details.

d. **If the Board allows for recovery of lost revenues, should authorized return on equity be subject to adjustment based on reduced risk?**

Yes, authorized return on equity should be adjusted based on reduced risk.

4. <u>**Topic 3: Performance Incentives and Penalties**</u>

a. **How should performance incentives be structured? How should performance penalties be structured?**

The Board should establish symmetrical, multifactor performance incentives that reward utilities for overachieving set goals and penalize utilities for failing to meet minimum requirements. Multifactor incentives use more than one metric to pursue public policy goals when awarding performance incentives. These metrics include: cost-effectiveness and overall savings achieved, program participation in hard-to-reach sectors, job creation and other economic development factors, and performance in specific sectors. By using multifactor performance incentives, the BPU can require programs administrators to achieve specific public policy goals while ensuring compliance flexibility and allowing for innovation. Further, the BPU can ensure accountability through identifying and tracking benchmarks, and encouraging programs to be innovative in how they meet these policy goals.

[18] *See* State Policies for Utility Investment in Energy Efficiency, *supra*; HI Docket 2008-0274 Order dated Aug.31, 2010.

In fact, all leading states in energy efficiency policy, such as Massachusetts, Rhode Island, California, and New York, use multi-factor performance incentives. In New York, the New York Utility Commission instituted a performance incentive with a two-tier structure to ensure utilities were meeting individual and statewide goals and encourage cooperation with the state regulatory agency, NYSERDA. In Massachusetts, the incentives structure in place has resulted in utilities viewing energy efficiency programs as a core business unit."[19] The most recent Mass Save Plan provided guidance for performance incentive design by outlining clear policy goals that programs should:

- Be designed to encourage Program Administrator to pursue all available cost-effective energy efficiency;
- Be designed to encourage energy efficiency programs that will best achieve the Commonwealth's energy goals;
- Be based on clearly defined goals and activities that can be sufficiently monitored, quantified, and verified after the fact;
- Be available only for activities in which the Program Administrator plays a distinct and clear role in bringing about the desired outcome;
- Be as consistent as possible across all electric and gas Program Administrators; and
- Avoid any perverse incentives.[20]

Penalties needs to be proportional and transparent. The BPU needs to be clear about who penalties apply to and how they will be enforced. Additionally, the BPU should make sure that penalties for CEA implemented programs are consistent with other civil penalties.

Penalties should not be recovered from ratepayers but rather shareholders and profits.

i. **Should incentives and penalties be handled as a percentage adjustment to earnings or specific dollar amounts? Why? How?**

Incentives and penalties should be handled as a percentage adjustment to earnings. Please see answers to 4.a. and 4.b.

ii. **Should incentives and penalties be scalable based on performance? If so, in what manner?**

Incentives and penalties should be scalable based on performance, as it will allow for programs to grow when successful. Please see answers to 4.a. and 4.b.

---

[19] *Id*. at 5.

[20] Mass Save, Massachusetts Joint State Electric and Gas Three-Year Energy Efficiency Plan 2019-2012, at 115 (Apr. 30 2018) *available at*, http://ma-eeac.org/wordpress/wp-content/uploads/2019-2021-Three-Year-Energy-Efficiency-Plan-April-2018.pdf.

iii. **How should incentives and penalties be reconciled? Should incentives and penalties be "refunded" to rate payers through rate reduction?**

Please see answers to 4.a. and 4.b.

b. **If the Board established performance incentives and penalties, what level of total incentives and penalties is reasonable?**

The reasonable level of incentives and penalties varies depending on Board policy, program costs, and program effectiveness. Principles that should be followed to ensure equitable distribution of penalties and incentives include:

- Performance incentives and penalties be ramped up initially to ensure utility participation and a change in the utility business model.
- Ratepayers should be isolated from penalties. Penalties should not be passed through cost recovery, and should be absorbed by shareholders.
- Incentives and penalties should be transparent with clear enforcement mechanisms in place.

<u>Conclusion</u>

EEA-NJ thanks the BPU for this opportunity to comment on the important topic of cost recovery for energy efficiency programs. EEA-NJ believes that these recommendations will assist the BPU, utilities, and stakeholders in creating programs that will make the Garden State a leader in energy efficiency and ensure the maximum efficiency investment and expenditures savings from energy efficiency development in New Jersey. EEA-NJ looks forward to continued opportunities for stakeholder input as New Jersey designs and implements the Clean Energy Act.

Sincerely,

Erin Cosgrove

Erin Cosgrove, esq.
Policy Counsel
Energy Efficiency Alliance of New Jersey

Energy Efficiency Administrator Models

RELATIVE STRENGTHS AND IMPACT ON ENERGY EFFICIENCY PROGRAM SUCCESS

PREPARED FOR

uplight

PREPARED BY

Sanem Sergici

Nicole Irwin

November 14, 2019

THE Brattle GROUP

Notice

- This report was prepared for Uplight in accordance with The Brattle Group's engagement terms, and is intended to be read and used as a whole and not in parts.
- The report reflects the analyses and opinions of the authors and does not necessarily reflect those of The Brattle Group's clients or other consultants.
- For providing comments on a draft of this report, we would like to thank: Charles Goldman (Lawrence Berkeley National Laboratory), Steven Schiller (Lawrence Berkeley National Laboratory), and Rich Sedano (Regulatory Assistance Project). We have also benefited extensively from the ACEEE data and research.
- Authors are grateful for the peer review of Drs. Ahmad Faruqui and Nicholas Powers of The Brattle Group. Authors acknowledge the valuable research assistance support by Jesse Cohen, Kathryn Haderlein, Sai Shetty, and Matthew Witkin of The Brattle Group.
- There are no third-party beneficiaries with respect to this report, and The Brattle Group does not accept any liability to any third party in respect of the contents of this report or any actions taken or decisions made as a consequence of the information set forth herein.

Table of Contents

Executive Summary

Background and Objective

Customer-sited energy efficiency is the nation's third-largest electricity resource, employing 2.3 million Americans and typically providing the lowest-cost way to meet customers' energy needs.[1,2] Energy efficiency will be a vital component of the formula for success as more cities, states, and regions set increasingly ambitious clean energy goals and carbon reduction targets.[3] Many utilities are also making commitments to achieve significant greenhouse gas emissions reductions over the next couple of decades, and increased energy efficiency is a central part of many utilities' plans.[4]

At the same time, the electricity sector is going through an important transformation due to increasing levels of distributed generation and electrification. A different approach to EE and more innovative programs will therefore be required, targeting deeper savings and broader participation for all customers. There is also a need for a fresh look at the EE program administration and delivery steps; different models and incentives for entities undertaking these steps; and more broadly developing a coordinated approach for planning and integrating distributed energy resources, precisely because meeting ambitious clean energy goals will require improved coordination across the energy "ecosystem".

In this report, we review four types of EE administrator models that have emerged across jurisdictions, with a focus on the relative merits and complementary aspects of these different models. These are: i) utility administrator model;[5] ii) state/government administrator model; iii) third party administrator model; and iv) hybrid model. We discuss each model's structural advantages and limitations, as well as the experiences in various U.S. jurisdictions to date to provide some insight into the effectiveness of each administrator model. We move beyond these qualitative comparisons and undertake a quantitative regression analysis to gauge the effectiveness of these alternative EE administrator models in delivering successful EE outcomes. A key aspect of our methodology is to incorporate the effect of various regulatory incentive mechanisms available to utilities across the U.S. to address program cost recovery, lost fixed cost recovery, and performance incentives.

---

1 National Association of State Energy Officials and Energy Futures Initiative, *The 2019 U.S. Energy and Employment Report*, 2019.

2 EE has other key benefits such as improving air and water quality, strengthening grid resilience, promoting equity, and improving health and comfort.

3 As of May 2019, over 120 cities and 5 states have committed to 100% clean energy goals. See Jodi Van Horn, "100 Percent Clean Energy: The New Normal," Sierra Club, May 2, 2019.

4 See SEPA's Utility Carbon Reduction Tracker: https://sepapower.org/utility-carbon-reduction-tracker/.

5 There are states, such as Connecticut and Massachusetts, which have the utility administrator model with an independent advisory board. We classify these states under the utility administrator model.

Review of each of the administrator models and their attributes, which are discussed in detail in Section II.C, reveals that there is no single administrator model that is superior to the others across all dimensions. Table ES-1 and Table ES-2 provide a comparative summary of potential strengths and weaknesses across the various administrator models. Note that the hybrid model will exhibit characteristics of the utility and either state or third-party models; although it may foster a greater diversity of approaches to EE, it may involve higher transaction costs than either of the separate component models mostly due to coordination requirements

Table ES-1 : Potential Program Administrator Strengths

	Program Administrator		
Relative Strengths	Utility	State	Third Party
Focus singularly on EE			+
Align EE program with state policy goals		+	+
Integrate EE program with broader DER deployment	+		
Acquire new customers at low cost	+		+
Design EE program to meet specific system needs and incorporate EE in resource planning	+		
Access to customer data and analytics	+		
Consolidate administrative functions across jurisdiction		+	+
Respond quickly to evolving industry/customer needs			+
Direct accountability/transparency	+		+
Ability to deliver comparable programs statewide		+	+

Table ES-2: Potential Program Administrator Weaknesses

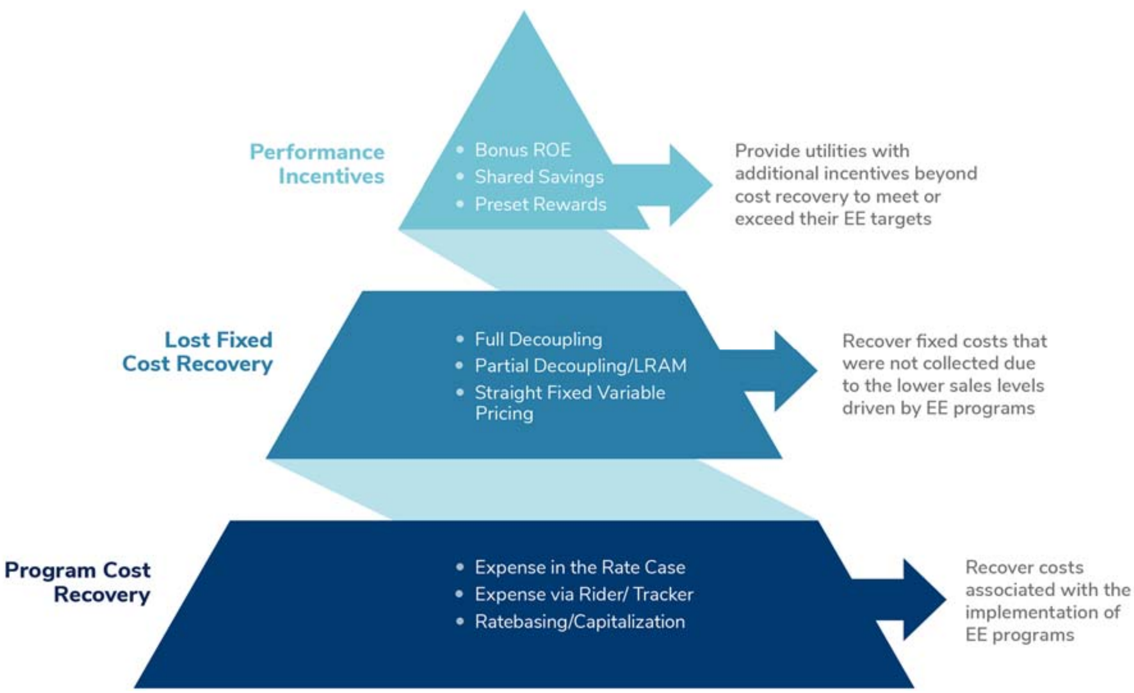
	Program Administrator		
Relative Weaknesses	Utility	State	Third Party
Lack of access to key customer and system data without data sharing agreements		−	−
Potentially misaligned incentives	−		
Limited ability to provide robust EE program infrastructure and retain staff		−	
Subject to political pressures and budget expropriation		−	
Higher transaction costs		−	−

Role of Long Term EE Targets and Incentive Mechanisms

Due to energy efficiency's increasingly important role in long-range utility plans and clean energy plans, many states have set long term energy efficiency targets or energy efficiency resource standards (EERS), and some states have instructed utilities to pursue all cost-effective energy efficiency. Moreover, the importance of energy efficiency is expected to increase further, as many states are encouraging utilities to rely more heavily on distributed energy resources and non-wires alternatives. All of these efforts intend to moderate rate increases in the long term by focusing on lower cost solutions, lead to more environmentally responsible outcomes, and provide customers with more choice. Nevertheless, these targets and aspirations are harder to achieve without properly constructed incentive mechanisms.

Utilities are important players in the EE ecosystem, with direct communication channels with customers and the best understanding of system needs. Their true buy-in for the EE programs is essential even when the utility is not itself the EE program administrator. Therefore, an exercise to explore the effectiveness of alternative EE administrator models would be incomplete if the presence or lack of incentives were not brought into the picture. For that reason, we review various regulatory incentive mechanisms available to utilities across the U.S. to address program cost recovery, lost fixed cost recovery, and performance incentives and incorporate these mechanisms into our quantitative analysis. Figure ES-1 presents the building blocks of an effective demand side management (DSM) policy.

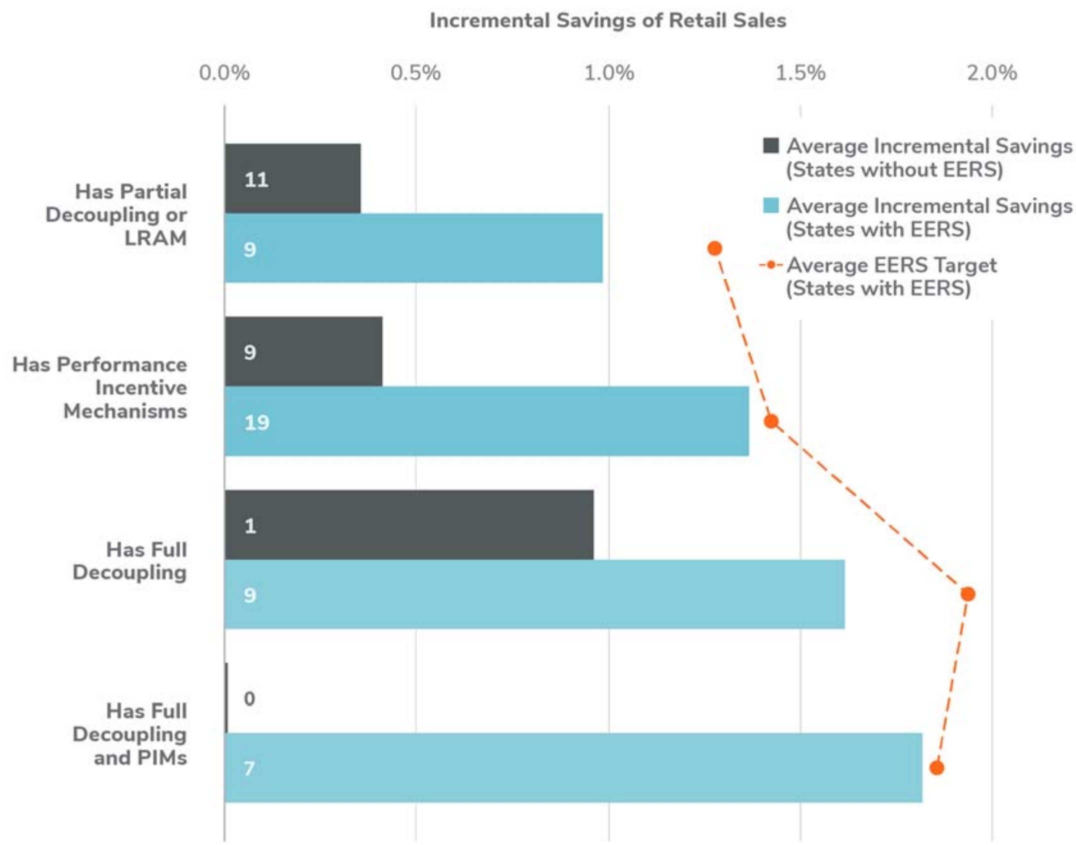
Figure ES-1: Building Blocks of an Effective DSM Policy



Source: The Brattle Group (2019).

Figure 3 compares the 2017 average incremental EE savings across states grouped by various incentive mechanisms. For each incentive mechanism, the gray bar represents the average savings for states that do not have an EERS; the teal bar represents the average savings for states that have an EERS, and the red dots represents the average EERS target (annual % savings goal) in those states that have an EERS. Based on this figure, the best savings performance is achieved by states that have both full decoupling and PIMs, and that the presence of PIMs seems to have moved achieved savings closer to the EERS targets.

Figure ES-2: 2017 Average Incremental Savings by Incentive Mechanism



Source: The Brattle Group. Analysis of the ACEEE State Energy Efficiency Scorecard (2016–2017) and SNL RRA Regulatory Focus (2016–2017).

Note: Out of the 26 states with EERS targets, seven states (CA, CT, ME, MA, RI, VT, and WA) have the requirement that the EE administrators achieve all cost effective energy efficiency.[6]

Quantitative Assessment of Different Models in Delivering Successful EE Outcomes

When exploring a complex phenomenon such as the effectiveness of EE administrator models on the EE program performance, data summaries and tabulations fall short in providing a complete picture. It is not possible to present all other drivers simultaneously that are also affecting the EE performance. Therefore, we have performed a regression analysis to properly account for all drivers of EE that are associated with the success of EE programs implemented over 2012 through 2017 for the 50 states and the District of Columbia, including the impact of different EE administrator models on program success. We measure "EE performance" by using "annual EE

[6] ACEEE Policy Brief, *State Energy Efficiency Resource Standards (EERS)*, May 2019.

savings as a percentage of total load served" as our dependent variable. For independent variables, we include categorical variables for administrator models and regulatory incentive mechanisms, and continuous variables to capture individual states' commitment to EE, such as the EERS goal and EE spending as percent of the total revenues. We also include variables to control for the impacts on the dependent variable from state economic activity, electricity price, restructuring status, and a time trend.

Our regression results indicate that none of the EE administrator models explain stronger EE performance in a statistically significant way, while other variables such as having an EERS goal, dedicated funds for EE programs and having regulatory incentive mechanisms such as full decoupling and performance incentive metrics, are all statistically significant and associated with stronger EE savings performance. Having an EERS goal and dedicated funds for EE, which collectively represent a long-term and credible commitment to energy efficiency, has the largest impact on the stronger EE performance; followed by having a full decoupling mechanism and performance incentives.

Our methodology, dataset, and results are discussed in detail in Section IV.

Key Takeaways

A few of our key takeaways from the research and analysis undertaken in this study are:

- All administrator models have certain strengths and weaknesses. Each jurisdiction should weigh these strengths and weaknesses and decide which model is likely to yield the most cost-effective and sustainable framework for administering and delivering EE programs. The selected model should enable pursuit of more innovative programs targeting deeper savings.
- Administration and delivery of energy efficiency programs is a complex, multi-step process. Given that the energy efficiency sector is a large ecosystem made up of a multitude of players including regulators, utilities, and third-party providers, one of the most important roles of an administrator is to leverage comparative advantages of all involved entities and to integrate them seamlessly.
- While energy efficiency administrators play an important role in effective program budget setting, management, and in some cases execution of the EE programs, utilities' full support and pursuit of these initiatives play a key role in the success of these programs (even when the utility is not itself the EE program administrator). More specifically, utility incentives should be aligned with the goals of the EE programs by providing them with certain and timely program cost recovery, eliminating risk of lost revenue (decoupling), and providing opportunities to improve their earnings based on how well they meet certain targets.
- Our empirical results suggest that no single administrator model is associated with better EE performance, as measured by annual EE savings. What matters most is having a state level energy efficiency goal, dedicated EE funding, the availability of full decoupling, and performance incentive mechanisms. These four drivers collectively highlight the importance of a state's commitment to a long-term energy efficiency agenda and enabling

utilities with the right incentives to help and be partners in achieving that agenda. While several studies highlighted the importance of these three drivers, we have empirically demonstrated that they are indeed the drivers that matter the most.[7]

- Utilities are well positioned to integrate EE programs with broader DERs (including demand response, behind the meter generation, storage, and IoT device management) and to reduce overall cost to serve customers. This is because they are typically responsible for system planning functions such as undertaking integrated resource plans (IRPs) or distribution system plans.[8] However, these economically efficient outcomes will emerge only if demand side resources are put on equal footing with conventional generation resources on the supply side and capital investments on the distribution grid. If utility demand side investments are not associated with similar earning opportunities, utilities will naturally prioritize capital intensive grid projects over demand side investments, potentially at the expense of achieving a lower cost resource mix.

---

7 See for example https://aceee.org/policies-matter-creating-foundation-energy

8 However, there are other alternative forms of ensuring this coordination in planning functions. Vermont System Planning Committee was formed in 2007 with a mission to facilitate a complete and timely consideration of cost-effective non-transmission alternatives to new transmission projects. The entity aims to achieve better coordination among Vermont's utilities, transparency to the public about planning activities, and structured mechanisms for public involvement. See: https://puc.vermont.gov/electric/vermont-system-planning-committee-vspc

I. Introduction

Energy efficiency (EE) will be a vital component of the formula for success as more cities, states, and regions set increasingly ambitious clean energy goals and carbon reduction targets. Meeting such goals will require improved coordination across the energy ecosystem, prompting a fresh look at the different models and incentive mechanisms for entities undertaking EE program administration and delivery steps. Jurisdictions aiming for 100% clean electricity face a steep challenge in an environment of growing transportation and building electrification (especially if the same jurisdictions are making efforts to decarbonize other sectors of the economy).[9] Energy efficiency, being among one of the cleanest and least expensive alternatives to meet growing electricity demand, is becoming an essential means to reduce overall load growth and reduce peak demand.[10] Moreover, use of energy efficiency as an effective non-wires alternative (NWA) is gaining more traction to avoid or defer costly distribution system investments.[11]

While some jurisdictions have established specific targets for reducing consumption, others assign a centerpiece role to energy efficiency in the context of broader Clean Energy Acts. For instance, New Jersey's recent Energy Master Plan is built around a suite of several overarching strategies such as accelerating renewable energy and distributed energy resource deployment; reduction of transportation sector energy consumption and emissions; maximizing energy efficiency and conservation, and reducing peak demand. The plan emphasizes that energy efficiency targets are vital to reducing energy consumption as well as to reducing costs for ratepayers even as infrastructure investments proceed under other aspects of the plan such as grid modernization.

The United States has a long history with energy efficiency: the energy intensity of the US economy decreased from 12.1 thousand Btu per dollar in 1980 to 6.1 as of 2014. ACEEE attributes about 60% of this improvement to increased energy efficiency.[12] EPRI estimates 740,985 GWh of

---

9 For estimates of the load growth implications from transportation and building electrification, see The Brattle Group, *Electrification: Emerging Opportunities for Utility Growth*, January 2017, p. 2.

10 U.S. Environmental Protection Agency (EPA), *National Action Plan for Energy Efficiency Report*, July 2006, pp. 6–5.

11 The Brooklyn Queens Demand Management (BQDM) Program was designed to address sub-transmission feeder overload projected at 69 MW by summer 2018. 52 MW of load reductions were to be achieved through non-traditional utility-side and customer-side solutions, including energy efficiency, demand response, and distributed generation technologies. Consolidated Edison Company of New York, *Brooklyn Queens Demand Management Program: Implementation and Outreach Plan,* January 29, 2018, p. 4.

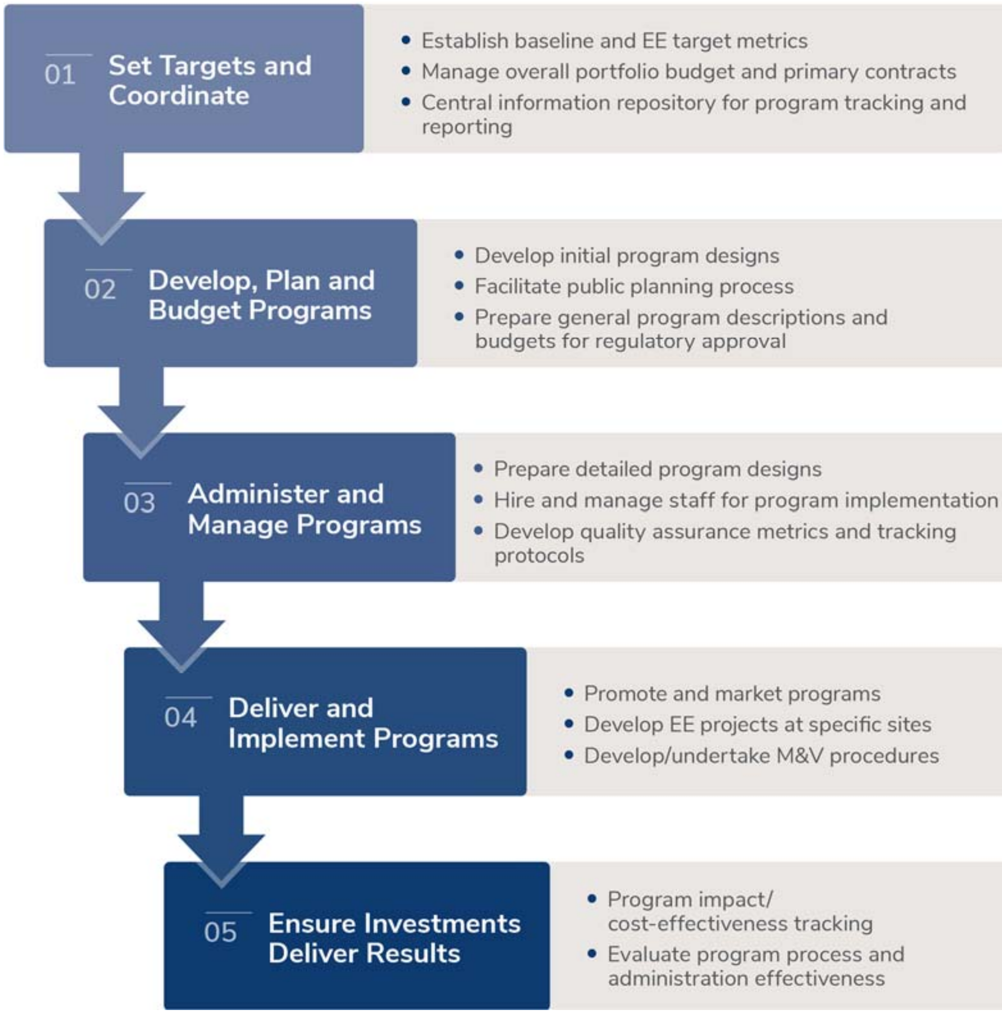
12 ACEEE, *35 Years of Energy Efficiency Progress, 35 More Years of Energy Efficiency Opportunity*, June 30, 2015.

cost-effective EE economic potential from 2016 to 2035, representing 16% of baseline retail sales in 2035.[13]

Given that the proliferation of clean energy plans are making EE an important instrument in their quest, while at the same time the electricity sector is going through an important transformation due to increasing levels of distributed generation and electrification, there is a need for a different approach to EE and more innovative programs targeting deeper savings and broader participation for all customers. There is also a need for a fresh look at the EE program administration and delivery steps, and different models for entities undertaking these steps. "Administering" energy efficiency programs is a multi-stage and multi-faceted undertaking (see Figure 1). While it is possible for an entity to carry out all steps of EE program administration, different entities may play a role ranging from setting energy efficiency targets to designing and delivering those programs, and to measuring impacts. Figure 1 presents the steps involved in the administration and delivery of energy efficiency programs.

13 EPRI, *State Level Electric Energy Efficiency Potential Estimates, Technical Update*, May 2017, p. 3-1. "Embedded" EE refers to anticipated savings from future energy efficiency programs and market-driven energy efficiency.

Figure 1: Elements of Energy Efficiency Program Administration and Delivery



Source: Based on C. Blumstein, C. Goldman, and G. Barbose, 2005. "Who Should Administer Energy Efficiency Programs?", *Energy Policy* 33(8), 1053–1067. LBNL-53597. May.

Energy efficiency administrators are primarily responsible for the proper use of the public and ratepayer funds supporting the EE programs and ensuring that these programs deliver outcomes that meet expectations. While they may undertake other functions in the EE program lifecycle described above, they typically do not undertake all of the functions and share responsibilities with the other entities based on the prescriptions of the policy makers.[14]

In this report, we review four types of EE administrator models that have emerged across jurisdictions, with a focus on the relative merits and complementary aspects of these different models. These are: i) utility administrator model;[15] ii) state/government administrator model; iii) third party administrator model; and iv) hybrid model. We discuss each model's structural

---

[14] C. Blumstein, C. Goldman, and G. Barbose, 2005. "Who Should Administer Energy Efficiency Programs?", *Energy Policy* 33(8), 1053–1067. LBNL-53597. May.

[15] There are states, such as Connecticut and Massachusetts, which have the utility administrator model with an independent advisory board. We classify these states under the utility administrator model.

advantages and limitations, as well as the experiences in various U.S. jurisdictions to date to provide some insight into the effectiveness of each administrator model. We also undertake a quantitative regression analysis to identify the factors that are associated with the success of EE programs implemented during 2012 through 2017 for the 50 states and the District of Columbia, including the impact of different EE administrator models on program success. While our dataset is limited to the 2012–2017 time period and does not encompass the complete history and evolution of EE programs in many states, our findings are still robust and consistent with our *a priori* expectations.

While other researchers have explored the similar questions in the past (see Section II.B for a literature review), revisiting them is warranted as many states and cities are making increased commitments to clean energy targets, including a central role to be played by energy efficiency. To reach these targets, it will be important for jurisdictions to develop a coordinated approach for planning and integrating distributed energy resources, especially as customers are evolving to take a more active role in their energy consumption choices (often with assistance from the utility or a third party). This study is timely in the sense that some jurisdictions (New Jersey, Washington DC, and California) are revisiting the role of the utilities in administering EE programs.

We note that the current set of business models does not necessarily circumscribe the full range of entities or interactions among entities that might be beneficial to the "energy efficiency ecosystem". It is quite plausible that the new energy era will require a model in which different entities jointly design, administer, and deliver energy efficiency programs and each leads the area where their comparative advantage lies. For instance, there could be opportunities/roles for third-party EE companies to share some of the program delivery functions with the utilities or third-party administrators through an RFP process and meeting well-defined needs.[16] Utilities may engage in the platform provider role and integrate services from other providers, as well as offer a broad range of EE services through a services and solutions market place.[17] Some of these innovations are currently happening in several jurisdictions such as California, Illinois, Texas, and New York but are still fairly limited in their scale and scope.

It is likely that the importance of the administrator model is over-shadowed by other important drivers such as a long term and credible commitment to energy efficiency program pursuit by states, which manifest in ambitious savings goals, dedicated funds for EE programs, and providing proper incentive mechanisms for the agents administering and/or delivering the EE programs. Section III will explore this hypothesis.

---

16 Third-party EE providers may operate under different business models. They may gain business through direct relationships with customers, earn payments for aggregation services from wholesale electricity markets, or procure business from utilities through competitive solicitation process. For example, in Texas, utilities administer EE programs through project sponsors that customers themselves elect.

17 D. Cross-Call, R. Gold, L. Guccione, M. Henchen, and V. Lacy, *Reimagining the Utility: Evolving the Functions and Business Model of Utilities to Achieve a Low-Carbon Grid*, Rocky Mountain Institute, January 2018.

II. Energy Efficiency Administrator Models

A. Overview

Prior to restructuring, the administration, design, and delivery of ratepayer-funded energy-efficiency program activities were largely the responsibility of utilities, operating within the context of an Integrated Resource Planning process that was overseen and governed by state regulators."[18] Restructured states reconsidered prior models for energy efficiency (EE) administration and sought to find models better suited to the needs and requirements of new operating environments.[19,20] States ultimately implemented a variety of models under which state agencies, non-profit corporations, or independent third-party agencies administer EE programs.

The decision to adopt one of these administrative structures has been driven mostly by the regulatory history of the state and perception towards utilities' incentives and commitments to pursue energy efficiency programs as effectively as their other core functions. Energy efficiency programs can largely be categorized into two groups: i) those directed towards maximizing near term savings and useful for resource acquisition perspective; and ii) those that facilitate market transformation.[21,22] Utilities in restructured states have traditionally been relying on energy efficiency as part of their integrated resource plans (IRPs) and there were concerns about how utility incentives would change towards energy efficiency once they do not have to implement IRPs anymore. Moreover, it was perceived that utilities were not able to internalize the benefits of market transformation related energy efficiency programs and would have muted incentives to pursue these programs as a result. Finally yet importantly, there was the longstanding incentive problem in which reducing sales is in conflict with utilities' rate-base growth and sales based business models. Despite mechanisms to align incentives (such as decoupling, performance

---

18 C. Blumstein, C. Goldman, and G. Barbose, 2005. "Who Should Administer Energy Efficiency Programs?" *Energy Policy* 33(8), 1053–1067. LBNL-53597. May.

19 J. Eto, C. Goldman, and S. Nadel, 1998. *Ratepayer-Funded Energy-Efficiency Programs in a Restructured Electricity Industry: Issues and Options for Regulators and Legislators*, LBNL-41479, May, p. 43–49.

20 R. Prahl, J. Schlegel, and C. Goldman, 1998. *Organizing for Market Transformation: Institutional Issues in the Creation of a New Energy Efficiency Policy Framework in California*, *Proceedings of the American Council for an Energy-Efficient Economy 1998 Summer Study on Energy Efficiency in Buildings*. LBNL-43834. August.

21 J. Eto, C. Goldman and S. Nadel, 1998. *Ratepayer-Funded Energy-Efficiency Programs in a Restructured Electricity Industry: Issues and Options for Regulators and Legislators*, LBNL-41479, May, p. 29–41.

22 R. Prahl, J. Schlegel and C. Goldman, 1998. *Organizing for Market Transformation: Institutional Issues in the Creation of a New Energy Efficiency Policy Framework in California*, *Proceedings of the American Council for an Energy-Efficient Economy 1998 Summer Study on Energy Efficiency in Buildings*. LBNL-43834. August.

incentive mechanisms, *etc.*), these considerations led some states to question utilities' commitment to energy efficiency as a core function. This has brought about the search for alternatives such as the State Administrator, Third-Party Administrator, and Hybrid Models.

The ever-growing importance of energy efficiency in the resource mix has led various researchers to investigate the relative effectiveness of each of these models in delivering effective and long-lived energy efficiency programs. Below, we review some of this literature and highlight important findings.

B. Literature Review

According to Blumstein *et al.* (2005), "no single administrative structure for energy-efficiency programs has yet emerged in the US that is clearly superior to all of the other alternatives," and "this is not likely to happen soon for several reasons."[23] This is partially because policy environments differ widely between states, and the "structure and regulations of the electric utility industry differs among the regions of the US."[24] State policy environments both define EE administrators' capabilities and affect the perceived and actual financial disincentives of utilities to promote energy efficiency. As Blumstein *et al.* (2005) notes, large utilities are well-suited to EE program administration if resource acquisition becomes a primary strategy because they have easy access to both customers and suppliers. However, if market transformation is a primary objective, "the targets are not customers but are suppliers like appliance or equipment manufacturers or intermediaries like lenders and retail product distributors." Blumstein *et al.* (2005) indicates that if the joint pursuit of resource acquisition and market transformation become exceedingly important, there may be more arrangements where "a single-purpose regional agency administers market transformation programs and utilities or non-utility entities (either state agencies or non-profit corporations) administer resource acquisition programs."[25]

Harrington (2003) finds that "the more robust ratepayer funded efficiency programs are less the result of administrative structure *per se*, than the clear and consistent commitment of policy makers."[26] Both utility administrator and third-party administrator models can work well, and it is most important to consider "responsiveness to PUC direction, regulatory performance incentives that are property constructed and implemented, staff competency, sustainability of the institution and its budget sources, and, link to system planning decisions."[27] However, Harrington (2003) does state that the state administrator model is a "weaker third choice" as state agencies are less likely

---

23 C. Blumstein, C. Goldman, and G. Barbose, 2005. "Who Should Administer Energy Efficiency Programs?" *Energy Policy* 33(8), 1053–1067. LBNL-53597. May.

24 *Ibid.*

25 C. Blumstein, C. Goldman, and G. Barbose, 2005. "Who Should Administer Energy Efficiency Programs?" *Energy Policy* 33(8), 1053–1067. LBNL-53597. May.

26 Cheryl Harrington , *Who Should Deliver Ratepayer Funded Energy Efficiency: A Survey and Discussion Paper*, The Regulatory Assistance Project, May 2003.

27 *Ibid.*

to be able to maintain the required flexibility to be effective efficiency entrepreneurs, especially for market transformation programs. Additionally, state-run programs are more susceptible to political pressures that are unrelated to EE goals.

Sedano (2011) has found that more robust rate-payer funded efficiency programs result from a clear and consistent commitment of policy makers to the energy efficiency goals instead of resulting from one particular type of administrator model. The study indicates that utility administrator models and third-party administrator models can work equally well in most jurisdictions provided that the system is set up well, incentives are aligned, and there is strong commitment to an objective. They also indicate that state administrator model is a weaker third choice mostly due to state government agencies' vulnerability to external events that might shift the focus away from the energy efficiency programs. Sedano (2011) indicates that there is a need for a reliable academic study that gauges the effectiveness of different models in delivering robust EE savings. In terms of the qualitative factors to consider when comparing the success of alternative administrator models, they identified the following factors: ability to focus on markets and customers; staff competency; sustainability of the institution and its funding; properly constructed incentives that align objectives with actions; ability to support the market/adapt to changing market conditions and link to system planning and investment decisions.

In an evaluation of state EE programs targeted at utilities, Theel and Westgaard (2017) recommended several key actions for successful EE programs. Firstly, they recommend a combination of decoupling and Energy Efficiency Resource Standards (EERS) policies. They found that a policy environment in which IOUs have both EERS and decoupling is associated with a 9.7 percent reduction in residential electricity consumption per customer. A combination of EERS and lost-revenue adjustment mechanism ("LRAM") is a "second-best policy option"; they find a policy environment in which IOUs have EERs and LRAM is associated with a 4.2 percent reduction in residential electricity consumption per customer.[28] Additionally, Theel and Westgaard (2017) advocate for a more accurate reporting of utility energy savings and additional empirical research on EE policies and best practices. They note the importance of considering the political realities of each state and then planning how to work with stakeholders on key energy efficiency policies.

C. Alternative EE Administrator Models

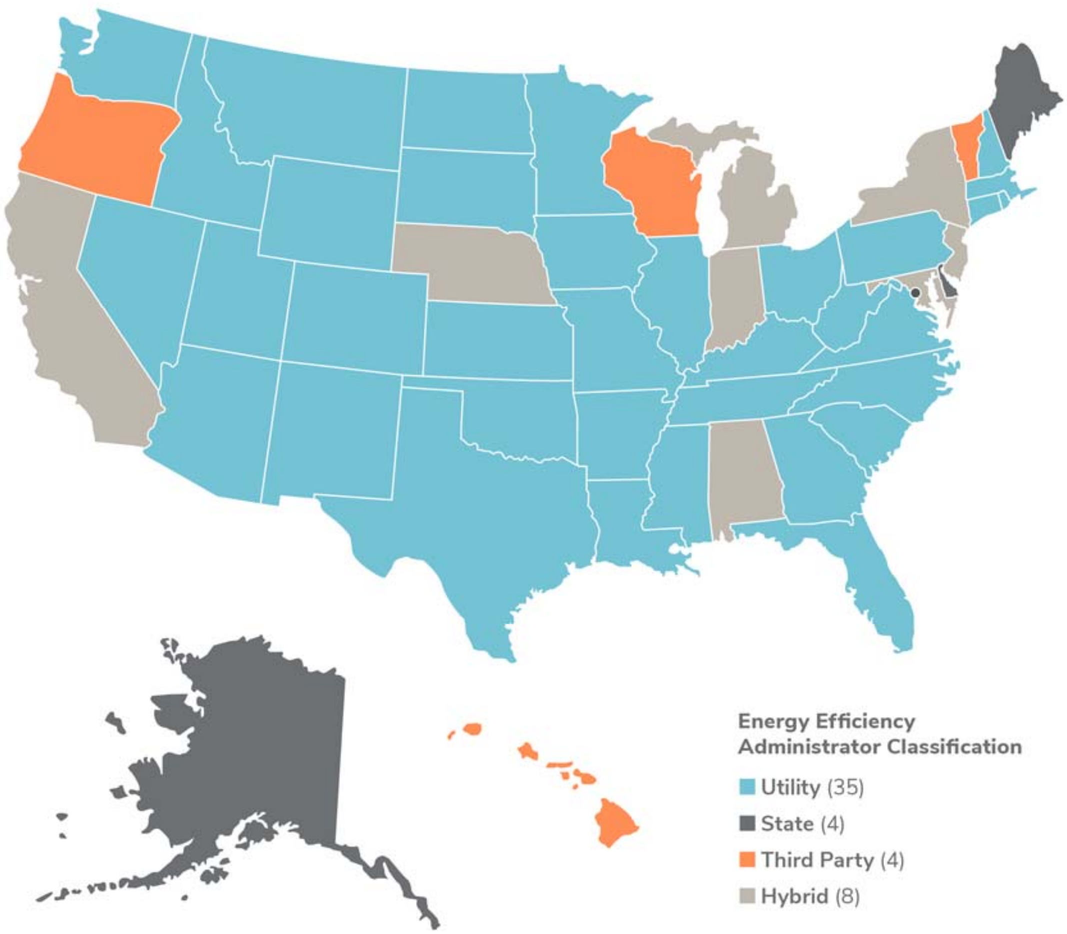
The energy efficiency administrator model in effect in any given state is determined by legislative and/or state regulatory commission decisions. No single administrator model is necessarily superior to the others in all aspects of the EE deployment. There are potential strengths and weaknesses for each of these models, and idiosyncrasies of administrators among states likely have a great deal of impact beyond the administrator model under which they operate.

---

28 Shauna Theel and Andreas Westgaard, *Moving Toward Energy Efficiency: A Results-Driven Analysis of Utility-Based Energy Efficiency Policies*, Harvard Kennedy School, prepared for Opower, March 28, 2017.

We discuss each of the administrator models in turn (utility, third-party, state, and hybrid), focusing on potentials strengths and weaknesses with each one. We also provide a few examples of each model in the Appendix that provide color to the manner in which different jurisdictions operate under these models and the progress that each jurisdiction has made towards its EE targets. Figure 2 presents the US landscape in terms of different EE administrator models adopted by individual states.

Figure 2: Energy Efficiency Administrator Models, by State



Source: The Brattle Group. Based on Richard Sedano, *Who Should Deliver Ratepayer-Funded Energy Efficiency? A 2011 Update*, RAP (2011); with verification and adjustment based on review of ACEEE State Database.[29]

[29] For states with very limited EE activity (states budgets less than 0.2% of revenues as of 2017), we have made the following designations based on the ACEEE database (https://database.aceee.org/):

- Alabama: hybrid administrator (most EE programs in Alabama are led by the state government, with some distribution utilities such as TVA also moving forward to implement and increase their own EE programs).
- Alaska: state administrator (although EE programs Alaska are extremely limited, any activity noted is through the state government).
- Kansas, Louisiana, North Dakota, and Virginia: utility administrator.

1. Utility Administrator Model

In 35 states, the utility serves as the energy efficiency program administrator. Utilities' existing relationship with customers based on their fundamental role of operating the electric distribution system makes them a logical choice for administering EE programs. Utilities can pursue EE programs within the context of broader integrated resource planning, and evaluating EE against supply-side generation alternatives. For states with unbundled utilities, cost-effectiveness tests to screen EE programs for system benefits can still be applied. Under both models, utilities collect EE program funding from ratepayers through customer bills.

While the utility is responsible for administering, designing, and delivering the programs, the state regulatory commission typically approves and oversees all EE program design, budgets, and fund collection mechanisms. Budgets are usually set in the context of a regulatory proceeding, and the utility will design programs within this budget.[30] Savings targets are increasingly set based on jurisdictional policy goals at the state or city level. Some states have a statutory requirement that utilities acquire all cost-effective EE.[31] The utility may be required to deliver annual reports to the state regarding their EE program activities and achievements.

a. Potential strengths of the utility administrator model

In states where utilities are established EE program administrators, they have the benefit of having well-developed infrastructure, staff, and industry connections (*e.g.*, with contractors) for being able to design and deliver EE programs.[32] They also typically have the benefit of being a "clear brand that is easily recognized and trusted" by the customers, which leads to a more effective customer acquisition process.[33,34]

Having direct access to detailed information on customer usage profiles, utilities can use their funds to design more cost effective programs by targeting customers with the largest potential to deliver

---

30 Ratepayer funding approved in such proceedings accounts for the vast majority of EE funding (close to 95% in the U.S. in 2018). Consortium for Energy Efficiency, *2018 State of the Efficiency Program Industry: Budgets, Expenditures, and Impacts*, May 2019, pp. 20, 25.

31 These states are: California, Connecticut, Maine, Massachusetts, Rhode Island, Vermont, and Washington. Annie Gilleo, *Picking All the Fruit: All Cost-Effective Energy Efficiency Mandates*, ACEEE, Summer 2014, pp. 8–76.

32 EPA, *National Action Plan for Energy Efficiency Report*, July 2006, pp. 6–32.

33 Innovation Electricity Efficiency (IEE), *Energy Efficiency: A Growing Utility-Business Solution to Reliability, Affordability, & Sustainability*, IEE Issue Brief September 2013, p. 2.

34 Survey work has indicated that "consumers' first instinct is to contact utilities/electricity providers for energy efficiency activities, but providers still need to build trust and credibility". See Accenture, *Understanding Consumer Preferences in Energy Efficiency: Accenture End-Consumer Observatory on Electricity Management 2010*, pp. 12–15.

savings.[35] More specifically, they can utilize advanced data analytics for more granular customer segmentation, especially in jurisdictions where smart meters have been deployed.[36] While this is currently happening only at a very limited scale, the expectation is that more utilities will boost their data analytics capabilities and start leveraging their AMI data in ways to improve effectiveness of their customer outreach efforts.[37]

Utilities can design and deliver targeted EE programs that address local system needs by avoiding or deferring investments. Moreover, since utilities are responsible for system planning functions (integrated resource plans or distribution system plans), they can effectively integrate EE programs with broader DERs (including demand response, behind the meter generation and storage, and IoT device management) and grid modernization efforts. Optimal levels of EE would be different when it is co-optimized with other supply and demand side resources in a resource plan compared to a case in which the cost-effective amount of EE is determined outside the resource plan.[38] However, these economically efficient outcomes will emerge only if incentives for the utility are properly structured.

b. Potential weaknesses of the utility administrator model

The main concern around utility administration of EE programs is that reduction of electricity sales and required infrastructure buildout is at fundamental odds with the utility business model under traditional regulation: EE programs threaten utility earnings. This incompatibility can be circumvented by policies such as reliable program cost recovery, partial or full decoupling, and performance incentive mechanisms (PIMs). Program cost recovery is the minimum condition for a utility's pursuit of energy efficiency. Partial decoupling allows the recovery of revenues that were lost but specifically as result of energy efficiency programs while full decoupling dissociates sales from revenues regardless of the source of the driver. While program cost recovery and decoupling address the "disincentive" to pursue energy efficiency programs, PIMs provide the "incentive" to deliver successful energy efficiency programs by rewarding (or sometimes penalizing) utilities based on how well they meet certain targets. Figure 3 compares the 2017 average incremental EE savings across states grouped by various incentive mechanisms. For each incentive mechanism, the

---

35 It is important to note that theoretically all of this data can be provided by utilities to the other administrators, which would then have the same capabilities as the utilities. This would require robust data sharing agreements between utilities and third-party administrators, similar to those implemented in Vermont and Oregon.

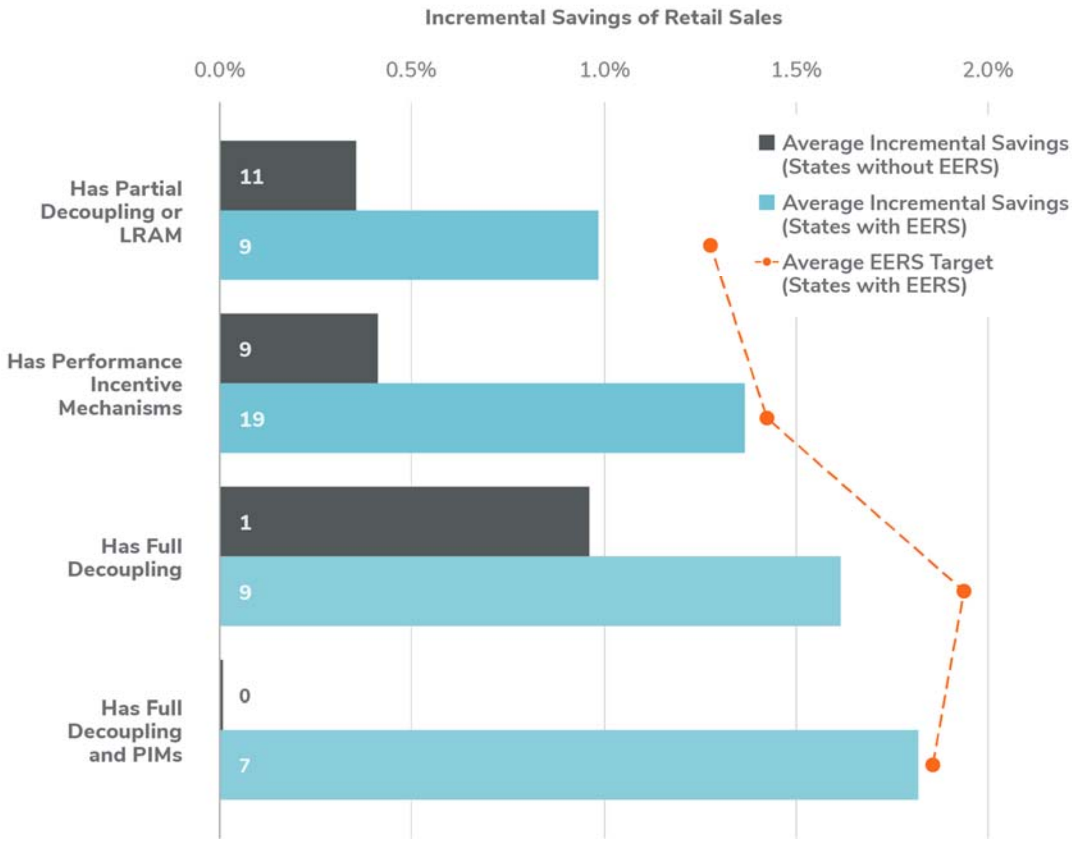
36 C. Holmes, K. Gomatom, and A. Chuang (EPRI), *Unlocking Customer Insights on Energy Savings and Behavior Through the Use of AMI Metering*, 2014 ACEEE Summer Study on Energy Efficiency in Buildings, pp. 11-193–11-194.

37 For specific examples of utilities leveraging AMI data for customer segmentation, see Advanced Grid Research (Office of Electricity, U.S. Department of Energy), *Voices of Experience: Leveraging AMI Networks and Data*, May 2019.

38 EPRI, Incorporating Distributed Energy Resources into Resource Planning: Energy Efficiency, Palo Alto, CA: 2019, 3002016493.

gray bar represents the average savings for states that do not have an EERS; the teal bar represents the average savings for states that have an EERS, and the red dots represents the average EERS target (annual % savings goal) in those states that have an EERS. Based on this figure, the best savings performance is achieved by states that have both full decoupling and PIMs, and that the presence of PIMs seems to have moved achieved savings closer to the EERS targets.

Figure 3: 2017 Average Incremental Savings by Incentive Mechanism



Source: The Brattle Group. Analysis of the ACEEE State Energy Efficiency Scorecard (2016–2017) and SNL RRA Regulatory Focus (2016–2017).

Note: Out of the 26 states with EERS targets, seven states (CA, CT, ME, MA, RI, VT, and WA) have the requirement that the EE administrators achieve all cost effective energy efficiency.[39]

Another potential drawback for utility administrators is that utilities are under a great deal of pressure and scrutiny to use consumer dollars carefully, and may not be as flexible to respond to changing markets, technologies, and best practices as other administrators. As with the incentive issue discussed above, such challenges can potentially be addressed through innovative regulatory treatments that allow utilities more flexibility in their spending, while being held to performance metrics and associated revenues/penalties (*e.g.*, achieved EE savings). In addition, utility EE

---

[39] ACEEE Policy Brief, *State Energy Efficiency Resource Standards (EERS)*, May 2019.

administrators are held accountable by statutes that could transfer administration to third parties or state in the case of poor performance.[40]

Finally, utilities are regulated entities that have been set up with the mission of providing safe and reliable power. Pursuit of innovation, which is a requirement to be able to deliver more innovative programs targeting deeper savings, may not come naturally to them (although many utilities have recently been pursuing utility of the future initiatives, which have an innovation mindset at their core).[41] Relatedly, EE may be far down the list of priorities for many utilities, despite its potential to contribute to core utility missions (reliability, affordability, and emerging environmental goals).

2. Third-Party Administrator Model

Some states have chosen to transfer the administration of ratepayer-funded EE programs to independent entities on the basis that these entities focus more directly on energy efficiency than utilities are able to. Third-party administrators are well established at this point in a few states, although the model differs somewhat from state to state (see case studies in the Appendix for more detail). While some states select a third-party administrator through a competitive RFP process, others create a new governance structure and designate a new organization as the third-party administrator. For example, in Vermont the state has transferred the responsibility of energy efficiency administration to Efficiency Vermont, an "energy efficiency utility" (EEU), through a long-term franchise model, whereas Oregon has designated Energy Trust of Oregon (ETO) as an independent non-profit trust, responsible for administering EE programs.

a. Potential strengths of the third party administrator model

The third-party model exhibits essentially the flipside of the advantages and disadvantages of the utility model discussed above: the main strength of third-party administrators is the compatibility of their business model with broader public policy goals. In the cases of Oregon and Vermont, the

---

40 For example, Act 129 in Pennsylvania states that "If an electric distribution company fails to achieve the required reductions in consumption…responsibility to achieve the reductions in consumption shall be transferred to the commission. The commission shall…a) implement a plan to achieve the required reductions in consumption…or b) contract with conservation service providers as necessary to implement any portion of the plan." See Pennsylvania Public Utility Commission, *House Bill No. 2200, Session of 2008*, accessed October 29, 2019, p. 58.

41 For example, Green Mountain Power in Vermont has begun expanding its services to "market, finance, and facilitate installation of customer-sited batteries, appliances, and energy efficiency upgrades, while also managing demand-flexibility programs." Commonwealth Edison in Illinois has developed "a vision for a platform utility to integrate and coordinate DERs, including a four-layer structure for the system composed of 1) the physical asset base, 2) system operation and planning, 3) transactive commodity exchange, and 4) a services and solutions marketplace."

For further examples, see D. Cross-Call, R. Gold, L. Guccione, M. Henchen, and V. Lacy, *Reimagining the Utility: Evolving the Functions and Business Model of Utilities to Achieve a Low-Carbon Grid*, Rocky Mountain Institute, January 2018.

desire to eliminate utilities' mixed financial incentives drove the creation of a separate entity whose sole business would be energy efficiency.

Another strength of the third-party administrator model is that a single entity can take responsibility for EE programs statewide, rather than leaving it to a few/several utilities working separately. The third party can thereby help achieve certain organizational and administrative efficiencies and take a larger portfolio approach when administering, designing, and deploying EE programs. As the power sector and its customers continue to evolve, the focused business model and greater flexibility that third parties have relative to utility administrators may allow them to respond to changing needs and opportunities to realize all cost-effective EE savings.

b. Potential weaknesses of the third party administrator model

If EE program administration were transferred to an independent third-party entity in any jurisdiction, it would require the new administrator to build customer relationships and industry connections previously under the exclusive purview of the utility. As with states that have transitioned to third parties, there might be some period of hybrid operation or trial period during which the third party is wholly responsible but understands that EE administration could be transferred back to the utilities or to another third party in the case of poor performance. Eventually giving more permanent responsibility to third-party administrators helps promote focus and coordination for long-term planning. The electric utility's resource planning may be done in conjunction with the third-party administrator, as part of an iterative process where EE deployment plans and system planning are developed together.

However, it will likely still be essential for the utility to help support EE programs delivered by the third party, most obviously by providing data on customers.[42] The utility maintains a connection and relationship to its customers and can influence the effectiveness of EE programs. It is important to note that customer preferences around electricity service and new technologies have been evolving steadily with more customers expressing interest in green power, self-generation, and storage over time.[43] To the extent that customers work with other market players to meet these preferences, the coordination problem becomes multi-faceted.

---

42 A good example to utility and third-party administrator partnership is the "Evolve Panton" project jointly pursued by Green Mountain Power and Efficiency Vermont. Under this project, both entities work with customers to determine their baseline usage data, educate them on cost and carbon implications, and offer technical assistance and financial incentives for deep energy retrofits as well as installation of innovative solutions such as battery storage and renewable distributed generation technologies. See: Green Mountain Power and Efficiency Vermont Announced Evolve Panton, August 22, 2016.

However, Efficiency Vermont has struggled with limited access to AMI data and is in the process of negotiating with electric distribution utilities with regard to sharing of those data going forward. See Efficiency Vermont, *Revised 2019 Update to the Triennial Plan 2018–2020*, prepared for the Vermont Public Utility Commission, April 2019, p. 16.

43 See FERC, *Distributed Energy Resources: Technical Considerations for the Bulk Power System*, Staff Report, Docket No. AD18-10-00, February 2018, p. 7 for recent historical trends in and projections of distributed self-generation and storage capacity.

As with the utility administrator model, the third party is typically held accountable to the state commission for reporting and performance. Measurement and verification processes may be undertaken by another separate entity to ensure objective performance reporting. Management of funds collected from ratepayers and expended by the third-party administrator may also go through a separate fiscal agent—the intent with such a construct is to keep the funds within the utility system and under supervision of the regulator rather than in the hands of an independent entity.

Another important consideration is the "contract structure" for the third-party administrator. While having a competitive procurement process and possibility of contract expiration in the event of poor performance is effective for incentivizing the third-party administrator; limited contract duration may have adverse effects for the desire to undertake longer term projects with large savings materializing at the back-end. While it is beyond the scope of this study to analyze optimal contracting for a third-party administrator model, it should be studied carefully by the decision makers.

Finally, successful branding of the third-party administrator is an important consideration that directly affects the performance of a third-party administrator. The brand should be for the legal entity, and not for the franchise holder. In the event that the franchise holder's contract is not renewed or their contract is cancelled prematurely, the transition to a new franchise holder should be invisible from a customer experience perspective.

3. State Administrator Model

In the state administrator model, the state agency, energy office, public utility commission, or an entity out of a state agency administers EE programs directly. Generally, the programs are created as part of a single- or multi-year strategic plan that the utility commission approves. State agencies then deliver the EE program services themselves, through utilities or through contractors. The regulator plays a smaller role for state administrators than it does for utilities or third parties—the EE program oversight function may move at least partially to a legislative committee.[44] The state administrator may still maintain some accountability to the state utility commission for effective program performance.

a. Potential strengths of the state administrator model

As many EE policy goals are developed at the state level, state EE administrators are in principle ideologically aligned with achieving state energy policy goals. The state government can help pursue the energy efficiency-related goals in context of broader energy policy objectives such as

---

[44] For example, in Maine the EE administrator must report to a "joint standing committee of the Legislature having jurisdiction over energy matters and approved by the Senate." That committee is given the opportunity to provide input on the administrator's triennial plan (prior to review by the commission). The administrator must also submit its annual update plans and semiannual budget updates to the legislative committee. See Maine Legislature, *Title 35-A, Chapter 97: Efficiency Maine Trust Act*, accessed October 29, 2019.

decarbonization, as well as other customer-focused and state economic goals (*e.g.*, reducing electric bills, serving low-income customer segments, *etc.*). State administrators could be very effective in undertaking several other EE functions such as benchmarking, dissemination of information, workforce development, and development of high-risk high-value projects that may not be compatible for utilities' preferred risk profiles. The New York State Energy Research and Development Authority (NYSERDA) is a great example for a state authority playing this role. NYSERDA offers information and analysis, programs, technical expertise, and funding aimed at helping New Yorkers increase energy efficiency, save money, use renewable energy, and reduce their reliance on fossil fuels.[45]

b. Potential weaknesses of the state administrator model

The state administrator may lack the agility of a third-party or utility administrator. Especially in an age of rapidly evolving markets, the state may have less insight into customers' needs and demands around energy usage than do other administrators. To some extent this can be mitigated through the creation of a separate agency subject to different procurement, contracting, and staffing rules than other state entities as for example in Maine, discussed in the Appendix. Moreover, accountability for program success is less likely to be a driving factor for state administrator models as state agencies typically do not have explicit performance targets or revenues at risk that may result from poor performance.

4. Hybrid Administrator Model

Some states have chosen to implement hybrid models, under which there is a role both for the utility and for the government or a third-party entity in administering energy efficiency programs. Each jurisdiction's hybrid model is somewhat different, but in general the intent of the split responsibility is to assign certain customer segments or aspects of EE program administration to the entity deemed better-positioned to address them. For example, in Maryland, Illinois, and Michigan, low-income energy efficiency programs are assigned to just one administrator type (state administrator in MD and IL, third party in MI), and utilities administer other programs. The commission still typically provides oversight in terms of approving program plans and holding each of the administrators accountable for achieving EE savings targets.

For each of the individual entities involved in EE program administration, the same advantages and drawbacks discussed above still apply. However, the hybrid model introduces another layer of potential benefits and concerns that arise as the different administrators work in parallel or in competition with each other.

a. Potential strengths of the hybrid administrator model

The utility and state/third-party hybrid model usually involves the entities working in parallel. Hybrid models can leverage strengths of both utility and third-party or state entities, each of which can focus with greater clarity on its assigned responsibilities across market sectors (*e.g.*, non low

45 See About NYSERDA.

income vs. low income) or type of program (*e.g.*, resource acquisition vs. market transformation). It is important to design a hybrid system in a way to minimize confusion for customers and trade allies. This is best done when distinct entities have distinct but complementary missions. While one can argue that competition between entities can potentially lead to a greater diversity of approaches to EE, it is more likely that it will lead to customer confusion.

b. Potential weaknesses of the hybrid administrator model

The disadvantage of allowing more than one EE program administrator is the potential for their approaches to be at odds with or not fully complementary to each other. Overlapping administrators can create an extra burden for the commission to coordinate. In general, the model is more administratively intensive than any of the models with responsibility assigned to a single entity, because each administrator must develop and implement its own programs, while both potentially coordinating with the other administrator and being held separately accountable to the commission. Communication between the two administrators is critical to reduce frictions and prevent possible redundancies when it comes to targeting and marketing to the same customers.

5. Comparative Summary

Review of each of the administrator models and their attributes indicate that there is no single administrator model that is superior to the others in all dimensions. Table 1 and Table 2 outline the relative strengths and weaknesses, respectively, of the utility, state, and third-party administrator models. The hybrid model will exhibit characteristics of the utility and either state or third-party models; although it may foster a greater diversity of approaches to EE, it may involve higher transaction costs than either of the separate component models mostly due to coordination requirements.

Administration and delivery of energy efficiency programs is a complex, multi-step process. Given that the energy efficiency sector is a large ecosystem made up of a multitude of players including regulators, utilities, and third-party providers, one of the most important roles of an administrator is to leverage the comparative advantages of all involved entities and to integrate them seamlessly.

Given that each model has its own strengths and weaknesses, we consider it useful to analyze actual energy efficiency performance data, and assess whether any of the administrator models are associated with stronger EE savings performance compared to the other models. We undertake this analysis in Section IV.

Table 1: Potential Program Administrator Strengths

Relative Strengths	Program Administrator: Utility	State	Third Party
Focus singularly on EE			+
Align EE program with state policy goals		+	+
Integrate EE program with broader DER deployment	+		
Acquire new customers at low cost	+		+
Design EE program to meet specific system needs and incorporate EE in resource planning	+		
Access to customer data and analytics	+		
Consolidate administrative functions across jurisdiction		+	+
Respond quickly to evolving industry/customer needs			+
Direct accountability/transparency	+		+
Ability to deliver comparable programs statewide		+	+

Table 2: Potential Program Administrator Weaknesses

Relative Weaknesses	Program Administrator: Utility	State	Third Party
Lack of access to key customer and system data without data sharing agreements		−	−
Potentially misaligned incentives	−		
Limited ability to provide robust EE program infrastructure and retain staff		−	
Subject to political pressures and budget expropriation		−	
Higher transaction costs		−	−

III. How do the EE Targets and Incentive Mechanisms Fit in?

As we discussed previously, energy efficiency has become an important resource in utilities' resource mix and is playing an increasingly important role in long-range utility plans. Many states have set long-term targets for efficiency targets and others instructed utilities to pursue all cost-effective energy efficiency, after developing energy efficiency potential studies and defining multi-year savings targets to achieve the identified potential over a defined time period.[46] Moreover, its

[46] These states are: California, Connecticut, Maine, Massachusetts, Rhode Island, Vermont, and Washington. Gilleo, Annie (ACEEE), *Picking All the Fruit: All Cost-Effective Energy Efficiency Mandates*, Summer 2014, p. 8-76.

importance is expected to increase further, as many states are encouraging utilities to rely more heavily on distributed energy resources and non-wires alternatives. All of these efforts intend to moderate rate increases in the long term by focusing on lower cost solutions, lead to more environmentally responsible outcomes, and provide customers with more choice. However, these targets and aspirations are harder to achieve without properly constructed incentive mechanisms. Next, we discuss the role of EE targets and incentive mechanisms in designing and delivering successful EE programs.

A. EE Targets

An energy efficiency resource standard (EERS) establishes specific, long-term targets for energy savings that utilities or non-utility program administrators must meet through customer energy efficiency programs.[47] As of 2017, there were 26 states that set EERS targets, with seven of them requiring the states to achieve all cost effective energy efficiency.[48]

As previous research has shown (Sedano, 2011 and Harrington, 2003), having a clear long-term commitment to energy efficiency is one of the most important determinants of EE success in a state. This is because establishing these goals in the statute or regulatory rule making is a clear signal to the market participants that the state's interest in EE is sustained, encouraging large-scale projects that enable deep-saving opportunities. While the vast majority of the EERS are funded by rate payers, some states supplement this funding via additional payments from capacity markets and sale of greenhouse gas emission allowances.[49]

B. EE Incentive Mechanisms

While the energy efficiency administrator model plays an important role in meeting EE targets in terms of effective program budget setting, management, and in some cases execution, it is important to have utilities' full backing for these initiatives (even when the utility is not itself the EE program administrator). Gaining this support depends on fair incentivizing policies and ratemaking mechanisms. More specifically, there are three challenges raised by the traditional cost-of service model that need to be addressed in order to align utility incentives for more effective implementation of energy efficiency programs:[50]

---

47 See ACEEE, Energy Efficiency Resource Standards (EERS).

48 *Ibid.*

49 EPA, *Energy Efficiency Resource Standards: Background and Resources*, State Climate and Energy Program Technical Forum, January 19, 2010.

50 While these challenges mainly apply to the utility administrator model, they are applicable to other administrator models where the utilities are involved in the design or delivery of the EE programs. Even in the case of a third-party model, utilities can improve or decrease the effectiveness of EE programs based on how much information they share regarding their customers and how much friction they might create in the absence of properly structured incentives.

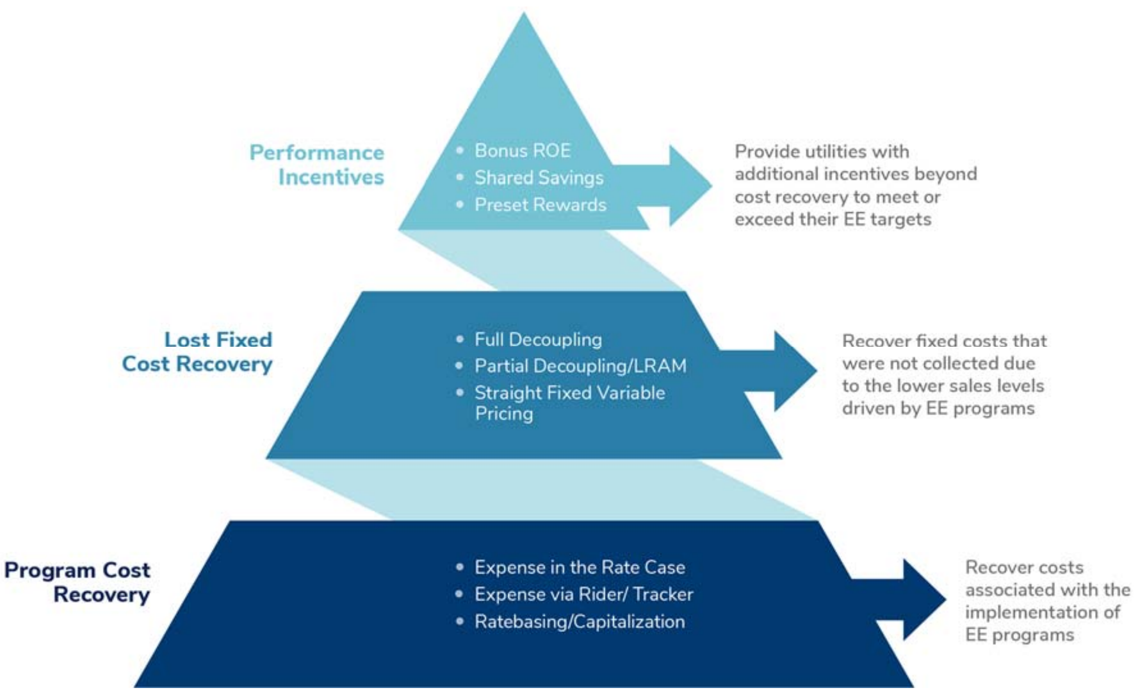
i. **Need for certain and timely cost recovery:** utilities will not have an incentive to fully pursue DSM opportunities if cost recovery for prudent programs is uncertain or delayed, which would have a negative impact on earnings.

ii. **Risk of lost revenue:** an effective DSM portfolio would reduce the sales below the levels used to calculate the revenue requirement. This implies that the collected revenues would not be able to cover both the fixed costs and give the utility a reasonable opportunity to earn its allowed returns. This is sometimes called "throughput incentive" because utilities traditionally increase their earnings by selling more electricity.

iii. **Providing ways to improve earnings:** cost recovery is the minimum condition, but not sufficient for the full pursuit of DSM opportunities. DSM investments should provide additional earning opportunities tied to performance, similar to supply side investments.

Fortunately, there are well-established mechanisms to mitigate each of these challenges and they are presented in Figure 4, as the building blocks of an effective DSM policy.[51]

Figure 4: Building Blocks of an Effective DSM Policy



Source: The Brattle Group (2019).

Program cost recovery is the foundational block and a necessary mechanism for utilities to recover costs that are associated with supporting, administering, and/or delivering EE programs. Program

---

51 See for a detailed discussion of these mechanisms: M. Cleveland, L. Dunning, and J. Heibel, *State Policies for Utility Investment in Energy Efficiency*, National Conference of State Legislatures, April 2019.

cost recovery typically addresses the return *of* energy efficiency related expenses. However, a small number of states allow ratebasing EE program costs, which provides both a return *of* and *on* the energy efficiency investments. This is a more favorable cost recovery mechanism from a utility perspective, however its application is currently limited, being allowed in only five states.[52]

Lost fixed cost recovery mechanisms are widely utilized across the US. Full decoupling breaks the link between utilities sales and revenues, and allows the rates to be adjusted up or down to ensure that the utility earns its approved revenue requirement. Full decoupling does not investigate the cause of the gap between actual and allowed revenues, and adjusts for all potential factors such as economy, weather, and DSM initiatives. On the other hand, lost revenue adjustment mechanism (LRAM) is one form of partial decoupling that adjusts utility revenues only for the reduced sales due specifically to energy efficiency programs. While LRAM addresses utilities' concerns about lost sales due to EE, it does not fully address the throughput incentive (*i.e.*, utilities profits would still increase with higher sales). This feature of LRAM differs from full decoupling: under full decoupling, the utility would return the excess revenues (beyond the approved revenues) to the customers, in the form of lower rates.

Performance incentives tie rewards and/or penalties to specific areas of utility performance, such as energy efficiency program outcomes. Unlike the other two mechanisms discussed, which are developed to address disincentives, performance incentives actually provide incentives for utilities to improve their EE program implementation performance. Implementations of EE PIMs vary widely across different jurisdictions, in terms of how the performance targets are set and the type of incentive payments (*i.e.*, shared savings, bonus ROE, preset rewards). While most jurisdictions reward only performance that exceeds established targets, others include both rewards and penalties (if the savings fall below targets).

Given that energy efficiency programs have a direct influence on utility revenues, it is important to ensure that utilities' incentives are aligned with the objectives of the EE programs, even when they are <u>not</u> the administrators of these programs. Being important players in the EE ecosystem and the ones with direct communication channels with the customers, utilities' true buy-in for the EE programs is essential. Therefore, an exercise to gauge the effectiveness of an alternative EE administrator model would be incomplete if the presence or lack of incentives were not brought into the picture. In the next section, we investigate the impact of alternative EE administrator models on EE program performance, taking into account various incentives that might accompany these administrator models.

---

52 These states are Illinois, Maryland, New Jersey, New York, and Utah.

IV. Quantifying the Effectiveness of Different Models in Delivering Successful EE Outcomes

In this section, we undertake a regression analysis to determine whether any of the administrator models adopted in US states are associated with stronger EE performance. We measure "EE performance" by using "annual EE savings as a percentage of total load served". After considering other alternatives such as budget spending per MWh saved, percent achieved of State's EE goal, and a few others, we eventually decided that annual savings variable represents the "yield" of managing/administering EE funds effectively. There are of course many other factors explaining annual EE savings achieved in a given state other than its administrator model. This is precisely why we decided to undertake a regression analysis as opposed to just presenting various cross tabulations of the data with respect to administrator models. By running a regression model, we are able to control for the influence of the other important factors explaining EE performance and isolate the impact of administrator models. These other factors, along with the details of our dataset will be explained below.

It is important to note a few limitations of our study. First, what we are capturing with our regression analysis is a six-year snapshot in the EE journeys of various states. Given that some states (such as Massachusetts), have a much longer history with and long-standing commitment to EE, our annual savings variable may be understating their true performance over the years. Nevertheless, based on our sensitivity analyses, these states still stand out in terms of their EE performance and continue to serve as relevant observations for the study. Second, while five of the states have implemented ratebasing of the EE expenditures, they have mostly been implemented recently; therefore we were not able to observe their impact during our study time frame.

In order to undertake this analysis, we built a comprehensive dataset for each of the US states and over the 2012–2017 time frame. We present this dataset below.

A. Data and Methodology

In order to study the impact that various administrator models may have on EE savings, we compiled a panel data set containing state-level information on reported energy savings for all 50 US states and the District of Columbia for the period from 2012 to 2017 (inclusive). Our data main data sources for energy efficiency savings and budgets are ACEEE Scorecards and EIA-861 data and represent data reported by the IOUs and municipal utilities. The dependent variable is EE savings, measured as a percent of annual utility retail sales.[53] For independent variables, we include

---

[53] It is important to note that using annual savings may produce particularly strong results in states with a focus on behavioral and other short-term measures and these may not necessarily align with climate or resource planning outcomes that would require a long view of the saving impact. However, we selected annual percent EE savings as our dependent variable because it is the most commonly reported and easily comparable method of benchmarking savings across states. See more on this issue: R. Gold and S. Nowak, *Energy Efficiency Over Time: Measuring and Valuing Lifetime Energy Savings in Policy and Planning*, Report U1902, February 2019.

categorical variables for administrator models and regulatory incentive mechanisms, and continuous variables to capture individual states' commitment to EE. We also include variables to control for the impacts on the dependent variable from state economic activity, electricity price, restructuring status, and a time trend.

Table 3 details the variable categories included in the regression model.

Table 3: Regression Variables

Variable Category	Variable(s)	Variable Type
Dependent Variable	[a] EE Savings %	Continuous
EE Administrator Models	[b] Utility	Binary
	[c] Government	Binary
	[d] Hybrid Model	Binary
	[e] Third Party	Binary
EE Incentive Mechanisms	[f] Decoupling	Binary
	[g] LRAM	Binary
	[h] PIM	Binary
EE Commitment	[i] EE Spending (as % of revenue)	Continuous
	[j] EERS Goal %	Continuous
State Level Economic Activity	[k] GDP Per Capita	Continuous
	[l] Electricity Price	Continuous
Other	[m] Restructuring Status	Binary
	[n] Year Trend	Discrete

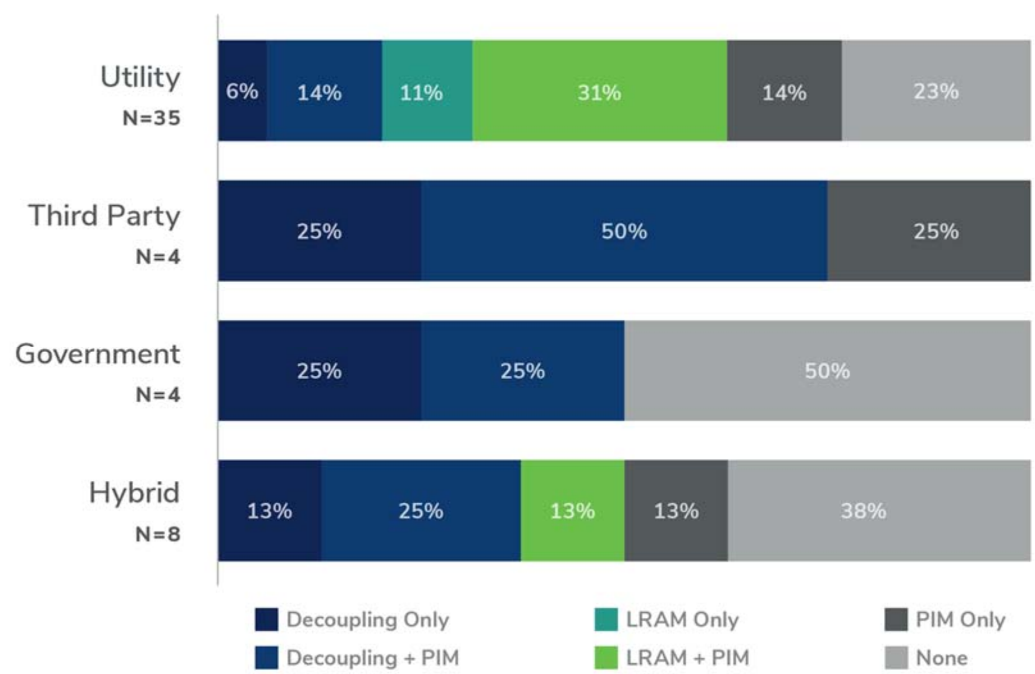
Sources & Notes:
[a]: Report EE Savings—ACEEE State Energy Efficiency Scorecard (2013–2018); State Energy Sales—US Energy Information Agency Form EIA-861.
[b]–[e]: Richard Sedano, Who Should Deliver Ratepayer-Funded Energy Efficiency? A 2011 Update, RAP (2011).
[f]–[j]: ACEEE State Energy Efficiency Scorecard (2013–2018).
[k]: State GDP from US Department of Commerce/Bureau of Economic Analysis; state Population from US 2010 Census.
[l]: US Energy Information Agency Form EIA-861.
[m]: US Energy Information Agency. See http://www.eia.gov/electricity/policies/restructuring/restructure_elect.html from December, 2016.
[n]: Indicates progression of years, *i.e.*, 2012 is 1, 2013 is 2, *etc.*

1. EE Savings: The dependent variable in our regression model is defined as the ratio of annual energy savings in a state to the total energy sales in that state for a given year. We define this as a percentage to allow for comparison among states with different levels of sales.
2. EE Administrator Model: Our primary variable of interest in this quantitative exercise; this indicates the type of administrator model in use in a given state.

3. **EE Incentive Mechanisms:** These (binary) variables indicate which regulatory incentive mechanisms exist in a given state to align utility incentives with program implementation. Different mechanisms may come into effect over time, so we flag each state's status with regard to active incentive mechanisms on a year-by-year basis.
4. **EE Commitment**: Each state sets a budget that is dedicated to EE funding, while the EERS determines a predetermined target chosen by the state to achieve EE savings. Both variables provide some indication of each state's commitment to EE.
5. **State Level Economic Activity**: We control for two variables, which could potentially affect incentives of the market players in the state towards EE programs. We use state-level GDP per capita, to control for the impact of economic activity on EE and control for average electricity price as higher prices are associated with improved incentives to conserve and shorten customer payback for EE investments, all else equal.
6. **Other**: The last two variables we account for in the regression model are yearly trend and the restructuring status of each state. Including yearly trends in the model allows us to account for any implicit trends EE savings show with time. Restructuring status accounts for the states with retail competition and is included to gauge whether EE performance vary by the retail competition status.

We first undertook a preliminary analysis of the data to explore overall trends and to situate the regression analysis. Figure 5 provides a breakdown of different administrator types with respect to incentive mechanisms present in their jurisdictions.

Figure 5: Incentive Mechanisms Present, by EE Administrator Model



It is clear from Figure 5 that an examination of the EE administrator models would be incomplete without taking into account the regulatory incentive model. Below, we estimate a regression model to explain the variation in the annual EE savings by simultaneously accounting for all potential influencers, including administrator models and incentives, and gauge the relative effectiveness of the administrator models.

Our dataset is a panel data set covering two dimensions: geographical units (states), and time. The panel nature of the data dictates the type of regression model that can best explain the relationship between administrator type and EE performance. When dealing with panel data, two methods are most widely used—fixed effects and random effects. These models help account for inherent differences at the state level that are not observable and hence, not recorded in a quantitative way. Our primary variable of interest here, the administrator type, is time invariant, or in other words, does not vary for most states between 2012 and 2017. This implies that a random effects model is a more suitable model than fixed effects for our purposes in this study.[54]

B. Results

Table 4 presents the results from our regression model.

Model 1: represents the naïve view of the world and explains the variation in the EE savings only by the variation in the administrator model.

Model 2: starts with the naïve model and includes several key variables that might help explain the variation in the a such as EERS Goal, Restructuring Status, Average Electricity Price, Annual EE Spending, and State GDP Per Capita.

Model 3: starts with Model 2 and adds incentive variables: full decoupling, LRAM, and PIMs.

In all three models, states with state administrator model are the omitted category.

[54] See Jeffrey M. Wooldridge, *Cluster-Sample Methods in Applied Econometrics: An Extended Analysis*, June 2006 for more detail on fixed vs. random effects models.

Table 4: Regression Results from Alternative Specifications

	MODEL 1			MODEL 2			MODEL 3		
Variable	Estimate	Pr(>|t|)		Estimate	Pr(>|t|)		Estimate	Pr(>|t|)	
Intercept	0.348	0.138		–0.555	0.035	*	–0.388	0.104	
EERS Goal (% of sales)	-	-		0.200	0.003	**	0.181	0.007	**
Full Decoupling (binary)	-	-		-	-		0.132	0.038	*
LRAM (binary)	-	-		-	-		–0.035	0.451	
PIM (binary)	-	-		-	-		0.111	0.016	*
Restructured State (binary)	-	-		0.066	0.458		0.043	0.596	
Electricity Price (¢/kWh)	-	-		0.039	0.002	**	0.033	0.003	**
Utility Administrator (binary)	0.216	0.398		0.275	0.101		0.196	0.204	
Third Party Administrator (binary)	0.961	0.009	**	0.324	0.060		0.186	0.197	
Hybrid Administrator (binary)	0.336	0.242		0.231	0.180		0.138	0.370	
EE Spending (% of revenue)	-	-		0.195	0.000	***	0.186	0.000	***
Year Trend (yr since 2011)	0.030	0.004	**	0.018	0.039	*	0.021	0.032	*
State GDP per Capita	-	-		1.386	0.377		–0.144	0.917	
R^2	0.119			0.844			0.855		

Notes: * Pr (>|t|) < 0.05, ** Pr (>|t|) < 0.01, *** Pr (>|t|) < 0.001

A random effects specification has been used to be able to observe the effect of the time invariant variables, namely, administrator type. Standard errors are robust and clustered at the state level.

Model 1 indicates that on average third-party administrators are associated with the highest savings compared to the other models. This impact is statistically significant at the 1% level. While the other two administrator models, utility and hybrid, are associated with higher savings compared to the state administrator model, these impacts are not statistically significant at the 5% level.

In Model 2, the third-party model is associated with higher savings compared to the state model, but is now significant at the 6 percent level. Hybrid and utility models continue to have higher savings compared to the state model, but are insignificant. EERS goal, electricity price, and EE spending variables are all positive and statically significant at the 1% level.

Model 3 indicates that after the inclusion of the incentive mechanism variables, none of the administrator models are now statistically significant, meaning that they no longer explain the variation in the annual EE savings. However, increased EERS target and increased EE budget are each associated with 0.18 percentage point (pp) increase in the annual EE savings. Having full decoupling is associated with 0.13 pp increase while having a PIM is associated with 0.11 pp increase in annual EE savings, compared to states without such mechanisms. The LRAM variable impact is negative but insignificant, meaning that LRAM does not seem to have an impact on annual EE savings. Electricity price and trend variables continue to be positive and statistically significant at the 1% level. This implies that the model is robust to the inclusion of new variables.

These results collectively indicate that none of the EE administrator models explain stronger EE performance, while other variables such as having an EERS goal, and having regulatory incentive mechanisms such as full decoupling and performance incentive metrics are all associated with stronger EE savings performance.

In addition to the regression results, we looked at the characteristics of top 10 and bottom 10 performer states ranked by their average annual savings in the 2015–2017 timeframe. Table 5 provides additional perspective on the regression model results. Of the top ten performers, eight of them have decoupling and nine of them have a performance incentive mechanism. Interestingly, none of the bottom ten performers has a decoupling mechanism in place and only two have a performance incentive mechanism. This tabulation confirms the results we have seen in the regression analysis. It is important to note that utility administrators make up the majority in both the top ten and bottom 10 list, however it is difficult to derive any conclusions from this observation as utility administrators represent the majority of all administrators in the US (35 out of 51).

Table 5: Top and Bottom 10 Performing States with Respect to Average Annual EE Savings (%)

Rank	State	Admin Type	Avg EE Savings %	Max EERS Goal %	Incentive Types
	Top 10 Performers				
1	Rhode Island	Utility	3.0%	2.6%	Decoupling + PIM
2	Massachusetts	Utility	2.7%	2.9%	Decoupling + PIM
3	Vermont	Third Party	2.6%	2.2%	Decoupling + PIM
4	California	Hybrid	1.8%	1.2%	Decoupling + PIM
5	Connecticut	Utility	1.6%	1.5%	Decoupling + PIM
6	Hawaii	Third Party	1.4%	2.0%	Decoupling + PIM
7	Washington	Utility	1.4%	1.5%	Decoupling + PIM
8	Arizona	Utility	1.3%	2.5%	LRAM + PIM
9	Michigan	Hybrid	1.3%	1.0%	PIM Only
10	Maine	Government	1.3%	2.4%	Decoupling Only
	Bottom 10 Performers				
42	Tennessee	Utility	0.2%	0.0%	None
43	Texas	Utility	0.2%	0.1%	PIM Only
44	Delaware	Government	0.1%	0.0%	None
45	Florida	Utility	0.1%	0.0%	None
46	Virginia	Utility	0.1%	0.0%	LRAM Only
47	Louisiana	Utility	0.1%	0.0%	LRAM + PIM
48	Alabama	Hybrid	0.1%	0.0%	None
49	North Dakota	Utility	0.0%	0.0%	None
50	Alaska	Government	0.0%	0.0%	None
51	Kansas	Utility	0.0%	0.0%	LRAM

Notes and sources: Admin type: The Brattle Group, based on Richard Sedano, *Who Should Deliver Ratepayer-Funded Energy Efficiency? A 2011 Update*, RAP (2011); with verification and adjustment based on review of ACEEE State Database. EE savings and max. EERS goal: ACEEE State Energy Efficiency Scorecard (2012–2017). Incentive types: analysis of the ACEEE State Energy Efficiency Scorecard (2016–2017) and SNL RRA Regulatory Focus (2016–2017).

V. Conclusions

- All administrator models have certain strengths and weaknesses. Each jurisdiction should weigh these strengths and weaknesses and decide which model is likely to yield the most cost-effective and sustainable framework for administering and delivering EE programs. The selected model should enable pursuit of more innovative programs targeting deeper savings.

- Administration and delivery of energy efficiency programs is a complex, multi-step process. Given that the energy efficiency sector is a large ecosystem made up of a multitude of players including regulators, utilities, and third-party providers, one of the most important roles of an administrator is to leverage comparative advantages of all involved entities and to integrate them seamlessly.
- While energy efficiency administrators play an important role in effective program budget setting, management, and in some cases execution of the EE programs, utilities' full support and pursuit of these initiatives plays a key role in the success of these programs (even when the utility is not itself the EE program administrator). More specifically, utility incentives should be aligned with the goals of the EE programs by providing them with certain and timely program cost recovery, eliminating risk of lost revenue (decoupling), and providing opportunities to improve their earnings based on how well they meet certain targets.
- Based on a literature review, the consensus is that no single administrator model is clearly superior to any of the other alternatives and no universally preferred model is expected to emerge soon because priorities, structure, and regulations of each jurisdiction are different. What seems to matter most is "robust rate-payer funded efficiency programs resulting from a clear and consistent commitment of policymakers to the energy efficiency goals", which does not necessarily result from one particular type of administrator model.[55]
- Sedano (2011) indicates that there is a need for a reliable academic study that gauges the effectiveness of different models in delivering robust EE savings. We have made an effort to undertake such an academic study in this report. By using a comprehensive dataset over the 2012–2017 time frame for 50 states and DC, we quantitatively assessed whether there is a statistically significant association with any of the EE administrator models and better EE performance, after accounting for various incentive mechanisms and other confounding factors.
- We found that none of the administrator model variables are statistically significant, meaning that none of them are associated with higher EE savings compared to the others. However, full decoupling and PIM variables are positive and statistically significant, meaning that states with full decoupling or PIMs are associated with higher EE savings, compared to those without these mechanisms. In addition, EERS target, electricity price, and EE spending variables are all positive and statically significant at the 1% level, consistent with our expectations.
- These results suggest that while energy efficiency model administrators are important for effective implementation of energy efficiency programs, no single model is associated with better EE performance, as measured by annual EE savings. What seems to matter most is the availability of full decoupling, performance incentive mechanisms, and having a state level energy efficiency goal. These three variables collectively highlight the importance of

[55] Richard Sedano, *Who Should Deliver Ratepayer Funded Energy Efficiency? A 2011 Update*, The Regulatory Assistance Project, November 2011.

a state's commitment to a long-term energy efficiency agenda and enabling utilities such that they have the right incentives to help and be partners in achieving that agenda.

- Utilities are well positioned to integrate EE programs with broader DERs (including demand response, behind the meter generation, storage, and IoT device management) and to reduce overall cost to serve customers. This is because they are typically responsible for system planning functions such as undertaking integrated resource plans or distribution system plans.[56] However, these economically efficient outcomes will emerge only if demand side resources are put on equal footing with conventional generation resources on the supply side and capital investments on the distribution grid. If utility demand side investments are not associated with similar earning opportunities, utilities will naturally prioritize capital intensive grid projects over demand side investments, potentially at the expense of achieving a lower cost resource mix.

---

56 However, there are other alternative forms of ensuring this coordination in planning functions. Vermont System Planning Committee has been formed in 2007 with a mission to facilitate a complete and timely consideration of cost-effective non-transmission alternatives to new transmission projects. The entity aims to achieve better coordination among Vermont's utilities, transparency to the public about planning activities, and structured mechanisms for public involvement. See: https://puc.vermont.gov/electric/vermont-system-planning-committee-vspc

Appendix

A. Utility Administrator Model Case Studies

We have selected three states that use the utility administrator model as case studies: Connecticut, Texas, and Massachusetts. We have selected Massachusetts and Connecticut as they have been consistent top performers in the ACEEE's Statewide Energy Efficiency Scorecard; Texas was selected because it has one of the most robust competitive retail markets across the US.

1) Connecticut

Utilities in Connecticut are required by state legislation to provide conservation and load management programs for all customers. Under the governing legislation, *An Act Concerning Connecticut's Energy Future (Public Act 18-50)*, utilities must submit three-year plans to the Connecticut Energy Efficiency Board (EEB) to "implement cost-effective energy conservation programs, demand management, and market transformation initiatives."[57] The act was most recently updated in 2018 and provides goals for 2019–2021, over which time period utilities must achieve energy efficiency reductions equal to 1.11% of sales (843 GWh). The EEB may advise and assist on the development of the utility plans before eventually transmitting them to the Commissioner of Energy and Environmental Protection for approval. The legislation emphasizes that all options should be considered in an integrated planning framework, and should be competitive or less expensive with the acquisition of equivalent supply.

In Connecticut, energy efficiency programs are marketed under a statewide brand, "Energize CT", and provided by the local energy utilities.[58] Energize CT provides rebates, financing, and services to help customers install energy efficiency and clean energy improvements. The utilities are largely responsible for funding the initiative through a conservation adjustment mechanism on customer bills: the rider cannot exceed $0.006/kWh of electricity sold to each end use customer.[59] Energy efficiency initiatives are also partially funded by the Connecticut Green Bank, which is a quasi-public agency that leverages public and private funds to accelerate the growth of green energy in Connecticut.[60]

The EEB estimates that utility-led energy efficiency measures saved $56.88 million in 2018, and have saved over $673 million in their lifetime.[61] These efforts reduced over 1.8 billion MMBtus, resulting in a reduction of over 150,000 tons of CO_2 in 2018. The EEB does acknowledge that much

---

57 Connecticut State Senate, Public Act No. 18-50 An Act Concerning Connecticut's Energy Future, p. 27.

58 See www.energizect.com

59 Connecticut State Senate, Public Act No. 18-50 An Act Concerning Connecticut's Energy Future, p. 28.

60 See www.ctgreenbank.com.

61 Connecticut Energy Efficiency Board, *Energy Efficiency Board 2018 Programs and Operations Report*, March 1, 2019, p. 6.

of the public funding allocation to energy efficiency was raided, resulting in only $10 million of the originally $117 allocated for 2018 and 2019.[62]

2) Texas

Texas provides an interesting example of competitive provision of EE services. While the Texas legislature requires utilities to meet certain EE goals, it does not allow them to directly perform EE services.[63] Thus, a quasi-merchant model has emerged, where utilities provide incentive payments to third-party providers ("project sponsors"), who then liaise with customers directly and provide them with EE services, much like merchant providers. These project sponsors may be air conditioning contractors, insulation installers, retail electricity providers, and other energy service companies.[64] Under this structure, customers can select their preferred project sponsor and decide on the scope of work. The project sponsors are fully responsible for determining pricing, warranty, and other characteristics of the energy efficiency measure.

The project sponsors then apply to the utilities for rebates, which are funded up to a cap. The utilities are able to recover costs for energy efficiency efforts through the Energy Efficiency Cost Recovery Factor (EECRF) charge applied on customer bills.[65] The charge includes performance bonuses where a utility can recover one percent of the net benefits with each two percent by which it exceeds its performance goals, up to a maximum of ten percent of the utility's total net benefit.[66] Utilities do often exceed their goals and are able to take advantage of these performance bonuses.

Texas was the first state to establish energy efficiency resource standards in the United States, originally calling for investor-owned utilities (IOUs) to meet 10% of their annual electricity demand growth through energy efficiency. This target was updated in 2010 to be 20% in 2011, 25% in 2012, and 30% in 2013.[67] The energy efficiency goal was again updated in 2011, with Senate Bill 1125, to establish that once the 30% threshold was met, utilities must ensure that energy efficiency is at least 0.4% of their overall peak demand.[68] Texas utilities have consistently met or exceeded these goals, achieving 595 GWh of energy savings and 408 MW of peak demand reduction in 2016.[69]

---

62 *Id*, p. 2.

63 Public Utility Commission of Texas, Substantive Rule §25.181.

64 For example, see here for a list of Xcel Energy's project sponsors.

65 DSIRE, *Required Energy Efficiency Goals*, accessed August 2019.

66 Public Utility Commission of Texas, Substantive Rule §25.181, p. 253.

67 American Council for an Energy-Efficiency Economy, *Energy Efficiency Resource Standards*, accessed August 2019.

68 DSIRE, *Required Energy Efficiency Goals*, accessed August 2019.

69 Frontier Associates LLC, *Energy Efficiency Accomplishments of Texas Investor-Owned Utilities Calendar Year 2016*, accessed August 2019.

3) Massachusetts

Massachusetts leverages a utility administrator model to have the highest ranked energy efficiency programs in the country.[70] In Massachusetts, distribution utilities administer their own energy efficiency programs and have partnered together to sponsor the Mass Save program.[71] Additionally, the Massachusetts Energy Efficiency Advisory Council, a stakeholder body chaired by the state Department of Energy Resources (DOER), helps to design, approve, and monitor the implementation of utility energy efficiency measures.[72] The council was created by the Green Communities Act, which establishes energy efficiency targets set through three-year planning cycles.[73]

Massachusetts recently passed its fourth three-year energy efficiency plan, setting savings targets for 2019–2021. The plan aims to save 3,461 annual GWh of electricity by 2021, averaging 2.7% of sales.[74] The importance of energy efficiency is stressed by the highest elected officials in Massachusetts, with Governor Charlie Baker stating the "Three-Year Energy Efficiency Plan is a critical element of Massachusetts' strategy to meet climate goals," and that "energy efficiency is the most cost-effective way to achieve environmental benefits while lowering energy costs."[75]

Massachusetts has decoupling in place for all of its electric utilities, allowing utilities to actively promote energy efficiency without sacrificing profits. Under this construct, Massachusetts determines the target revenues on a utility-wide basis, allowing for adjustments due to inflation and capital spending requirements.[76] Additionally, there are performance incentives for utilities to earn a greater return based on a combination of elements including energy savings, benefit-cost analysis, and market transformation results.[77]

B. Third-Party Administrator Model Case Studies

We have selected two states that use the third-party administrator model: Vermont and Oregon. Each of these states has implemented a different model with unique characteristics worth highlighting.

---

70 See American Council for an Energy-Efficiency Economy, *State Scorecard Rank*, accessed August 2019.

71 See: www.masssave.com

72 Massachusetts Energy Efficiency Advisory Council, About the Council, accessed August 2019.

73 An Act Relative to Green Communities, Massachusetts Session Laws Website (passed July 2, 2008).

74 American Council for an Energy-Efficiency Economy, *Energy Efficiency Resource Standards*, accessed August 2019.

75 Executive Office of Energy and Environmental Affairs, Press Release: Press Release Massachusetts' Nation-Leading Three-Year Energy Efficiency Plan Approved, January 30, 2019.

76 Center for Climate and Energy Solutions, Decoupling Policies, accessed August 2019.

77 American Council for an Energy-Efficiency Economy, *Massachusetts*, accessed August 2019.

1) Vermont

The Vermont Public Utility Commission and state legislature created Efficiency Vermont in 2000 as the nation's first energy efficiency utility, operating under a long-term franchise model. This not-for-profit organization is overseen by the Vermont Public Utility Commission, and is mainly funded through a charge on customers' bills. Efficiency Vermont helps electricity customers find ways to cut their electricity consumption by providing them with free technical advice or by subsidizing the purchase of energy-efficiency products like lightbulbs or boilers.[78] Recently, Efficiency Vermont has recognized the growing importance of supply chain partnering activities to provide customer with efficient goods and high-performance buildings.[79]

Act 56 of 2015 created a Renewable Energy Standard in Vermont that took effect in 2017, requiring distribution utilities to achieve fossil fuel savings from energy transformation projects.[80] Such projects may include home weatherization or other thermal efficiency measures and high efficiency heating systems, and to meet the requirements retail electricity providers were directed to "jointly propose with an energy efficiency entity […] an energy transformation project or group of projects."[81] The required savings are 2% of each retail electricity provider's annual sales for 2017, rising to 12% for 2032 and onward (with the exception of small municipal utilities).[82]

Efficiency Vermont operates on a three-year budget cycle, with its compensation linked to specific state-mandated performance goals. In 2018, the administrator had achieved about 40% of its 2018–2020 budget and performance indicator targets for energy reduction (leaving 60% for the remaining 2019–2020 period). Its programs achieve significant energy and peak savings: more than 143 GWh and $220 million of savings are expected over the lifetime of investments made in 2018, as well as an additional 12.1 MW of new capacity savings (resulting in a cumulative portfolio of 107 MW peak reduction that makes Efficiency Vermont the single largest participant in ISO-NE's forward capacity market).[83]

2) Oregon

Oregon created an independent non-profit trust called the Energy Trust of Oregon (ETO) in 2002 in the context of state restructuring proceedings. Oregon law initially provided the ETO with a 10-year funding mechanism through 2012, and in 2007 the mechanism was extended to 2026.[84]

---

78 IEEE, *The Rise of the Energy Efficiency Utility*, May 2008.

79 Efficiency Vermont, 2018 Savings Claim Summary, April 1, 2019, pp. 1, 11–12.

80 https://publicservice.vermont.gov/renewable_energy/state_goals

81 General Assembly of the State of Vermont, No. 56 An Act Relating to Establishing a Renewable Energy Standard, 2015, pp. 5, 10.

82 *Id.,* p. 17.

83 Efficiency Vermont, 2018 Savings Claim Summary, April 1, 2019, pp. 1–2, 28.

84 Richard Sedano, *Who Should Deliver Ratepayer Funded Energy Efficiency? A 2011 Update*, The Regulatory Assistance Project, November 2011.

The funding comes through Oregon's public purpose charge (3% of the total revenues collected by the utilities from customer electric bills), which provides roughly $60 million per year to support energy efficiency, renewable energy, and low-income programs in Oregon.[85] The ETO contracts with a variety of firms, individuals, institutions, and organizations for program management, program delivery, engineering, evaluation, technical, and other professional services.

As part of its oversight of ETO, the Oregon Public Utility Commission defines metrics against which to benchmark ETO's performance. They cover categories including electric and natural gas efficiency, renewable energy, financial integrity, program delivery efficiency, staffing, customer satisfaction, and benefit/cost ratios.[86] These metrics are typically updated annually and are meant to serve as minimum expectations, not targets or goals. Since its creation, the ETO has invested $1.8 billion and saved customers $7.7 billion on utility bills (across electric and gas functions).[87]

C. State Administrator Model Case Studies

We provide some detail on each of the US jurisdictions that use the state administrator model: Maine, Delaware, and Washington, DC.

1) Maine

In 2009, the Maine legislature established the Efficiency Maine Trust, a quasi-state agency that is governed by a board of directors and has oversight from the Maine Public Utilities Commission, to "design, coordinate, and integrate energy efficiency, weatherization, and clean energy programs for all energy consumers in Maine".[88] It achieves its goals largely through placing financial incentives on the purchase of high-efficiency equipment or changes to operations that help customers reduce their consumption, as long as they meet cost-effectiveness tests.[89] The financial incentives often take the form of direct rebates.[90] Customers are able to work with Qualified Partners (*i.e.*, experienced vendors, contractors, suppliers, and energy professionals who have been vetted by Efficiency Maine to receive cash incentives) to install energy efficiency measures.[91]

Efficiency Maine receives funding from a number of public and private sources, which it then invests in energy efficiency efforts. While the utility customers are the primary source of funding, there are other sources that contribute to the Trust. In FY2018, the Trust received funds from:

---

85 https://database.aceee.org/state/customer-energy-efficiency-programs

86 https://www.energytrust.org/wp-content/uploads/2019/03/2019-Oregon-Public-Utility-Commission-Performance-Measures-for-Energy-Trust-of-Oregon-Inc..pdf

87 https://www.energytrust.org/wp-content/uploads/2019/07/AnnualReport_2018.pdf

88 Natural Resources Council of Maine, *Efficiency Maine Trust*, accessed February 2019, p. 2.

89 Efficiency Maine, *About*, accessed August 2019.

90 Efficiency Maine, *At Home*, accessed August 2019.

91 Efficiency Maine, *Qualified Partners*, accessed February 2019.

utility ratepayers, the Regional Greenhouse Gas Initiative (RGGI), the Maine Power Reliability Program settlement, capacity revenues from ISO-NE, and a long-term contract with Maine utilities.[92]

Efficiency Maine achieved 139 GWh of savings in 2018, and 1,735 GWh since its inception in 2009.[93] While Maine does not have established annual reduction targets, it did establish a goal of 20% energy reduction from 2007 levels by 2020. However, Efficiency Maine does not expect to reach that target, forecasting that it will achieve 60% of its targeted reductions. Similarly, they do not expect to reach a target of 300 MW of peak load reduction by 2020, falling roughly 100 MW short.[94]

2) Washington, DC

In the District of Columbia (DC), the Sustainable Energy Utility (DCSEU) is the one-stop resource for energy efficiency and renewable energy services for District residents and businesses.[95] Since its inception in 2011, the DCSEU has provided financial incentives, technical assistance, and information to help DC residents use less energy and save money.[96] These efforts are often in the form of rebates for energy efficiency upgrades, but the DCSEU also connects customers with contractors and can provide additional guidance to customers as they undertake energy efficiency efforts.

The DCSEU is funded by the Sustainable Energy Trust Fund (SETF), which is in turn funded by a surcharge on customer bills. In 2018, the SETF collected $20 million per year, through a charge of $0.001612/kWh.[97] However, the SETF is set to expand after DC passed the Clean Energy DC Omnibus Amendment Act of 2018, allowing funds from the SETF to be used as part of a new Green Finance Authority, and will cause the customer efficiency charge to initially double, before decreasing back to its initial level over 12 years.[98]

DC exceeded its energy savings goals in 2018, reducing electricity consumption levels by over 135,000 MWh, achieving 157% of its goal.[99]

---

92 Efficiency Maine, *FY2018 Annual Report*, November 2018.

93 *Ibid.*

94 Efficiency Maine, *Triennial Plan for Fiscal Years 2020-2022: Appendix A: Long-Term Target Results*, October 22, 2018.

95 DC Department of Energy & Environment, *DC Sustainable Energy Utility (DCSEU)*, accessed August 2019.

96 DCSEU, *About the DCSEU*, accessed August 2019.

97 *Ibid.*

98 See Clean Energy DC Omnibus Amendment Act of 2018.

99 DCSEU, *2018 Annual Report*.

3) Delaware

Delaware's state-administered energy efficiency model relies on an entity similar to Washington DC's DCSEU. In 2007, the Delaware passed legislation creating a nonprofit corporation titled the Sustainable Energy Utility (SEU) to "design and deliver comprehensive end-user energy efficiency and customer-sited renewable energy services to Delaware's households and businesses."[100] The SEU operates Energize Delaware, which operates as a "one-stop resource…to help residents and businesses save money through clean energy and efficiency."[101] The SEU offers the Revolving Loan Fund Objective to encourage the adoption and installation of energy efficiency projects to larger customers, such as businesses or governmental buildings.[102]

The SEU is primarily funded through revenues from the Regional Green House Gas Initiative (RGGI), receiving 65 percent of annual RGGI funds in Delaware.[103] As an additional source of funding, the SEU pioneered the use of energy efficiency bonds to support investments in larger scale buildings upgrades, with the savings from the projects paying back the bond.[104] While the effectiveness of such bonds has previously been drawn into question, they seem to be an effective tool to allow the state to continue funding energy efficiency upgrades.[105]

Delaware does not have mandatory energy efficiency goals, but the Delaware Energy Efficiency Advisory Council has set targets. They have established incremental energy efficiency goals at 0.4% in 2016/17, 0.7% in 2018, and 1.0% in 2019.[106] However, Delaware is falling considerably short of their initial goals due to slower than expected implementation.[107]

D. Hybrid Administrator Case Studies

We have selected California and Maryland as two representative jurisdictions with hybrid administrator models. California's model is interesting because the utilities work together with individual local communities to administer energy efficiency programs. Maryland provides an example where low-income energy efficiency programs are administered separately.

---

100 Delaware State Senate 144th General Assembly, *Senate Bill 18, Substitute Number 1*, 2007.

101 See: https://www.energizedelaware.org/home/deseu/

102 OpenEI, Sustainable Energy Utility (SEU) - Revolving Loan Fund (Delaware), accessed August 2019.

103 The Regional Greenhouse Gas Initiative, *The Investment of RGGI Proceeds in 2016*, September 2018.

104 Center for Social Inclusion, Delaware Sustainable Energy Utility, accessed August 2019.

105 Jeff Murdock and Scott Goss, Auditor calls state energy efficiency program 'inadequate', The News Journal, January 12, 2016.

106 Delaware Energy Efficiency Advisory Council, Proposed Energy Savings Goals, August 16, 2015.

107 Delaware Energy Efficiency Advisory Council, Annual Report: 2017.

1) Maryland

In Maryland, utilities manage and implement energy efficiency programs for most customers, while a state agency manages programs for low-income customers. The EmPOWER Maryland Energy Efficiency Act, passed in 2008, set aggressive energy efficiency goals and laid the groundwork for the energy efficiency initiatives in the state. It established the EmPOWER programs, which are managed by the electric utilities in Maryland and include residential rebates for lighting, appliances, and home improvements (*e.g.*, insulation and air sealing), commercial rebates, and energy efficiency services for industrial facilities.[108] Such projects must ultimately be approved by the Public Service Commission (PSC). The Department of Housing and Community Development offers funding for energy efficiency projects specifically for low income customers through the Maryland Low Income Energy Efficiency Program (LIEEP), as well as for all residential customers through other rebates and resources.[109] From its inception in 2008 through 2015, EmPOWER saved over 51 million MWh, equivalent to electricity used by 850,000 customers over five years and lowered demand by 2,000 MW, equivalent to four large power plants.[110]

Funding for EmPOWER is largely through specific energy efficiency charges on customer bills.[111] Additionally, utilities are able to bid demand response and energy efficiency resources into PJM's capacity market to offset the costs of these programs. Some Maryland utilities have decoupling, which allows utilities to not lose revenue from lower sales due to energy efficiency. Additionally, utilities can earn a rate of return on energy efficiency programs, similar to other physical investments.[112]

Maryland utilities must increase incremental energy savings targets by 0.2% per year, until leveling out at 2.0%. These targets were initially approved by the Maryland PSC, and later codified through legislation. Maryland utilities achieved their initial goals set in 2008, reducing per capita energy use by 15% by 2015. [113]

2) California

Energy efficiency efforts in California are largely administered by the state's investor-owned and publicly-owned utilities. The California Public Utilities Commission (CPUC) provides oversight,

---

108 Maryland Energy Administration, EmPOWER Maryland, accessed August 2019.

109 See: EmPOWER Maryland Low Income Energy Efficiency Program

110 Brendon Baatz and James Barrett, *Maryland Benefits: Examining the Results of EmPOWER Maryland through 2015*, American Council for an Energy-Efficiency Economy, January 2017.

111 American Council for an Energy-Efficiency Economy, *Customer Energy Efficiency Programs*, accessed August 2019.

112 Megan Cleveland, Logan Dunning, and Jesse Heibel, *State Policies for Utility Investment in Energy Efficiency*, National Conference of State Legislatures, April 2019.

113 American Council for an Energy-Efficiency Economy, *Energy Efficiency Resource Standards*, accessed August 2019.

establishing key policies and guidelines, setting program goals, and approving spending levels.[114] California utilities are largely able to recover their costs of energy efficiency programs through rate cases brought before the CPUC. Energy efficiency programs are also funded in part by revenue from its cap and trade program, where emitters of greenhouse gases, such as oil refineries, electricity power plants, and cement plants must pay for emissions over their assigned cap.[115]

The other side of the hybrid model is community-administered: communities can collaborate with the larger utilities to offer local energy efficiency programs. For example, the city of Pleasanton partnered with Pacific Gas and Electric to offer businesses with free audits, payback analyses, and information on rebates and incentives resulting in annual savings of over one megawatt.[116] Southern California Edison offers the Energy Leader Partnership where they have helped support 112 cities and counties to promote energy efficiency and sustainability throughout planning and outreach efforts.[117]

California Senate Bill 350 called for the California Energy Commission to establish targets that achieve a doubling of projected cumulative energy efficiency savings and demand reductions by 2030.[118] The Commission referred to these targets as "ambitious" and acknowledged that "meeting the targets will require the collective effort of many entities, including state and local governments, utilities, program deliverers, private lenders, market participants, and end-use customers."[119] To meet these ambitious targets, large utilities are required to develop and submit integrated resource plans to optimize supply and demand-side resources over a 20-year planning horizon that reflect policy goals and grid operational constraints.[120] These targets are captured in Figure A-1, which shows that California will need additional effort to reach its targets under current projections.

---

114 American Council for an Energy-Efficiency Economy, *Customer Energy Efficiency Programs*, accessed August 2019.

115 American Council for an Energy-Efficiency Economy, *Customer Energy Efficiency Programs*, accessed August 2019.

116 Lindsay Buckley, *Spotlighting Energy Efficiency in California Communities*, Western City, July 1 2012.

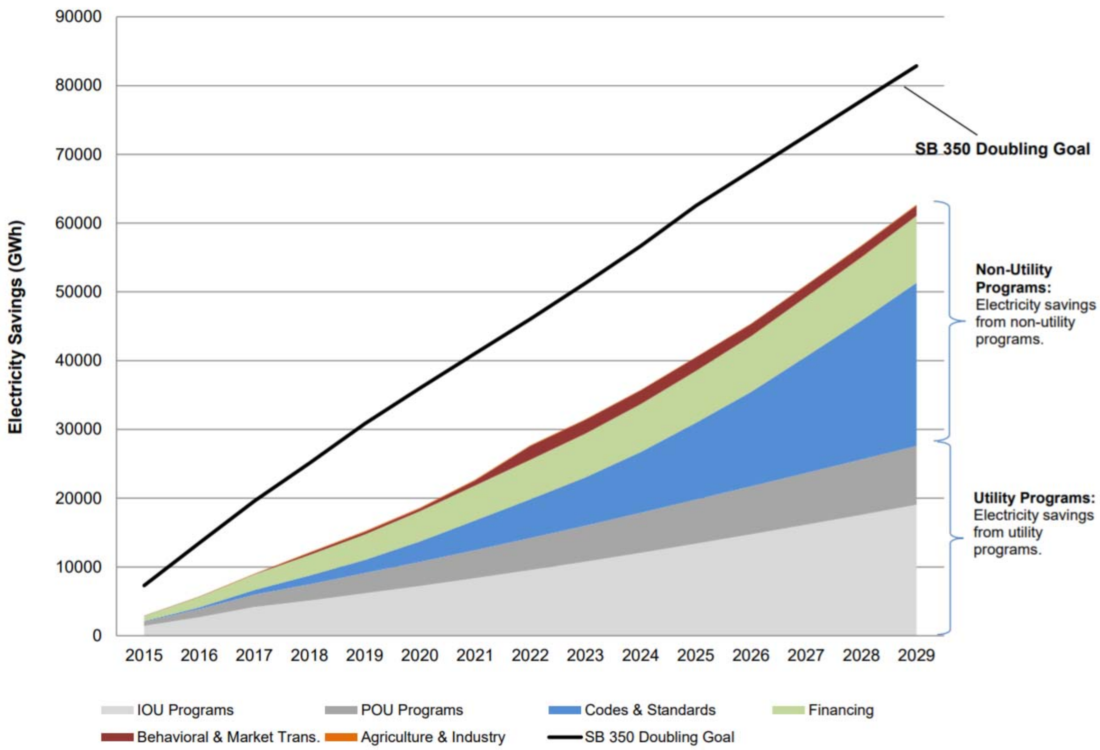
117 Better Buildings Initiative (U.S. DOE), *Energy Leader Partnership*, accessed August 2019.

118 Melissa Jones, Michael Jaske, Michael Kenney, Brian Samuelson, Cynthia Rogers, Elena Giyenko, and Manjit Ahuja, *Senate Bill 350: Doubling Energy Efficiency Savings by 2030, California Energy Commission*, 2017, Publication Number: CEC-400-2017-010-CMD.

119 *Id.*, p. 1.

120 California Energy Commission staff. 2017. *2017 Integrated Energy Policy Report. California Energy Commission*. Publication Number: CEC-100-2017-001-CMF.pp. 38–43.

Figure A-1: California Energy Efficiency Goal and Projections



Source: Melissa Jones, Michael Jaske, Michael Kenney, Brian Samuelson, Cynthia Rogers, Elena Giyenko, and Manjit Ahuja, Senate Bill 350: Doubling Energy Efficiency Savings by 2030, California Energy Commission, 2017, Publication Number: CEC-400-2017-010-CMD, p. 2.

November 14, 2019

Aida Camacho-Welch
Secretary of the Board
Board of Public Utilities
44 S Clinton Ave 9th Floor
Trenton, New Jersey 08625

Comments of Gabel Associates on the Energy Efficiency ("EE") Cost Recovery Technical Meeting

Dear Secretary Camacho-Welch;

Gabel Associates, Inc. ("Gabel Associates" or "Gabel") is pleased to provide comments regarding the EE Technical Meeting focused on Cost Recovery, which occurred on October 31, 2019.

Gabel Associates is an energy, environmental and public utility consulting firm with its principal office located in Highland Park, New Jersey. For over 25 years, Gabel Associates has provided quality energy consulting services and strategic insight to its clients. Classified as a small business, the firm provides its expertise to a wide variety of clients involved in virtually every sector of the energy industry, including public and federal agencies, individual commercial and industrial end users, aggregated groups of customers, public utility commissions, power plant owners and operators, wholesale suppliers, and utilities.

Our recent work in New Jersey has included assisting several of the State's electric and natural gas utility companies develop and design cost effective energy efficiency ("EE") programs. Specifically, we have worked or are currently working on EE related activities with Atlantic City Electric Company ("ACE"), Public Service Electric and Gas Company ("PSE&G"), Elizabethtown Gas Company ("Etown"), New Jersey Natural Gas Company ("NJNG"), and South Jersey Gas Company ("SJG").

Gabel Associates also provides extensive consulting services to customers in New Jersey including hundreds of school districts, counties, and business customers, as well as services to utility commissions and wholesale market participants. Because of the breadth of sectors where we provide our services, we have a deep and balanced sensitivity to the needs of all types of energy market participants. The principals of Gabel Associates include two individuals who served as senior managers at the BPU where they were both extensively involved in utility ratemaking, cost of service, and tariff design issues.

The Agenda for the Cost Recovery EE Technical Meeting presented thirteen (13) specific questions across three (3) general topics for discussion. Based upon the lively debate at the October 31, 2019 the Cost Recovery EE Technical Meeting, herein we address each of the Cost Recovery Stakeholder Questions.

417 Denison Street, Highland Park, New Jersey 08904
Phone (732) 296-0770   Fax (732) 296-0799
www.gabelassociates.com

1. Should recovery mechanisms be the same or different for programs administered or implemented by utilities versus non-utility parties?

The establishment of the same matching recovery mechanism for utilities and non-utilities is not necessary and in fact in many cases is not possible. More important than whether recovery mechanisms match is utilizing a recovery mechanism that minimizes rate impacts to customers and optimizes program administration. A Societal Benefits Clause ("SBC") style "expensed" mechanism is rigid and cannot react or be tailored to the immediate needs of customers. One problem with the SBC is that it lacks budget certainty as the funds can be reallocated by the Governor or state legislature for other purposes. Since 2010, over $1.6 billion has been reallocated from clean energy purposes to other state budget expenses, spanning the Corzine, Christie and Murphy Administrations. Funds collected from customers for EE programs should be protected from reallocation and used for their intended purpose to ensure continuity in program offerings. Stability is needed to provide customers with bill savings opportunities while driving economic growth in New Jersey and assuring that the State makes continuous, long-term progress in reducing carbon emissions.

Additionally, fulfillment of incentives through an expense mechanism at the Board of Public Utilities ("Board") Office of Clean Energy ("OCE") are subject to delay as funds must be collected, routed through the Treasury Department, and dispersed to non-utility agencies (such as the OCE) prior to being distributed to program participants.

Utility funding and recovery is much more stable than OCE based funding and recovery. Additionally, it can provide an ongoing long-term commitment to clean energy and more accurately align costs with benefits. For example, the amortization of program costs method allows utilities to draw on access capital markets to quickly fund programs, amortize them in line with measure life and flow of benefits, and only fund those programs and incentives that are submitted through a rigorous evidentiary filing process and approved by the Board.

Another key element on the different cost recovery methods is how ratepayers' interests are protected. In utility funded programs, program review is approved by an independent party (the Board) and subject to the full range of discovery, testimony, intervention, and review in a contested proceeding. In contrast OCE program review and cost recovery is not subject to this type of rigorous review, and is instead subject to a summary presentation of program plans, an expedited "legislative style" hearing, and approval by the Board, who's own staff prepare and submit the summary presentations for approval.

2. Topic 1: Recovery of Program Costs

a. Should costs associated with efficiency program investments be expensed or amortized? If amortized, what is the appropriate amortization period, and what should the rate for the carrying costs be?

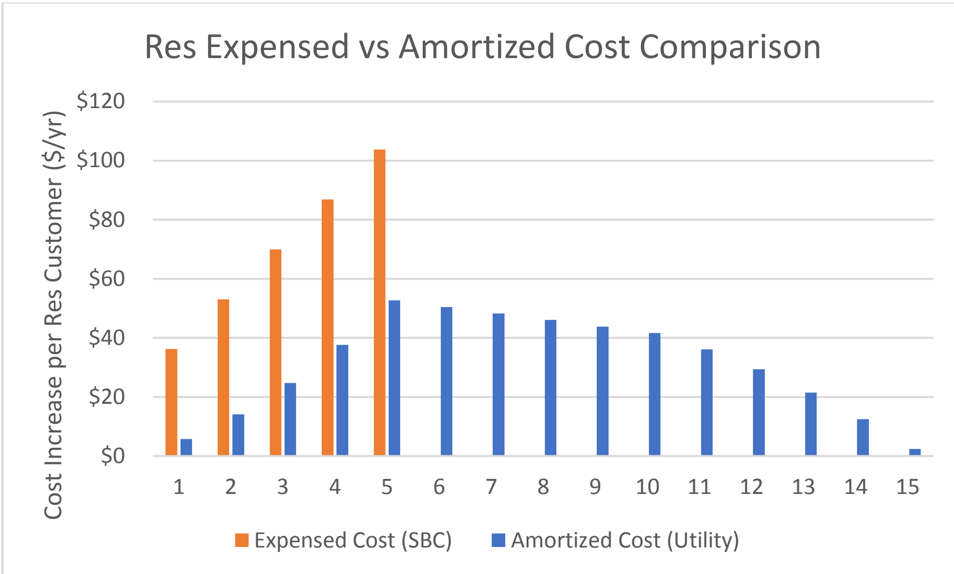
For EE to become a central component of utility planning and infrastructure development, EE program costs should be amortized over the weighted-average measure life of all the measures at the portfolio level. Amortizing over measure life is important as it not only provides intergenerational equity of costs and savings but aligns EE cost recovery with traditional utility ratemaking practices. If a utility were to invest in new lines or pipes, costs would be recovered over the useful life of those assets, often 20 to 60 years. EE investments should be treated similarly with a recognition of the length of time those EE assets will be in place. From a recovery perspective EE should be viewed by the Board as a central element of the state's investment in energy infrastructure. Recognizing that the Clean Energy Act[1] ("CEA") requires utilities to pursue EE savings targets, proper rate treatment can (along with an appropriate decoupling structure) make investment in EE as attractive to utilities as other utility infrastructure investments. With the State's ambitious clean energy goals, it is imperative to establish a structure like this to not only mandate, but actively encourage utilities to lead these transformational efforts by aligning ratemaking for EE programs with treatment similar to infrastructure investment programs.

Amortization will also reduce rate shocks and align cost recovery with program benefits and bill savings. The CEA calls for a 2.0% reduction in electric consumption and a 0.75% reduction in natural gas consumption. Regardless of the recovery mechanism, there will be rate impacts for customers to meet these objectives. Effectively managing the potentially significant spikes in electric and natural gas rates will make achieving EE policy goals more acceptable to policymakers and the public.

Amortization allows for costs to be spread over a longer period of time, therefore reducing the initial rate impacts associated with EE investments. The following graph provides a high-level example comparing the electric rate impacts of expensing costs in the year they are incurred against amortizing costs over a longer period.[2]

[1] https://www.njleg.state.nj.us/2018/Bills/PL18/17_.HTM

[2] This graphic contains numerous high-level assumptions, including 74,628,365 MWh of state electric load per the OCE Renewable Portfolio Standard ("RPS") Compliance Report, the savings targets set forth in Optimal Energy's Potential Study, a utility cost of capital rate of 7.0%, a cost of energy saved of $0.053/kWh sourced from the 90^{th} percentile of utility administration costs contained in the ACEEE study *Does Efficiency Still Deliver the Biggest Bang for Our Buck? A Review of Cost of Saved Energy for US Electric Utilities*, a measure life of 11.1 years from the same ACEEE study, and residential consumption of 8,200 kWh per year. This was provided for theoretical illustration only and is not based upon actual real-life circumstances.



This graph illustrates what a potential five year build up to meet the goals set forth in the Optimal Energy EE Potential Study[3] (beginning at 0.75% in year one and ending at 2.15% in year five) could look like from a cost perspective. The program costs are based upon a review of program administrator costs contained in The American Council for an Energy Efficient Economy ("ACEEE") report titled: *Does Efficiency Still Deliver the Biggest Bang for Our Buck? A Review of Cost of Saved Energy for US Electric Utilities*.[4] The expensed scenario is illustrated in orange and shows that in year five costs could exceed an increase of $100 per year in electric rates for residential customers. The blue bars show the impact from amortized costs and illustrate that even in the peak year, the cost impact is roughly half that of the expensed scenario.

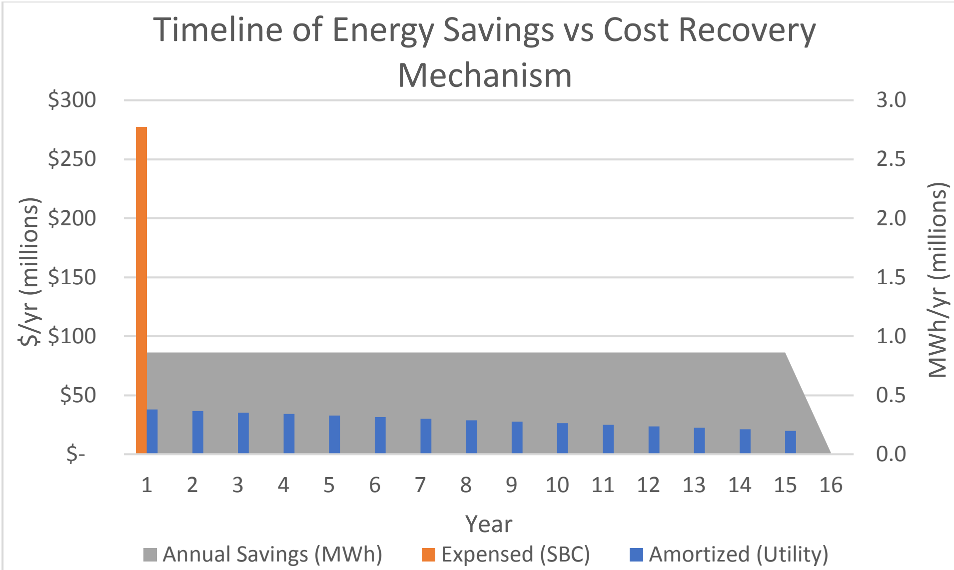
Please note that this is an illustrative example of residential electric costs only and is provided to offer a theoretical visual explanation of the difference in rate impacts between expensing and amortizing costs. Actual annual cost impacts are not yet known because the program portfolios needed to meet the CEA goals have yet to be developed. Commercial and industrial customers would also experience a similar relationship between expended and amortized mechanisms, with the costs per year being higher than that of residential customers.

Amortization, if implemented over the weighted-average measure life of the EE portfolios, also matches program costs with program savings. The following graphic illustrates the OCE's FY20 budget as both an expensed and amortized cost and compares those against the OCE FY20 expected lifetime savings.

---

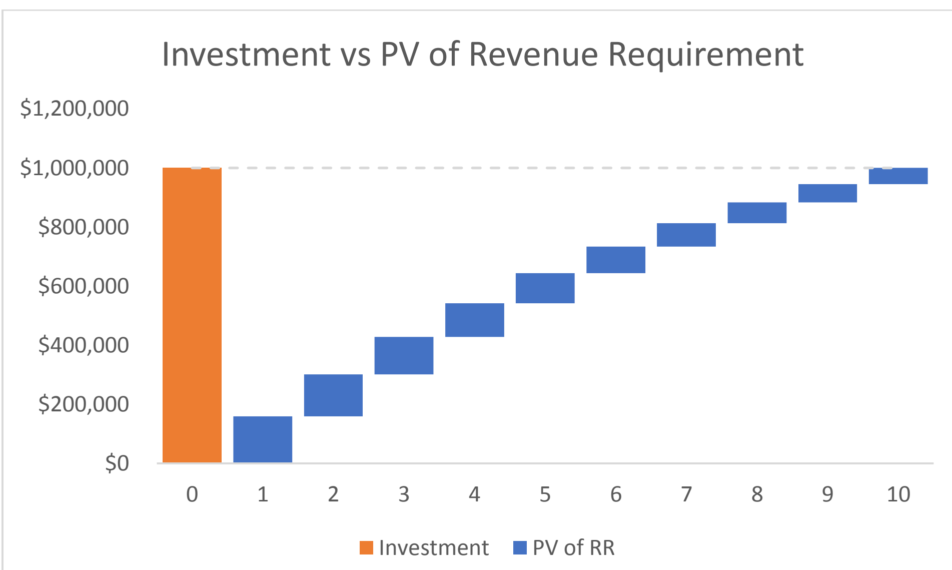
[3] https://s3.amazonaws.com/CandI/NJ+EE+Potential+Report+-+FINAL+with+App+A-H+-+5.24.19.pdf

[4] https://aceee.org/files/proceedings/2018/node_modules/pdfjs-dist-viewer-min/build/minified/web/viewer.html?file=../../../../../assets/attachments/0194_0286_000125.pdf



As seen in the graphic above, amortizing costs over time matches the costs to when the savings occur and assures that those customers receiving benefits are also paying a fair share of the costs.

EE costs should be amortized and accrue a return using a rate equal to the utility's weighted average cost of capital ("WACC") on the unamortized investment balances. The WACC is approved by the Board on a regular basis through the distribution ratemaking process and includes a comprehensive consideration of the various risks facing the utility. Further, using the WACC also means that on a present value basis, the total amortized costs equal the gross upfront investment cost if discounting at the same rate. This is illustrated in the following waterfall graphic, assuming a $1 million up-front investment compared against a high-level 10-year amortization example at a 7% return and 7% discount rate:



The orange bar represents all costs expensed in the first year. However, when amortizing over time, the payments are segmented and spread over a longer period. When accounting for the time-value of money (the Present Value, or "PV"), the return on investment costs are balanced out by the discount rate, resulting in a total payment stream that exactly equals the upfront investment amount in present value terms.[5]

b. Should costs be allocated by sector (e.g., residential, commercial, industrial)? If yes, how would you recommend doing the allocation?

Currently, EE costs are socialized across all customers. More information is required to gain a better understanding of the consequences of shifting from the current allocation method to sector specific distributions, such as an understanding of the portfolio of programs, how they are administered, and allotment of funds and achievement of savings between sectors. It should be recognized that many of the benefits of EE (such as advertising promoting EE, Demand Reduction Induced Price Effects, avoided Renewable Portfolio Standard purchases, and avoided Transmission & Distribution expenditures) are realized by all customers so it is not unfair for all customers to pay a share of costs even if such costs are for programs that are directed at other customer groups.

3. Topic 2: Potential for Recovery of Lost Revenues

a. Should there be a mechanism to recover lost revenues?

Yes, there should be a mechanism to recover lost revenues. In fact, the CEA states that:

> *Each electric public utility and gas public utility* ***shall*** *file annually with the board a petition to recover on a full and current basis through a surcharge all reasonable and prudent costs incurred as a result of energy efficiency programs and peak demand reduction programs required pursuant to this section, including but not limited to recovery of and on capital investment, and* ***the revenue impact of sales losses resulting from implementation of the energy efficiency*** *and peak demand reduction schedules, which* ***shall*** *be determined by the board pursuant to section 13 of P.L.2007, c.340 (C.48:3-98.1)*
>
> -P.L. 2018 c.17 3.e.(1) (emphasis added)

This provides that utilities shall file annually to collect lost revenues, answering the question of whether a mechanism to collect lost revenues should exist. The CEA further cites that the Board shall determine these costs based upon the *Electric, gas public utilities energy efficiency and conservation programs, investments, cost recovery; terms defined* statute which specifically allows for "rate mechanisms that decouple utility revenue from sales of electricity and gas."[6]

---

[5] This graphic provided is an example and for illustration only. Actual revenue requirements calculations take into account additional factors such as taxes, Allowance for Funds Used During Construction ("AFUDC"), credits, and other factors. This was provided for theoretical illustration only and is not based upon actual data for any specific utility.

[6] https://www.njleg.state.nj.us/2006/Bills/PL07/340_.PDF

In addition to the statutory language cited above, there are very strong public policy reasons why the Board should establish ratemaking mechanisms that permit recovery of lost revenues. For the State of New Jersey to achieve or exceed its EE goals, it imperative that utilities "be on the same page" as New Jersey's policy goals. If utilities lose margin by developing EE, they may direct their capital to investments that allow them the ability to earn their authorized rate of return. Recovery of lost revenues is a critical element to eliciting the cultural shift needed to move utilities into fully helping New Jersey achieve its goals. In the context of addressing climate change – a key challenge facing the State (and the planet) – the need to get utilities rowing in the same direction as New Jersey in maximizing EE becomes even more profound.

As discussed in more detail below, while there are a range of lost revenue recovery mechanisms, a properly designed decoupling approach is the fairest way to address the lost revenue issue.

b. If the Board allows for recovery of lost revenues, what should the lost revenue recovery mechanism be?

The preferred mechanism is full revenue decoupling that provides symmetrical recovery and return of under- and over-collection of distribution revenues by utilities. This already exists in New Jersey, as NJNG and SJG both have modified forms of revenue decoupling in place. In every base rate case, the Board authorizes a specific revenue requirement for each utility to cover its capital costs, expenses, and return. Decoupling assures that, regardless of sales volumes in a given year, utilities are able to recover those Board authorized revenues to pay for and maintain utility infrastructure, while limiting the ability of utilities to recover greater than the authorized revenue or return set by the Board.

Full revenue decoupling removes the link between volumetric sales and profits, eliminating any "throughput incentive". Without decoupling, utility profits are unquestionably linked to sales volumes. Therefore, a utility has a financial incentive to increase sales thereby increasing revenues. The incentive to increase sales exists regardless of any mandates to achieve CEA saving targets or other incentives or penalties that may be implemented. Decoupling severs the link between revenues and sales, removing the disincentive to decrease consumption.

Utility customers are also hedged against fluctuations in supply costs by the Basic Generation Service ("BGS") and Basic Gas Supply Service ("BGSS") mechanisms. A decoupling mechanism would provide a functional hedge for customers against fluctuations in distribution costs due to changes in sales by stabilizing total distribution collections to a fixed number.

Looking across the country there are numerous types of decoupling mechanisms; many, like the Conservation Incentive Program ("CIP") currently being implemented by NJNG and SJG, use margin per customer basis, but the mechanism can be tailored to the specific circumstances of the utility. Decoupling can and often does incorporate earnings and other types of tests to further protect ratepayers.

It is important to stress that decoupling is <u>NOT</u> against customer interests. A properly designed decoupling plan aligns a utility with New Jersey's goals to actively rollout EE that will reduce customer bills. Decoupling plans (including the Board approved modified version of decoupling for NJNG and SJG) also typically have specific provisions that allow the Board to periodically review the impact and results of decoupling to prevent inordinate rate impacts or excessive earnings. It's no coincidence that nearly every state at the top of the ACEEE scorecard[7] has already implemented decoupling. Included on this list are states such as New York, Vermont, Massachusetts, California, and Rhode Island which are by no means viewed as "pro-utility commissions" by analysts.

Decoupling is a superior approach to a lost revenue adjustment mechanism ("LRAM"), which is the most likely alternative if decoupling isn't approved. LRAM is a common practice that allows a utility to calculate lost revenues driven solely by EE programs. This mechanism provides recovery of lost revenues, but unlike decoupling, is not linked to any Board authorized revenue level and only focuses on lost sales from specific EE programs. LRAM generally does not protect customers from utility over-recovery when sales increase and does not eliminate the utility incentive to promote higher consumption of electricity or natural gas, which is antithetical to the state policy goals in New Jersey provided for in the CEA.

Decoupling allows everyone to work together to maximize EE savings, which is the ultimate intent of the CEA.

c. If the Board allows for recovery of lost revenues:

i. What methods should the Board employ to calculate lost revenues associated with energy savings?

Decoupling naturally accounts for all increases or reductions in sales regardless of the reason, and therefore alleviates the need to calculate lost revenues each year. Because decoupling is indifferent to the source of increase or decline in sales, it transparently allows recovery of only the Board authorized revenues, and nothing more or nothing less. Moreover, if sales increase due to economic growth, electrification of transportation, or for other reasons, this growth is likewise fully captured by decoupling, to the benefit of ratepayers. Further, decoupling mechanisms are reset after every base rate case, enabling regulators to properly reset the authorized revenue components.

As an alternative, LRAM would require annual impact evaluations for every measure and program to accurately quantify the energy savings driving lost revenue requests. This process often becomes an administrative burden for regulators and utilities because every showing of lost revenue recovery can become a prolonged litigated process over the correct energy savings estimate. Full revenue decoupling avoids this issue entirely by simply ensuring utilities only recover Board authorized revenues, regardless of the measured energy savings from EE programs.

ii. Should other factors (e.g., weather, nonprogram-related reductions) be taken into account?

Under a decoupling policy, these factors are naturally captured and will not be relevant points of contention because the mechanism trues-up utility revenues based on Board authorized revenues. If the summer is unseasonably hot and electric sales are drastically increased, the revenue captured from the additional sales would be adjusted with the decoupling mechanism. Customer consumption reductions would also be captured through a decoupling mechanism, regardless of if

[7] https://aceee.org/state-policy/scorecard

the reductions were related to the utility or statewide EE programs or some other reason (federal appliance standards for example).

Under an LRAM policy, these factors are not naturally captured and would be subject to protracted litigation. The CEA allows utilities to count non-program reductions to meet goals; therefore, it is logical that utilities would be allowed to make a showing that non-program reductions are lost revenues and should be recovered. Without decoupling this can become a burdensome process because of the contested nature of measuring non-program related reductions.

It is worth noting that the Board has a long-standing precedent of supporting weather normalization of sales with all of the State's natural gas utilities having such recovery mechanisms in place for more than two decades. Weather normalization is an equitable practice that insulates both utilities and their customers from uncontrollable variations in weather and should remain intact or be incorporated into a decoupling mechanism.

d. If the Board allows for recovery of lost revenues, should authorized return on equity be subject to adjustment based on reduced risk?

Authorized return on equity for utilities' distribution investments is established during the base rate case process. A part of the return on equity evaluation is a review of peer utilities to determine risk and the appropriate levels of return, but also includes other key drivers such as market volatility and the proper level of return necessary to attract capital to finance investment. The impact of decoupling on utility risk and return on equity will be captured in this process. Since the establishment of authorized return on equity is based upon numerous factors, it is appropriate that it continue to be determined in the rate case process.

4. Topic 3: Performance Incentives and Penalties

a. How should performance incentives be structured? How should performance penalties be structured?

The incentive and penalty structure should be simple and trued-up on an annual basis and should send a clear and measurable financial signal that encourages utilities to aggressively pursue EE results. However, without understanding the metrics against which incentives and penalties will be assessed, it's difficult to provide further specific detail on the magnitude of incentive and penalty amounts. In addition, the issue of whether the utilities or the OCE will administer programs has a significant bearing on the penalty/incentive discussion. Performance incentives and penalties should be provided in addition to, and not in lieu of, the other market design elements discussed above, including amortization of costs and decoupling.

i. Should incentives and penalties be handled as a percentage adjustment to earnings or as specific dollar amounts? Why? How?

It would be simplest and most effective to set incentives and penalties as a specific dollar amount. This could be based upon a percentage of program costs or a fixed $/unit value. Tying to a dollar value provides transparency regarding the value of incentives and penalties and sends clear signals to utilities on what the exact reward or loss is for performance.

ii. Should incentives and penalties be scalable based on performance? If so, in what manner?

Yes; however, the Board should consider using a "dead band" or collar around specific performance milestones. Performance incentives are designed to reward utilities that exceed goals; likewise, the penalties are designed to provide a disincentive to ignoring the state mandates or running programs poorly. Small variations in performance around the goal, which can occur for reasons beyond a utility's control, should not be the difference between a penalty or incentive. A "dead band" or collar would alleviate this concern.

A scalable incentive will promote utilities to strive to maximize savings rather than to simply meet goals. Because the Board wants utilities to endeavor for the greatest possible savings, it should implement a scalable incentive. Penalties should be used to assure that all utilities are fully invested in meeting the goal and should be implemented to insure a minimum level of activity.

iii. How should incentives and penalties be reconciled? Should incentives and penalties be "refunded" to ratepayers through rate reduction?

Incentives and penalties should be included as a line item in the revenue requirement calculation for each utility's EE surcharge. To the extent an incentive is awarded, it would increase the revenue requirement by the approved amount; to the extent a penalty is assessed, it would be a decrease to the revenue requirement by the assessed amount.

In that way, penalties are refunded to ratepayers. If a utility is awarded an incentive, it is indicative of the fact that the utility is exceeding its EE savings goals, meaning that its customers are achieving savings above those set by the Board.

b. If the Board establishes performance incentives and penalties, what level of total incentives and penalties is reasonable?

The incentive or penalty should send a clear and measurable financial signal that encourages utilities to aggressively pursue EE results. The EE Potential Study conducted by Optimal Energy proposed an incentive between 5% and 7.5% of the planned and approved program budgets. On a preliminary basis, this range seems reasonable. Further evaluation and determination of the appropriate level on incentives and penalties should be set in each utility filing anticipated to be submitted in the summer of 2020.

Conclusion

Gabel Associates appreciates the opportunity to furnish these comments and provide the Board with insight into issues related to EE cost recovery.

As discussed above, it is imperative that the Board align all stakeholders to meet the strong goals set forth in the CEA, and this can only be done by amortizing program costs over the weighted-average measure life of the EE portfolios, decoupling utility distribution revenues from sales volumes, and implementing incentive and penalty structures that are simple and provide clear signals to maximize energy savings.

We are happy to provide any supplementary information or answer any questions you may have regarding our comments. We look forward to continuing the open stakeholder process.

Sincerely,

Isaac Gabel-Frank
Vice President
Gabel Associates

Jersey Central Power & Light
A FirstEnergy Company

300 Madison Avenue
Morristown, NJ 07962

Joshua R. Eckert, Esq.
(973) 401-8838
(330) 384-3875 (Fax)

November 14, 2019

VIA ELECTRONIC MAIL

Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, New Jersey 08625-0350
energyefficiency@bpu.nj.gov

Re: Cost Recovery

JCP&L Comments in Response to EE Transition Technical Meeting Notice Dated October 21, 2019

Dear Secretary Camacho-Welch:

On behalf of Jersey Central Power & Light Company ("JCP&L" or the "Company"), please accept this letter for filing as JCP&L's response to the questions posed by the Staff of the New Jersey Board of Public Utilities ("Board") for the October 31, 2019 technical meeting on cost recovery for energy efficiency ("EE") and peak demand reduction ("PDR") programs. JCP&L thanks the Board for the opportunity to provide comments on this important issue.

As discussed in its responses below, JCP&L encourages the Board to not be unnecessarily proscriptive when it comes to establishing cost recovery and lost revenue recovery mechanisms. Rather, consistent with N.J.S.A. 48:3-87.9 (the "Clean Energy Act" or "Act"), the Board should permit each utility to file proposed cost recovery and lost revenue recovery mechanisms that will best support its offering of EE and PDR programs.

1. Should recovery mechanisms be the same or different for programs administered or implemented by utilities versus non-utility parties?

JCP&L encourages the Board to establish separate recovery mechanisms for programs administered by the utilities versus non-utility parties. The Clean Energy Act contemplates that the utilities' cost recovery mechanisms will be established pursuant to the Regional Greenhouse Gas Initiative ("RGGI") law (codified, in relevant part, as N.J.S.A. 48:3-98.1). More specifically, it provides that:

> Each electric public utility and gas public utility shall file an annual petition with the board to demonstrate compliance with the energy efficiency and peak demand reduction programs, compliance with

> the targets established pursuant to the quantitative performance indicators, and for cost recovery of the programs, including any incentives or penalties, pursuant to section 13 of P.L. 2007, c.340 (C: 48:3-98.1). (emphasis added).

N.J.S.A. 48:3-87.9(e)(1). The Act further provides that:

> Each electric public utility and gas public utility shall file annually with the board a petition to recover on a full and current basis through a surcharge all reasonable and prudent costs incurred as a result of energy efficiency programs and peak demand reduction programs required pursuant to this section . . . which shall be determined by the board pursuant to section 13 of P.L. 2007, c. 340 (C: 48:3-98.1). (emphasis added). *Id.*

While the RGGI law does permit the Board to provide for the recovery of utility-run energy efficiency and conservation programs through the societal benefits charge, the Board has traditionally not done so. Instead, the Board has established surcharges for the utilities to recover the costs of their RGGI-related programs. In doing so, the Board has established a clear delineation between the costs for programs run by the utilities and the costs related to programs run by non-utility parties. The Board should maintain this practice and have the utilities recover their EE and PDR program costs through a component of their utility's specific RGGI surcharge.

2. Recovery of Program Costs

(a) Should costs associated with efficiency program investments be expensed or amortized? If amortized, what is the appropriate amortization period, and what should the rate for the carrying costs be?

As is well known, the Clean Energy Act dictates the procedure by which utilities must file for recovery of their reasonable and prudent costs incurred for offering EE and PDR programs. More specifically, the Act provides that "[e]ach electric public utility and gas public utility shall file an annual petition with the board . . . for cost recovery of the programs, including incentives and penalties, pursuant to [the RGGI law]." *See* N.J.S.A. 48:3-87.9(e)(1). As is currently done with filings brought under RGGI, the Board should allow each utility to propose as part of its EE and PDR program filing the cost recovery mechanism that will best support its offering of EE and PDR programs, whether expensing or amortizing program costs. This approach will provide the Board an opportunity to evaluate each utility's proposal within the context of both the referenced statutes and the specific details of the utility's proposed programs. Inarguably, the plain language of the statute permits the expensing of program costs ("recover[y] on a full and current basis through a surcharge"). Nonetheless, where utilities elect to amortize program costs, each utility's long-term cost of capital (i.e., weighted average cost of capital) is the most appropriate carrying cost.

(b) Should costs be allocated by sector (e.g. residential, commercial, industrial)? If yes, how would you recommend doing the allocation?

The current practice for other utility-run EE and PDR programs in New Jersey does not allocate costs by sector. Should this practice continue, JCP&L would similarly propose to recover its program costs through a per kilowatt-hour rate for all customers. However, if through this process the current practice is reconsidered, JCP&L recommends that direct program costs (e.g., incentives, individual program-related costs, etc.) be charged directly to the applicable customer class, while administrative and general common costs (e.g., tracking and reporting system, plan design, etc.) be allocated to each customer class. Various options are available for performing this allocation. For example, these costs can be allocated in proportion to direct program costs or based on a proportion of retail sales.

In prior comments throughout the EE stakeholder process in New Jersey, JCP&L has indicated that it anticipates applying the following rate design for recovery of costs related to its EE and PDR programs (assuming costs are allocated by applicable customer class). For Service Classifications RS, RT/RGT and GS (which are residential and smaller commercial classes), the rate will be a per kilowatt-hour rate for each rate class. For Service Classifications GST, GP and GT (which are larger commercial and industrial rate classes), the rate will be a per kilowatt rate for each rate class. For all lighting classes, JCP&L anticipates applying a per fixture rate. These proposed rate designs for each rate class resemble the current distribution rate design for these customers.

3. Lost Revenues

(a) Should there be a mechanism to recover lost revenues?

Yes, as required by N.J.S.A. 48:3-87.9(e)(1). When taken together with referenced RGGI law provisions, the Clean Energy Act requires the Board to allow the utilities to recover the "revenue impact of sales losses" resulting from the programs implemented to achieve the Clean Energy Act provisions. The EE and PDR programs are being established pursuant to the mandate in the Act that the Board "require each [utility] to reduce the use of electricity, or natural gas, as appropriate, within its territory, by its customers, below what would have otherwise been used." N.J.S.A. 48:3-87.9(a). Recognizing that the utilities will incur costs because of these Board-ordered programs, the Act also provides that the utilities "shall file annually with the board a petition to recover on a full and current basis through a surcharge . . . all reasonable and prudent costs incurred as a result of [EE] and [PDR] programs required pursuant to this section . . . which shall be determined by the board pursuant section 13 of P.L. 2007, c.340 (C:48:3-98.1)." N.J.S.A. 48:3-87.9(e)(1). Importantly, the Clean Energy Act further recognizes the "revenue impact of sales losses" as a category of potential reasonable and prudent costs that will be incurred by the utilities for running programs. *Id.* Accordingly, the Clean Energy Act sets forth the requirement for Board-ordered programs and the procedure utilities must undertake to petition for recovery of their reasonable and prudent costs, including the revenue impact of sales losses, resulting from running those programs. But it does not govern how the Board determines which costs are recoverable. That determination is to be made "pursuant to [N.J.S.A. 48:3-98.1]."

Under N.J.S.A. 48:3-98.1, the Board is required to allow the recovery of program costs and incentive rate treatment when requiring energy efficiency and conservation programs. *See* N.J.S.A. 48:3-98.1(a)(3). ("The Board may also direct public utilities and gas public utilities to undertake energy efficiency, conservation, and renewable energy improvements, and shall allow the recovery of program costs and incentive rate treatment pursuant to subsection b. of this section."). That statutory provision further clarifies that "[a]ll electric public utility and gas public utility investment in energy efficiency and conservation programs or Class I renewable energy programs may be eligible for rate treatment approved by the board, including a return on equity, or other incentives or rate mechanisms that decouple utility revenue from sales of electricity and gas." N.J.S.A. 48:3-98.1(b). As such, under the Clean Energy Act and the RGGI law provisions referenced therein, the Board has both the authority and the mandate to provide for the utilities' recovery of all reasonable and prudent costs incurred as a result of running EE and PDR programs, including the resulting revenue impact of sales losses.

(b) If the Board allows for recovery of lost revenues, what should the lost revenue recovery mechanism be?

As with the recovery of program costs, JCP&L encourages the Board to allow each utility to propose as part of its program filing a mechanism to recover the revenue impact of sales losses resulting from its EE and PDR programs. This approach will allow interested stakeholders to evaluate the proposed mechanism with knowledge of the anticipated impact of the utility's proposed programs.

(c) If the Board allows for recovery of lost revenues:

(i) What methods should the Board employ to calculate lost revenues associated with energy savings?

JCP&L recommends that the Board calculate lost revenues associated with energy savings by using the verified gross savings resulting from the programs implemented under the Clean Energy Act. The revenue impact of these programs can then be determined by multiplying the amount of these verified lost sales by the applicable retail rate that would have applied.

(ii) Should other factors (e.g., weather, nonprogram-related reductions) be taken into account?

JCP&L recommends that the Board utilize a lost revenue recovery mechanism that takes into account the quantifiable impact of the programs implemented under the Clean Energy Act. For EE and PDR programs, savings are typically determined based on the specific equipment being deployed and the behavioral changes being achieved (i.e., changes in equipment wattage and the amount and/or hours of use). As is done in other states, these savings can be quantified by utilizing industry-standard evaluation, measurement and verification ("EM&V") practices. JCP&L recommends that quantifiable impacts such as these be taken into account when determining the revenue impact of sales losses to be recovered.

(d) If the Board allows for recovery of lost revenues, should authorized return on equity be subject to adjustment based on reduced risk?

As discussed above, the Clean Energy Act and the RGGI law provisions referenced therein, require the Board to provide for the utilities' recovery of the revenue impact of sales losses. The Clean Energy Act also provides for the utilities to receive recovery of and on their capital investment on EE and PDR programs. N.J.S.A. 48:3-87.9(e)(1). The Clean Energy Act recognizes these as two distinct categories of costs, and JCP&L encourages the Board to treat them that way.

Where a utility elects to amortize program costs, allowing it the opportunity to earn the same return of and on EE and PDR program investment as it does on other investments encourages the utility to invest in EE and PDR programs on an equal footing with those other investments. But there is an additional cost to investing in EE and PDR programs that does not exist with other investments – the negative impact that successful programs will have on sale revenues that would otherwise be recognized. To make a utility whole for its investment in EE and PDR programs, it must receive a return on and of its investment in programs and be compensated for the lost sales resulting from those investments.

There is no basis for a downward adjustment to the return on equity applied to utility EE and PDR program costs. As JCP&L addressed in its comments on the draft market potential study report prepared by Optimal Energy, the assertion that EE investments are inherently less risky than other utility investments is not supported by the energy efficiency risk environment. Recovery of lost distribution revenues associated with EE and PDR programs *maintains* the utility's current risk profile at the status quo. Without lost revenue recovery, a utility's risk profile may deteriorate between base rate cases, as funds from operations are lowered due to revenue losses. Moreover, the utilities are essentially being ordered to implement a different business model by investing in EE and PDR programs instead of utility infrastructure and operations. And, further, the utilities are being tasked with achieving some of the most aggressive energy savings goals in the country and may be subject to separate performance penalties. As a result, there is increased executional risk. The results of the EE and PDR programs are also much more dependent on actions of consumers and, accordingly, the utilities have less control over the success or failure of such investments as compared to traditional utility infrastructure investments. Many of the business risks associated with investing in EE programs are also comparable to the risks associated with investing in utility infrastructure and operations. Finally, and perhaps most importantly, the utilities' underlying cost of capital does not change as a result of the investment being made in EE and PDR programs rather than in utility infrastructure.

To be consistent with the provisions of the Clean Energy Act and to ensure that utility and customer interests are aligned when it comes to energy efficiency investment, JCP&L encourages the Board to establish recovery mechanisms that make the utility whole for all of its costs resulting from investment in EE and PDR programs.

4. Performance Incentives and Penalties

(a) How should performance incentives be structured? How should performance penalties be structured?

JCP&L encourages the Board to consider implementing an incentive structure modeled after shared savings mechanisms used in other states. Such a mechanism can provide added encouragement for utilities to strive to meet and exceed their quantitative performance indicators ("QPIs"). In a typical shared savings mechanism, the utility is allowed to recover a certain percentage of the net benefits realized by customers, with the net benefits being calculated as the difference between the costs avoided by the EE and PDR programs and the utility cost incurred for the programs (often referred to as the Utility Cost Test or "UCT"). In doing so, shared savings mechanisms further support prudent and cost-effective management of programs while maximizing net benefits within budgets. Further, by coupling a shared savings mechanism with a PJM revenue sharing mechanism, whereby customers can receive a portion of the revenues from PJM reliability pricing model auction activity for qualified EE and PDR resources, New Jersey can drive additional savings and a "win-win" opportunity for customers, stakeholders, and the utilities.

As it relates to performance penalties under the Act, it is important that the Board have discretion in the assessment of penalties to ensure that utilities are not penalized for factors beyond their control. This is consistent with the Clean Energy Act's requirement that the Board consider appropriate factors to "ensure that the public utilities incentives or penalties . . . are based upon performance." N.J.S.A. 48:3-87.9(c). In furtherance of this aim, the Board should also keep in mind that it has authority under the Act to set QPIs at "reasonably achievable" levels, including at levels below the minimum annual savings contemplated by the Act. *See id.* It is common industry practice when using a shared net benefit mechanism (such as shared savings) to provide incentives and penalties by rewarding achievement of threshold savings that are below statutory savings targets.[1] Consistent with the above, JCP&L recommends that the Board adopt QPIs and an incentive mechanism that allows utilities to begin receiving incentives once a certain threshold percentage of their savings targets are achieved.

(i) Should incentives and penalties be handled as a percentage adjustment to earnings or as specific dollar amounts? Why? How?

Consistent with its recommendation to utilize a shared savings mechanism, JCP&L proposes that the Board utilize dollar amounts for the incentives contemplated by the Act. The net benefits recognized as a result of a utility's EE and PDR programs (calculated as the difference between the costs avoided by the EE and PDR programs and the cost incurred to implement the programs) will be a dollar figure. To be consistent with the approach taken for incentives under a shared savings mechanism, JCP&L proposes that penalties also be stated based on a set dollar figure.

---

[1] *See* American Council for an Energy-Efficient Economy (ACEEE), "Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency," at 10-14 (noting that "the most common thresholds for shared net benefits [incentive] mechanisms are in the range of 70-85% of energy savings targets

(ii) Should incentives and penalties be scalable based on performance? If so, in what manner?

The Clean Energy Act dictates that both incentives and penalties be scalable based on program performance. *See* N.J.S.A. 48:3-87.9(e)(3) and (4). For incentives under a shared savings mechanism, this requirement can be accomplished by having the percentage of net benefits to which a utility is entitled be scalable based on the utility's performance.

(iii) How should incentives and penalties be reconciled? Should incentives and penalties be "refunded" to ratepayers through rate reduction?

JCP&L recommends that incentives and penalties be reconciled by adjusting rates to reflect any incentives and penalties. These adjustments can be made as part of each utility's annual filing for cost recovery. By handling the incentives and penalties in this fashion, the Board can simplify administration of the incentives and penalties while ensuring prompt collection of any incentives and prompt return of any penalties to ratepayers.

(b) If the Board establishes performance incentives and penalties, what level of total incentives and penalties is reasonable?

JCP&L recommends that the performance incentives under a shared savings mechanism be scalable using a tiered structure tied to the percentage attainment of the QPIs, similar to the following table. With a top incentive percentage of fifteen percent (15%) of net benefits, customers would be ensured to receive no less than eighty-seven percent (85%) of the net benefits generated by the programs. This tiered structure aligns the interests of the utilities with the interests of customers as it incents the utilities to maximize program savings and minimize program cots in order to maximize the programs' net benefits to customers. If necessary, the Board can also impose a cap on the total amount of incentive the utility is allowed to recognize based on its annual performance.

Incentive Tier	Compliance Percentage	Incentive Percentage
1	>80-100%	3.0%
2	>100-105%	5.0%
3	>105-110%	7.5%
4	>110-115%	12.5%
5	>115%	15.0%

Finally, the penalty structure should give the Board discretion to determine when to assess a penalty and the just and reasonable amount of any penalty taking into account the utility's incentive structure and the specific circumstances contributing to non-compliance. As detailed above, this approach is consistent with the Clean Energy Act's mandate that the Board consider appropriate factors to "ensure that the public utilities incentives or penalties . . . are based upon performance" (*see* N.J.S.A. 48:3-87.9(c)) and can address concerns that factors outside the utilities' control may influence their ability to achieve aggressive targets.

* * *

JCP&L again thanks the Board for the opportunity to provide feedback on this important issue. If you have any questions about JCP&L's comments, please do not hesitate to contact me.

Very truly yours,

Joshua R. Eckert
Counsel for Jersey Central Power & Light Company

State of New Jersey
DIVISION OF RATE COUNSEL
140 EAST FRONT STREET, 4TH FL
P.O. BOX 003
TRENTON, NEW JERSEY 08625

November 14, 2019

VIA ELECTRONIC MAIL (EnergyEfficiency@bpu.nj.gov)
AND HAND-DELIVERY
Honorable Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Trenton, New Jersey 08625-0350

Re: Clean Energy Act – Energy Efficiency Transition
BPU Docket No.: Undocketed Matter
Technical Meeting – Cost Recovery
Comments of the Division of Rate Counsel

Dear Secretary Camacho-Welch:

Enclosed for filing please find an original and ten copies of the comments of the New Jersey Division of Rate Counsel ("Rate Counsel") submitted pursuant to the Board of Public Utilities' Notice dated October 15, 2019 ("Notice"). In accordance with the Notice, an electronic copy will be emailed to EnergyEfficiency@bpu.nj.gov.

We have also enclosed one additional copy of the materials transmitted. **Please stamp and date the copy as "filed" and return to our courier.**

Tel: (609) 984-1460 • Fax: (609) 292-2923 • Fax: (609) 292-4991
http://www.nj.gov/rpa E-Mail: njratepayer@rpa.nj.gov

Thank you for your consideration and attention to this matter.

Respectfully submitted,

STEFANIE A. BRAND
Director, Division of Rate Counsel

By: [signature]
Felicia Thomas-Friel, Esq.
Deputy Rate Counsel

c: energyefficiency@bpu.nj.gov
Paul E. Flanagan, Executive Director, BPU
Sara Bluhm, BPU
Kelly Mooij, BPU
Sherri Jones, BPU
Abe Silverman, Esq., BPU
Rachel Boylan, Esq., BPU
Pamela Owen, ASC, DAG

Clean Energy Act
New Jersey Energy Efficiency Transition
Stakeholder Process
Technical Meeting - Cost Recovery

BPU Docket No.: Undocketed Matter

Comments of the Division of Rate Counsel

November 14, 2019

Introduction

As part of the process to implement the Clean Energy Act[1], the Staff ("Staff") of the Board of Public Utilities ("Board", "BPU") convened a Technical Meeting on October 31, 2019 and invited stakeholders to comment on the cost recovery of energy efficiency ("EE") and demand response ("DR") programs implemented pursuant to the Clean Energy Act. The within comments are being submitted by the New Jersey Division of Rate Counsel ("Rate Counsel") pursuant to the Notice dated October 21, 2019 ("Notice") in this matter and the meeting agenda ("Agenda"), which set forth four questions for comments.

At the outset, Rate Counsel urges the Board to strike a fair balance between customers and utilities when establishing cost recovery and incentive mechanisms to implement the Clean Energy Act. In order for us to reach all of our clean energy goals, it is important to avoid overpaying for any single aspect of our ambitious agenda. While utilities deserve to be paid fairly for their EE programs, the success of these programs depends on ensuring that ratepayers reap real benefits when they reduce their energy use.

As it now stands, pursuant to N.J.S.A. 48:3-98.1, utilities in New Jersey earn a return on their investment in EE and DR measures. This means that they not only get the recovery of their

[1] P.L. 2018, c. 16 (C.48:3-87.3-87.7) ("Clean Energy Act" or "CEA").

costs, they get a return on those investments for the life of the asset. Their return is based on the weighted average cost of capital approved in their last rate case, which in recent cases has allowed a 9.6% return on equity, combined with the long term debt rate at the time the program is approved. In all but a few other states, utilities only receive the return of their investments, not the return on them as we allow in New Jersey. Given that N.J.S.A. 48:3-98.1 also allows recovery through a surcharge without the need to wait until the utility's next rate case, the risk to the utility in these programs is very low. Thus, by allowing the utilities to place their EE and DR investments into rate base and paying them their full weighted average cost of capital, we are already providing very generous cost recovery for these programs.

The Clean Energy Act now also requires the Board to establish incentives for utilities who meet their energy savings goals (and penalties for those who do not). The CEA also permits the utilities to ask for recovery for lost revenues that result from their programs. Lost revenue recovery or "decoupling," which separates utility revenues from energy sales have long been sought by the utilities as a means to counter lower energy sales attributable to EE and DR measures and remove a "disincentive" to utilities to participate in EE programs. However, the Clean Energy Act requires electric and natural gas utilities to meet certain energy savings targets. Thus, the Legislature itself has removed any disincentive by requiring the utilities to meet the statutory EE energy savings goals. So, other than setting performance based incentives and penalties, the issue for the Board is not what we should pay the utilities to encourage certain behavior, but what we should pay them to fairly compensate them for their investments. If we were to pay them a generous and contemporaneous return at their full weighted average cost of capital on their EE or DR investment, plus compensation for "lost revenues," and an incentive for doing what they are required to do under the CEA, we will be paying too much for these utility EE programs.

Moreover, since all of these generous incentives will be paid for by ratepayers, the increased recovery will reduce the amount of savings customers see from their energy efficiency investments. Rate Counsel therefore respectfully urges the Board to consider the cumulative effect of such costs imposed on ratepayers and, ultimately, the affordability of regulated electric and gas utility service. That said, Rate Counsel offers its responses below to the questions posed by Board Staff.

<u>Question 1.</u> - Should recovery mechanisms be the same or different for programs administered or implemented by utilities versus non-utility parties?

Recovery mechanisms for regulated utilities and non-utility parties should be similar or equivalent to the extent possible. However, it will be very difficult to have a level playing field since non-utility parties do not have the rate recovery mechanisms or monopoly status of regulated public utilities. Given that utilities do not and should not have an advantage on all energy efficiency programs, utilizing similar or equivalent mechanisms for recovery to the extent possible may help balance the interests of all parties and provide for useful, meaningful and consistent results. The rate recovery mechanism should be "trued-up" annually for actual costs and the development of an estimate of the revenue requirement for the upcoming recovery period, together with a review of costs and energy savings.

<u>Question 2.</u> - <u>Topic 1: Recovery of Program Costs</u>

a. **Should costs associated with efficiency program investments be expensed or amortized? If amortized, what is the appropriate amortization period, and what should the rate for the carrying costs be?**

Costs associated with energy efficiency program investments should be amortized, as these programs are expected to benefit more than one period. The amortization period should be long enough to allow the investor the opportunity to recover all prudently incurred costs, as well as to minimize any overlapping or pancaking of existing and previously approved energy efficiency programs currently in effect. Carrying costs should mirror the level of risk faced by the utility or investor. Given the favorable contemporaneous recovery allowed in N.J.S.A. 48:3-98.1, recovery at the utility's full weighted average cost of capital is too generous and consideration should be given to lowering those carrying costs, particularly if the Board decides to consider granting some form of lost revenue recovery.

b. **Should costs be allocated by sector (e.g., residential, commercial, industrial)? If yes, how would you recommend doing the allocation?**

The rate recovery mechanism should be examined in the context of the EE and DR programs to see that the costs are allocated equitably among rate classes. Care should be exercised in program design and rate design to ensure that the beneficiaries of EE and DR programs fairly contribute to program cost recovery consistent, to the extent possible, with the o benefits they receive from CEA programs.

Question 3. - Topic 2: Potential for Recovery of Lost Revenues

a. **Should there be a mechanism to recover lost revenues?**

No, a mechanism to recover lost revenues should not be implemented for the following reasons:

1. New Jersey utilities already have an incentive in place to promote energy efficiency and the ability to earn a generous return on energy efficiency program investments and receive contemporaneous recovery of program costs;

2. The CEA already provides for incentives and penalties for utilities' energy efficiency activities and performance.

3. The CEA does not require that lost revenues will be recovered, only that a utility may request such recovery.

However, if the Board considers allowing recovery for lost revenues, under the CEA such recovery may only be for lost revenues that result directly from the utility's energy savings programs. In addition, if lost revenue recovery is permitted, the generous incentives currently allowed under N.J.S.A. 48:3-98.1 should be reduced or eliminated. Each of these issues is addressed in greater detail below.

1. New Jersey utilities already have an incentive in place to promote energy efficiency in the ability to earn a return on energy efficiency program investments and receive contemporaneous recovery of program costs.

New Jersey utilities are already awarded an additional incentive to promote energy efficiency programs that utilities in most other states are not afforded. New Jersey is one of only four states that allow utilities to earn a return on their EE investments.[2] Furthermore, a utility's ability to earn a return on its EE investments is currently not tied to performance on energy savings or any other targets.[3] If the utilities are allowed to earn a return on EE investments through a surcharge as they do now, be awarded incentives under the Clean Energy Act, and also recover lost revenues through decoupling, ratepayers will carry all the risks and burdens, thereby potentially overpaying for EE programs and measures.

2. The CEA already provides for incentives and penalties for utilities' energy efficiency activities and performance.

[2] American Council for an Energy-Efficient Economy ("ACEEE"), Snapshot of Energy Efficiency Performance Incentives for Electric Utilities, December 2018, pp. 8-10.

[3] American Council for an Energy-Efficient Economy ("ACEEE"), Snapshot of Energy Efficiency Performance Incentives for Electric Utilities, December 2018, p. 9.

The Clean Energy Act establishes and modifies New Jersey's clean energy and energy efficiency programs in addition to modifying the State's solar renewable energy portfolio standards.[4] Further, the CEA requires electric utilities, within a five-year period, to reduce electricity usage by at least two percent per year. This two percent reduction is relative to the prior three-year average electricity levels. Similarly, the CEA requires natural gas utilities to achieve at least a 0.75 percent annual usage reduction, over a five-year period. Again, this reduction is relative to the prior three year average annual usage level.[5] Thus, the CEA removes any disincentive a utility has to promote energy efficiency because it is statutorily obligated to do so and if the utility fails to meet these requirements, it will be penalized.

The CEA also mandates the establishment of both incentives and penalties for utilities' energy efficiency activities and performance. The CEA requires the Board to define a set of incentives for utilities to reward them for their successful energy efficiency activities. In addition, the CEA requires the Board to evaluate utility failures to meet targeted usage reductions and to implement penalties when needed.[6] Thus, the CEA directly addresses utilities' incentives for energy efficiency, eliminating the need for any other type of revenue decoupling mechanism or lost revenue adjustment mechanism ("LRAM"). While the incentives and penalties have not yet been determined, these may include shareholder incentives such as a return on equity ("ROE") bonus or adder recovered from ratepayers through an additional surcharge mechanism. A decoupling mechanism or lost revenue adjustment mechanism would only further burden ratepayers when coupled with other incentives that may be established.

---

[4] P.L. 2018, c. 17 (codified at N.J.S.A. 48:3-87.8 et al.), enacted May 23, 2018.
[5] N.J.S.A. 48:3-87(d), (g) & (h); N.J.S.A. 48:3-87.9.
[6] N.J.S.A. 48:3-87.9(e)(3).

3. **The CEA does not establish that lost revenues will be recovered, only that a utility may request recovery.**

The CEA states that each electric public utility and gas public utility shall file an annual petition with the Board to recover on a full and current basis through a surcharge all reasonable and prudent costs incurred as a result of energy efficiency and peak demand reduction programs required by the Clean Energy Act, pursuant to N.J.S.A. 48:3-98.1, including but not limited to (1) recovery of and on capital investment and (2) recovery of the revenue impact of sales losses resulting from implementation of these programs.[7] While this language allows the utility to request recovery of lost revenues it does not guarantee recovery of lost revenues.

Moreover, the Clean Energy Act also limits the lost revenues that may be awarded. The CEA specifically provides that utilities can request recovery of costs including revenues associated with the "sales losses resulting from implementation of the energy efficiency and peak demand reductions" that are mandated under the legislation.[8] The CEA's ratemaking treatment of lost revenues, therefore, is much more specific than a general decoupling mechanism. A full decoupling mechanism allows recovery of all revenue losses associated with any change in sales, regardless of reason: weather; electric and natural gas commodity price changes; economic conditions; exogenous shocks; efficiency changes; technological change; to name a few. The CEA, however, is much more specific and calibrated, only allowing utilities to ask for lost base revenues that are shown to be resulting from their respective energy efficiency activities. This language limits the recovery of lost base revenues to those that are directly attributable to the utility's EE and DR programs. Additionally, the CEA provides that such recovery would only occur if costs are found to be reasonable and prudent. Many decoupling mechanisms allow cost

[7] N.J.S.A. 48:3-87.9(e)(1).

[8] N.J.S.A. 48:3-87.9 (e)(1), emphasis added.

recovery regardless of cause or reason without a prudency review to evaluate whether lost revenues resulted from effective energy efficiency or demand reduction programs. This is not consisten with the CEA's mandate.

In contrast to the lost revenue concept set forth in the CEA, revenue decoupling is a relatively blunt instrument for addressing energy efficiency incentives. Crude revenue decoupling mechanisms are not performance based and allow utilities to recover all revenue losses, regardless of the reason for those losses. Thus, a revenue decoupling mechanism shifts a large part of the revenue losses from efficiency activities away from participants and onto non-participating customers with little benefit.

b. If the Board allows for recovery of lost revenues, what should the lost revenue recovery mechanism be?

The Board should not allow recovery for lost revenues for the reasons discussed above. The CEA does not require the Board allow recovery of lost revenues, the CEA only permits a utility to request recovery of lost revenues. As previously stated, if considered, the lost revenue recovery mechanism should not be a full decoupling mechanism that recovers all lost revenue regardless of reason or cause. The CEA is explicit that recovery of lost revenues be restricted to "sales losses resulting from implementation of the energy efficiency and peak demand reductions" that are mandated under the legislation.[9] Therefore, any lost revenue mechanism allowed should be restricted to only recovering sales losses shown by the utility to result from the implementation of a utility's EE and peak demand reduction programs. Moreover, if the Board does allow some form of recovery for lost revenues, the Board should not allow the utilities to also place their EE investments into rate base and earn their full weighted average cost of capital. Recovery of both for the reasons discussed above is too rich.

[9] N.J.S.A. 48:3-87.9 (e)(1), emphasis added.

c. **If the Board allows for recovery of lost revenues:**

   i. **What methods should the Board employ to calculate lost revenues associated with energy savings?**
   ii. **Should other factors (e.g., weather, non-program-related reductions) be taken into account?**

As noted above, if the Board were to allow recovery of lost revenues, the mechanism used to calculate lost revenues must be tailored to allow recovery only for the lost revenues that result from the utility's programs. Utilities should not be permitted to benefit from favorable weather, economic downturns, or other factors that lower usage but have nothing to do with the efforts of utilities.

Furthermore, any such lost revenue mechanism should also ensure that reduced usage due to outages should not be recoverable for the utility. For example, this was an issue in Maryland where customers were initially charged under a lost revenue mechanism after they lost service for a period of time due to a storm. The Maryland Public Service Commission subsequently issued an order disallowing such recovery and similar prohibitions should be included here if the Board allows lost revenue recovery.[10]

d. **If the Board allows for recovery of lost revenues, should authorized return on equity be subject to adjustment based on reduced risk?**

A utility and its shareholders typically bear the risk of revenue and sales differences from the test year in a base rate case for a number of different reasons. First, it is the utility's responsibility to propose a typical year for rate-making purposes. It would not be in a utility's nor its shareholders' best interests to propose a test year that was unsupportive of what management believed was required to recover costs and earn its allowed return. Second, a

---

[10] See I/M/O the Investigation into the Just and Reasonableness of Rates as Calculated Under the Bill Stabilization Adjustment Rider of Potomac Electric Power Company et al., Public Service Commission of Maryland Order No. 84653, Case Nos.: 9257, 9258, 9259, and 9260. (January 25, 2012).

utility's allowed rate of return, like that of any other business, includes some premium for the business risk inherent in the industry in which it operates.

Under decoupling, any revenue decreases related to contractions in the economy will be recovered from ratepayers. For example, a utility with a revenue decoupling mechanism will be made whole for revenue losses anytime a recession or economic slow-down occurs resulting in lower energy sales. The problem with this outcome is that decreases in sales associated with economic downturns have nothing to do with utility-sponsored EE programs. In other words, revenue decoupling allows a utility to be made whole for a change in usage it did not help motivate. Instead, these changes in usage associated with a recession are likely the natural reaction of households trying to reduce their expenditures during difficult economic times or, alternatively, businesses and industries idling or shutting down their operations. Under revenue decoupling, ratepayers would be required to make a utility whole for revenue losses during these economic downturns; whereas, under traditional regulation, utilities bear the risks of these economic contractions, just like many other types of businesses and industries.

Since the risk to the utility is lower if the Board allows for lost revenues, then the return on equity should also be lower. It would be fundamentally unfair to shift the risk to ratepayers but then pay the utility as if it was assuming those risks.

Question 4 – Topic 3: Energy Efficiency Incentives and Penalties

a. How should performance incentives be structured? How should performance penalties be structured?

The Clean Energy Act states that a utility that achieves "the performance targets established in the quantitative performance indicators" shall receive an incentive for its energy efficiency measures and peak demand reduction measures for the following year.[11] The incentive is to be determined by the Board. In addition, the CEA states that "the incentive shall scale in a linear fashion to a maximum established by the board that reflects the extra value of achieving greater savings."[12]

Rate Counsel supports incentives based on performance in achieving energy savings goals, as required by the CEA. Rate Counsel's detailed responses to the Board's questions are provided below.

i. Should incentives and penalties be handled as a percentage adjustment to earnings or as specific dollar amounts? Why? How?

Rate Counsel recommends establishing incentives and penalties in the form of adjustments to a utility's allowed ROE, as permitted by the CEA.[13] As discussed above, because of the reduced risk, the baseline ROE applicable to EE and DR programs implemented pursuant to the CEA should be lower than the ROE approved in a base rate cases.

ii. Should incentives and penalties be scalable based on performance? If so, in what manner?

Rate Counsel notes that the CEA requires that "the incentive shall scale in a linear fashion to a maximum established by the Board that reflects the extra value of achieving greater savings."[14] Rate Counsel supports this linear approach. The incentives and penalties should vary linearly in line with achieving verified energy savings goals. In addition, the incentives and penalties should be symmetrical, with a dead band where neither incentives nor penalties are

[11] N.J.S.A. 48:3-87.9(e)(2).
[12] N.J.S.A. 14:3-87.9(e)(2).
[13] N.J.S.A. 48:3-98.1(b).
[14] N.J.S.A. 48:3-87.9(e)(2).

imposed. Over time, the dead band could be narrowed as experience with EE and DR programs and performance measures are refined.

iii. How should incentives and penalties be reconciled? Should incentives and penalties be "refunded" to ratepayers through rate reduction?

Rate Counsel proposes that performance incentives be collected or refunded to customers through individual utility energy efficiency program riders as part of the annual true up.

b. If the Board establishes performance incentives and penalties, what level of total incentives and penalties is reasonable?

Any incentives or penalties should be considered in the context of the overall awards afforded utilities, including any lost revenue recovery and any EE or DR measures included in a utility's rate base. Ultimately, the award of incentives should be fair to both ratepayers and utilities. In short, utilities should not be permitted to gain a windfall of full rate base treatment of program investments at their weighted average cost of capital ("WACC"), plus lost revenue recovery, and incentives.

New Jersey
Natural Gas

VIA ELECTRONIC MAIL (energyefficiency@bpu.nj.gov)

November 14, 2019

Honorable Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625-0350

Re: IN THE MATTER OF THE IMPLEMENTATION OF P.L. 2018, c. 17 REGARDING THE ESTABLISHMENT OF ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION PROGRAMS
DOCKET No. QO19010040

Dear Secretary Camacho-Welch:

New Jersey Natural Gas Company ("NJNG") looks forward to working with the Board of Public Utilities' ("BPU") on the implementation of P.L. 2018, c. 17 regarding the establishment of energy efficiency and peak demand reduction programs ("Clean Energy Act"). Through this submission, we are responding to the issues addressed in the October 21, 2019 Stakeholder Notice related to technical issues on the cost recovery of energy efficiency programs and related topics.

In regard to the specific questions posed in that notice, NJNG supports the comments filed today by Gabel Associates in this matter. In the interest of streamlining the public record, NJNG will not readdress each question within this letter. However, NJNG would like to strongly express support for decoupling. Through our experience with the Conservation Incentive Program, a modified form of decoupling in place since 2006, we have proven that companies can successfully embrace strategies that help reduce customer energy usage and advance public policy. It can change the culture of the company. Management is focused on reliability and delivering outstanding customer service, instead of obsessing over variations in usage patterns. There are no marketing efforts devoted to encouraging our customers to increase their energy usage (e.g. no promotion of pool heaters or "outdoor rooms"). All employees receive updates on new energy efficiency programs and special promotions to

1415 Wyckoff Road P.O. Box 1464 Wall, NJ 07719 Phone: 800-221-0051 www.njng.com

engage customers on energy conservation. Employees are encouraged to be champions for energy efficiency and our call center even has metrics for proactively sharing energy saving tips. We would be happy to share more details about our experience to highlight how the alignment of priorities can be transformative. If New Jersey is going to be successful in reaching the aggressive clean energy goals and seek to rejoin the ranks of other states leading on clean energy, the state must express strategies like decoupling.

NJNG appreciates the opportunity to provide comments on these topics. We look forward to working with the Board and other stakeholders as the State considers how to restructure the approach to energy efficiency as to enable the utilities to reach the aggressive clean energy goals established by Governor Murphy's administration. Please feel free to contact me if you need any additional information regarding these issues.

Respectfully submitted,

Anne-Marie Peracchio

Anne-Marie Peracchio
Director- Conservation and Clean Energy

Joseph F. Accardo Jr.
Vice President Regulatory &
Deputy General Counsel

Law Department
PSEG Services Corporation
80 Park Plaza – T5, Newark, New Jersey 07102-4194
tel : 973-430-5811
email: joseph.accardojr@pseg.com

November 14, 2019

Via E-mail (EnergyEfficiency@bpu.nj.gov)

Aida Camacho-Welch, Secretary of the Board
Board of Public Utilities
44 S. Clinton Ave., 9th Floor
P.O. Box 350
Trenton, NJ 08625-0350

Re: Energy Efficiency Transition, Cost Recovery Technical Meeting

Dear Secretary Camacho-Welch:

Please accept these comments on behalf of Public Service Electric and Gas Company ("PSE&G") in connection with the above-referenced matter. PSE&G thanks the New Jersey Board of Public Utilities ("BPU" or "Board") for its initiation of the energy efficiency transition stakeholder process and the opportunity to provide these comments. PSE&G provides these comments on three of the topics discussed at the October 31, 2019 technical meeting on cost recovery issues; specifically: (1) program costs; (2) lost revenue recovery; and (3) the performance incentive and penalty structure.

Utility Program Costs Should Be Amortized Over the Useful Lives of the Energy Efficiency Measures

PSE&G agrees with the consensus opinion at the October 31, 2019 technical meeting that utility energy efficiency program costs should be amortized, not expensed. This rate treatment is consistent with the historic approach towards utility energy efficiency investments in New Jersey, as well as the Clean Energy Act[1] and Section 13 of the RGGI Act.[2]

1 *See* N.J.S.A. 48:3-87.9e.(1) (utilities shall file annual petitions with the Board to recover "all reasonable and prudent costs incurred as a result of energy efficiency programs and peak demand reduction programs required [by the Clean Energy Act], including but not limited to recovery of and on capital investment"); and N.J.S.A. 48:3-87.9e.(4) (adjustments made pursuant to the Clean Energy Act's performance and incentive structure "may be made through adjustments of the electric public utility's and gas public utility's return on equity related to the energy efficiency or peak demand reduction programs only").

2 *See* N.J.SA. 48:3-98.1(b) (utility energy efficiency programs "may be eligible for rate treatment approved by the board, including a return on equity. . .") and N.J.S.A. 48:3-98.1(a)(3) and (d) (the BPU

The ability to amortize costs reduces customer bill impacts, allowing for the significant ramping up of investment in energy efficiency that is required under the Clean Energy Act without rate shock to customers. The amortization period should match the useful lives of the energy efficiency investments, so that the customers who pay for the investments are those who receive the benefits of the programs. Indeed, matching benefits with costs is a fundamental principle of utility ratemaking.

Conversely, expensing energy efficiency program costs or setting an artificially low amortization period will result in inequities among customers, as costs will be collected over a shorter period of time than the benefits will last. Expensing energy efficiency program costs will also result in significant rate shock for customers, including low income customers, which will only be exacerbated by the significant increase in energy efficiency investment the State must make to reach the targets set forth in the Clean Energy Act. Put simply, expensing energy efficiency program costs is the equivalent of paying the entire purchase price for a home, not with a mortgage, but upfront with cash. Needless to say, very few people can afford to do this.

The utilities' ability to amortize costs and reduce customer bill impacts is one of several reasons why utilities should administer the regulated energy efficiency programs in the state.[3] Contrarily, New Jersey Clean Energy Program ("NJCEP") costs are expensed and recovered through the Societal Benefits Charge. The NJCEP "pay as you go" model will lead to significant rate increases for customers if the State enhances its energy efficiency program offerings to meet the savings targets set forth in the Clean Energy Act.

Lastly, utility program costs should be allowed a return on the unamortized balance using a rate equal to the utilities' weighted average cost of capital ("WACC"). The utilities' WACC is approved in base rate cases after BPU and Division of Rate Counsel review. Moreover, Board precedent, consistent with the relevant statutes, is to use utilities' WACC for return on investment when establishing the cost recovery mechanism for energy efficiency programs under the RGGI law.

In sum, a diverse group of stakeholders at the October 31st meeting agreed that utility program costs should be amortized. The BPU should accept this feedback and continue its precedent of amortizing these costs.

"shall allow the recovery of program costs" associated with utility energy efficiency programs, with "program costs" defined to include "a full return on invested capital").

[3] *See* PSE&G's October 4, 2019 written comments on energy efficiency program governance and administration for additional reasons why the utilities should administer the regulated energy efficiency programs in the state.

New Jersey Should Join the Leading Energy Efficiency States in the Country and Adopt Electric Revenue Decoupling

The Board has posed this threshold question to stakeholders: "Should there be a mechanism to recover lost revenues." The answer to that question is undoubtedly "yes." It is axiomatic that, given their volumetric rate structure, utilities' revenues will decline if sales are reduced in the manner that the Clean Energy Act requires. Not permitting the utilities to recover those lost sales revenues would be unjust and unreasonable.

Precluding the recovery of lost revenues would also contravene the Clean Energy Act, which specifically authorizes utility recovery for, among other things, "the revenue impact of sales losses resulting from implementation of . . . energy efficiency."[4] Section 13 of the RGGI Act also permits "rate mechanisms that decouple utility revenue from sales of electricity and gas", and states that the Board "shall allow the recovery of program costs", with "program costs" being defined to include "foregone electric and gas distribution fixed cost contributions associated with the implementation of the energy efficiency [program]."[5]

With the threshold question answered in the affirmative, the adopted recovery mechanism should be revenue decoupling. Revenue decoupling is essential to the State achieving the energy savings mandates of the Clean Energy Act. The State needs to break the traditional linkage of utility sales to revenues to grow the energy efficiency landscape in New Jersey. The State also needs to break away from the status quo and think differently about energy efficiency if it is to significantly expand beyond its current savings levels and reach the Clean Energy Act's savings targets. Decoupling is the change the State needs to become a national leader in energy efficiency.

It is no coincidence that those states that have achieved the greatest energy reductions (according to the American Council for an Energy Efficient Economy) have all adopted revenue decoupling. More specifically, for electric service, the top ten states, and 18 of the top 20 states, have revenue decoupling. All of the states with a savings percentage that would satisfy the 2% electric goal in the Clean Energy Act have approved electric revenue decoupling. Success in other states is why leading environmental groups and third-party energy efficiency suppliers support decoupling in New Jersey.

Put simply, decoupling is a best practice for states that truly value energy efficiency as a resource. New Jersey, in fact, has successfully implemented revenue decoupling already, as two of its gas utilities have had a form of BPU-approved decoupling for more than a decade. Anne-Marie Peracchio of New Jersey Natural Gas spoke convincingly at the October 31st meeting about how the utility's Conservation Incentive Program ("CIP") was the impetus that changed the company culture from focusing on incremental load growth to promoting energy efficiency.

Other benefits of decoupling include the following, many of which were noted at the October 31st meeting by a broad group of stakeholders:

---

4 *See* N.J.S.A. 48:3-87.9e.1.

5 *See* N.J.S.A. 48:3-98.1b and d.

- Unlike other lost revenue recovery mechanisms, decoupling truly removes the utility disincentive to promote energy efficiency (and distributed energy resources), a disincentive which still exists irrespective of the Clean Energy Act's mandate to reduce energy usage;
- With decoupling, in cases where revenues-per customer increase due to factors such as weather or the penetration of electric vehicles (the latter being expected given State policy to promote electric vehicles), the utility gives the incremental revenues back to customers. Other lost revenue recovery mechanisms can only lead to rate increases;[6]
- Decoupling is administratively simpler for all stakeholders because it is agnostic as to the driver for the lost sales, and simply adjusts revenues to levels agreed upon with regulators and other stakeholders. Other lost revenue recovery mechanisms may lead to increased debate regarding the measurement of lost sales, putting great strain on stakeholder resources and prolonging disputes before the Board;
- Decoupling allows for utilities to be innovative in terms of energy efficiency, as the prospect of not recovering lost sales revenue would not exist. Other lost revenue recovery mechanisms would incentivize utilities to only focus on energy efficiency initiatives that are easy to measure or over-estimate savings; and
- Without decoupling, under-recovered utilities will be forced to file more base rate cases, adding administrative burden on stakeholders.

Furthermore, authorized utility returns on equity ("ROE") should not be adjusted were the Board to allow for electric decoupling. Such an adjustment would ignore all of the other factors that influence an ROE decision, such as utility risk associated with cost overruns. Moreover, utility ROEs are typically set based on a proxy group range that includes decoupled utilities. Thus, any risk reduction is already embedded in the ROE decision-making.

PSE&G's Green Enabling Mechanism ("GEM"), included in the Company's Clean Energy Future - Energy Efficiency filing, provides a revenue decoupling model for the State to follow and is similar to the CIP currently in effect. Some aspects of the GEM and CIP that can be guiding principles for a statewide decoupling mechanism include:

---

6 While there was some concern voiced at the October 31st meeting regarding decoupling surcharges, a comprehensive 2013 report analyzing 1,269 decoupling mechanisms from around the country concluded that "[d]ecoupling rate adjustments are mostly small – within plus or minus two percent of retail rates." Morgan, Pamela, *A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs, and Observations*, May 2013 (p. 4).

- A per-customer deferral calculated using the difference between allowed revenue based on the utility's current base rates and actual revenue that changes with the number of customers;

- A monthly deferral calculation with rate adjustments filed annually;

- A separate rate adjustment by customer class; and

- Customer protections, such as an earnings test to ensure that the utility does not earn more than its allowed return, and a surcharge cap.

As several stakeholders noted at the October 31st meeting, the State cannot achieve the Clean Energy Act's savings targets without decoupling. The Board should adopt electric decoupling, and make New Jersey a national leader in energy efficiency.

<u>The Incentive and Penalty Structure Should Be Simple, Scalable, Symmetrical, and Tied to the Utility's Performance</u>

PSE&G supports the use of performance incentives and penalties to promote State policy goals and reach the targets outlined in the Clean Energy Act. The Board should first address which entities will implement the energy efficiency programs and develop the quantitative performance indicators ("QPIs") before setting the performance incentive and penalty structure. Nevertheless, several guiding principles for the performance incentive and penalty structure include the following, many of which were supported by speakers at the October 31st meeting:

- Utility incentives and penalties should be tied to the energy savings the *utility* can reasonably achieve (considering the permitted investment levels), and should not take into consideration the performance of non-utility programs;

- Incentives and penalties should be scalable based on utility performance and symmetrical;

- There should be a "dead-band" at or around the performance target, and incentives or penalties should only be awarded or imposed when utility results fall outside this range;

- The Board should strive for simplicity when developing the incentive and penalty structure (this should be the case with the QPIs as well);

- The structure should be reviewed periodically to determine whether it is meeting the objectives of the Clean Energy Act (as the law requires for the energy savings targets and QPIs[7]);

[7] *See* N.J.S.A. 48:3-87.9b-c.

- The BPU should exercise caution when establishing the penalties, as utilities will need time to ramp up to the Clean Energy Act's savings targets, and a draconian structure could stifle innovation at a time when the State needs to drastically increase its energy efficiency efforts; and
- Adjustments for incentives and penalties should be included as a line item in the revenue requirement calculation for the utilities' energy efficiency programs (as opposed to, *e.g.*, customer bill credits and refund checks).

Conclusion

If the Board follows these best practices regarding program costs, lost revenue recovery, and an incentive/penalty structure, then New Jersey will become a national leader in delivering the vast benefits of energy efficiency to all residents of the State. PSE&G thanks the Board for its consideration of these comments.

Respectfully submitted,

Joseph F. Accardo, Jr.

NJBPU Notice of October 21, 2019: Energy Efficiency Technical Meeting – Cost Recovery
Rockland Electric Company Comments

Rockland Electric Company ("Rockland" or "Company") supports the Board of Public Utilities' ("Board" or "BPU") efforts to implement the energy reduction requirements for utilities of the Clean Energy Act[1] ("CEA"). Utility run energy efficiency ("EE") programs, with the right regulatory framework, can provide a number of benefits to our customers and the environment. These benefits include lower customer bills due to decreased consumption, the environmental benefit of reducing greenhouse gas ("GHG") emissions and other pollutants, the economic benefits of improving efficient use of energy as compared to investing in new generation and utility system benefits through risk management.

To achieve this success, New Jersey must move away from the traditional utility business model in order to support energy efficiency investments, as recognized by the CEA. Specifically, the CEA establishes energy reduction targets for utilities and provides that, to achieve these EE goals, utilities must be able to recover direct costs and lost revenues.[2] The CEA also recognizes that a successful EE program must provide earnings opportunities to encourage achievement of performance targets.[3] As discussed in RECO's responses below, it is imperative the Board establish a regulatory framework to support successful energy efficiency programs, specifically: (1) allowing for energy efficiency investments to be amortized, similar to other core business of the utility; (2) providing for a mechanism to recover lost revenue, specifically a revenue decoupling mechanism; and (3) appropriately designing incentive mechanisms.[4] Adopting this regulatory framework aligns with New Jersey's energy efficiency goals and directives in the CEA, provides a regulatory framework to incentivize and support investment in energy efficiency, and treats energy efficiency investments similar to other core utility investments, which is appropriate given the importance of energy efficiency to meet the state's clean energy and greenhouse gas reduction goals.

Below the Company sets out its responses to the stakeholder questions outlined in the October 31 stakeholder meeting agenda.

[1] P.L. 2018, Chapter 17.
[2] *See* CEA at (e)(1).
[3] *Id.*
[4] These three regulatory framework elements have been recognized as supporting successful utility energy efficiency programs. *See The 2019 State Energy Efficiency Scorecard,* page 14, American Council for an Energy-Efficient Economy ("ACEEE") (October 2019). Available at https://aceee.org/research-report/u1908.

1. Should recovery mechanisms be the same or different for programs administered or implemented by utilities versus non-utility parties?

At the outset, the Company notes that the CEA specifically makes the utilities responsible for achieving energy reduction targets.[5] The CEA also provides for establishing incentives and penalties for utilities depending on whether those targets are met.[6] Therefore, the intent of the CEA is that the utilities administer EE programs in their territories. As the NJ utilities have pointed out on other occasions, it would not be fair to penalize the utilities when targets are not reached, if the utilities are not administering the EE programs in their service territories. Also, as noted above, the intent of the CEA is for the utilities to administer these programs

Further, if the Board allows non-utilities to provide EE programs in a utility's service territory, the utility and non-utility will need to coordinate non-utility EE programs to make sure that the non-utility programs are complimentary and do not adversely impact the energy reductions of the utility EE programs. For example, the non-utility programs should not compete with the utility programs or create confusion among markets or customers. Other states have evolved to eliminate multiple EE providers in recognition of the strength of utility run and avoid market and consumer confusion.[7]

The CEA sets out at section (e)(1) that utility EE program costs are recovered through a surcharge in an annual utility filing. Section (e)(1) states:

> Each electric public utility and gas public utility shall file annually with the board a petition to recover on a full and current basis through a surcharge all reasonable and prudent costs incurred as a result of energy efficiency programs and peak demand reduction programs required pursuant to this section,, including but not limited to recovery of and on capital investment, and the revenue impact of sales losses resulting from implementation of the energy efficiency and peak demand reduction schedules, which shall be determined by the board pursuant to section 13 of P.L.2007, c. 340 (C.48:3-98.1).

If non-utilities offer EE programs, and their program costs are collected from utility customers, those program costs should be recovered through the Societal Benefits Charge ("SBC"), which is

---

[5] CEA at (a) ("Each electric public utility shall be required to achieve annual reductions in the use of electricity of two percent of the average annual usage in the prior three years within five years of implementation of its electric energy efficiency program. Each natural gas public utility shall be required to achieve annual reductions in the use of natural gas of 0.75 percent of the average annual usage in the prior three years within five years of implementation of its gas energy efficiency program.")

[6] See CEA at (e)(3).

[7] See, for example, "Policy Brief: Best Practices for Shared Efficiency Program Administration Prepared for Delaware's Energy Efficiency Advisory Council, Summer 2015" available at https://neep.org/sites/default/files/resources/Policy%20Brief%20%20Best%20Practices%20for%20Shared%20EE%20Program%20Admin.pdf.

how non-utility EE program costs are currently recovered. Further, if non-utility parties administer EE programs in a utility service territory, the utility should receive the benefit of the EE programs because the utility's customers are paying for the non-utility programs. Therefore, any reductions in revenues as a result of non-utility EE programs should be included in the utility's costs as "lost revenue." Section (e)(1) above states that the utilities' EE costs include "the revenue impact of sales losses resulting from implementation of the energy efficiency and peak demand reduction schedules." As explained in the Company's response to 3(b) below, a decoupling mechanism is the most successful method to recover lost revenues. Also, as explained in the response to 3(b), the decoupling mechanism should include all sales losses in the utility's territory, including utility and non-utility EE programs, as well as other programs that reduce the utility's revenues, such as the revenue impact from integration of Distributed Energy Resources ("DER").

2. Topic 1: Recovery of Program Cost

a. Should costs associated with efficiency program investments be expensed or amortized? If amortized, what is the appropriate amortization period, and what should the rate for the carrying costs be?

RECO recommends that utility EE investments be amortized by the utility, in a manner similar to a rate-based cost, because amortization achieves important EE goals, including the following : (1) aligns recovery of energy efficiency program costs with the life of the investment and benefits provided; (2) treats EE investments similar to other utility investments, such as substations and other distribution facilities; (3) integrates energy efficiency as a core component of the utility's business; and (4) avoids a large rate impact on customers when EE investments are made.

The amortization period should be based on the average life of a portfolio of EE programs. Amortization of EE investments over the life of a portfolio of EE programs allows customers to contribute to program costs according to the benefits they receive. This approach eliminates the shifting of these costs between current customers and future customers, reduces the customer bill impact in any given year, and aligns the costs incurred with the benefits received in the same year.

Further, amortizing rather than expensing EE costs is required by the language of section (e)(1) of the CEA that directs annual filings by the utilities to recover all program costs incurred:

> "…including but not limited to recovery of and on capital investment, and the revenue impact of sales losses resulting from implementation of the energy efficiency and peak demand reduction schedules."[8]

[8] CEA at (e)(1).

Section (e)(1) also refers to Section 13 of the RGGI Act, which permits the treatment of EE investments as regulatory assets, to be amortized over time while earning a rate of return.

Finally, the carrying charge rate should be the Company's pre-tax overall weighted cost of capital ("WACC") as ordered by the Board in the Company's last base rate case. Using the Company's WACC places utility EE and utility non-EE investments on an equal footing, and therefore eliminates the disincentive to invest in EE. The CEA refers to section 13 of the RGGI Act, and the carrying charge on RGGI Act investments is based on the utility's WACC established in its last rate case.

b. Should costs be allocated by sector (e.g., residential, commercial, industrial)? If yes, how would you recommend doing the allocation?

RECO recommends allocation of costs by EE program, rather than by sector, to allow the Company to modify individual EE programs, depending on their performance. Although some EE programs necessarily may focus on certain sectors, such as low income customers or small business customers, allocation of costs by sectors overall is inequitable because all sectors benefit from the energy reductions achieved by EE programs. For example, as energy efficiency programs reduce load across the system, infrastructure upgrades may be postponed or eliminated to the benefit of all customer groups. In addition, some measures may also reduce peak demand, allowing the utility to reduce its capacity obligation in future years, thereby reducing costs for all customers. Additionally, allocation by sectors limits the flexibility to shift spending from one EE program to a more successful EE program in order to cost effectively achieve the greatest overall energy reduction benefits.

3. Topic 2: Potential for Recovery of Lost Revenues

a. Should there be a mechanism to recover lost revenues?

Yes, the BPU should implement a mechanism that allows utilities to recover lost revenues. The CEA recognizes that lost sales are a disincentive to EE programs, and states that among the costs that utilities' can recover are lost sales.[9] Therefore, a lost revenue mechanism conforms the Board's EE programs to the requirements of the CEA and removes the disincentive to invest in programs that permanently reduce the utility's sales. Further, the CEA requires that each utility's annual cost recovery filing include "the revenue impact of sales losses resulting from implementation of the energy efficiency and peak demand reduction schedules."[10] Such a mechanism provides for recovery of the utilities costs even if sales decline, otherwise without such a mechanism it may be difficult for a utility to recover fixed costs.[11]

---

[9] CEA at (e)(1).
[10] Id.
[11] *State Policies for Utility Investment in Energy Efficiency*, page 3-4, the National Conference of State Legislatures (April 2019), Available at

The 2019 State Energy Efficiency Scorecard[12] by the American Council for an Energy-Efficient Economy ("ACEEE") concluded that states that are not increasing energy savings each year typically have not included decoupling and performance incentive mechanisms in their EE programs.[13] The same ACEEE report shows that the top five states in energy reduction include decoupling and performance incentive mechanisms in their EE programs.[14] Another report by the ACEEE found that decoupling rate adjustments are mostly small – within plus or minus two percent of retail rates.[15]

b. If the Board allows for recovery of lost revenues, what should the lost revenue recovery mechanism be?

The Board should employ a revenue decoupling mechanism for the recovery of lost revenues. As noted above, ACEEE's 2019 State Energy Efficiency Scorecard found that states that failed to increase energy savings had not "encouraged utilities to take full advantage of energy efficiency as a resource" by failing to adopt measures including revenue decoupling.[16] A 2019 study by the National Conference of State Legislatures showed that thirty-one states have implemented revenue decoupling. [17]

The term "decoupling" refers to the effort to sever the link between utility sales and revenues. In practice, this means that the regulatory body periodically "trues up" any difference between a utility's actual sales for a particular year and sales projections submitted by the utility as part of its revenue requirement. This true-up mechanism affects customer rates symmetrically: higher than expected sales lead to a rate decrease, while lower than expected sales lead to a rate increase.

A utility's variable costs change in proportion to sales volume; fixed costs associated with distribution and customer service do not. Therefore, a reduction in sales due to efficiency improvements leads to a reduction in revenue that is larger than the costs avoided. This net lost

---

http://www.ncsl.org/Portals/1/Documents/energy/Utility_Incentives_4_2019_33375.pdf?ver=2019-04-04-154310-703

[12] *The 2019 State Energy Efficiency Scorecard*, American Council for an Energy-Efficient Economy ("ACEEE") (October 2019). Available at https://aceee.org/sites/default/files/publications/researchreports/u1908.pdf

[13] *The 2019 State Energy Efficiency Scorecard*, at 14. American Council for an Energy-Efficient Economy ("ACEEE") (October 2019). Available at https://aceee.org/sites/default/files/publications/researchreports/u1908.pdf

[14] *Id*. at page 21

[15] *A Decade of Decoupling for US Energy Utilities: Rate Impact, Designs, and Observations*, at page 3, ACEE (November 2012). Available at https://aceee.org/files/pdf/collaborative-reports/decade-of-decoupling.pdf

[16] *The 2019 State Energy Efficiency Scorecard*, page 14, American Council for an Energy-Efficient Economy ("ACEEE") (October 2019). Available at https://aceee.org/sites/default/files/publications/researchreports/u1908.pdf

[17] *State Policies for Utility Investment in Energy Efficiency*, page 3, the National Conference of State Legislatures (April 2019), Available at http://www.ncsl.org/Portals/1/Documents/energy/Utility_Incentives_4_2019_33375.pdf?ver=2019-04-04-154310-703

revenue affects the utility's balance sheet, which is a disincentive for the utility to make EE investments.

Providing for a mechanism that recovers lost revenue does not provide another incentive for utilities, as other parties have argued. Providing for recovery of lost revenues makes the utility whole for the revenue loss realized by participants who use less energy after participating in the energy efficiency programs. Without lost revenue recovery, utilities risk significant earnings loss and there is an upward pressure on rates in order to recover the revenue necessary to continue investing in the grid at the level necessary to meet service expectations and requirements. The ability to make up for this lost revenue and continue to receive the earnings needed to make these investments is, therefore, an essential component of a robust energy efficiency portfolio.

c. If the Board allows for recovery of lost revenues:

i. What methods should the Board employ to calculate lost revenues associated with energy savings?

The Company recommends the Board employ a full revenue decoupling mechanism. This type of mechanism increases utility support for energy efficiency and other resources that reduce demand and supports a regulatory construct that is less contentious among parties. It provides a way to adjust prices so a utility is only recovering revenues needed to meet costs. It also allows the utility to support other measures that reduce demand and positions the state to meet other clean other objectives, including increasing the adoption of DERs.

As set out in the CEA[18], any collection/payment should be performed on an annual basis, and through a surcharge (rather than base rates), which would be updated to reflect any over- or under-collection, avoiding the need to accumulate large deferred balances.

The company recommends a commonly used decoupling mechanism where a target revenue is established during a utility’s base rate case. The difference between the target revenue and the actual revenues is adjusted periodically, and the positive or negative adjustment is passed through the decoupling surcharge. The target revenue is developed in the base rate case after establishing the utility’s expenses, capital investment, and return. The target revenue results from a sales forecast for the rate year multiplied by delivery rates by class to calculate a target revenue level by class. Typically, the sales forecast is the result of negotiated settlements. The parties typically determine sales in a “normal” weather year by using a rolling average of either the past 20 years, or 10 years, or whatever the parties negotiate as a “normal” weather year.

At the end of the rate year, actual revenues are compared to target revenue by class and either refunded or charged to the customer class over the following year through the decoupling

[18] CEA at (e)(1).

surcharge. If the under-collection is significantly lower than the target, an annual adjustment may result in rate shock to customers, and negatively affects the utility's cash flow. Therefore, the utility should be allowed to adjust the decoupling charge more frequently if it appears that actual revenues are significantly below the target.

ii. Should other factors (e.g., weather, nonprogram-related reductions) be taken into account?

Two proposed ways to account for lost revenue include either through a revenue decoupling mechanism or a lost revenue adjustment mechanism ("LRAM"). As discussed above, the Company recommends a revenue decouple mechanism. The Company cautions the Board against adopting an LRAM, which attempts to directly tie lost revenue to efficiency measures, taking into account other factors that may reduce energy use (weather, etc.), due issues with implementation and possibly discouraging the achievement of the state's broader clean energy goals.

Specifically, an LRAM requires a complicated evaluation, measurement and verification process to review energy savings achieved.[19] In particular, the Board, utilities, and other stakeholders would be tasked with linking energy reductions to specific measures or events, whether its energy efficiency, adoption of distributed generation, or weather. The development of such a process that attempts to accurately measure the energy reductions linked to efficiency measures can be costly, administratively burdensome, and increase the likelihood of contentious administrative proceedings. [20]

Second, an LRAM also still ties, to an extent, utility profit to sales. Therefore, the adoption of such a mechanism may inadvertently frustrate other efforts that reduce demand pursued by the utility such as behind the meter renewables. This is due to the fact that utilities will still lose the revenue necessary to operate due to other market efforts.[21] This may consequently discourage the advancement of other state goals that reduce energy usage

d. If the Board allows for recovery of lost revenues, should authorized return on equity be subject to adjustment based on reduced risk?

No. Implementing EE programs introduces risk by subjecting utilities to penalties for failing to meet certain predefined energy efficiency goals. Allowing for recovery of lost revenues reduces but does not offset this risk. For example, in decoupling, the utility must forecast sales. If the

[19] *Lost Margin Recovery*, American Council for an Energy Efficient Economy, accessed at https://aceee.org/sector/state-policy/toolkit/utility-programs/lost-margin-recovery
[20] *Lost Margin Recovery*, American Council for an Energy Efficient Economy, accessed at https://aceee.org/sector/state-policy/toolkit/utility-programs/lost-margin-recovery
[21] https://www.synapse-energy.com/sites/default/files/SynapseReport.2014-05.SC_.Nevada-DSM.14-057.pdf at page 3

proceeding is negotiated, the forecast may be negotiated with other parties. Whatever sales forecast is used, the utility will be conducting other utility business, but its revenue is now fixed. Additional sales above the forecast will be lost. For example, if unexpected events occur, such as an unusually hot summer or a new, very large customer enters its territory, the Company will not receive the revenues from these events. Yet, the utility must maintain its infrastructure and provide additional electric service without an increase in revenues. Therefore, even with a lost revenue mechanism the utility will have significant risk, and the return on equity should not be adjusted if a lost revenue mechanism is in place.

4. Performance Incentives and Penalties

a. How should performance incentives be structured?

The incentives need to be in place at the beginning of the EE program to encourage the utility to meet and even exceed its energy reduction target. The Board structure should provide appropriate flexibility to allow the utility and the Board to review EE programs and make changes to reach the utility's energy target. That flexibility includes allowing the utilities to implement EE programs on a portfolio basis rather than individual specific program targets. Penalties should not be implemented until an adequate "ramp up" period has passed. Penalties too early in the EE programs will not create the energy savings New Jersey needs. The ACEE has recognized that EE programs require a ramp up period, particularly where there is regulatory lag in in examining the EE programs.[22]

i. Should incentives and penalties be handled as a percentage adjustment to earnings or as specific dollar amounts? Why? How?

Using specific dollar amounts allows for a simple and transparent determination of credits to customers, it also establishes more effective incentives than adjustments to earnings.

ii. Should incentives and penalties be scalable based on performance? If so, in what manner?

Yes, incentives and penalties should be linearly scalable. There was a near consensus on this question at the stakeholder meeting on October 31 in Trenton. Virtually everyone that spoke believed not only that incentives should be scalable but further that penalties should be minimal to non-existent in the early ramp-up years.

RECO's parent company, Orange and Rockland Utilities, Inc., has experience implementing energy efficiency programs with linearly scalable incentives. The New York Public Service Commission ("NYPSC") established a target MWh reduction and a $/MWh incentive. For

[22] *Energy Efficiency Resource Standards: A New Progress Report on State Experience*, page 24, ACEE (April 2014). Available at https://aceee.org/sites/default/files/publications/researchreports/u1403.pdf

example, if achievement is greater than 80% of the target, then an incentive is earned. For achievement of 100% of the target, 100% of the incentive is earned, for achievement of 90%, 50% of the incentive is earned. For achievement less than 70% of the target, a penalty is imposed, where 50% of the target is penalized at 100% of the incentive. For achievement of 60% of the goal, a 50% penalty is imposed, and at 70% achievement to penalty is avoided. There is a dead band from 70-80% with no incentive or penalty.

iii. How should incentives and penalties be reconciled? Should incentives and penalties be "refunded" to ratepayers through rate reduction?

As explained above in the response to 3(c)(i) above, any collection/payment should be performed on an annual basis, and through a surcharge (rather than base rates), which would be updated to reflect any over- or under-collection, avoiding the need to accumulate large deferred balances.

The incentive should be collected from customers through a surcharge with an annual true-up, as provided in the CEA, [23]and credited to the utility to incent the achievement of energy reduction goals. Penalties should be credited to customers, which in effect reduces customer rates.

b. If the Board establishes performance incentives and penalties, what level of total incentives and penalties is reasonable?

As noted above, the Clean Energy Act at N.J.S.A. 48:3-87.9(e)(2) provides that cost recovery should include performance incentives or penalties as determined by the Board through an accounting mechanism established pursuant to N.J.S.A. 48:3-98.1.

Reasonably achievable performance incentives should be established to provide utilities with the positive incentive for implementing successful energy efficiency programs. States have established a variety of incentives.[24] Some states have increased the utilities' ROE, or returned a percent of program costs, or if the EE program meets 100 % of target, the utility is eligible for some particular amount of an incentive payment, often expressed as a percentage of total program spending or budget in a tiered structure. The ACEE performed a survey of state performance incentives in a recent report, and found many variations of performance incentives[25] The performance incentives may vary from utility to utility. As noted above, performance incentives should be implemented after a "ramp up" period.

---

[23] CEA (e)(1).

[24] *Performance Incentives*, ACEE (2012). Available at https://aceee.org/sector/state-policy/toolkit/utility-programs/performance-incentives

[25] Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency, ACEE (May 2015). Available at https://www.puc.nh.gov/EESE%20Board/EERS_WG/beyond_carrots_national_review_of_place.pdf

November 14, 2019

Via Electronic Mail (energyefficiency@bpu.nj.gov)

Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue
3rd Floor, Suite 314
PO Box 350
Trenton, NJ 08625-0350

Re: Cost Recovery for Energy Efficiency Programs

Dear Ms. Camacho-Welch:

On behalf of the Sierra Club and its more than 20,000 New Jersey members, we submit the following comments in response to the solicitation issued by the Board of Public Utilities (BPU) on 10/21/2019.

Efficiency and peak demand reduction are of utmost importance to our members as both are critical to meeting New Jersey's energy decarbonization objectives in a cost effective and low-impact way. We thank the BPU for consideration of our perspective.

I. Background and Relevant Statutory Language

On May 23, 2018, Governor Murphy signed into law the Clean Energy Act of 2018 (the Act), which created the annual energy efficiency requirements that are the subject of this proceeding. As stated in the solicitation, the Act dictates that the Board shall require (a) each electric public utility to achieve, within its territory by its customers, annual reductions of 2 percent of the average annual electricity usage in the prior three years within five years of implementation of its electric energy efficiency program; and (b) each natural gas public utility to achieve, within its territory by its customers, annual reductions in the use of natural gas of 0.75 percent of the average annual natural gas usage in the prior three years within five years of implementation of its gas energy efficiency program.[1] The savings targets of 2% for electricity and 0.75% for gas represent floors, not ceilings, as the Act further directs the BPU to set targets in excess of these

[1] N.J.S.A. 48:3-87.9(a).

percentages based on what it determines to be the "full economic, cost-effective potential in each service territory."[2]

The Act also requires the BPU to adopt and update regularly Quantitative Performance Indicators (QPIs) for each public utility, which include reasonably achievable targets for energy usage reduction and peak demand reduction.[3]

The Act makes the following provisions related to cost recovery related to utility efficiency programs:

> *Each electric public utility and gas public utility shall file annually with the board a petition to recover on a full and current basis through a surcharge all reasonable and prudent costs incurred as a result of energy efficiency programs and peak demand reduction programs required pursuant to this section, including but not limited to recovery of and on capital investment, <u>and the revenue impact of sales losses resulting from implementation of the energy efficiency and peak demand reduction schedules,</u> which shall be determined by the board pursuant to section 13 of P.L. 2007, c. 340 (C.48:3-98.1).*[4] [emphasis added]

II. Full Revenue Decoupling is necessary to remove utility disincentives and protect ratepayers.

The ability for recovery of lost revenues in addition to cost recovery for efficiency program expenses should remove the throughput incentive that traditionally encourages utilities to increase rather than decrease energy sales. This should make them agnostic about efficiency, rather than in opposition to it. Reasonable performance incentives for exceeding targets can make them willing partners in accelerating deployment.

The Act clearly allows utilities to recover lost revenues associated with efficiency program implementation, but does not specify a mechanism by which this must be done. There are several options available to the BPU. We strongly recommend that full revenue decoupling be employed as a method of allowing cost recovery, rather than a lost revenue recovery mechanism (LRAM).[5]

With full revenue decoupling, the BPU determines the level of revenue required for a utility to provide reliable service throughout its territory, and make the investments necessary to address future service needs. The energy rates then fluctuate based on actual volumetric sales to ensure that the product of rates and electricity sales equals the revenue requirement. If total

---

[2] N.J.S.A. 48:3-87.9(a).
[3] N.J.S.A. 48:3-87.9(c)
[4] N.J.S.A. 48:3-87.9(e)(1).
[5] For further analysis of options, we recommend the following report from the Regulatory Assistance Project: Revenue Regulation and Decoupling: A Guide to Theory and Application. November 2016. Available at:
https://www.raponline.org/knowledge-center/revenue-regulation-and-decoupling-a-guide-to-theory-and-application/

consumption goes down for any reason (e.g. efficiency savings, mild weather, economic downturn), then rates are automatically adjusted upward. Conversely, if sales are higher than expected, rates will go down.

In contrast, an LRAM mechanism only creates a surcharge paid by customers for lost energy sales resulting from implementation of efficiency programs. However, it is possible that efficiency programs could be implemented against a backdrop of frequent temperature extremes and/or load growth driven by strong economic activity. In this scenario, overall energy sales and revenue could increase even as efficiency programs are implemented, thus padding utility profits with no tangible benefit to consumers. LRAM transfers only go in one direction - from the customer to the utility; whereas decoupling adjustments go in either direction depending on the totality of conditions.

Under the draft Energy Master Plan and associated Integrated Energy Plan, New Jersey will be working to almost completely electrify building energy use and transportation. As a result, electricity consumption is projected to roughly double between 2020 and 2050,[6] despite the fact that we will be simultaneously be pursuing all cost effective energy efficiency through this program.

In a world with such rapidly increasing load growth, decoupling becomes even more important to protect consumers; combining a fixed revenue requirement with growing sales volume over the long term will usually result in rate reductions for consumers. If utilities want to increase their revenue requirement because they want to upgrade the distribution grid to meet increasing demands, they would need to seek such an increase in a rate case. On the other hand, if they have fixed rates, an adder from an LRAM, and consistently increasing sales volume, profits would steadily increase and there would be little incentive for them to seek a rate case and open their books.

When establishing the revenue requirement for the utility under a decoupled rate design, the BPU must be mindful of the multiple revenue and cost recovery pathways related to a particular investment, and be sure that ratepayers are not overpaying for the efficiency benefits. For example, a utility may propose to install smart meters as part of an efficiency strategy that can result in behavioral energy savings and peak load curtailment, among other outcomes. Typically, such an investment would be treated as a capital expenditure, and the utility would earn a rate of return. But unlike many other capital expenses, this investment could also result in generation of performance incentive revenue, and the technology may enable other revenue streams down the line. It may be appropriate for the rate of return to be lower than a typical capital investment to account for the totality of payments a utility could receive.

III. The role of performance-based incentives and penalties

[6] New Jersey Integrated Energy Plan, 11/1/2019, Public Webinar, Slide 22. Available at: https://nj.gov/emp/pdf/NJ%20IEP%20Public%20Webinar%20Nov1%20Final.pdf

Allowing utilities to recoup the costs of efficiency programs and the lost revenue associated with successfully implementing those programs only serves to make utilities financially agnostic about energy efficiency. To accomplish the ambitious decarbonization goals in the EMP at minimum cost to ratepayers, we need the BPU to set ambitious QPIs that truly reflect all cost-effective efficiency, and we need utilities to consistently meet and preferably exceed those targets. We recommend a combination of incentives and penalties be used in order to accomplish this.

Penalties are the bedrock of any regulation, as strong penalties are necessary to ensure compliance. In neighboring Pennsylvania, utilities that fail to meet energy savings targets are subject to fines of between $1 million and $20 million dollars,[7] and as a result all utilities have met their final requirements in every phase of the program thus far. However, a lack of incentives has meant that utilities tend not to exceed their targets, sometimes opting instead to slow implementation or stop offering programs altogether when targets are met, unless they can apply excess savings to future targets.

Providing reasonable incentives for over-performance would prevent that utility behavior, thereby making efficiency programs more consistent and accessible to consumers. While the provision of incentives would come at a cost to ratepayers, they should be set at levels that guarantee net savings. They should also be carefully targeted to maximize system-wide energy savings and also some broader societal goals.

The American Council for an Energy Efficiency Economy (ACEEE) has analyzed the results of four different categories of efficiency performance incentive programs across 25 states, and we strongly recommend the BPU consult their research.[8] In particular, we see value in establishing multifactor incentives, which reward not just the exceedance of energy savings targets, but other factors as well. For example, BPU could set performance incentives that reward:

- Efficiency measures that are targeted to achieve peak demand reduction, particularly in areas were transmission congestion exists. Even modest peak demand reductions can cause significant reductions in locational marginal pricing (LMP) for electricity due to very steep LMP cost curves during peak times;
- Success in providing efficiency programs to high percentages of traditionally hard-to-reach customers who need the programs most: low income residential customers and small businesses. Efficiency program participation essentially guarantees that these customers' utility bills will be reduced even if electricity rates increase;
- Projects that produce non-energy benefits, such as pollution reduction and job creation in overburdened and underserved communities, particularly electrification projects; and
- Provision of exceptional reliability and levels of customer service.

[7] PA Consolidated Statures, Title 66 § 2806.1(f)(2)
[8] Nowak et al, 2015, Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency, Report U1504, Available at: https://aceee.org/research-report/u1504

To meet our decarbonization goals, our energy system must be completely transformed from fossil to renewable energy. The more we save through deployment of cost-effective efficiency, the less we have to spend on new renewable generation and transmission. Increased reliance on variable generation will make demand response much more valuable as well. When creating the cost recovery and incentive policy, the BPU must consider not just the costs and benefits to ratepayers as they exist today, but also as they are projected to exist as we implement our EMP.

IV. Conclusion

We appreciate the opportunity to comment on this docket. We urge BPU to develop and finalize an efficiency rulemaking as quickly as possible. The rulemaking should structure cost recovery and incentive policies to encourage utilities to pursue all cost-effective efficiency and simultaneously ensure that ratepayers are getting maximum return on their investment in these programs as we transition to a fully electrified, renewable energy economy.

Respectfully Submitted,

Thomas Schuster
Senior Campaign Representative
Sierra Club
PO Box 1621
Johnstown, PA 15905
(814) 262-8355
tom.schuster@sierraclub.org

Jeff Tittel
Director
Sierra Club New Jersey Chapter
145 West Hanover Street
Trenton, NJ 08618
(609) 656-7612
jeff.tittel@sierraclub.org

SJI Utilities

520 Green Lane
Union, NJ 07083

T: (908) 662-8448
F: (908 662-8496

dfranco@sjindustries.com

Deborah M. Franco, Esq.
Director, Regulatory Affairs Counsel

November 14, 2019

VIA UNITED PARCEL SERVICE & ELECTRONIC MAIL (EnergyEfficiency@bpu.nj.gov)

Honorable Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 S. Clinton Ave., 9th Floor
P.O. Box 350
Trenton, NJ 08625-0350

Re: October 31, 2019 Energy Efficiency Technical Meeting - Cost Recovery

Dear Secretary Camacho-Welch:

On October 31, 2019 New Jersey Board of Public Utilities Staff held an energy efficiency stakeholder technical meeting focused on cost recovery ("October 31 Meeting"). The October 21, 2019 Notice ("October 21 Notice") of that meeting provided for the submission of written comments by November 14, 2019. These comments are being submitted on behalf of South Jersey Gas Company ("SJG") and Elizabethtown Gas Company ("ETG") (collectively, the "Companies") in accordance with the October 21 Notice.

SJG and ETG remain committed to supporting the State's energy efficiency goals and appreciate the key role they play in achieving the energy consumption reduction targets contained in the New Jersey Clean Energy Act of 2018 (the "Act"). The Companies have been regularly engaged in the promotion of energy efficiency in New Jersey for many years with much success and will continue to support programs that encourage a reduction in energy consumption.

As it relates to cost recovery, through these comments, the Companies incorporate and support by reference the comments submitted by Gabel and Associates, Inc. ("Gabel Comments"). Under the Act (N.J.S.A. 48:3-87.9.e.(1)), utilities are entitled to recover on a full and current basis all reasonable and prudent energy efficiency program costs, including a return of and on capital investments, as well as the impact of lost sales revenues. It is vital that energy efficiency cost recovery constructs are designed in a manner consistent with the robust goals set forth in the Act. This can only be achieved by amortizing program costs over the weighted-average measure life of the EE portfolios, decoupling utility distribution revenues from sales volumes, and implementing incentive and penalty structures that are simple and provide clear signals to maximize energy savings.

SJG and ETG appreciate the opportunity to submit these comments and look forward to continued collaboration with all stakeholders.

Respectfully yours,

Deborah M. Franco

/DMF

uplight

Aida Camacho-Welch
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Post Office Box 350
Trenton, NJ 08625-0350

Re: New Jersey Energy Efficiency Transition Stakeholder Group, Energy Efficiency Technical Meeting – Cost Recovery, October 31, 2019, Written Comment.

Uplight appreciates the opportunity to share our perspective and expertise with the New Jersey Board of Public Utilities ("BPU") on program cost recovery under the Clean Energy Act ("CEA") through both in-person participation and follow up through these written comments. The State of New Jersey has made a clear commitment to decarbonizing its energy industry, and accelerated investment in energy efficiency technologies, business models, channels, and consumer engagement will be the key elements in fulfilling that commitment in the most cost-effective and consumer-centric way.

Instead of repeating our verbal comments from October 31st or simply echoing the comments submitted by EEA-NJ, we would like to submit two items that offer insights to the overall issues. First, we have prepared a conceptual model of the rate impacts of expensing vs. amortizing the energy efficiency investments, and second we have commissioned a recently finalized study by the Brattle Group evaluating the relative effectiveness of energy efficiency program administrator models and incentive mechanisms as related to program effectiveness.

Expense vs. Amortization

While amortization does result in the addition of financing costs, the benefits of minimizing rate shock and lining up the energy consumer benefits with the repayment of principle and interest greatly outweigh these costs. Specifically, there are benefits of depreciation because the utilities' cost of capital is much lower than the typical cost of consumer credit, which is not accessible to many energy consumers, particularly for the low and middle income (LMI) residential customer segment. Figure 1, below, provides a conceptual representation of this alignment of costs and benefits to the consumer of expensing vs. amortization.

With amortization and a properly designed, tracked, and reviewed energy savings portfolio the net impact of the cost recovery and energy savings will result in **lower energy bills for consumers, systemic greenhouse gas emission reductions, newly created energy efficiency industry jobs, and utilities earning a return** on their energy efficiency investments.

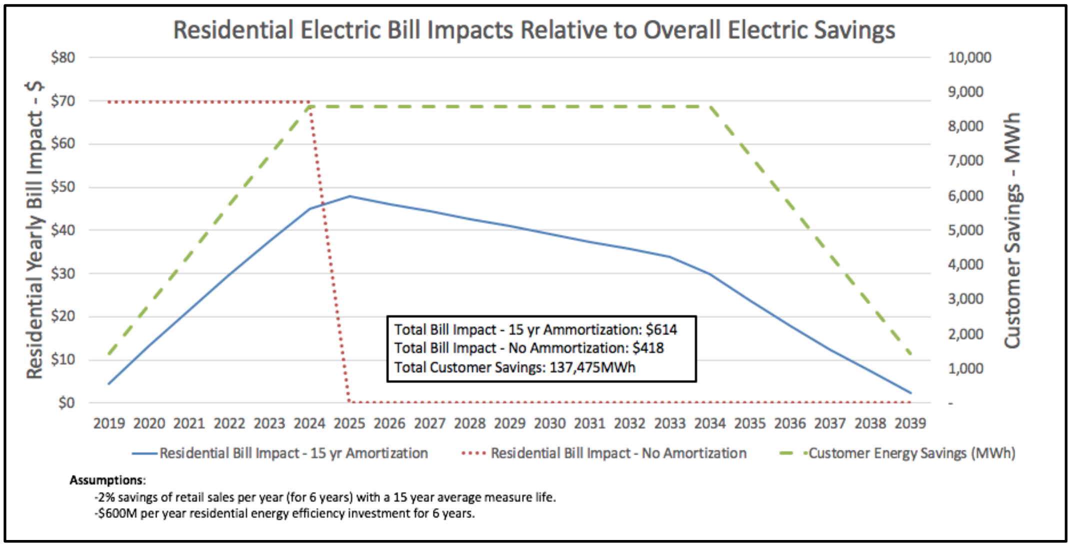


Figure 1: Residential Bill Impacts of Expensed vs. Amortized Investment for a Conceptual Five-Year EE Program

Program Administration and Utility Incentives

As shared in our oral comments on October 31st, it is broadly accepted by the energy efficiency industry writ large that decoupling is a necessary, but not sufficient, cost recovery mechanism to align incentives and ensure ongoing financial sustainability of utilities operating in jurisdictions with high energy efficiency targets. In order to better understand which combinations of incentives most efficiently and effectively deliver energy efficiency performance, Uplight commissioned The Brattle Group to both qualitatively and quantitatively research and analyze performance across all 50 states and the District of Columbia. The results of this research are presented in the attached report, *Energy Efficiency Administrator Models: Relative Strengths and Impacts on Energy Efficiency Program Success*.

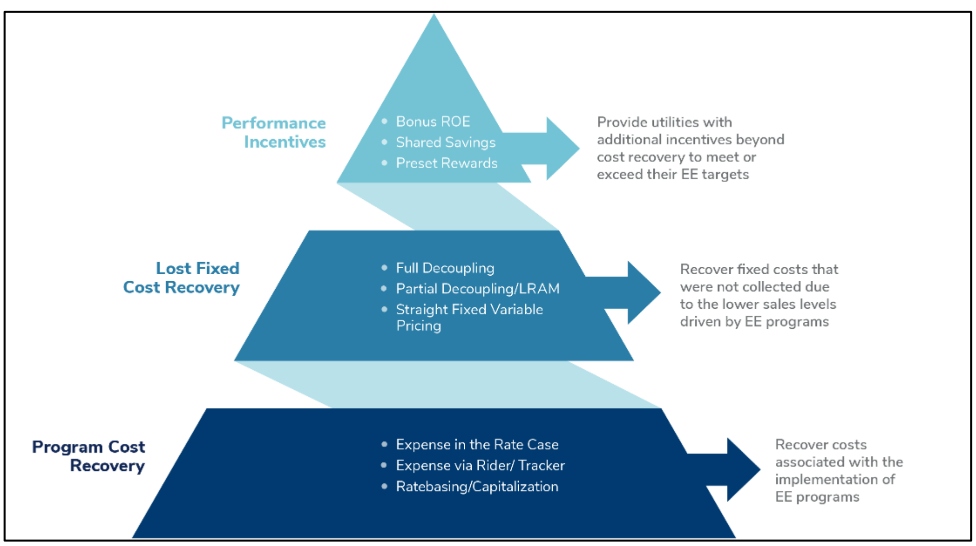


Figure 2: EE Investment Cost Recovery Mechanism Design – Brattle Report

This research shows that energy efficiency programs, as measured by overall savings, adjusted for per capita energy efficiency spending, **perform best when both decoupling and performance incentive mechanisms are in place.** Further details, including a qualitative evaluation of the pros and cons of utility, third party, and state-run program administration, and selected case studies of specific state approaches to utility administration, are included in the report as well.

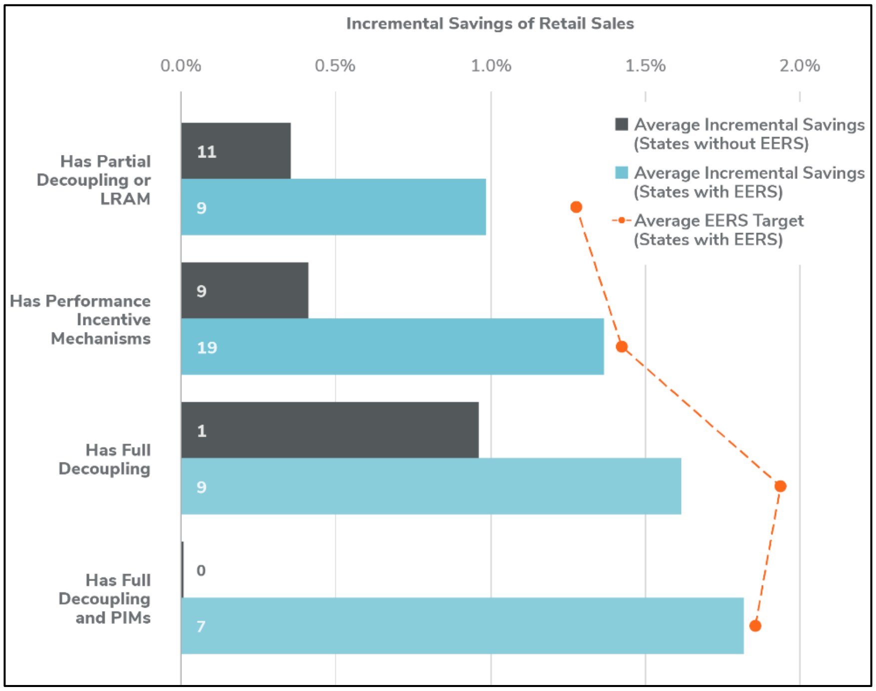


Figure 3: EE Performance Across Cost Recovery Regimes – Brattle Report

Conclusion

The design of energy efficiency investment cost recovery mechanisms is an important part and can help make New Jersey a model jurisdiction for others to follow. We trust these comments, along with those submitted by our trade association, the Energy Efficiency Alliance of New Jersey (EEA-NJ,) are helpful to that end. Thank you for your continued commitment gathering input from interested stakeholder; we look forward to continued engagement in this process.

Sincerely,
Tanuj Deora
Vice President, Market Development and Regulatory Affairs
Uplight

Attachment:
Report: *Energy Efficiency Administrator Models: Relative Strengths and Impacts on Energy Efficiency Program Success*. Prepared for Uplight by Sanem Sergici and Nicole Irwin, The Brattle Group, November 2019.