Earning Adjustment Mechanisms for Energy Efficiency in New York

Addressing the Department of Public Service Staff's Energy Efficiency and Building Electrification Report

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1. INTRODUCTION

On December 19, 2022, New York Department of Public Service Staff (Staff) issued its Energy Efficiency and Building Electrification (EE/BE) Report, which solicited feedback from stakeholders on current ratepayer-supported EE/BE programs administered by the state's utilities and the New York State Energy Research and Development Authority (NYSERDA).[1] In the report, Staff ask stakeholders to respond to a series of questions that the Public Service Commission (PSC or Commission) should consider as it deliberates the future of EE/BE programs in New York.

One topic of interest is the Earning Adjustment Mechanisms (EAM) that reward utilities for EE/BE performance and drive specific outcomes. EAMs for EE/BE programs have been in place in New York since 2016 and have since evolved into a series of utility-specific metrics. In the EE/BE Report, Staff question whether utility shareholders should be financially rewarded for meeting energy efficiency and building electrification targets that are necessary to achieve the greenhouse gas (GHG) emissions reductions mandated by the *Climate Leadership and Community Protection Act* (CLCPA).[2] Staff also question whether the utilities' current EAMs appropriately focus on state policies or reflect suitable baselines.[3] In this report, we provide context and guidance for responding to Staff's concerns and questions regarding EAMs.

The CLCPA is the preeminent climate law in New York and is the most relevant policy for guiding energy efficiency EAMs. The CLCPA stipulates that New York must achieve reductions in economywide GHG emissions of 40 percent by 2030 and 85 percent by 2050 from 1990 levels. Specific to energy efficiency, the CLCPA sets a statewide goal of reducing energy use by 185 trillion British thermal units (Btu) from the 2025 forecast. The CLCPA also sets other important policy goals related to electrification, service to disadvantaged communities, and jobs.

EE/BE programs are necessary for achieving the CLCPA's electric sector targets and economywide emission reduction goals. For those EE/BE programs to be successful, the utilities need financial motivation to implement efficient, cost-effective EE/BE resources. EAMs provide that financial motivation. EAMs push utilities to go "above and beyond" minimum requirements, unlocking the full potential of EE/BE programs.

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[1] Department of Public Service Staff, "Energy Efficiency and Building Electrification Report," Cases 14-M-0094 and 18-M-0084, December 19, 2022.

[2] Id, p. 15. Staff's observations and questions are repeated for ease of reference in Appendix A. Staff's Observations & Questions for Comment.

[3] Senate Bill S6599, https://www.nysenate.gov/legislation/bills/2019/S6599.

1.1. Responses to Staff's questions

Below we summarize our responses to Staff's questions (in italics) from the EE/BE Report.[4]

Q12. Under what circumstances, if any, should utility shareholders be financially rewarded for meeting energy efficiency and building electrification targets that are necessary to achieve the GHG emissions reductions mandated by the CLCPA? Should the Commission consider adopting a negative shareholder revenue adjustment if energy efficiency and building electrification targets are not achieved?

> A12. Utility shareholders should be financially rewarded when the utility achieves superior performance in implementing EE/BE programs beyond established EE/BE targets.
> The Commission should consider adopting an incentive structure that includes an asymmetrical dead-band around the target. A penalty would apply when the utility's performance is substantially below the target, while a reward would apply when the utility's performance is above the target (although not necessarily significantly above the target). The Commission should not adopt a penalty-only structure if utilities do not achieve EE/BE targets; the reward component of the incentive mechanisms provides important financial motivation to the utilities (see Section 4.6).

Q13. Given Staff's concerns about the current energy efficiency and building electrification EAM Share-the-Savings metrics detailed in this report, is there a more appropriate positive revenue incentive structure for utility shareholders? Upon what metric(s) should energy efficiency and building electrification performance be measured to best align the State's clean energy policies with a potential shareholder incentive? How should the targets and the value of the shareholder incentive be determined? Should all utilities be subject to the same shareholder incentive design?

> A13. A positive revenue incentive structure for utility shareholders should center on the Total System Benefits (TSB) metric. The TSB aggregates all electric and/or gas system needs and environmental externalities that accrue to EE/BE resources; this approach comprehensively values EE/BE resources to meet future electric system needs and environmental policy goals. An EAM based on the TSB would best align the State's clean energy policies with shareholder incentives (see Section 4.2).
>
> Shareholder targets should be informed by studies that assess the costs and quantities of available EE/BE resources (e.g., as provided in potential studies) and should encourage the utilities to achieve the economic (i.e., cost-effective) level of potential. The shareholder incentive values should scale with utility performance and should consider portfolio-level cost-effectiveness.

[4] Department of Public Service Staff, "Energy Efficiency and Building Electrification Report," Cases 14-M-0094 and 18-M-0084, December 19, 2022, page 15.

Stakeholders should review and participate in deciding EAM targets and incentives in a single EE/BE proceeding impacting all utilities, and those decisions should align with the EE/BE proceedings so utilities can adjust their EE/BE plans based on the EAM targets and incentives. Targets and incentives could be utility-specific to reflect differences in service territories (see Section 4.3).

All utilities should be subject to the same shareholder incentive design (see Section 4.1).

2. PURPOSE OF EAMS

The fundamental purpose of energy efficiency and building electrification EAMs is to focus management attention on and reward superior outcomes.[5] If well designed, EAMs can serve a valuable purpose and provide benefits to ratepayers by aligning the utility's financial interests with public policy goals in a way that drives more innovative and efficient outcomes. The Commission recently restated the importance of utility incentives, stating "incentives necessarily play a role in utility regulation and have many proven successes over the years."[6]

In this section, we address some of Staff's concerns regarding whether utilities should be rewarded for energy efficiency and building electrification activities that are essential for meeting CLCPA targets.

2.1. Utility business models and policy goals

Traditional cost-of-service utility regulation

Under traditional cost-of-service utility regulation, investor-owned utilities have a financial incentive to continually increase both capital investments and energy sales. During a rate case, a utility designs rates to recover its revenue requirement. The revenue requirement is the total amount of money the utility must collect from customers through sales to pay all costs, including a reasonable return on its investments. Once rates are established, on a short-term basis, a utility is motivated to increase sales to collect more revenue and increase profit (referred to as the "throughput incentive"). Over the longer term, a utility is incented to expand service and grow demand to increase capital investments to further increase its rate base on which it earns a rate of return.

Traditional cost-of-service utility regulation is a utility incentive mechanism. This traditional business model was designed for a period when utilities were required to meet increasing customer demand. The

[5] State of New York Public Service Commission, "Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025," Case 18-M-0084, January 16, 2020, page 106.

[6] State of New York Public Service Commission, Order Adopting Gas System Planning Process, Cases 20-G-0131 and 12-G-0297, May 12, 2022, page 42.

cost-of-service model aligned with the primary policy goal of the time, which was to expand customer access to utility services. For decades, utilities have had a financial incentive to increase supply-side investments through capital improvements and increased energy sales. Now, policy goals are shifting away from expanding customer access toward achieving GHG reductions and other goals, yet the utility's business model has not evolved at the same rate as policy goals.

EE/BE programs and traditional regulation

EE/BE programs and associated policy goals are at odds with the traditional utility business model. First, EE/BE programs reduce sales for electric and gas utilities, thereby reducing the utilities' potential revenue. EE/BE programs' impact on sales conflicts with the utility's throughput incentive. Second, EE/BE programs may reduce the need for capital investments (the utility's long-term financial incentive mechanism) by reducing load on the system, which leads to less wear-and-tear, improved reliability, and lower capacity needs. For electric utilities, electrification measures may partially offset these impacts because they typically increase electricity sales and may require electric infrastructure upgrades to accommodate increases in load.

To overcome these tensions, utilities need explicit financial incentives to design and implement successful, innovative EE/BE programs. There are three common regulatory tools that can help shift a utility's perspective towards implementation of EE/BE programs, often referred to as a "three-legged stool."

1. Provide cost recovery. Allow the utility to recover EE/BE program costs on a timely basis. This addresses utility concerns regarding cash flow and reduces cost recovery risk. We address this concept in more detail in Section 3.1.

2. Mitigate the throughput incentive. Implement a mechanism to address reductions in sales associated with EE/BE resources. Such a decoupling mechanism addresses the utility's short-term incentive to increase sales to increase profit and reduces utility risk by protecting against under-recovery of authorized revenue requirements, thereby addressing this disincentive to implement energy efficiency programs. Decoupling mechanisms have been in place in New York since 2007.

3. Incent performance. EAMs can provide a utility with financial rewards or penalties related to its achievement of specific targets. EAMs are used to positively influence utility behavior towards the advancement of energy policy goals. EAMs can help address the utility's long-term incentive to increase capital investments to increase profit. We address EAMs in more detail throughout this report.[7]

EAMs to align utility motivations with policy goals

The utility's business model is in tension with policy goals to implement EE/BE programs. Without effectively designed EAMs, a utility does not have an incentive to expand EE/BE programs beyond any

[7] National Conference of State Legislatures, "State Policies for Utility Investment in Energy Efficiency," April 2019.

minimum target established by regulators. Specifically, a utility is motivated to (1) meet but not exceed EE/BE targets and (2) use every dollar in its EE/BE budget. The utility is not motivated to achieve savings that go beyond the target, nor is the utility motivated to spend less than budgeted to meet or exceed the targets. Effective EAMs encourage utility staff to monitor spending and achieve targets because they will increase the utility's profit. Utility staff are inspired to develop and adopt innovative approaches to program implementation that reduce costs while increasing savings. Used in this manner, EAMs align the utility's business model with EE/BE policy goals in a way that traditional cost-of-service utility regulation cannot.

Without EAMs, the burden to monitor utility spending and goal achievement falls to regulatory staff. This approach is inefficient and ineffective. Regulatory staff do not have the same knowledge of EE/BE program operations as utility staff and so cannot readily identify areas for innovation or cost cutting. It is difficult and time-consuming for regulatory staff to prove imprudent spending by the utility. It is inherently much more challenging for regulatory staff to audit incentives deployed in a portfolio of EE/BE measures than it is for a large infrastructure investment project such as a substation. A more optimal approach is to align the utility's financial interests with policy goals using EAMs, such that the utility internally monitors EE/BE programs.

New York policy already permits ratepayer support of utility shareholders through the rate of return established in utility rate cases. A utility's recovery of EAMs for EE/BE programs is no different. Investments that enable demand-side resources should be treated equally with investments in supply-side resources in this regard.

2.2. Benefits of EAMs

Staff ask, if energy efficiency and building electrification activities are essential for meeting CLCPA targets, why do utilities need incentives to implement the same programs? The answer is that, while cost recovery and decoupling mechanisms can effectively mitigate a utility's *disincentive* to EE/BE program implementation, EAMs typically provide utilities with *positive* motivation to implement EE/BE programs and to innovate to deliver greater energy and cost saving than are established by EE/BE program targets. Without EAMs, the utility business model still favors capital investments. EAMs seek to address this issue by allowing utilities to earn an incentive on over-achieving EE/BE goals.

First, EAMs can motivate utilities to achieve greater savings. In 2019, the American Council for an Energy-Efficient Economy (ACEEE) found that states with EAMs for energy efficiency programs had significantly higher program savings. Specifically, the authors found the following:[8]

- States with EAMs averaged more than twice the energy savings of states without performance incentives.

[8] ACEEE, A Models Comparison in Pennsylvania. Submitted to the Pennsylvania Public Utilities Commission. February 19, 2019, available at https://www.aceee.org/topic-brief/models-comparison-pa.

- There is a strong correlation between states with the highest savings targets and those with performance incentives.
- The presence of EAMs may facilitate a state's ability to establish strong energy efficiency goals by encouraging utilities to cooperate rather than oppose energy efficiency policy.
- Utilities tend to be successful in earning their performance incentives.

This suggests that without EAMs utilities are likely to achieve fewer savings, and ratepayers forgo key benefits.

Second, EAMs motivate utilities to implement programs that go "above and beyond" the minimum thresholds established by regulators. Without EAMs, a utility's only focus is to implement EE/BE programs that meet certain state requirements. Consequently, the utility may not focus on other, possibly less tangible goals such as customer service, reaching specific customer groups, or innovative program design and delivery. EAMs encourage utilities to strive for superior performance, as subpar performance is likely to result in negative public response (or financial penalties). EAMs ensure utilities will make every effort to over-achieve the stated targets, rather than muddle through to reach the bare minimum.

Third, EAMs can influence utility decision-making and support equalizing supply-side and demand-side technologies. EAMs seek to incorporate investments in demand-side resources into the existing utility cost-of-service business model. To this end, the EAMs need to be of sufficient value to "motivate boards of directors and utility executives to drive the shift in culture, behavior, and motivation to pursue energy efficiency investments, which ultimately lower spending."[9] Staff recognize the influence EAMs have on utilities, stating, "by design and in practice EAMs and other incentive mechanisms have influenced the way in which utilities design and implement their portfolios of energy efficiency and building electrification programs."[10]

Given the many benefits of EAMs, the Commission should continue using EAMs to financially reward utilities for exceeding EE/BE targets.

2.3. Designing EAMs

EAMs provide multiple ratepayer benefits, many of which are not fully reflected in rates, and are an appropriate tool to motivate utilities to achieve particular outcomes. However, the success of EAMs depends on their design. EAMs must be well-designed to be successful and achieve the benefits identified here.

[9] Energy Efficiency Procurement & Markets Working Groups of the Clean Energy Advisory Council, "Energy Efficiency Procurement and Markets Report," May 19, 2017, page 47.

[10] Department of Public Service Staff, "Energy Efficiency and Building Electrification Report," Cases 14-M-0094 and 18-M-0084, December 19, 2022, page 15.

EAMs, including their design and targets, should evolve over time. It is challenging for regulators and stakeholders to design EAMs right the first time. Also, certain EAMs may no longer be needed once achieved by the utility, and prior EAM experience and results can inform future EAM design and targets. If not effectively designed or revisited periodically, EAMs could misplace utility motivation, result in perverse or unintended consequences, and be an inappropriate use of ratepayer dollars. This may lead regulators to question the effectiveness of EAMs and consider scaling back or even removing EAMs. Instead, regulators should revisit the structures, goals, and intent of existing EAMs and modify EAMs as necessary to ensure their effectiveness. Iterating on EAMs is an important element of EAM design.

There are tools available to help regulators in their EAMs evaluation and iteration efforts. In, Appendix B., *Designing EAMs*, we summarize key EAM design principles as well as steps to follow when developing the metrics, targets, and financial incentives for EAMs.[11] One key design consideration is that metrics should be periodically revisited and evaluated to ensure they continue to meet policy goals. While New York has already established EAMs, Staff's concerns indicate they could be redesigned, which could include removing current EAMs, modifying current EAMs, developing new EAMs, or some combination of these actions.

Many of Staff's concerns identified in the EE/BE Report could be alleviated by revisiting the current EAM design and structure. We encourage Staff to adopt the principles in this Appendix when developing new EAMs and when considering modifications to current EAMs.

3. RATEPAYER IMPACTS

Staff question whether ratepayers should bear the burden of financially supporting the utilities through EAMs. In this section, we review the impact of EAMs on ratepayers.

3.1. EE/BE costs as capital investments

Allowing utilities to recover costs for EE/BE programs is one leg of the three-legged stool for motivating utilities to implement EE/BE programs. A utility can recover energy efficiency investments in a variety of ways, including through base rates in rate cases, through an annual surcharge or rider proceeding, through supply rates, or a mix of these options. How energy efficiency costs are recovered can have an impact on a utility's perception of energy efficiency as a resource.[12]

[11] We borrow heavily from Synapse's *Utility Performance Incentive Mechanisms: a Handbook for Regulators*, prepared for the Western Interstate Energy Board, March 9, 2015 (WIEB Handbook), available at https://www.synapse-energy.com/utility-performance-incentive-mechanisms-handbook-regulators.

[12] Energy Efficiency Procurement & Markets Working Groups of the Clean Energy Advisory Council, "Energy Efficiency Procurement and Markets Report," May 19, 2017, page 44.

In New York, utilities shifted from recovering energy efficiency costs through a surcharge to recovering costs in distribution rates. Utilities treat EE/BE costs as a regulatory asset, consistent with traditional capital investments. The efficiency asset is then amortized over a specific period, and combined with unamortized costs on which the utility earns a rate of return.

By itself, a return on EE/BE costs does not provide the utilities with enough direction on how to invest those funds or focus resources. It does not incent utilities to innovate or channel resources to optimize the programs to meet policy goals, including maximizing savings at the lowest cost to ratepayers. This is why EAMs are needed. EAMs direct utilities to address areas that need more attention and provide additional benefits to ratepayers (see Section 2.2).

A return on EE/BE costs on its own merely incents the utilities to spend more, creating the same bias that utilities have under traditional cost-of-service regulation; utilities are encouraged to spend more for the sake of earning more. Capitalizing the EE/BE resources does not resolve the tensions between the traditional cost-of-service business model and implementing EE/BE resources (see Section 2.1).

3.2. Cost-effectiveness of EAMs

EAMs have a cost component and, all else equal, will increase costs to ratepayers. However, those costs are likely offset by the increase in savings promoted by EAMs. ACEEE previously found that states with energy-efficiency-specific EAMs had somewhat higher energy efficiency spending as a percentage of revenues (2.0 percent) than states without EAMs (1.4 percent), yet substantially higher energy efficiency savings (0.9 percent) than states without EAMs (0.5 percent).[13] This implies that EAMs are cost-effective, with the increase in savings and benefits created by the EAMs potentially outweighing the cost of the EAMs.

One EAM design principle (see Appendix B. *Designing EAMs*) relates to balancing the cost of the EAMs with the benefits to customers from the utility's improved performance brought about from the EAMs. In theory, the optimal level of utility performance is obtained where the marginal benefit from the improved performance is equal to the marginal cost of providing that increased level of performance. Identifying that optimal level requires knowledge of both the utility's marginal cost curve and customers' willingness to pay for different levels of performance. Such values could be estimated through willingness-to-pay customer surveys. In practice, however, it may be difficult to quantify the marginal costs and benefits to determine the optimal performance target. In such cases, regulators may want to apply a qualitative assessment of the potential costs and benefits to customers.[14]

Costs to ratepayers for EE/BE programs without EAMs could be greater than the cost of the programs with EAMs. Energy efficiency programs are the lowest-cost resource available to utilities, costing less to

[13] ACEEE, *Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency*, May 2015, page 24, available at https://www.aceee.org/research-report/u1504.

[14] WIEB Handbook, pages 34-35.

procure than supply-side resources.[15] The cost of implementing EE/BE programs, including the cost of EAMs to implement those programs, is included in the utility cost test (UCT). The UCT compares the cost to deliver and implement EE/BE programs by the utility with avoided electricity resource costs.[16] Any portfolio of EE/BE programs with a UCT ratio above 1.0 is a better use of ratepayer dollars rather than supply-side resource investments.[17] New York Independent System Operator estimates needing substantial increases in supply-side resources to meet CLCPA mandates, including approximately a three-fold increase in renewable generation relative to today's generating capacity.[18] Without ambitious installation of EE/BE resources, the amount of new generation becomes much greater. This shows that EAMs are cost-effective from a utility perspective relative to investment alternatives.

3.3. Program participation

Ratepayers who participate in EE/BE programs will experience direct benefits through reduced energy bills. This reduction in bills usually more than offsets their contribution to EE/BE program costs and EAMs in rates. A customer's rates may increase due to EAMs, but their overall energy bills will likely decrease after participation. Similarly, non-participants will likely experience rate reductions in the long term due to EE/BE resources through avoided energy and supply costs.

[15] Lawrence Berkeley National Lab, "Still the One: New Study Finds Efficiency Remains a Cost-Effective Electricity Resource," July 22, 2022, available at https://emp.lbl.gov/news/still-one-new-study-finds-efficiency-remains.

[16] See, e.g., New York State Electric & Gas Corporation, Rochester Gas and Electric Corporation, Benefit Cost Analysis (BCA) Handbook / Version 3.0, June 30, 2020, Section 6, available at: https://jointutilitiesofny.org/sites/default/files/NYSEG_RGE_2020_DSIP_BCA_Handbook.pdf

[17] For example, NYSEG and RG&E expect to UCT ratios well above 1.0—generally between 2 and 4—for their programs. See Tables 8-A, 8-B, 8-C, and 8-D, NYSEG and RG&E 2021. System Energy Efficiency Plan Program Years 2019 Through 2025: Update Filed January 1, 2021. Available at: https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B0AFAEDC7-FC3B-4142-80EC-D18B21ACEE82%7D. NYSEG and RG&E include shareholder incentives in the UCT test. (NYSEG and RG&E 2020. Benefit Cost Analysis (BCA) Handbook / Version 3.0. Available at: https://jointutilitiesofny.org/sites/default/files/NYSEG_RGE_2020_DSIP_BCA_Handbook.pdf.)

[18] New York Independent System Operator, "Advancing New York's Clean Energy Future with NYISO's New Class Year," March 14, 2023, available at: www.nyiso.com/-/advancing-new-york-s-clean-energy-future-with-nyiso-s-new-class-year.

4. NEW YORK'S EAMS

In this section, we address certain topics specific to New York's current EAMs process and practices as raised by Staff in the EE/BE Report.

4.1. Consistent EAM metrics

New York utilities currently have a variety of EAMs that are inconsistent across utilities. To the extent possible, all New York utilities should be subject to the same shareholder incentive design for several reasons.

- All the utilities are responsible for contributing to the state policy goals that guide the development of EAMs.
- Consistent EAM designs streamline regulatory and stakeholder review. This reduces regulatory burdens and makes it administratively easier to review the EAMs, thereby reducing costs to all parties including ratepayers.
- A single set of EAMs increases transparency and allows for easier comparison of performance across utilities.

While the EAM metric may be the same across utilities, the specific targets and financial incentives can and likely should vary by utility to reflect the unique nature of their service territories.

4.2. EAM metrics and targets

The EAM metrics should be the same as, or at least linked to, the metrics the Commission will use to measure utility EE/BE portfolio performance. We agree with Staff that "any metrics and targets developed through this process should be transparent, easily understood, meaningful, and linked in some way to ultimately reaching the State's clean energy goals."

One key EAM metric Staff and the Commission should adopt is the TSB metric. The TSB is calculated by multiplying the EE/BE measure's hourly use load shape by the hourly avoided energy costs for each year of the measure's effective life. The hourly avoided costs should account for all the benefits of energy savings and how they vary with time to capture the complete value stack of EE/BE measures. Using hourly data emphasizes installing measures that provide savings when they are most valuable to the electric or gas system.[19]

[19] Chhabra, Mohit. 2022. "One metric to rule them all: A common metric to comprehensively value all distributed energy resources." *The Electricity Journal*, Volume 35, Issue 8, 107192, ISSN 1040-6190, available at: https://www.sciencedirect.com/science/article/abs/pii/S104061902200118X.

The TSB is a replacement to kWh-based savings goals and should be applied in conjunction with cost-effectiveness tests. Utilities should strive to achieve the maximum TSB value at minimum program cost. The result is similar to maximizing a utility cost test that includes carbon goals.

A focus on TSB shifts the priority from total savings, to maximizing and optimizing all benefits including GHG reductions. Different mixes of EE/BE measures can achieve the same level of savings at different costs, while optimizing resources for greater TSB will result in greater avoided energy and environmental costs. If the utilities use TSB to guide their investments, it will likely result in more efficient, flexible electric and gas systems and lower greenhouse gas emissions.

The TSB aggregates all electric system needs and environmental externalities that accrue to EE/BE resources to comprehensively value EE/BE resources to meet future electric and/or gas system needs and environmental policy goals. This metric meets Staff's desired outcomes as it is transparent, easily understood, meaningful, and linked to the State's clean energy goals.

The Commission may wish to adopt multiple EAM metrics in addition to a TSB metric to balance the multiple objectives utilities face when implementing EE/BE programs and reaching state policy goals. For example, a metric could be designed to ensure certain customer groups are comprehensively served by the EE/BE programs.

Regardless of the metrics chosen, Staff and the Commission should adopt the design principles explained in Appendix B., Designing EAMs, for setting targets and determining the value of the shareholder incentive per metric.

4.3. Regulatory review consolidation

The regulatory and stakeholder process for developing and vetting EAMs impacts the success of the incentive mechanisms. In New York, EAMs are developed and reviewed in each utility's rate case. This approach is problematic for a few reasons.

- Disparate treatment for utilities. Addressing EAMs in separate rate cases creates incongruencies among utilities. Utilities are then held to different standards and performance levels which may not be appropriate. Regulatory review of EAMs in rate cases hinders the PSC's ability to design comprehensive, consistent EAMs for the state.
- Effective review of EAMs. Stakeholders address multiple topics and issues during a rate case. Review of EAMs may not receive the attention it deserves, which reduces the effectiveness of stakeholder intervention.
- Barriers to stakeholder participation. Stakeholders who are interested in achievement of policy goals must participate in multiple proceedings to comment on EAMs. This may not be feasible for small or local organizations, especially if they are interested in issues pertaining to both gas and electric rate cases and therefore must participate across multiple proceedings.

- Lack of transparency. The current process for developing EAMs has led to many EAMs across the utilities. The number of EAMs has become unwieldy to track and ensure utility achievements. Identifying the many EAMs across utilities becomes a tangle of docket numbers and exhibits.

These inefficiencies and administrative burdens lead to increased costs for stakeholders and ratepayers.

The PSC should extract review of EAMs from utility rate cases. Regulatory review of EE/BE program EAMs should occur in a single proceeding impacting all utilities, allowing all stakeholders to focus their efforts on developing appropriate and effective EAM designs. The energy efficiency EAMs proceeding could align with the larger EE/BE proceedings, so their role in increasing and improving EE/BE resource acquisition is integrated in the broader sector discussions and analysis. The PSC could adjust EAM targets and incentives as needed on a utility-specific basis in the same or separate proceedings. This approach would reduce regulatory review and costs, increase transparency, and ensure consistency across utilities.

4.4. New York policies

As explained in Appendix B., *Designing EAMs*, the first step in developing an incentive mechanism is to identify and articulate relevant regulatory policy, which will inform performance areas, targets, and rewards or penalties. For New York, the CLCPA is the primary policy around which EAMs should focus.

Staff states that current EAMs focusing on cost savings no longer reflect current clean energy goals that require utilities to pursue deeper more expensive savings.[20] As such, the EAMs should be refocused to better align with new state policies, which can be achieved by adopting the TSB metric. Staff and stakeholders should look to the CLCPA and the *Climate Action Council Scoping Plan*, the blueprint for implementing the CLCPA, to guide their review, modifications, and development of EAMs.[21]

4.5. Baselines

Staff expressed concern regarding baselines, stating "the cost savings claimed by utilities are highly dependent upon a predetermined baseline. Establishing these predetermined baselines can be a contentious endeavor in rate cases and a poorly established baseline could lead to undeserved utility shareholder awards."[22]

[20] Department of Public Service Staff, "Energy Efficiency and Building Electrification Report," Cases 14-M-0094 and 18-M-0084, December 19, 2022, page 15.

[21] New York State, *Climate Action Council, Scoping Plan*, Full Report, December 2022, available at https://climate.ny.gov/resources/scoping-plan/.

[22] Department of Public Service Staff, "Energy Efficiency and Building Electrification Report," Cases 14-M-0094 and 18-M-0084, December 19, 2022, page 15.

This suggests that the current EAMs are inconsistent with the design principles explained in this report and could be revised to ensure baselines are more transparent and appropriate going forward.

Alternatively, Staff could consider adjustments to the EAMs to reflect the uncertainties associated with baselines. For example, Staff shift EAMs to place less emphasis (i.e., reduce the utility's incentive earned) on savings or cost savings and more emphasis on other goals, such as maximizing TSB values. Such an approach could hedge against over-rewarding utilities for potentially conservative savings targets.

Staff's concerns regarding baselines also favor an EAM structure that only rewards utilities for over-achieving targets.

4.6. Incentive design

Staff ask if the Commission should consider adopting a negative shareholder revenue adjustment if a utility does not achieve EE/BE targets.[23]

It is very rare for EE/BE program EAMs to employ penalties for poor performance.[24] While penalties alone can encourage utilities to avoid failure, by themselves they do not reward excellent performance above the minimum. The risk of a penalty may discourage a utility from trying innovative approaches to EE/BE design and delivery. Similarly, the threat of a penalty can have a chilling effect on a utility's willingness to collaborate with other utilities and with stakeholders to improve program performance and the customer's experience.[25] We do not recommend a penalty-only incentive structure.

More commonly, states only allow a utility to earn an incentive if it achieves a threshold level of performance. This approach ensures a utility meets certain minimum standards before it can earn a financial incentive.

Staff could consider adopting an approach to incentives that involves both rewards and penalties. The utilities could be penalized for performing a certain amount below target, and the utilities could be rewarded for performing a certain amount above target. The utilities would neither be rewarded nor penalized for just meeting the target. In order to avoid discouraging utilities from offering EE/BE programs, penalties should only be levied for very poor performance. If penalties are applied too closely to the target, then there is more risk to the utilities and they are less likely to develop the innovative

[23] Department of Public Service Staff, "Energy Efficiency and Building Electrification Report," Cases 14-M-0094 and 18-M-0084, December 19, 2022, page 15.

[24] We are aware of only two examples from the United States of penalties for underperformance on EE/BE programs. In Wisconsin, the utility may incur a penalty for under-achievement. Also, Efficiency Vermont is subject to quantifiable performance indicators (QPI) that can result in reductions in compensation if the indicator is not met; however, the QPIs that carry a risk of reduction in compensation are related to customer service and equity of service provision, not to savings. American Council for an Energy Efficiency Economy 2015, *Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency*.

[25] American Council for an Energy-Efficient Economy. 2018. "Assessment of Pennsylvania Electric Utility Business Models."

program designs and delivery mechanisms that New York needs in order to achieve policy goals. The utilities would also be motivated to set accessible targets to avoid penalties. A penalty would ensure the utilities achieve a floor level of performance. On the other hand, rewards should apply closer to the target performance, because the EE/BE savings themselves provide benefits that offset the EAM cost. Rewards for exceeding the targets will better ensure the utilities meet the targets and implement exceptional programs. Such an approach provides an appropriate balance between rewards and penalties and aligns the utilities' financial incentives with over-achieving targets.

APPENDIX A. STAFF'S OBSERVATIONS AND QUESTIONS FOR COMMENT

The following text is excerpted from the EE/BE Report regarding EAMs.[26]

By design and in practice EAMs and other incentive mechanisms have influenced the way in which utilities design and implement their portfolios of energy efficiency and building electrification programs. Although not directly assessed in this Staff Report, Staff notes that the current focus on cost savings for EAMs, while an important consideration, does not fully align with the current clean energy goals that rely upon utilities pursuing deeper, often more expensive, energy savings. Additionally, the cost savings claimed by utilities are highly dependent upon a predetermined baseline. Establishing these predetermined baselines can be a contentious endeavor in rate cases and a poorly established baseline could lead to undeserved utility shareholder awards.

Beyond the current misalignment in the design of the EAMs, Staff is also cognizant of the increasing costs to ratepayers of the energy efficiency and building electrification activities necessary to meet the State's goals. There is a compounding effect to ratepayers when those ratepayers are also expected to provide shareholder incentives for the successful implementation of the energy efficiency and building electrification activities for which they already pay. Under the CLCPA, energy efficiency and building electrification activities are now essential to comply with statute, and Staff does not believe it is appropriate to ask ratepayers to bear the additional costs to reward utility shareholders for engaging in activities that are already fully funded by ratepayers to attain a mandated goal. However, Staff could see a role for negative revenue adjustments for failure to attain the required achievements, particularly as the utility currently carries no risk for failure to attain the energy efficiency and building electrification performance that positions the State to attain the carbon reduction goals set forth in the CLCPA.

> Q12. Under what circumstances, if any, should utility shareholders be financially rewarded for meeting energy efficiency and building electrification targets that are necessary to achieve the GHG emissions reductions mandated by the CLCPA? Should the Commission consider adopting a negative shareholder revenue adjustment if energy efficiency and building electrification targets are not achieved?

Q13. Given Staff's concerns about the current energy efficiency and building electrification EAM Share-the-Savings metrics detailed in this report, is there a more appropriate positive revenue incentive structure for utility shareholders? Upon what metric(s) should energy efficiency and building electrification performance be measured to best align the State's clean energy policies with a potential shareholder incentive? How should the targets and the value of the shareholder incentive be determined? Should all utilities be subject to the same shareholder incentive design?

[26] Department of Public Service Staff, "Energy Efficiency and Building Electrification Report," Cases 14-M-0094 and 18-M-0084, December 19, 2022, page 15.

APPENDIX B. DESIGNING EAMS

To realize the benefits of EAMs as explained in Section 2, EAMs must be designed properly to promote key outcomes and avoid unintended consequences. In this section, we review key EAM design principles as well as steps to follow when developing EAMs.[27] We adapted the recommendations in this chapter from a performance incentive mechanism handbook for regulators, which was intended for a general audience. Certain points in this chapter may not be as applicable to a state such as New York that has advanced incentive mechanisms in recent years.

Principles for designing EAMs

A performance incentive mechanism has three distinct components that are key to designing an effective mechanism.

- Metrics: the data or outcome that will be used to monitor utility performance.
- Targets: the numeric goal the utility should achieve, signaling the level of performance that is expected of a utility.
- Financial incentives: the financial reward the utility will receive if it meets the performance target, or the financial penalty applied for lack of performance.

We can use an example for energy efficiency programs to put each component into context. One metric could be TSB benefits. The target for that metric could be that the utility is expected to achieve $1 million in TSB benefits. For achieving $1 million in TSB benefits, the utility could earn a financial incentive equal to 2 percent of its energy efficiency program budget.

In this section, we identify key principles for each component to consider when designing EAMs.

Some principles address the same underlying goal across each category. For example, baselines are a key component of developing an EAM. Establishing fair and transparent baselines is relevant to quantifying *metrics* using reasonably available data, setting realistic *targets*, and tying *financial incentive* formulas to actions that are within the control of utilities. For example, one metric could relate to the number of participants served, for which the target could be based on the average number of participants a utility has served in the preceding three years, and the utility could earn an incentive for each additional participant reached beyond the target.

[27] In this section we borrow heavily from Synapse's *Utility Performance Incentive Mechanisms: a Handbook for Regulators*, prepared for the Western Interstate Energy Board, March 9, 2015 (WIEB Handbook), available at https://www.synapse-energy.com/utility-performance-incentive-mechanisms-handbook-regulators.

Principles for developing metrics

Metrics identify the specific actions or results that stakeholders will use to monitor utility performance. There are key principles to consider when developing incentive metrics, which we enumerate below.

1. Tied to the policy goal. A metric should reflect whether the underlying policy goal is being met.

2. Clearly defined. A metric should plainly indicate the data to include or exclude, units of measurement, frequency of measurement, and any methods used to analyze and report on the metric. This ensures the metric can be correctly prepared by the utility, simplifies review by stakeholders and regulators, and ensures consistent reporting over time and across utilities for meaningful comparisons.

3. Quantified using reasonably available data. A metric should be based on data that is readily available or could be easily tracked going forward to ease administrative burdens and reduce costs.

4. Sufficiently objective and free from external influences. A metric should reflect factors that the utility can control to ensure utility management and influence plays a role in the outcome.

5. Easily interpreted. A metric should be readily interpreted by the utility and stakeholders to ensure a proper understanding of the utility's performance. To this end, it may be appropriate to focus on per-unit metrics such as percentages or convert values to be on a per-kWh or per-customer basis.

6. Easily verified. A metric should lend itself to verification by an independent third party. Third-party evaluations may prevent utility gaming and increase transparency.

There may be other principles to consider depending on a state's policies and practices. As examples, a utility should not be required to report too many or too few metrics, or metrics should not overlap or compete.[28]

Principles for setting targets

A performance target defines the precise level of service or output that a utility is expected to achieve during a particular period. Targets may be used simply to provide guidance for a utility, with neither penalty nor reward attached. Performance targets can also be used as the basis for providing a utility with a financial incentive to achieve desired outcomes.

The following design principles should be considered when setting performance targets.

[28] See, e.g., Direct Testimony of Alice Napoleon and Kenji Takahashi on behalf of Natural Resources Defense Council and the Sierra Club, Cases 20-E-0380 and 20-G-0381, November 25, 2020, pages 21-23.

1. Tie targets to regulatory policy goals. Consider what level of performance is necessary to achieve policy goals, and state this explicitly.

2. Balance costs and benefits. Balance the costs to customers of achieving the target with the benefits to customers.

3. Set realistic targets. The performance target should be realistically achievable by a utility. Targets can be developed based on historical performance, peer utility performance, and/or utility-specific studies.

4. Incorporate stakeholder input. Stakeholder input provides many benefits for target setting: it results in targets that meet regulatory goals, results in desired outcomes, minimizes potential for manipulation of targets, enhances the legitimacy of the targets, reduces contentious disagreements, and increases the chances that the targets will be balanced and reasonable.

5. Use deadbands to mitigate uncertainty and variability. Deadbands or bookends set upper and lower limits around a target outside of which the utility does not receive a reward or penalty. Deadbands can mitigate concerns regarding the optimal performance level and performance variance based on factors outside of the utility's control.

6. Use time intervals that allow for long-term, sustainable solutions. Targets should be measured over a timeframe that allows for steady improvement by the utility. A utility may implement a short-term solution to meet a short-duration target (e.g., over one year or less) which may run contrary to long-term sustainability and goals.

7. Allow targets to evolve. Targets may need to evolve due to changes in state policies or advancements in technologies, or because the utility is not achieving the desired performance with current targets. Regulators should recognize changing environments and adjust targets slowly and cautiously to provide utilities with the regulatory certainty required to make long-term investments and decisions.

Principles for rewards and penalties

After defining performance targets, regulators can establish incentives to further induce the utility to accomplish the desired outcomes. Regulators should consider the following design principles when setting financial rewards and penalties.

1. Consider the value of symmetrical versus asymmetrical incentives. Symmetrical incentives provide balance by discouraging poor performance and encouraging exemplary performance. Reward-only incentives tend to encourage utilities to be more innovative in their achievement of the metric. Penalty-only incentives may be appropriate when the outcome is either an essential requirement for the utility, or when performance above target outcomes provides little additional benefit to ratepayers. Energy efficiency programs typically have asymmetrical, reward-only incentives, as savings through a cost-effective program result in benefits to ratepayers.

2. Ensure that any incentive formula is consistent with desired outcomes. If a metric target has deadbands, then the amount a utility can earn between the lowest and highest targets can vary. As one example, the incentive formula could be linear, with a utility earning the same incentive for each unit of savings achieved; the utility earns more incentive with every savings unit achieved. Alternatively, the incentive formula could be a step-function, with a utility earning a higher incentive only after reaching a certain "step" in achievement, before the incentive plateaus until the utility achieves the next step. Regulators should consider the benefits and drawbacks of each incentive structure and how it will encourage utilities to meet the desired goal.

3. Ensure a reasonable magnitude for incentives. Regulators should balance two competing objectives when establishing the magnitude of financial incentives. First, financial rewards and penalties should be large enough to capture utility management's attention and provide sufficient motivation to reach the desired outcome. Second, rewards and penalties should not be disproportionate to the costs and benefits of the desired outcome. Additionally, performance incentive mechanisms should include a cap on the maximum penalty or reward, to ensure the magnitude of the incentive will remain within a reasonable bound.

4. Tie incentive formula to actions within the control of utilities. Financial incentives should be tied to actions and outcomes that are within the control of the utility. First, if an action or outcome is beyond the control of the utility, then the performance incentive would have little to no effect on achieving the desired outcome. Second, it is unfair for customers to pay for utility rewards that are not a result of utility actions. Third, it is unfair to penalize utilities for outcomes that are beyond their control.

5. Allow incentives to evolve. Financial incentives may need adjustment over time. Financial incentives are sometimes adjusted when the magnitude of the incentive is found to be unreasonably large or small, or the basis for the financial incentive (e.g., avoided fuel costs) is found to be excessively volatile, resulting in excessive penalties or rewards. To avoid the possibility of overcompensation, regulators should review and adjust the financial incentives as needed.

Potential pitfalls of EAMs

Below we address some common pitfalls that regulators should endeavor to avoid when designing EAMs.

Disproportionate rewards (or penalties). Performance incentive mechanisms can potentially provide rewards (or penalties) that are too high relative to customer benefits or to the utility costs to achieve the desired outcome. Rewards (or penalties) can also be unduly high if they are based on volatile or uncertain factors, especially factors that are beyond a utility's control. Ways to address this pitfall include beginning with small rewards and adjusting them over time, establishing caps on the maximum reward (or penalty), calibrating against other top-performing utility incentive targets, or implementing a shared savings mechanism.

Unintended consequences. Providing financial incentives for selected utility performance areas may encourage utility management to shift attention away from other performance areas that do not have

incentives. This creates a risk that performance in the areas without incentives will deteriorate. Possible solutions to this pitfall include implementing a diverse set of incentives, isolating performance areas to the extent possible, and adjusting EAMs over time to correct any realized unintended consequences. For example, EAMs based only on the cost-of-saved energy may discourage more comprehensive and expensive solutions to meeting customers' efficiency needs.

Regulatory burden. Performance incentive mechanisms can be costly, time-consuming, or a distraction from more important activities for all parties involved. If this burden becomes too great, it can undermine the value of the performance incentive mechanisms. Regulators should streamline EAMs by using existing data and protocols where possible and employing simple designs. Regulators should also ensure that the reward or penalty is commensurate with the importance of the policy goal such that the goal does not become a distraction to the utility.

Uncertainty. Metrics, targets, and financial consequences that are not clearly defined create uncertainty, introduce contention, and are less likely to achieve policy goals. In addition, significant and frequent changes to performance incentive mechanisms create uncertainty for utilities, thereby inhibiting efficient utility planning and encouraging utilities to focus on short-term solutions. A critical step in reducing uncertainty is to carefully specify metric and target definitions and to solicit utility and stakeholder input where possible.

Gaming and manipulation. Every performance incentive mechanism carries the risk that utilities will game the system or manipulate results. The ability of utilities to game an incentive typically points to the need to refine a metric definition. To reduce the risk of manipulation, verification methods should be adopted to the extent practicable, such as using independent third parties to collect, analyze, and verify data. For example, utilities could inflate planned budgets if EAM targets are tied to expected spending.

Steps to develop EAMs

The following steps can be taken to implement EAMs. These can be implemented incrementally to allow for each step to inform the subsequent step. Or, they can be implemented several steps at a time or all at once.[29]

1. Articulate goals. The first step is to identify and articulate regulatory policy goals. These goals should help inform choices of performance areas, targets, and rewards or penalties.

2. Assess current incentives. Next, it is critical to understand the financial incentives created by the current or anticipated regulatory context.

[29] WIEB Handbook, page 52.

3. Identify performance areas that warrant performance metrics. Performance metrics may be warranted for traditional performance areas or new and emerging areas.

4. Establish performance metric reporting requirements. Review performance reports to monitor those areas identified in Step 3 to identify any performance areas that may require targets.

5. Establish performance targets, as needed. Establish targets to provide utilities with clear messages regarding the level of performance expected by regulators. Review results to determine whether any performance areas warrant rewards or penalties.

6. Establish penalties and rewards, as needed. Establish rewards or penalties to provide direct financial incentives for maintaining or improving performance.

7. Evaluate, improve, repeat. The effectiveness of the mechanisms should be monitored and evaluated on a regular basis to determine whether there is a need for improvement.