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Public Service Electric and Gas
Written Comments
Energy Efficiency and Peak Demand Reduction Stakeholder Process
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Introduction

On Thursday, May 9th, the New Jersey Board of Public Utilities ("Board" or the "BPU") released its draft report, *Energy Efficiency Potential in New Jersey* (the "Study"). The Study includes findings on maximum achievable energy efficiency ("EE") potential, passive energy demand reduction potential, Demand Response ("DR") potential, Combined Heat and Power ("CHP") potential, and interpretations of New Jersey's Clean Energy Act of 2018 ("CEA"), as well as recommendations on energy savings targets, demand savings targets, quantitative performance indicators ("QPIs"), and a performance incentive mechanism ("PIM"). PSE&G applauds this effort to enhance clean energy opportunities for the State of New Jersey, in alignment with the policy goals of the State, and in compliance with the requirements of the CEA, and submits the following written comments to help establish a strong plan to achieve policy goals, CEA mandates, and positive outcomes for all stakeholders.

The comments below, submitted by Public Service Electric and Gas Company ("PSE&G" or the "Company") identify Key Issues, and set forth an Alternative Approach to implementing the requirements of the CEA, particularly regarding energy savings targets, QPIs, and the PIM. Additionally, an appendix is attached to the comments that examines the key issues in more detail, speaking to the specific recommendations, analyses, and study methodologies outlined in the Market Potential report.

Key Issues

PSE&G has a number of concerns with the approach, methodology, findings, and recommendations in the Study that may have significant negative impact on the State's ability to achieve the savings targets in the CEA, as well as the State's broader clean energy policy goals.

1. **The elimination of amortization of energy efficiency expenditures represents an incomplete, and inaccurate, interpretation of the CEA, and a dramatic shift in policy, and will have negative impacts on customer bills.** The report includes the following interpretation of the CEA, stating on page 81: ". . . the Act seems to envision an annual accounting and recovery of efficiency investments, and therefore does not anticipate treatment of efficiency program costs as a regulatory asset that is amortized over time." The Study does not appear to take into account the impact of this interpretation on customer bills, which could be rate shock, and conflict with long-held rate design principles to match the costs and benefits of programs. Moreover, this interpretation would appear to not take into account the full language and structure of the Clean

Energy Act and section 13 of the RGGI Act, to which the CEA refers, and which permits the treatment of energy efficiency investments as regulatory assets, to be amortized over time while earning a rate of return.

2. **The savings targets, QPIs, and PIM all put the onus to save energy, comply with performance indicators, and receive incentives or penalties upon the utilities; however, the Study remains silent on who is accountable for program administration.** It is not reasonable to assign targets with incentives and penalties on utilities without the clarity of who has responsibility to operate the programs. Furthermore, the utilities should be the sole providers of regulated energy efficiency programs. Utility program administration is very common amongst leading states in energy efficiency, and supported by utilities, many EE service providers, environmental groups, and other stakeholders. The current model in New Jersey of the public service commission directly administering the majority of EE programs in the state is not used in any other state in the country, and furthermore, creates many challenges including lack of oversight and administrative challenges regarding, for example, procurement and program modification. The BPU's Office of Clean Energy will have a critical role in setting targets and holding utilities accountable for cost-effectively delivering energy savings, and finalizing the respective roles and responsibilities is important.

3. **The energy savings targets proposed by the fifth year in the report are a significant increase over the already-challenging targets mandated in the Clean Energy Act.** The report targets 2.15% electric savings and 1.1% gas savings by year 5, exceeding the requirements of the CEA by 7.5% and 46.7% respectively. According to the ACEEE 2018 State Energy Efficiency Scorecard, these savings levels were only achieved by three states on the electric side, Vermont, Rhode Island, and Massachusetts, and only Minnesota achieved 1.1% gas savings. When setting the performance incentives and penalties associated with cost-effectively achieving the final targets, the relative higher targets versus other states should be taken into account. **No state is achieving both 2.15% electric savings <u>and</u> 1.1% gas savings.**

4. **Attempting to identify, set targets, and measure results on eight QPIs prior to the implementation of any EE programs will cause confusion of priorities and protracted debate over both the targets and measurement of success.** States achieving savings consistent with New Jersey's targets have fewer performance indicators driving their performance incentives: Massachusetts (3), Minnesota (1), Rhode Island (2), and Vermont (7). Each of these states has a more mature energy efficiency market than New Jersey, and has leveraged its experience and past results in identifying and setting targets for performance indicators.

5. **The design of the Performance Incentive Mechanism ("PIM") includes a jump in the incentive level from 0% to 5% occurring at achieving exactly 100% of target on each of the eight QPIs, creating an inappropriate incentive structure.** This jump in incentive levels is inconsistent with PIM design in other states, which often contains a "dead-band" at or around the target, and only awards incentives or imposes penalties when results fall outside this range.

Furthermore, the sharp increase of incentive by 5% creates an uneven reward structure with an outsized incentive to focus on QPIs that are near 100% of target, and less incentive to address QPIs that are either far below or far above target. This pass/fail approach may lead to suboptimal program design and/or implementation.

Alternative Approach

Given the challenges identified above, and detailed further in the appendix to these comments, PSE&G recommends an alternative approach to implementing the requirements of the Clean Energy Act, particularly those related to the development of energy savings targets, adoption of QPIs, and implementation of performance incentives.

This alternative approach will allow utilities to focus on the development and implementation of strong energy efficiency programs necessary to achieve the goals of 2.0% electric savings and 0.75% gas savings within five years of program implementation while focusing on the most critical QPIs, and consider a more complex structure of QPIs and PIMs as the program matures. PSE&G remains committed to achieving the clean energy goals set forth in the CEA, and proposes this alternative in the effort of creating the best opportunity to achieve these goals.

The CEA calls for a review of both the savings targets and the QPIs every three years, which creates an opportunity to focus on design, development, and implementation of programs during those first three years. Results from utility implemented programs are necessary to inform the definition of appropriate energy savings targets, QPIs, and PIM. By requiring that the BPU re-evaluate the QPIs every three years, the CEA seeks to ensure they are robust enough to meet not only the requirements set forth in the CEA, but also align with the policy goals of the State of New Jersey. PSE&G's proposed near-term alternative solution is that the Board:

1. **Maintain the existing cost recovery structure for utility investment in energy efficiency.** The ability to amortize costs reduces bill impacts, allowing for a ramping up of investment in energy efficiency without rate shock to customers.

2. **Establish a clear directive to transition administration of energy efficiency programs to the utilities.** It is critical when defining QPIs and the PIM for utilities that the development, implementation, and administration of energy efficiency programs be within their control.

3. **Establish gross energy savings targets of 2.0% electric, and 0.75% gas in year 5.** The targets recommended in the Market Potential Study represent a significant increase over the requirements in the CEA (7.5% higher on electric, and 46.7% higher on gas). The targets are based on a study that took place in an accelerated period while providing limited access to the necessary data, and as such, should be used with caution in the establishment of energy savings targets.

4. **Adopt three QPIs focused on energy savings, cost-effectiveness, and universal access.** Creating a more limited set of targets creates clear objectives in the near-term, and minimizes

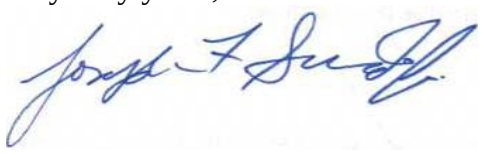
distractions for utilities and the BPU associated with defining and measuring success on a long list of metrics.

5. **Institute a simplified Performance Incentive Mechanism.** Simplifying the mechanism and limiting the financial impact in the near-term will allow utilities to focus on establishing programs to achieve the long-term goals of the CEA, and not succumb to near-term financial pressure.

The alternative approach above will allow the State to comply with the requirements of the Clean Energy Act, while simultaneously creating an environment where utilities are given a clear mandate and directive to develop and implement energy efficiency programs capable of achieving the energy savings targets in the CEA within five years, limiting competing priorities arising from a complex and inappropriate system of QPIs and PIMs.

PSE&G appreciates this opportunity to comment on the draft Study, and looks forward to further engagement with the Board and all stakeholders on these issues.

Very truly yours,



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Appendix A: General Comments and Concerns

General Comments

- **Cost to achieve savings**
    - In performing the overall cost benefit analysis of the maximum achievable savings, Optimal has estimated the cost of customer incentives and the cost to administer the portfolio of programs, based on best practices of other states that have achieved significant savings targets. However, Optimal has not put forward the specific details of those estimates. It is important for the study to provide this critical, detailed information so that the Board has a sense of the scale of annual program expenditures needed to achieve these savings.
- **No limits on incentives or administrative costs**:
    - PSE&G agrees that market barriers can be addressed with appropriate incentive payments and expenditure on program administration and technology. On page 5, the Study states "[t]he analysis estimated the **maximum achievable potential for energy efficiency**, defined as the maximum level of program activity and savings possible, given market barriers to adoption of energy-efficient technologies, with no limits on incentive payments, and including administrative costs necessary to implement programs." This is critical to success, and to be able to pursue all cost-effective energy savings, arbitrary limits must not be placed on IT and administrative costs. To the extent arbitrary restrictions are imposed, it will inhibit utilities' ability to achieve savings targets identified through this methodology
- **Uncertainty of results**
    - Due to time constraints, Optimal did not perform any New Jersey-specific analyses to inform their results, other than the limited information provided by the utilities. This creates a very high level of uncertainty regarding the veracity of the results. Therefore, the Board should view these results as rough estimates of the achievable saving potential in New Jersey, which are consistent with the fifth year targets established in the CEA, but the Board should not adjust the targets based on this very cursory estimate of potential savings. While the Board can begin to aggressively deploy energy efficiency using the targets established in the CEA as a guide, with a reasonable ramp rate in the near term, a full potential analysis and benchmarking analysis on New Jersey customers, demographics, saturation of high efficiency equipment and other factors should be conducted, perhaps by the advisory committee mandated in the CEA, to inform a more accurate forecast of the achievable savings potential. These results can then be used to revise the initial savings targets in future years, consistent with the CEA language regarding saving target reviews.

- **Demand Response**:
    - The assumptions made in the Demand Response analysis are based on very aggressive policy and technology changes that have not been reviewed or approved by the Board. The results are dependent on full scale deployment of AMI, which the Board has yet to approve, and if it were to occur, would take several years for full deployment. Additionally, the results are dependent on the Board approving an "opt out" DR program, meaning all customers would be put into the program unless they proactively request to be removed from the program. The Company is not aware of any jurisdiction in the nation that has implemented such an aggressive DR program, and doing so would require substantial additional analysis and consideration by the BPU. Because of these unrealistic assumptions, the results cannot be viewed as a reasonable estimate of DR potential in the State, and the Company agrees that the results of this portion of the study should not be used to inform the peak electric demand targets.
    - While the Company would recommend that this section of the study be removed, it is willing to discuss with the Board and other stakeholders the development of DR programs that take advantage of new technology, and would suggest further discussions and analysis on this topic take place separately.
- **CHP**
    - PSE&G agrees that the results from the CHP potential assessment should not be used to inform the savings targets. Analysis of CHP potential is a unique assessment that is greatly dependent on the State-specific make-up of the commercial and industrial sectors. Since Optimal did not perform any primary research on New Jersey demographics, this section should be removed from the study.
- **Lack of Data / technical appendices**
    - The unavailability of the technical appendixes means that the Company cannot make informed comments regarding most of the factors that contributed to the study results. This concern is compounded by the fact that Optimal was unable to perform any primary research on New Jersey customers, demographics, equipment installed, and other important factors that drive the study results. Notwithstanding this lack of information, the Company does have concerns regarding some of the measures identified as significant contributors to savings:
        - The largest contributor to the electric residential savings is the installation of Heat Pump Water Heaters ("HPWH"). While this technology does provide significant savings over traditional electric water heaters, the Company cannot confirm that this technology can contribute the high level of overall savings envisioned. For multiple reasons, HPWH are typically not recommended in homes where the water heater is located in conditioned space, and it is not clear, if or how Optimal took this factor into account. Additionally, New Jersey has a

high percentage of natural gas water heaters due to its deep penetration of natural gas infrastructure throughout the state, likely much higher than that of neighboring states, and the Company is unable to confirm that Optimal took this factor into account as well. As Optimal has stated, it has used studies from Pennsylvania and New York to inform its analysis, both of which have a much lower penetration of natural gas state-wide, and it may be likely that Optimal overestimated the overall penetration of electric water heaters.

        - A significant contributor to the commercial and industrial sector electric and gas savings is a category Optimal termed "whole building". However, the definition provided, *"multiple measures for which we cannot with certainty estimate the contribution of each measure"* is too vague to provide any confidence that it is a measure that can contribute the level of savings estimated.

    - These are but two examples of the significant concerns the Company has with the study, and without the technical supporting data to review, it is impossible to determine if the level of savings envisioned in the study can be achieved.

- **Ramp Rates**

    - In determining the annual ramp rates of energy savings, Optimal did not take into account any constraints that may exist from a supply standpoint, meaning Optimal did not research the availability of in-state suppliers to deliver programs to customers. As the state has achieved low participation rates over the past several years, it is likely that there is limited qualified workforce to deliver projects. It is also not clear if Optimal has taken into account the level of workforce development and training spending needed to scale up to the workforce needed to deliver energy savings on the scale envisioned in the Study. If this constraint has not been considered in the analysis, the Company would suggest this aggressive ramp rate may not be achievable.

    - It is also unclear if Optimal considered the need for IT investments needed to deliver a 21st century customer experience combined with the challenging savings targets envisioned. This omission would impact the near term ramp rate of savings and would also add to the overall near term costs to administer and deliver programs.

- **Net-to-gross savings ratio**

    - The CEA states that the savings targets can be met from not only efficiency programs, but from improvements in other codes and standards. As such, the CEA targets defined in the legislation should be seen as gross savings. Additionally, the methodology used by Optimal in determining the maximum achievable potential also provided a view of the gross savings potential in the State. However, Optimal recommended that the annual targets be a measure of the net energy savings. This recommendation is inconsistent with the methodology used. Optimal did not study or report on the factors that inform this

adjustment. Therefore, the savings targets should be based on gross energy savings, consistent with the language of the CEA and the study methodology.

- **QPIs**
  - In addition to the comments above on the QPIs, the Company has the following concerns that should be considered as the Board continues the design of the QPIs and PIM:
    - The lifetime energy savings and lifetime persistence of demand savings are duplicative in that the results will either be achieved or not achieved in tandem.
    - There is no policy support or other rationale provided by Optimal for a small business QPI.
    - Natural gas peak day savings is not a common metric utilized by gas utilities. This metric should be delayed until further investigation is completed.
    - There is no reason for a "yet to be defined" QPI, particularly with no guidance as to what it may entail.

- **Unclear gas demand savings targets**
  - In the Study, tables 38, 49, 51, 53, and 55 refer to utility-specific and statewide targets for "Gas net annual coincident peak demand savings targets", which are listed in units of BBtus. Earlier in the Study, it is asserted that "Gas peak loads are usually expressed as 'peak day' loads, and are primarily driven by potential storage capacity and pipeline constraints." Furthermore, table 39 on page 88 lists the Annual demand savings QPI in units of "peak-day th". The tables listed above should be consistent with the units used in the relevant QPI.

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RE: Energy Efficiency Market Potential Study
Comments of Atlantic City Electric Company

Dear Secretary Camacho-Welch:

On behalf of Atlantic City Electric Company ("ACE" or "the Company"), please accept these comments in response to the draft study, titled "Energy Efficiency Potential in New Jersey" ("the Study" or "the Report"), that was released by the Board of Public Utilities ("BPU" or "Board") Office of Clean Energy ("OCE") on May 9, 2019. The Study was prepared for BPU by Optimal Energy Inc. ("Optimal") to fulfill a requirement of the Clean Energy Act (P.L.2018, c.17) ("the Act") that the Board "conduct and complete a study to determine the energy savings targets for full economic, cost effective potential for electricity usage reduction and natural gas usage reduction as well as the potential for peak demand reduction . . . and the timeframe for achieving the reductions."

The Company appreciates the opportunity to participate in this initiative, as the results of the Study will inform the savings targets, cost recovery, and penalties and incentives for the utility-managed energy efficiency programs. By necessity, these policy decisions will directly impact program design, administration, implementation, and cost. Therefore, it is critically important that BPU consider all of the factors that will enable the State and the utilities to achieve the goals of the Act. ACE does not believe that the report, as drafted, has adequately captured, presented, and assessed certain critical policy and technical considerations. As a result, ACE respectfully requests that the report be considered "informational" and "preliminary."

ACE is fully committed to achieving the goals established in the Act as it relates to energy efficiency and other priorities. The Company supports efforts to rapidly decarbonize the State's economy and create and expand economic opportunities resulting from this transformation. ACE's active participation in this process and these comments demonstrate our support of the Murphy Administration's goals and our commitment to support the State in designing the best possible framework for energy efficiency programs. However, the Company has specific concerns regarding the assumptions, positions, and limitations outlined in the Report. Among other things, the Report takes a one-size-fits-all approach to establishing targets, rather than the utility-specific goal setting contemplated by the statute. The Report also proposes cost recovery mechanisms and incentives that are unclear and based on unsupported and inconsistent assumptions. If adopted as set out in the Report, these mechanisms will not encourage the comprehensive deployment of energy efficiency and demand reduction strategies as the statute envisions, but will instead hamper the deployment of energy efficiency measures, and potentially do harm to the State's electric and gas public utilities.

ACE acknowledges that Optimal sought to complete its Study over a compressed time period (approximately three months) when such a study could typically take a year, if not longer. That said, the Company urges the Board to carefully examine the Report, and to consider the Report as informational, and a first step in a longer stakeholder process. ACE looks forward to taking part in additional stakeholder meetings on this subject and anticipates future opportunities to provide its perspectives on implementing energy efficiency measures in New Jersey.

I. PROGRAM DESIGN & MARKET POTENTIAL

As an initial matter, ACE has a number of concerns related to the savings targets and the assumptions that the Report makes regarding its service territory.[1] First, the savings targets set for ACE's service territory are high and do not properly consider the geography and demographic composition of Southern New Jersey. Second, there is a disconnect between how the Report determined the maximum achievable potential - through the Societal Cost Test ("SCT") - and how the Report recommends the utility programs will be measured – through the Utility Cost Test ("UCT"). Third, the proposed Qualitative Performance Indicators ("QPIs") are overly complex and do not comport with best practices. Fourth, the BPU Office of Clean Energy ("OCE") manages programs that address nearly all the energy savings potential in the State, making the utilities reliant on OCE to produce results for which the utilities will be accountable and potentially penalized. Fifth, the Study assumes increased advanced metering infrastructure ("AMI") penetration over ten years but does not describe how the current lack of AMI deployment would drive energy savings within the first five years of the program cycle.

Moreover, the Report estimates the maximum achievable potential for energy efficiency, with no limits on incentive payments to motivate customers to take action. Understanding the maximum achievable potential is an important step in the overall goal setting process but is very

[1] ACE notes that the Appendices to the Report were not released for public comment.

different from achievable program potential. When accounting for customer actions, access to funding sources, limits on incentive payments, and other potential barriers to participation including changes in the economy, the achievable program potential is much lower than the maximum potential that Optimal suggests. The Report suggests that electric distribution companies ("EDCs") can achieve over 75 percent of the maximum potential within the first five years of program implementation, which under the best of circumstances will be difficult to achieve, and may be impossible if decisions made on the other key items (cited by ACE in these comments), produce a less advantageous program design environment for New Jersey electric utilities.

a. Potential Savings and Targets

ACE believes there is significant energy savings potential in New Jersey, but the Report does not adequately address the potential for each utility's service territory. The Report identifies each utility's energy savings goal as a percentage of its total load and does not account for the "unique customer class mix" or the demographics of each service territory. For this reason, ACE disagrees with the Report's recommendation for energy-savings goal allocation. As will be demonstrated in the Company's Demographic Study, the ACE service territory has a lower population density than others in New Jersey. The rural nature of the area creates challenges with program implementation, because it is more expensive to reach customers, both from a marketing and program implementation perspective. The relative mix of residential versus commercial and industrial customers in each utility's service territory should also be considered when establishing savings targets.

ACE's service territory has a significant low-income population, with roughly 25 percent of households earning less than $35,000 annually. Therefore, the Company may have lower program adoption rates of mainstream energy efficiency programs as compared to other parts of the State. However, the Company does not have insight into this because the OCE energy efficiency program performance and participation rates are not available, nor are they disaggregated by utility service territory.

The ACE service territory also includes a large number of shore communities, each of which have many homes that are not occupied year-round. These communities have different load profiles from traditional communities, and therefore their expected energy savings will be different from other communities in the State. Indeed, of the 552,748 housing units in ACE's service territory, 24 percent were "vacant" at the time of the most recent Census.[2] Vacation homes are not good candidates for a "Home Energy Report" behavior program, due to inconsistent occupancy. Nonetheless, the Report included this program as the third highest in all electric utility program assumptions.

Furthermore, the Report notes that 90 percent of the residential energy efficiency market potential is attributable to single family homes, yet approximately 20 percent of the housing in

[2] In this context, "vacant" homes can include vacation homes, migrant worker homes, or new homes yet to be occupied.

ACE's service territory are multi-unit dwellings. Energy efficiency adoption in multi-family buildings is challenged by a split-incentive, where property managers undertake the cost of the project, but residents receive the energy savings.

The demographic factors outlined above will influence program design, but do not appear to have been considered in the Report. The Report gives all electric utilities the same allocation of programs. However, it will cost more to obtain the same participation level (and by consequence, energy savings) in service territories with unique demographics, like ACE's. Identifying unique savings targets will be important to manage program costs and customer impacts.

Currently, the types of energy efficiency programs that utilities can offer customers in response to the legislation and its proposed goals are limited. As the Report shows, approximately 90 percent of the maximum achievable electric potential for residential customers are covered by OCE programs. These programs provide incentives or services for space heating, water heating, cooling, appliances, and refrigeration, and allow for measure-level tracking, which can be easily quantified. For commercial customers, approximately 93 percent of the maximum achievable electric potential is offered through OCE programs, which generally focus on building retrofits and other efficiencies, and provide similar measure-level results. As such, there is presently little to no opportunity for an electric utility to develop non-duplicative programs that reach the energy-saving targets. The utilities, which are statutorily responsible for achieving these reductions, therefore must be allowed to implement programs that will allow them to meet the mandated goals.

b. Societal Cost Test vs. Utility Cost Test

The Report determined the maximum achievable potential by using the SCT, which considers the avoided-cost benefits of not using energy. This test is consistent with the "Rutgers Energy Efficiency Benefit-Cost Analysis Avoided Cost Assumptions." However, the Report recommends that utility programs be evaluated using the UCT. The test recommended by the Report is inconsistent with the typical measurement used in the State, the SCT, and does not account for spillover effects of customers' actions. Many states, including New Jersey, recognize the environmental benefits that energy efficiency actions can produce. Positive externalities include benefits such as improved environmental and health care outcomes, and even increased property values.

Energy efficiency, as measured by the SCT, can be particularly beneficial to low- and moderate-income ("LMI") customers, since studies indicate that home energy burdens are proportionally higher for LMI households than other households.[3] Indeed, the majority of the household income of low-income families goes toward rent, transportation, and energy (in that

[3] *See* Fisher Sheehan & Colton, *Home Energy Affordability Gap* (2013), *available at* www.homeenergyaffordabilitygap.com/.

order),[4] such that reducing consumption through energy efficiency will have a particular benefit for LMI families.

In sum, the SCT has the advantage of viewing costs and benefits from a much broader perspective, and includes societal benefits that comport with the goals and intent of the Act. Indeed, the statute states that utilities will be able to consider energy savings associated with code and standards changes to meet annual targets. These changes are best measured through the SCT and are not as clearly measured by the UCT. Moreover, the tests used to determine market potential and the utility program design should be consistent with the test that will be used for program evaluation.

c. QPIs and the Performance Incentive Metrics

The Company views the performance metrics and their weighting within the performance incentive to be problematic. The Report states that a best practice for creating qualitative QPIs is to do so in a collaborative stakeholder process, rewarding and incentivizing high performance. These QPIs and Performance Incentive Mechanisms were created with limited input and do not meet the intent of the Act.

QPIs are metrics used to evaluate program performance to meet the goals and objectives of the energy efficiency legislation. QPIs are best developed in a collaborative fashion though a stakeholder process, and function best when they are clearly measurable and focus on outcomes that achieve particular goals (in this case, the goals of the Clean Energy Act). As stated in the Report, the proposed metrics have not been vetted in a working group process and the eight indicators create excessive complexity.

The Act states that the Board shall adopt QPIs, which shall establish reasonably achievable targets for energy usage reductions and peak demand reductions. Though the Report identified the saving reductions at the net level, the legislation is silent on whether targets should be measured at the net or gross level. Furthermore, the OCE historically reports its program savings at the gross level. Therefore, the Report does not adhere to the precedent that has been set by OCE, and the legislation provides no justification for changing OCE historic practices in this regard.[5] Notably, nearby states with robust energy efficiency programs, such as Maryland, have set savings targets at the gross level.

ACE is supportive of BPU adopting two QPIs, "Gross Energy Savings" and "Annual Demand Savings". These core QPIs align with the Act's annual gross energy use reductions and

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[4] *See* Center for Neighborhood Technology, *Transportation and Community Development* (2016), *available at* www.cnt.org/transportation-and-community-development. The Company is committed to providing energy efficiency participation opportunities to its LMI customers through its energy efficiency portfolio.

[5] Maryland, which ranks tenth in the American Council for an Energy Efficient Economy's ("ACEEE") 2018 Scorecard on energy efficiency, established a 2 percent goal based on gross savings.

annual peak demand reductions, are simple to evaluate, and avoid the complexity and hardto-measure nature of the QPIs proposed in the Report. Most importantly, these core QPIs do no create new, potentially costly program requirements that would go beyond the policy set forth in the Act.

ACE also recommends that stakeholders and BPU agree in advance that evaluation, measurement and verification ("EM&V") findings should not be applied retroactively to program results. While ongoing EM&V is a critical component of a robust EE program, EM&V results should only be incorporated prospectively to programs during the design phase. This avoids a situation where savings and demand targets are moving throughout the approved plan period, and allows for certainty in the planning and implantation processes.

d. Roles of the OCE and the Utilities

To meet the aggressive targets outlined above, the Board must consider alternative program delivery methods to provide utilities with the tools and controls needed to reach the savings targets. ACE recognizes OCE's leadership in energy efficiency, but believes that OCE is best positioned to serve in an oversight capacity. If OCE continues with the current program delivery model, which limits the types of programs that the utilities can run, the State's utilities are unlikely to reach their mandated targets. The utilities, which are statutorily responsible for achieving a 2 percent energy reduction, should be allowed to design, implement, and manage complete program portfolios that account for the unique customer class mix within their respective service territories. If the Board does not take this approach, it should reduce the utilities' targets to account for the programs administered by OCE, and set unique energy-savings targets that align with each utility's program portfolios.

The Company also disagrees with the Report's assertion that maximum energy-savings potential will not be captured without a consistent approach and messages throughout the State.[6] There is no factual data to support this claim, and in fact, evidence shows that customers are more likely to participate in programs marketed by trusted brands, such as utilities, which have served customers and communities for generations. Moreover, to reach the aggressive goals of the Act, while minimizing the cost impact to customers, using data to drive deeper savings coupled with the changes in lighting standards, increases the need for EDCs to implement energy efficiency programs. To date, ACE has collaborated with PSE&G and other members in the New Jersey Utilities Association to consider program options and designs. The utilities want to meet the legislated energy-saving targets, and therefore each company should be permitted to do so in an effective manner for its respective service territory, even if that means designing unique programs to meet the Act's goals.

Furthermore, it is important to note that ACE and other Exelon utilities have experience managing energy efficiency programs in New Jersey and other jurisdictions. In 2019, Pepco and Delmarva Power (Exelon utilities) earned the Energy Start Partner of the Year Sustained Excellence

[6] See Report, at 11.

Award (the United States, Environmental Protection Agency's highest honor for achieving energy-savings goals through an organization's offered programs).[7] These accolades, in addition to others, like the Peak Load Management Alliance's Program Pacesetter Award, recognize programs that create innovative ideas, methods, and use technologies in the demand response space, and demonstrate that ACE has the talent and resources to design and manage industry-leading programs.

e. Role of AMI-supported Programs

The Report assumes an increasing level of adoption of AMI technologies in New Jersey throughout the ten-year model. The Company is optimistic that the State will embrace AMI technology. However, because ACE has affiliate companies that have implemented AMI in Delaware, Maryland, and the District of Columbia, the Company is mindful that AMI adoption will occur over several years. Given the current suite of programs offered by OCE, the Company will be limited to specific program models. On the other hand, if AMI becomes permissible in New Jersey, ACE will be able to provide more types of energy efficiency programs. Notably, AMI-supported energy efficiency programs make up 40 percent of total energy efficiency savings for Pepco Holdings operating companies in the Maryland service territory. The Company does not believe it will be able to count any AMI energy savings within the five-year ramp up period, making the Company's target even more challenging to meet, and making the demand savings ramp-up unrealistic.

II. COST RECOVERY

The Report's treatment of return on equity ("ROE") is also illustrative of the problems with the Report. First, it is important to understand the statutory requirements concerning cost recovery. N.J.S.A. 48:3-87.9(e)(1) states in relevant part:

> 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 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 N.J.S.A. 48:3-98.1.

N.J.S.A. 48:3-87.9(e)(1) (emphasis added). Under the Act, 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***. The Report is silent

[7] In 2019, Pepco received this award for the fourth consecutive year, and Delmarva Power for the third year.

on the subject of lost sales revenues, even though the statute clearly entitles utilities to be made whole for lost revenues.

In order to have a comprehensive strategy that can achieve high energy savings, it is necessary to allow full cost recovery – including lost sales and a recovery of and on the utility's investment. According to 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. ACEEE notes that a comprehensive policy requires: (1) program cost recovery; (2) full revenue decoupling; and (3) earnings opportunities tied to performance targets.

Optimal's draft Report cites the Illinois Future Energy Jobs Act ("FEJA") as a good example of comprehensive energy efficiency legislation that allows for full cost recovery. Enacted in 2016, FEJA provides cost recovery in the form of rate-basing energy efficiency expenditures, amortized at the portfolio-weighted average cost of capital, as well as additional performance-based incentives. This practice puts efficiency on the same footing as any other energy-generating asset. ACEEE supports this view, stating that while program cost recovery and lost margin recovery mechanisms serve to mitigate the utility disincentive to invest in energy efficiency due to a reduction in sales, these policies do not necessarily provide an incentive for such investment or for a certain level of performance. Even with a decoupling mechanism in place, investor-owned utilities often still have an incentive to make supply-side investments to ensure that reliability and safety standards are met.

Presumably, the Report places the burden of addressing this critical and complex issue on the Board. Given the usage reductions mandated by the statute (to be increased if the Report's recommendations are adopted), utilities will face the loss of millions of dollars in sales revenues without any clear path to replacing those dollars. This omission should be addressed in detail as it creates substantial ambiguity for the regulated community, and significantly increases the risk profiles of New Jersey electric and gas utilities.

With respect to the ROE, the Report suggests that "a lower return might be appropriate."[8] The Report does not state how much the ROE should be lowered, or if this reduction should be applied to all public utilities equally. This tepid recommendation is based on a flawed understanding of how ROEs are set, and is unsupported by the opinions and conclusions contained within the Report. It is also inconsistent with the statute and well-established Board practice, and therefore should be rejected. The Act itself provides no basis for concluding a lower ROE was contemplated by the Legislature when the measure was enacted. Furthermore, full cost recovery, including a return of and on capital investment, is clearly called for in the Sponsor's Statement accompanying Assembly Bill 3723 (as introduced on March 22, 2018). Therefore, there can be no doubt that the drafters of legislation intended that electric and gas public utilities would be made whole for <u>all</u> reasonable and prudent costs incurred in complying with these new directives. Simply put, recovering energy efficiency investments with a lower return will not make utilities whole for

[8] Report, at 81.

those investments, and nothing within the statute nor the Sponsor's statement suggests such a result was intended.

Applying a utility's authorized ROE is fully consistent with other statutes addressing public utility investments in energy efficiency programs. For example, N.J.S.A. 48:3-98.1(a)(1) permits utility investments in energy efficiency programs and provides that such investments "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). 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 ROE.[9] The Report fails to acknowledge the Board's approach, nor does it offer a valid reason for deviating from it now.

Additionally, the Report's recommendation that utilities recover their energy efficiency costs using a reduced ROE is inconsistent with the Report's own observations regarding "best practices." The Report itself acknowledges that, historically, energy efficiency investments have been hindered because they are "typically treated as expenses that are recovered annually, rather than being treated as a regulatory asset for which the utility earns an ROE."[10] Notwithstanding this important observation, the Report recommends that utility energy efficiency investments earn a lower ROE, and that they be recovered annually. The Report justifies its recommendation by claiming that energy efficiency investments present "lower risks to shareholders than do most supply side investments, because of the vast number of individual efficiency projects and measures versus the investment in a single, large asset like a distribution line or substation."[11] This statement illustrates a flawed understanding of how utility ROEs are set, and is a departure from long-standing precedent. Courts have recognized that a fair utility ROE should be: (1) comparable to returns investors expect to earn on other investments of similar risk; (2) sufficient to assure confidence in the utility's financial integrity; and (3) adequate to maintain and support the utility's credit and to attract capital.[12] As such, utility ROEs are not determined based upon a particular project or investment, but are set based on the risk profile of the overall enterprise (since that is what

[9] 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.

[10] Report, at 81.

[11] Report, at 81.

[12] See, e.g., Bluefield Waterworks & Improvement Co. v. Public Serv. Comm'n of West Virginia, 262 U.S. 679, 692-93 (1923); Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944).

shareholders invest in, not individual assets). Investors have many options available to them and will only invest in a company if the expected return justifies the risks taken in making that investment. In recommending a reduced ROE, the Report has not applied the appropriate test for determining a utility's ROE and has failed to consider the impact of its recommendation (and indeed its entire approach) on the financial integrity of New Jersey utilities and their ability to maintain and attract credit.

Moreover, the notion that energy efficiency investments are somehow less risky is deeply suspect. As the Report notes, it is not clear who will administer the various energy efficiency programs. Instead, the Report "assumes" that energy efficiency "programs will be well designed and able to capture the amount of market adoption."[13] This assumption has sweeping implications. For example, many of the identified programs require AMI, which New Jersey is presently studying, and has only allowed on a limited basis. The Report acknowledges the present circumstances, but then assumes "a steady rollout of smart meters until the State is fully covered in Year 10."[14] The Report fails to provide a basis for this assumption, and it assumes away all implementation risks. The utilities, however, will bear the very real risks of not achieving the identified performance targets, including the imposition of penalties. This fact, coupled with the failure to address the financial consequences of the declining sales that are the goal of the statute, support the conclusion that the ROEs applied to energy efficiency investments should increase to reflect the true risks associated with these investments.

Furthermore, the Report takes an unnecessarily narrow view of the period over which energy efficiency investments may be recovered, suggesting that the statute seems to "imply" all costs must be recovered annually.[15] In fact, the statute only requires an annual cost recovery ***filing***, such that it does not necessarily follow that the use of a reasonable amortization period(a common ratemaking mechanism) is precluded by the statute. The annual filing requirement is a standard mechanism to allow the Board to closely monitor investments, to insure costs are reasonable and prudent, and to timely establish regulatory assets. Costs can (and should) be amortized over a reasonable period, and utilities should be permitted to earn their full authorized ROE on any unamortized balance.

When determining the appropriate amortization period for energy efficiency investments, ACE 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

[13] Report, at 53.

[14] Report, at 32.

[15] Report, at 87.

benefit from a utility investment at the same time as they pay for that investment.[16] 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 the investments are providing benefits.

The Report's recommendations regarding reduced utility returns on energy efficiency investment, combined with its assumptions about risk and its inaccurate interpretations of law, would, if accepted by the Board, produce unintended consequences that would undermine the Clean Energy Act's energy efficiency goals. Indeed, implementing the Report's recommendations would have the perverse impact of incentivizing a utility to make no meaningful investment in energy efficiency, notwithstanding the potential for penalties (*see infra* III)—a prudent course given that the utility could only expect diminished returns on those investments. Because ACE believes that the Board does not intend to bring about results that would undermine the goals of the Act, ACE urges the Board to reject the Report's recommendations with regard to cost recovery, and instead recognize that successful energy efficiency programs depend on the utilities' ability to earn their full return on their energy efficiency investments.

III. PENALTIES & INCENTIVES

Regarding penalties and incentives, the Report makes certain statutory interpretations that are intended to reinforce the Report's recommendations. Specifically, the Report asserts that incentives and penalties can only be applied if the utility achieves 100 percent of the goals (or falls short of 100 percent of the goals of the statute), and it also asserts that the scales applied to incentives and penalties can differ. The Board should be clear that these "interpretations" are the opinions of the Report's drafters, and that the Board is not bound by them. In fact, these interpretations are overly limited and inflexible, and if accepted, would prevent the Board from placing greater emphasis on incentives rather than penalties. Particularly during the ramp up period, the Board may wish to take a different approach to this issue, in recognition of the limited role the utilities have played in the administration and execution of energy efficiency programs in this State.

According to ACEEE's paper, *Aligning Utility Business Models with Energy Efficiency*, 25 states have performance incentives in place. ACE believes that performance incentives, when done correctly, can provide reasonable earnings opportunities for the successful implementation of energy efficiency programs that help to reduce the energy usage for customers and meet state goals. ACE is open to exploring performance incentives in a collaborative forum, discussing best practices, such as shared net benefits incentives, which provide all utilities the opportunity to earn an amount equivalent to some portion of the benefits of a successful energy efficiency program.

[16] In 2015, BPU approved a surcharge for PSE&G that authorized recovery of energy efficiency costs over seven years. In 2016, Illinois approved a surcharge mechanism for ComEd that collects the amortization of costs over the weighted average measure life – a period that typically exceeds ten years.

The Report recommends a ramp rate, or annual energy-savings targets, to achieve two percent savings by year five. The statute does not set a program implementation start date, but the Report selected 2020 as the year when savings must be demonstrated. The first-year target, 0.75 percent savings in 2020, underestimates the time required to start up new programs (particularly for utilities that do not have existing portfolios). The Report highlights best practices, which if applied would provide for adequate ramp up periods and would give utilities sufficient time to plan, develop, and market programs while building the necessary infrastructure. However, the Report goes on to ignore those examples, and proposes goals to be achieved by 2020.

Rather than accepting the Report's conclusions, BPU should consider the following when setting the ramp rate:

- The timing of when BPU will issue final guidance on targets, QPIs, performance incentives, and the administrative role of the utility.
- Following issuance of BPU policy guidance, the time that the utilities will need to design and file a comprehensive portfolio of compliant programs (ACE, for example, will need at least six months).
- The time needed for BPU to review and evaluate the utilities' proposals (ACE estimates this process will take approximately six months).
- Following BPU approval, ACE expects that the utilities will issue Requests for Proposals to select and engage implementation contractors. ACE estimates this process will take an additional three months.

Based on the foregoing, the Company estimates that it would receive approval to administer programs by the end of Q2 2020, at the earliest. Given the market challenges in ACE's service territory, the Company will require a full year of program implementation to meet the 0.75 percent target.[17]

Additionally, the Report is not clear about its recommended incentives and penalties. The Report describes incentives as ranging from 5 percent to 7.5 percent of program "planned and approved budgets," while also stating that the maximum incentive "would be 7.5 percent of earnings."[18] These are vastly different recommendations, and the Report should be clarified with regard to precisely what it is recommending in the context of the incentives and penalties. To ensure the fairness of any incentives or penalties, stakeholders and BPU should agree upon EM&V for the energy-saving measures before program launch. The EM&V process should then be put on hold for the duration of the program cycle for reporting consistency.

Finally, the Report proposes a scale for incentives and penalties that fails to properly incent utilities to achieve the energy efficiency goals of the Act. As proposed in the Report, a utility would be penalized even if it attains 99 percent of its goal. To ensure fairness, the Company proposes that the Board establish a "band" around the targets that would permit utilities to avoid penalties for

[17] In the first year of EmPower (2008), utilities in Maryland achieved, on average, 0.3 percent in savings.

[18] Report, at 85-86.

small goal misses. Such an approach is not unique. New York, for example, only penalizes utilities if they achieve less than 80 percent of their assigned goal. Instituting a band is also appropriate because utilities will be required to submit their programs to BPU for approval prior to implementation. If circumstances that affect evaluated savings change in the interim, the utility will be levied a penalty notwithstanding a utility's best efforts towards meeting the mandated goals.

IV. PROCEDURAL CONCERNS

Lastly, the Report and the Board's implementation of its recommendations raise several important procedural concerns. Unfortunately, the Report was produced after only four stakeholder meetings, limited opportunity for comment, and limited New Jersey utility-specific data. If the Board considers the Report merely informational, marking the beginning of its deliberations on how energy efficiency can be fostered in New Jersey, as ACE recommends, the Report can serve as an appropriate starting point. If instead the Board considers the Report's recommendations on applicable targets, incentives and penalties, and cost recovery to be authoritative, the energy efficiency goals of the Clean Energy Act will be jeopardized, without meaningful stakeholder input. To avoid such a lost opportunity, ACE urges the Board to view the Report as informational and the first step in a much longer process.

Should the Board seek to apply the recommendations within the Report, it is statutorily required to promulgate rules to implement its decisions under the APA. While the Board has discretion to utilize various procedures to fulfill its statutory mandate, the New Jersey Supreme Court has held that "administrative action, and an agency's discretionary choice of the procedural mode of action, are valid only when there is compliance with the provisions of the [APA] and due process."[19] Following the APA will permit all parties to better understand the requirements of the energy efficiency program, its targets, incentives, penalties, and cost recovery mechanism through the promulgation of detailed rules. Moreover, promulgation of clear and comprehensive rules will allow the Board to address areas that are unclear, or have been omitted from the Report, including critical topics such as the process for ensuring utilities are made whole for lost revenues and can earn their authorized ROE.

[19] *See* Provision of Basic Generation Serv., 205 N.J. 339, 347 (2011); see also I/M/O the Board's Review of the Applicability and Calculation of a Consolidated Tax Adjustment, Docket No. A-1153-14T1 (dated September 18, 2017) (Superior Court, Appellate Division).

V. CONCLUSION

ACE appreciates the opportunity to work with the Board and other interested parties to help shape an energy efficiency program that thoughtfully considers ever-evolving technological developments in utility operations, and that reflects the economic realities faced by the utilities and their customers. We thank you for your consideration of these comments, and the Company welcomes the opportunity to provide further input on this subject in the future.

Respectfully submitted,

Andrew J. McNally

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May 16, 2019

State of New Jersey
Board of Public Utilities
44 South Clinton Ave, 3rdFloor, suite 314
P.O. Box 350
Trenton, New Jersey 08625-0350

RE: Request for Comments, Draft Study: Energy Efficiency Potential in New Jersey

Dear Commissioners of the Board of Public Utilities and All Interested Parties:

On behalf of the American Council for an Energy-Efficient Economy (ACEEE), I write to submit comments on the Energy Efficiency Potential Study and Anticipated Stakeholder and Implementation Process. We were encouraged to see the high-level study results: that New Jersey has significant energy efficiency potential, and that if the state is successful in meeting the proposed targets in the next decade, it will be able to deliver billions of dollars of net benefits to New Jersey's ratepayers.

ACEEE is a nonprofit research organization based in Washington, D.C. that conducts research and analysis on energy efficiency. We have been active on energy efficiency issues at the national, state, and local level for more than three decades, collecting extensive best-practice information on topics including energy efficiency program administration and utility business model design.

We recognize the significant work of Optimal Energy and the BPU in crafting a potential study and draft quantitative performance indicators (QPIs). To support the state's efforts to significantly ramp up energy savings to meet the goals in the Clean Energy Act (P.L. 2018, c.17), we encourage additional clarity and transparency in the potential study and description of the progress. In addition, we provide initial feedback on the QPIs and urge the BPU to provide additional clarity on key process questions.

Encourage Further Transparency in Potential Studies
As the BPU noted, the completion of the Potential Study is a required first step, and we encourage continued use of such data-based guidance documents to inform decision making. However, it is noteworthy that the draft potential study was missing key critical supporting documentation, including the supporting technical appendices and some unreleased studies cited for key inputs such as avoided costs, cost-benefit analyses, and baseline studies. Further, it is difficult to assess and provide input on many of the study's findings, like ramp rates and QPIs, without clarity on policy decisions like the scope of program administration for which utilities will be responsible.

Our report *Cracking the TEAPOT: Technical, Economic, and Achievable Potential Studies* cites the criticality of transparency in assumptions, especially for the assumptions behind maximum achievable and program and realistic potential scenarios, customer participation models, avoided

costs, and emerging technologies.[1] Further it recommends sharing key assumptions during the stakeholder process rather than after it, to help readers assess the veracity of overall potential results and to ensure that best available information is used in the analysis. For example, the potential study acknowledges that it references out-of-state (although geographically adjacent) data for baseline inputs; the ability to review those data sets is important to ensure that the assumptions are applicable to the New Jersey context.

Consider Modifications to QPIs to Support Successful Ramp Up

We appreciate the clear efforts to build on the literature of best practices for performance incentives in the potential study. The QPIs leverage some leading trends in performance incentive design, including multi-factor incentives[2] and the use of lifetime savings as a metric.[3] However, it will be important to ensure that QPIs are scaled to the scope of state goals for which utilities are responsible, if some programs continue to be administered by the New Jersey Clean Energy Program.

Additionally, although multi-factor performance incentives are an increasingly common strategy to encourage multiple policy objectives, the BPU may want to consider a smaller number of more targeted metrics. The proposed energy, demand, lifetime savings, and low income QPIs have a clear basis in the Clean Energy Act; the BPU might consider additional stakeholder discussion and the creation of a more detailed record on the QPIs for small business energy savings, based on current data about those customers in the state. Further, a smaller number of key metrics may be more effective to ensure management focus as programs begin; as program administrators get further experience, other QPIs can be added.

Provide Additional Clarity on Key Policy Questions and Process

The recent communication to the listserve provided some additional clarity on key policy questions, and we recommend that the BPU expand on planned timelines, roles, and requirements as a part of its May meeting. Some key process questions remain, which bear clarification:

- What will be the process for the board's consideration of "changes to a new energy efficiency and peak demand reduction program" in Fall 2019? Is that process separate from utility program filings? We typically see opportunities for stakeholder input or comments on both new policy guidance and on utility program filings. Successful states also allow a reasonable amount of time for utilities to issue RFPs and select vendors, measures, and program designs before filing, as well as time from approval of filed programs to implementation to launch the programs and incorporate regulatory input. Thus, while programs can begin July 1, 2020, these may just be initial programs, with additional programs following a little later.
- Will the Independent Advisory Group continue beyond the initial 'stakeholder process', or will that replace the process after this summer? We believe that an ongoing group would be necessary to fully address the list of issues described, as well as the new issues that will emerge once program implementation begins. However, some progress and some initial decisions can be made before then.

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[1] Neubauer, M. 2014. *Cracking the TEAPOT: Technical, Economic, and Achievable Potential Studies.* https://aceee.org/research-report/u1407

[2] Relf, G. and S. Nowak. 2018. *Snapshot of Energy Efficiency Performance Incentives for Electric Utilities.*

[3] Gold, R. and S. Nowak. 2019. *Energy Efficiency Over Time: Measuring and Valuing Lifetime Energy Savings in Policy and Planning.*

With the passage of the Clean Energy Act in 2018, New Jersey has the opportunity to leap ahead as a leader in energy efficiency. We urge the Commission to continue to improve the transparency and clarity of the potential study and process, and thank you for considering our input. We are happy to provide additional resources on frameworks, examples, and best practices from our research over the coming months.

Sincerely,

Rachel Gold
Senior Manager, Utilities Program
American Council for an Energy-Efficient Economy

Comments of Rockland Electric Company on Energy Efficiency Potential Study

Executive Summary

The Draft Energy Efficiency Potential Study ("NJ Study") prepared for the New Jersey Board of Public Utilities ("Board") by Optimal Energy ("Optimal") and submitted as a Draft to stakeholder without critical appendices on May 9, 2019, violates the requirements of the NJ Clean Energy Act[1] ("the Act") by making decisions expressly given by the Act to the Board to decide. The NJ Study also violates the requirements of the Act, if not NJ law and due process, by ignoring the express language of the Act that determinations of, for example, Qualify Performance Indicators ("QPI") be determined by the Board pursuant to the Administrative Procedures Act.

The NJ Study unlawfully substitutes its decisions when the Act expressly gives that authority to the Board by the Act. As a result, and as a result of Optimal's expansion of the scope of the study required by subsection (b) of the Act, Optimal makes inaccurate legal interpretations of the Act and inaccurate conclusions on critical subjects such as the proper utility return on investment, which the authors, being neither attorneys or economists, are not qualified to make.

Finally, given the secrecy around the NJ Study, the delay in the start of the study until February 2019, and the failure to include the NJ utilities and other stakeholders in the review of the NJ Study, or even to allow questions of Optimal about on the Draft NJ Study, Optimal and the Board never received what would have been valuable information and feedback from the NJ utilities on achieving energy savings. There was no ability during the process to question Optimal about the Draft NJ Study, and as a result, no record supporting the study. Therefore, a study that should have been a firm foundation for NJ's energy efficiency future became a flawed document, and an insecure path to NJ energy reduction.

Additionally, the Study provides a literature review and explains several principles of successful energy efficiency, but then without explanation, departs from those principles. For example, on performance targets Optimal recommends that, if the utility achieves anything less than one hundred percent of its target, the utility is penalized. As a result, a utility that achieves 85 percent reduction in savings, receives a penalty. Further, with little explanation, and despite the plain language of the Act, Optimal decides that the NJ utilities should not include a rate of return on their investments, which would make energy efficiency investments attractive investments. Optimal reasons inaccurately that a return is not appropriate because energy efficiency programs provide "less risk" to utilities than other investments. Optimal also, despite the express wording of the Act, recommends that NJ utilities could achieve a two percent reduction in energy usage without being able to recovery lost revenues. The recovery of lost revenues in energy efficiency programs, as noted in Optimal's literature review has been considered in other jurisdictions necessary to achieve successful energy efficiency programs.

I. Optimal misinterprets the Statute on Return on EE Investment

The language and structure of the Clean Energy Act and section 13 of the RGGI Act, along with the historic treatment of public utility energy efficiency investment in New Jersey, is clearly consistent with the utilities earning a rate of return on these investments. Also, t an artificially low amortization period (or no amortization period at all) will result in inter-generational inequity regarding the costs and benefits of EE investments, as well as rate shock if the EE expenditure were to be recovered on a "pay as you go" basis.

Regarding the return on equity issue, see the following language from the CEA:

> 48:3-87.9.e.(1) . . . . .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).

Following the subsection quoted above (e.(1)), there are two subsections (e.(2) and e.(3)) requiring the BPU to establish, respectively, incentive and penalty structures. Then, subsection 48:3-87.9.e.(4) states:

> The adjustments made pursuant to this subsection may be made through adjustments of the electric public utility's or gas public utility's return on equity related to the energy efficiency or peak demand reduction programs only, or a specified dollar amount, reflecting the incentive structure as established in this subsection. The adjustments shall not be included in a revenue or cost in any base rate filing and shall be adopted by the board pursuant to the "Administrative Procedure Act."

This language confirms that the utility will have a return on equity "related to" its EE programs. Similarly, RGGI section 13, a/k/a 48:3-98.1, includes the following cost recovery language in subsection b. and definition in subsection d.:

> b. An electric public utility or a gas public utility seeking cost recovery for any program pursuant to this section shall file a petition with the board to request cost recovery. In determining the recovery by electric public utilities and gas public utilities of program costs for any program implemented pursuant to this section, the board may take into account the potential for job creation from such programs, the effect on competition for such programs, existing market barriers, environmental benefits, and the availability of such programs in the marketplace. . . . Ratemaking treatment may include placing appropriate technology and program cost investments in the respective utility's rate base, or recovering the utility's technology and program costs through another ratemaking methodology approved by the board, including, but not limited to, the societal benefits charge . . . . All electric public utility and gas public utility investment in energy

efficiency . . . 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.

d. .. . . "Program costs" means all reasonable and prudent costs incurred in developing and implementing energy efficiency, conservation, or Class I renewable energy programs approved by the board pursuant to this section. These costs shall include a full return on invested capital and foregone electric and gas distribution fixed cost contributions associated with the implementation of the energy efficiency, conservation, or Class I renewable energy programs until those cost contributions are reflected in base rates following a base rate case if such costs were reasonably and prudently incurred.

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COMMENTS ON DRAFT ENERGY EFFICIENCY POTENTIAL STUDY PERFORMED BY OPTIMAL ENERGY. COMMENTS SUBMITTED THROUGH NJCLEANENERGY.COM, MAY 15, 2019

About Core Metrics

Franklin Neubauer of Core Metrics has fourteen years' experience in energy resource planning, energy-economic modeling and forecasting. Franklin's experience began in transportation demand modeling and end-use forecasting for California agencies. In the Pacific Northwest, he provided on-site consulting to Bonneville Power Administration to model energy efficiency policies and impacts to the region. He identified deficiencies in the Christie Administration's Energy Master Plan, and contributed to RGGI program reviews. He also did commodity research, using quantitative methods for futures and options trading. Franklin is a member of the Association of Energy Services Professionals. He has an M.S. in Engineering & Economic Systems from Stanford and a Certificate in Computational Finance from Oregon Graduate Institute.

Introduction

I have known about Optimal Energy's work on EE potential studies since 2007; however, this project for New Jersey's Board of Public Utilities is more than a potential study. Instead, the BPU has bundled tasks that require expertise in energy efficiency planning into a contract that outsources analytical tasks and professional judgment on a one-time basis. This has happened before. The consultant's deliverables can promote learning but do not assure it. The challenge for the BPU will be to recognize Optimal's work as providing important tools it needs for EE planning and adopt those tools as it moves forward to meet long-term clean energy goals.

I expect that engineers and EE program specialists will provide feedback on the draft EE potential results. Instead, my comments focus on performance incentives, economic issues, and cost-effectiveness.

Design and Implementation of the Largest Performance Incentive: UCT Net Benefits

The design and implementation of the largest performance incentive, with a proposed weight of 35%, would be improved by simplifying two separate, linear scales into one linear scale. In addition, the notes in Table 39 corresponding to UCT (the Utility Cost Test) need clarification.

By choosing UCT Net Benefits as the largest performance incentive, Optimal's recommendation appeals to supporters of Integrated Resource Planning. In effect, regulators would be rewarding least-cost planning (in theory), with the costs and benefits narrowly defined for purposes of calculating the incentive. I commend the choice of the Utility Cost Test to avoid unnecessarily contentious disagreements over how to measure societal costs and other reasons offered on page 90. The Societal Cost Test will still be the primary test of cost-effectiveness.

Unlike the seven other targets, this target is a present value, measured in current year dollars. Every program's costs and benefits feed into the calculation of NPV, raising its complexity and the difficulty of tracking it to determine whether the utility will be above or below the target. There is added uncertainty because savings and benefits are evaluated ex-post.

Consider the case where the utility falls short of the target. Based on the two linear scales presented in the draft report, the regulator would be penalizing the utility for pursuing least-cost planning but falling short in its effort. That might be due to difficulty tracking the NPV over the plan period, or it might be due to inherent uncertainties in planning. That is not what the regulator should aim for. If the utility were faced with an intransigent BPU, insistent on such incentives, the utility could submit an initial plan with low net benefits and revise the plan later to assure remaining above the target. Again, this would not be in the interest of regulators or the public. To avoid so-called perverse incentives, there should only be one linear scale for this target, and utilities should be rewarded for increasing UCT Net Benefits, not penalized.

It is worth noting that New Jersey's Clean Energy Program revised its plans with BPU approval frequently in the past, and there is no legitimate reason to deny the utilities the same flexibility to change their plans that the Clean Energy Program exercised dozens of times. However, I would be concerned with the workload on BPU staff, and staff's ability to manage some new tasks.

The notes in Table 39 corresponding to UCT Net Benefits could be clearer. They say:

> *Ex-post evaluated NPV net benefits achieved during the plan period. Benefits involve only resulting electricity / gas present value lifetime avoided-cost benefits in utility territory for the plan period. Costs include only utility-specific actual program expenditures for the plan.*

Optimal was careful to say "in utility territory" concerning the benefits. Costs are supposed to "utility specific". It is not clear to me why Optimal used different language for costs. Also, the note says "actual program expenditures for the plan". Rather than what? This note needs more explanation to be as clear as notes for the other targets.

Reliance on Two Separate Scales for the Other Performance Incentives

For each of the seven other performance incentives, which are listed in Table 39, Optimal should consider whether two separate, linear scales may result in perverse incentives after reviewing criticisms from other EE stakeholders. If unwanted behavior is likely to result from separate, linear scales, then I would encourage simplifying to one linear scale.

The draft report offers no solution to the Clean Energy Act's requirement that the BPU address the effects of economic factors in awarding incentives.

The draft report oversimplifies and promotes Evaluation, Measurement and Verification (EM&V) methods as a panacea. By so doing, the report aims to avoid the legal requirement to account for impacts specified in the Clean Energy Act. I am most concerned with the impacts of economic factors on energy consumption and savings, some of which traditional EM&V will never be able to model. Hard to model economic factors caused problems for New Jersey's long-term EE planning after the recession, and will cause problems in the foreseeable future. EM&V alone cannot eliminate them. No one is proposing scrapping EM&V in favor of a radical new method for attributing energy savings, so the BPU does not face an either/or choice.

It is important not to lump all exogenous factors specified in the Clean Energy Act into the same basket. Some of the exogenous factors identified in the Act - weather, customer growth, and outages – are already tracked by utilities. Since EM&V practices already rely on weather normalized data and weather is the largest source of variability effecting savings, I do not anticipate the need for further adjustments for these three factors to calculate performance incentives in an unbiased manner.

However, significant economic impacts are more likely to affect the entire state if we consider prior experience (the 2007-2009 recession) and proposals for broad based carbon pricing. When major economic impacts occur, energy analysts in the Murphy Administration and the BPU will have access to relevant economic research that can supplement measurements made based on EM&V practices. For example, if broad based carbon pricing were adopted in New Jersey and other states, why not utilize economic research that would accompany such a major policy change?

Measurements of energy consumption and energy savings in EM&V rely on statistically derived models with a limited number of variables and data observations that analysts use to make their estimates. Not all variables are considered, contrary to what the draft report suggests. Typically, analysts rely on engineering approximations of energy consumption that weed out economic factors that did not show up as statistically significant.

However, when you look across end-uses and aggregate energy consumption across the economy, it is apparent that the recession (with its effects on incomes, employment, capacity utilization and prices) led to much lower demand for energy than had been forecast. Certainly, both program participants and non-participants reduced their consumption in the recession's aftermath.

Models used in EM&V are not all purpose tools capable of analyzing every economic event or policy. In the 1980s, I worked on two early measurement and verification projects, so I am aware of EM&V's strengths and limitations.

I recommend that adjustments for economic factors outside the scope of EM&V be limited to impacts that have fairly uniform effects throughout the state, so similar adjustments could be made for all electric utilities, and similar adjustments could be made for all gas utilities. In case of an infrequent, major economic event that would bias the awarding of rewards or penalties, BPU staff could make recommendations to the Board's Commissioners based on the best independent economic research available when the Board rules on utility incentives and penalties.

I am not dismissing Optimal's concerns about measurement difficulties as unimportant. The difficulties Phil Mosenthal pointed out during the company's May 3 briefing are one reason I am not recommending adjustments for growth in use of EVs and DER penetration. Furthermore, those are policy dependent factors, and the Administration's policies for these technologies are not finalized yet.

Concerns about Cost-Effectiveness Inputs, Assumptions, and the Upcoming Stakeholder Process

The draft raised concerns regarding cost-effectiveness inputs and assumptions, and requirements for cost-benefit analysis stated in the Clean Energy Act. The final report can resolve some of those concerns by assuring that all Rutgers and BPU documents cited in the report are available to the public at the time the final report is released, if not sooner. Avoided costs and all the components

of the Societal Cost Test used in Optimal Energy's analysis are still undisclosed. There should be no more secret inputs or assumptions.

More fundamental concerns about how costs and benefits are calculated in New Jersey will depend on the stakeholder process that the BPU initiates to comply with the Clean Energy Act. Relative to other parts of the country, New Jersey has much to learn about EE's costs, benefits and impacts. Just a small minority of stakeholders have a good understanding of SCT and UCT at this time, since program evaluations were underfunded under Governor Christie for eight years. The introduction of the National Standard Practice Manual for cost-effectiveness will compound people's confusion, though that confusion should be temporary.

Yours truly,

Franklin Neubauer
Principal
neubauer@coremetricsenergy.com

From: Barbagallo, Leslie
To: publiccomments@njcleanenergy.com
Subject: Energy Efficiency Potential in New Jersey
Date: Thursday, May 16, 2019 2:43:47 PM

DNV GL appreciates the opportunity to provide comments on the draft market potential study, realizes from firsthand experience the difficulties in developing market potential estimates, and respects Optimal Energy's experience. We respond as a company very interested in investing more in New Jersey, particularly in the workforce, and as a firm with expertise based on decades of utility advisory, engineering and certification services, including but not limited to Implementation and Evaluation, Measurement & Verification (EM&V) of North America's leading energy efficiency programs. We offer further input here with the goal of maximizing cost-effective energy efficiency in New Jersey and of facilitating the investment by market actors needed to ramp up New Jersey's initiatives.

Stakeholder engagement, materials provided, and time allowed for review and comment. Broad stakeholder engagement in energy efficiency programs takes much effort, but that the effort pays off in delivering high energy and demand savings. We wanted to share our experience in many states and provinces, at time of launch and through the years, where regulators, utilities, energy efficiency advocates, rate counsel, evaluators and implementers meet on a regular schedule, e.g., monthly, to develop policies, procedures and approach, often with an independent facilitator. Illinois is one of several good examples (http://www.ilsag.info). We recognize that the Clean Energy Act had tight timeframes and we understand this study is only a step in the process, but it may be beneficial to broaden the stakeholder participation at this time, e.g., issuing the appendices associated with this report, hopefully with more detail on the five-year versus the ten-year timeframe in much of the body of the report and extending the time for comment, given the breadth and importance of the issues covered.

Treatment of Energy Efficiency as an Asset. Our understanding of Optimal's recommendation is that NJ change the current approach that treats energy efficiency investments as an asset to be amortized to an approach of cost recovery. We believe in the maxim that the lowest cost electricity and natural gas is the electricity and natural gas that is never used. A change in the approach would change energy efficiency as an investment on equal footing with other assets to an investment with a lower return. New York has gone in the opposite direction, under the mandate of changing the regulatory model to best support clean energy, e.g., with Con Edison putting out RFPs for the Brooklyn Queens project and for natural gas supply that included energy efficiency as a resource. ACEEE (https://aceee.org/blog/2019/05/deep-retrofits-financing-needs-play) and others have noted the need for a deep retrofit approach to achieve aggressive savings goals, which would require a significant investment many customers will not take but that could be supported by utilities, with the proper regulatory model. Providing the same rate of return would support utilities allocating substantial capital to energy efficiency over other investments. In summary, the recommended change to approach seems opposed to New Jersey's greatly increased focus on clean energy investment.

Level of Goals and Measure Targets. The Clean Energy Act required the BPU to assess "reasonably achievable targets". Optimal recommends (1) savings goals that are higher than the Clean Energy Act required and (2) disallowing some credits that the Act allowed, e.g., building code changes. It appears that Optimal based the targets on the market potential analysis and a comparison with other states. We believe the recommended targets are too high for a number of reasons:

- The goals match the very highest achievements in electricity and gas that occur in very different energy efficiency markets (Vermont, Massachusetts and Rhode Island for electricity and Minnesota for gas) developed over much more than five years. We do not know of a state that has achieved goals this high without an established track record in the state.
- Equally important, the achievements in benchmark states would not be reasonably achievable under the recommended EM&V approach. While limiting credit towards to utility incentives allows for easier and cleaner EM&V, (1) this approach is inconsistent with the Clean Energy Act and the corresponding savings targets, (2) savings targets need to be aligned with the EM&V framework, and (3) this approach may not optimize cost effective savings. The states that have 2% or higher electric savings give program administrators credit for non-administrator impacts to reach these savings. For example, MA program administrators can claim savings for Codes and Standards compliance education, market effects and spillover.
- The choice of ***net savings*** for the recommended target levels may not be appropriate for two reasons (1) the development of the approach to achievable market potential does not mention applying any estimate of net to gross savings and (2) the benchmark net savings percentages may be grossly overstated in some cases. The study notes that, for some states, ACEEE calculated net savings from gross savings using a generalized net to gross ratio (NTGR) of 85. This ratio is much higher than the benchmark states use, e.g., MA (http://ma-eeac.org/plans-updates/) 2019 NTGR include:
    - Residential
        - Heat Pump Water Heater: 66.5% (Retail program)
        - LEDs: 45%
        - Programmable Thermostats: 42% (Retail program)
    - Non-Residential
        - Unitary HVAC: 55%
        - Heat Pump (Air-source): 55%
        - Screw-Based LED: 73%
        - Linear LED: 80%

  The assumed NTGR has a tremendous impact on the benchmark achieved net savings, e.g., using 60% instead of 85% means a stated 2.0% net savings achievement would become a 1.4% net savings achievement.
- The achievable market potential may be overstated. The top savings from the market potential study, e.g., residential water heating noted as driven by heat pump water heaters and data center savings for C&I do not match historical experience in the Northeastern US. As Optimal notes, the measure mix in 2020 may be very different than the measures included in past years, if lighting opportunities decline as anticipated due to federal constraints. This may make it more difficult to achieve the same or higher level of savings in the future in a relatively new energy efficiency market, as the measures Optimal expects to contribute large savings are more difficult to promote than lighting.

Marketplace Uncertainty. Optimal notes that the goal for 2020 is a modest increase over current achievement. We assume that the 2020 goal determination will follow clarification of who will deliver programs in 2020 and more specifics on how this increase will be achieved. The near term goals it seems need to be linked to approval of specific filings. Clarification in this regard would be very welcome to firms seeking more certainty to support investment in New Jersey's energy efficiency market, to accelerate the state's new path to clean energy.

Complexity of QPIs. Especially as the state market is building and evolving, few and simple QPIs may be best. We have experienced that multiple QPIs can create unintended consequences, with program administrators re-allocating budget and resources to struggling initiatives to meet goals at the expense of activities that are working better in the market. Cost-effectiveness and total savings typically suffer when program administrators are forced to hit more QPIs.

CHP. The study references a ratio of achievable to economic potential of 50% for CHP, based on a PA post-number of 17% and a potential study in NY of 77%. It may be prudent to base decisions made on a number no more than 15-20% - customers have been very hesitant to make the large investment in CHP, in part due to the volatility of energy costs, and an adoption rate of 50% may not be reasonably achievable in New Jersey.

AMI. The study references the assumption that AMI will be rolled out in NJ over the next ten years. It may be advisable to hold off on program or policy decisions based on potential estimates assuming the deployment of AMI until such time as AMI filings have further progressed.

Thanks very much for the consideration of our comments and we hope that they are in some way helpful.

Submitted *Via* Email (publiccomments@njcleanenergy.com**)**
May 16, 2019
New Jersey's Clean Energy Program

RE: Request for Comments, Draft Study: Energy Efficiency Potential in New Jersey

The Energy Efficiency Alliance of New Jersey ("EEA-NJ") is pleased to submit comments on the Draft Study on energy efficiency potential in New Jersey in order to fulfill the requirements of the Clean Energy Act (P.L. 2018, c.17).

Respectfully Submitted,

Eric Miller
Policy Counsel
Energy Efficiency Alliance of New Jersey

I. INTRODUCTION

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. Between EEA and 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 employs more than 30,000 New Jersey residents. Our membership is large and diverse, with experience designing and implementing a variety of demand side management solutions and efficiency programs across the globe.

II. BACKGROUND

On May 23, 2018, Governor Murphy signed P.L. 2018, c, 17, the Clean Energy Act ("Act"), which directed both the Board and New Jersey's investor-owned electric and gas utilities to act regarding energy efficiency. Specifically, the Act states that "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." Additionally, "[e]ach 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." The Act also requires that the BPU conduct and complete a study to determine the energy savings targets for full economic, cost-effective reductions, and the time frame for achieving the reductions. The Board contracted with Optimal Energy to study and determine the energy savings targets, adopt quantitative performance indicators, and incentives and penalties.

III. COMMENTS

EEA-NJ largely supports the targets established by Optimal Energy in its Draft Study. EEA-NJ believes the study clearly shows that New Jersey has significant energy efficiency potential that can be captured by utilities with a relatively short ramp-up period. Simply stated, if NJ is successful in meeting the proposed targets in the next decade, it will be a national leader in energy efficiency, while providing billions of dollars of benefits to New Jersey's ratepayers. Additionally, EEA-NJ acknowledges that energy efficiency best-practices not only produce the

best outcomes, but support a strong energy efficiency business community that provides well-paying local jobs while helping the state meet its climate goals.

That being said, EEA-NJ is concerned with the stakeholder process around this study. The Act clearly envisions significant stakeholder input on a variety of topics, including the market potential study, quantitative performance indicates, penalties and incentives, and program administration, among other foundational design elements of EE programs. However, to date, there has been few meaningful opportunities for input. The overall lack of input has been reflected in the potential study stakeholder meetings.

1. The Draft Potential Study Shows the Efficiency Targets Set by the Clean Energy Act are Achievable and Reasonable

EEA-NJ supports the strong targets proposed by the draft potential study. In its study, Optimal concludes that NJ has a maximum achievable potential of 2.8% savings for electric, and 1.4% for gas with a cumulative annual load reduction of 21 percent in 2029. Moreover, the study shows a strong benefit to cost ration of 2.57, meaning that programs on this scale will provide significant benefits beyond the cost of investment. Additionally, EEA-NJ supports Optimal's use of a Societal Cost Test ("SCT") to evaluate efficiency potential in the state. Overall, the potential study clearly shows that there is a significant amount of energy efficiency opportunity in New Jersey.

2. The Stakeholder Process Conducted by Optimal Under the Supervision of the Board was Insufficient for Meaningful Stakeholder Input

Over a roughly three-month period from late February to early May, Optimal Energy held a series of four stakeholder meetings to "identify the most important model inputs and results." At the meeting the topics addressed were:

- **February 28, 2019**: Data Sources and Key Global Inputs
- **March 15, 2019**: Measure Characterization / Key Model Inputs
- **April 23, 2019**: Results of the New Jersey Potential Study
- **May 3, 2019**: Quantitative Performance Indicators, Performance Incentives

However, the stakeholder process offered little to no opportunity for stakeholders to provide meaningful input about the study, and often times notice was given to stakeholders less than a week in advance. The lack of notice is present in the call to comments on the Draft Study, which only provides interested parties one week to comment. Insufficient notice has been a pervasive issue throughout the stakeholder process. For example, notice for the May 3 stakeholder meeting was given on 8:00 PM April 30th, only three days before the meeting took place. Moreover, stakeholders were not provided specific data, including access to presentation materials and other relevant documents to help inform the discussion at the meeting.

Additionally, the Draft Study does not include the appendices that underpin the study's conclusions, making it impossible for stakeholders to meaningfully review the validity of the Draft Study. Additionally, it is unclear what assumptions were made with regard to costs, savings, and measure penetration, as well as net-to-gross assumptions used to arrive at the net savings presented. EEA-NJ believes that stakeholders should be given additional time to comment on the potential study, as well as the appendices that underpin the assumptions and conclusions contained in the study.

3. Optimal Should not Substitute its Legal Interpretation for that of the Board

EEA-NJ is extremely concerned with assumptions made in the Draft Study, specifically legal conclusions made is Section three of the report as it relates to cost recovery and performance incentives. While Agency interpretation of an enabling statute based on significant stakeholder input is commonplace in administrative law, interpretation of an enabling statute by a third-party, made in isolation, is not. There are several locations in the draft study where the author's make legal interpretation with regard key program design elements.

For example, with regard to cost recovery the Draft Study States "We note that the Act seems to envision an annual accounting and recovery of efficiency investments, and therefore does not anticipate treatment of efficiency program costs as a regulatory asset that is amortized over time."[1] EEA-NJ believes the proper venue for these conversations is a noticed stakeholder proceeding that adheres to the requirements of the Administrative Procedure Act.

[1] Draft Potential Study, at 81.

4. More Discussion is Required to Inform the Quantitative Performance Indicators

The Clean Energy Act requires that the Quantitative Performance Indicators ("QPIs") should be informed by the market potential study. This does occur with regard to energy, demand, and lifetime savings. However, the Draft Study does not discuss other QPI's such as low-income energy savings, small business energy savings, and other QPI's that will be determined at a future date. EEA-NJ believes that those additional QPI's will require deeper analysis to determine the characteristics for the QPI, as well as the establishment of utility specific goals and measurement and verification of whether goals are met. EEA-NJ believes these QPI's are best determined through a collaborative stakeholder process that provides multiple opportunities for comment.

IV. CONCLUSION

EEA-NJ supports the main conclusion of the market potential study; that is, NJ has significant cost-effective energy efficiency potential. If that potential is achieved on the timeline outlined in the Draft Study, NJ ratepayers will save billions on their energy bills, and EE will drive the clean energy economy in the State. However, EEA-NJ does have serious concerns about process, and respectfully requests the Board provide for a more inclusive stakeholder process to address the issues identified in these comments, as well as comments by others.

Edison Electric INSTITUTE

Power by Association℠

VIA ELECTRONIC FILING

May 16, 2019

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

Dear Secretary Camacho-Welch:

The Edison Electric Institute (EEI) respectfully submits this letter to the New Jersey Board of Public Utilities (NJ BPU) in response to your request for public comment on the May 9, 2019, draft study titled "Energy Efficiency Potential in New Jersey" (hereinafter, Draft Study) written by Optimal Energy.

EEI is the association that represents all U.S. investor-owned electric companies. Our members, including those in New Jersey, provide electricity for more than 220 million Americans, and operate in all 50 states and the District of Columbia. As a whole, the electric power industry supports more than 7 million jobs in communities across the United States. EEI's member companies deliver the safe, reliable, affordable, and increasingly clean energy that powers the economy and enhances the lives of all Americans.

Across the United States, the way that Americans use electricity is changing at a rapid pace. Electric customers are charging more devices, using more technologies to help manage energy use, and increasingly are installing distributed energy resources in their homes. As the electric power industry leads through this period of remarkable change, energy efficiency programs remain an essential component of an ever-expanding set of customer energy solutions.

For several decades, EEI's member companies have supported their customers' interests in energy efficiency by providing incentives that lower the cost of purchasing energy-efficient appliances and devices that encourage energy management. Since 2008, electric company energy efficiency program expenditures have more than doubled, reaching $7.2 billion in 2017.[1] In that same year, energy efficiency programs saved an estimated 198 terawatt-hours (TWh) of electricity, or enough electricity to power 22 million U.S. homes for an entire year.[2] That is equivalent to 5.3 percent of the total end-use electricity consumption in 2017.[3]

While state EE programs have resulted in significant savings across the U.S., it is widely recognized that supportive state regulatory frameworks are key to the electric industry's success with, and ongoing commitment to, energy efficiency. The Clean Energy Act of 2018 aims to make significant reductions in a relatively short period of time[4] and the Board has an opportunity to shape New Jersey's commitment to driving energy efficiency across the state. EEI welcomes this opportunity to provide some brief comments on the Draft Report. Specifically, we will provide comments based on what we see from a national perspective, along with some examples for the Commission to consider with respect to the performance incentives and penalties section of the Draft Report.

As proposed in the Draft Report, the Quantitative Performance Incentives (QPI) calculation appears to be overly complex, which may increase evaluation, measurement, and verification (EM&V) costs, unnecessarily. While a robust EM&V program is important to help ensure savings are real, EM&V costs reduce the benefits that customers see from increased energy efficiency because they eat into any cost savings. There is an important balance that must be struck as the costs of administering and evaluating any program should try to have as minimal

[1] The 2017 data is presented in the March 2019 paper as the latest year with complete data. *See* Institute for Electric Innovation, *Energy Efficiency Trends in the Electric Power Industry (2008-2017)*, March 2019, http://www.edisonfoundation.net/iei/publications/Documents/IEI_Energy%20Efficiency%20Report_Mar2019.pdf.
[2] *Id.*
[3] *Id.*
[4] While some states today are able to achieve annual EE savings rates of close to 1 percent, the Department of Energy finds that the national average is closer to .50 percent. *See* Galen L. Barbose, et al., Lawrence Berkley National Laboratory, *The Future of Utility Customer-Funded Energy Efficiency Programs in the United States: Projected Spending and Savings to 2025* (Jan. 2013), http://emp.lbl.gov/sites/all/lbnl-5803e.pdf. In the proposed Clean Power Plan, the U.S. Environmental Protection Agency proposed as reasonable an annual EE savings rate of .2 percent and acknowledged that it would take significant time and investment for states to ramp up to rates of more than 1 percent annually. *See Clean Power Plan*, 79 *Fed. Reg*. 34,830, 34,872-73 (June 18, 2014).

impact on the overall cost-benefit analysis as possible. To drive the most value for customers, that money is better spent on the program itself.

The QPI also is overly punitive and prescriptive compared to what we have seen for other new programs across the country and does not appear to be well-suited to handle the need to assess progress toward the incremental energy savings targets established in the Clean Energy Act. To drive the necessary investment most efficiently, any performance incentive earnings opportunity should be defined clearly at the outset and then reviewed and recovered in a timely fashion. Given the stepped targets, New Jersey should take steps to align the performance targets with the incremental energy savings targets as specified in the Clean Energy Act (i.e., 0.75 percent in 2020….2 percent in 2024).[5] Optimal Energy's apparent recommendation to establish incentive targets for the full plan period (5 years), which appears to be inconsistent with the plain language of the Act, may have the effect of delaying any analysis and recovery until 2024, which would introduce significant regulatory lag and has the potential to limit electric companies' abilities to invest heavily in these programs. Further, the lack of a defined EM&V framework at the outset creates additional uncertainty on how program performance and claimed energy savings will be measured and verified.

The Draft Study's inclusion of a recommended penalty structure also is not a common practice for new electric company programs and certainly not in programs with such laudable but aggressive short-term targets. Instead, many states delay penalties and focus on performance incentives because it may be difficult to ascertain the reason for any compliance challenges for new EE programs, especially given the diversity of EE options and measures that can be implemented. For example, some programs utilize a grace period during the initial ramp-up. Others evaluate compliance throughout the implementation period to determine if any under compliance or non-compliance is related to program administration, market conditions, or something outside of electric company control (e.g., the economy). And, some even create a "deadband," where no rewards or penalties apply; most programs begin incentives at compliance

[5] Even with the established legislative targets, it is important to recognize that, given the significant challenges with ramping up energy efficiency programs in the residential sector, even getting close to these targets will be a challenge. The majority of states that the Draft Report cites for exceeding the 2 percent goal did not go from effectively scratch to 2 percent in 5 years.

levels well below 100 percent compliance, which is a far more common practice than starting penalties at 99 percent compliance.[6]

Effective energy efficiency programs reward electric companies for investments that save customers energy and money, not punish them based on performance of those approved plans.[7] One example worth considering with respect to incentives is the program in the state of Michigan.[8] Under that program, a financial incentive for electric company providers can be earned for exceeding the Energy Waste Reduction (EWR) performance standards. The earned performance incentive financial award is calculated as a function of the net present value of lifecycle cost reductions generated during the annual period and based on total program spending that is tiered based on annual incremental savings.

For additional examples, appended to this letter (Appendix A) is a December 2017 report from the Institute for Electric Innovation, which provides a fact-based look at Energy Efficiency Trends in the Electric Power Industry.[9] EEI wishes to contribute this document for the Board's consideration as the second half of this report provides state-by-state detail on energy efficiency programs across the country, including information on rate mechanisms, incentives, and recovery structures.[10] It is worth noting, however, that many of these are mature programs that have been built and developed over time.

Finally, EEI has concerns about the Report's recommendation that electric companies should recover their energy efficiency costs using a reduced return on equity (ROE). To properly incent

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[6] *See, e.g.*, Institute for Electric Innovation, *Energy Efficiency Trends in the Electric Power Industry*, December 2017, pp. 21-30, Appendix A, http://www.edisonfoundation.net/iei/publications/Documents/IEI_Energy%20Efficiency%20Report_Dec2017.pdf

[7] Such an approach is not only more in line with the challenges of EM&V for EE, but also recognizes that while electric companies can offer EE programs to customers, they cannot force them to participate. Penalties that do not align with the control that an electric company has over ultimate customer behavior will be both inefficient, ineffective, and unfair.

[8] *See* American Council for an Energy-Efficient Economy, https://database.aceee.org/state/michigan; *see also*, DTE report, https://www.newlook.dteenergy.com/wps/wcm/connect/e20de3d0-11df-41e5-bfbc-b41927e5a77c/2015-EO-Annual-Report.pdf?MOD=AJPERES; *see also* Michigan Public Service Commission report, https://www.michigan.gov/documents/mpsc/MPSC_Energy_Waste_Reduction_2016_Report_with_Appendices_Feb_15_2018_614120_7.pdf

[9] *See* Institute for Electric Innovation, *Energy Efficiency Trends in the Electric Power Industry*, December 2017, Appendix A, http://www.edisonfoundation.net/iei/publications/Documents/IEI_Energy%20Efficiency%20Report_Dec2017.pdf

[10] *Id.* at pp. 12-30.

electric companies to make energy efficiency investments called for by the Clean Energy Act, EEI encourages the Board to adopt a ROE approach that puts demand resources on a level playing field with traditional supply resources.

Through this docket, the Commission has the opportunity to implement thoughtful regulations that will support the growth and evolution of energy efficiency in the state of New Jersey. EEI encourages this review and hopes that the Commission will not just accept the recommendations in the report, but will undertake a comprehensive examination of a variety of options before choosing a final path forward.

We thank you for the opportunity to provide comment.

Respectfully submitted,

Adam L. Benshoff

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The Edison Foundation
INSTITUTE for ELECTRIC INNOVATION

Report

Energy Efficiency Trends in the Electric Power Industry

December 2017

Prepared by:
Adam Cooper

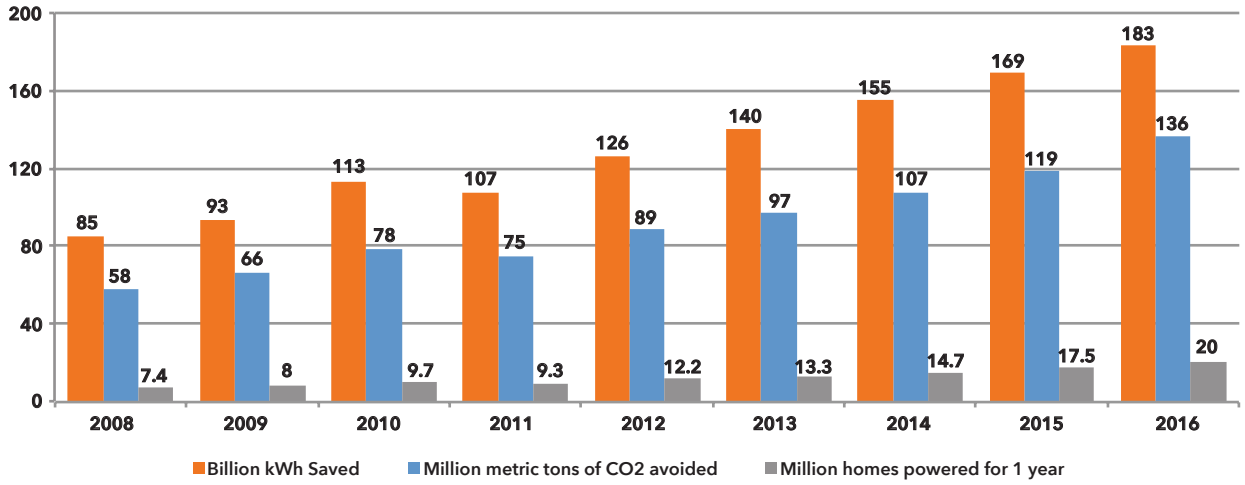
EXECUTIVE SUMMARY

Energy efficiency (EE) programs are a win-win – customers save energy and electric companies reduce carbon emissions. For several decades, electric companies have supported their customers' interest in energy efficiency by providing incentives and information that lower the cost of purchasing energy-efficient appliances and devices and encourage energy management through energy efficiency and demand response programs.

According to the most recent information, electric company customer-funded EE programs (i.e., both efficiency and demand response programs) saved 183 terawatt-hours (TWh) of electricity in 2016, up from 169 TWh in 2015.

- EE savings grew 45 percent over the past 5 years, from 126 TWh saved in 2012 to 183 TWh in 2016.
- In 2016, EE programs avoided the generation of 136 million metric tons of carbon dioxide.[1]
- In 2016, EE programs saved enough electricity to power 20 million U.S. homes for one year.[2]

Figure 1. U.S. Energy Efficiency Savings and Carbon Dioxide (CO2) Emissions Avoided (2008-2016)



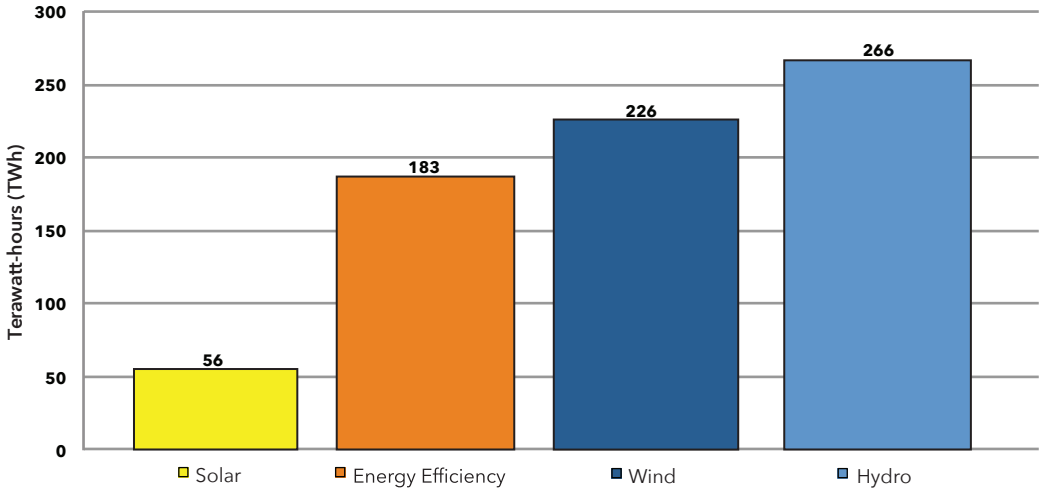
Since 2008, customer-funded EE program expenditures more than doubled, increasing from $3.4 billion to $7.5 billion in 2016. A 2017 report from Lawrence Berkeley National Laboratory found EE programs continue to be very cost-effective, delivering energy savings at a cost of roughly 2 cents per kWh over the lifetime of the investment.[3]

1. U.S. Environmental Protection Agency Greenhouse Gas Equivalencies Calculator: http://www.epa.gov/cleanenergy/energy-resources/calculator.html
2. Ibid
3. Trends in the Program Administrator Cost of Saving Electricity for Utility Customer-Funded Energy Efficiency Programs. Lawrence Berkeley National Laboratory. January 2017.

Similar to renewable energy resources, EE programs reduce carbon dioxide emissions and are an important part of the U.S. energy mix. Figure 2 shows that:

- EE programs in 2016 saved three-times the amount of electricity generated by solar resources in 2016.

Figure 2. EE Programs Saved More Energy than Solar Generated in 2016



It is widely recognized that supportive regulatory frameworks are key to expanding the electric power industry's already large commitment to EE. Homes and businesses that take advantage of EE programs benefit from them.

- States with regulatory frameworks that support electric company investments in EE programs tend to be leaders in savings.
  - ✓ In total, 33 states have approved fixed-cost recovery mechanisms – 17 states have revenue decoupling and 16 have lost revenue adjustment mechanisms (see Table 1).
  - ✓ In total, 30 states have performance incentives in place.

More details on the regulatory frameworks by state are provided in the second half of this report.

Table 1. Summary of State Regulatory Frameworks in 2017

Energy Efficiency Incentive Mechanisms		Number of States	Pending
Fixed-Cost Recovery Mechanisms	Lost Revenue Recovery	16	0
	Revenue Decoupling	17	1
Performance Incentives		30	0
Energy Efficiency Resource Standard (EERS)		26	0

INTRODUCTION

Historically a product of public policy with varying levels of participation, EE programs are now viewed by the electric power sector as an essential element in an ever-expanding set of service offerings – high efficiency lighting, smart thermostats, dynamic rates, renewable power options, storage, and more – to meet the expectations of electric customers who live in an on-demand, service-centric world. For customers, this is the beginning of a new era of choice and control over their energy supply and use. Increasingly, customers are gaining access to technology that gives them the ability to tailor energy use to their personal needs and wants.

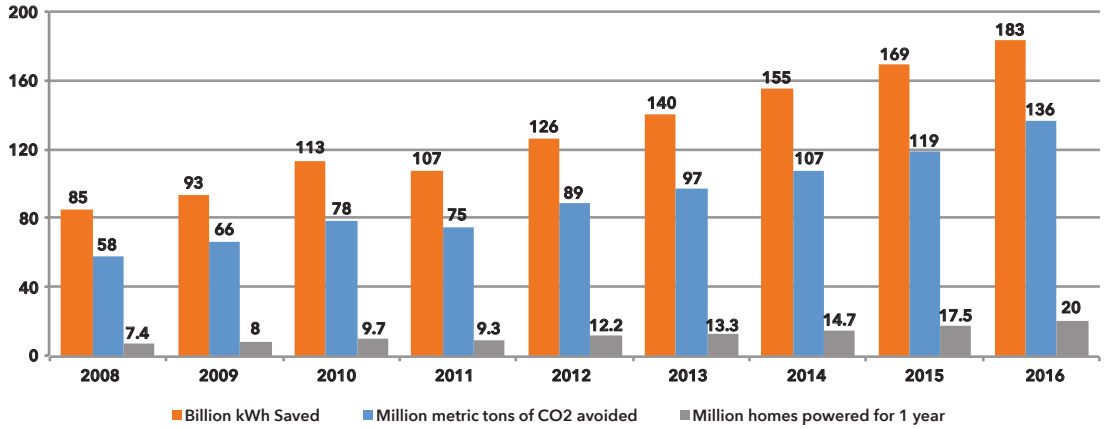
The goal of EE programs is to produce energy and capacity savings that benefit customers, electric companies, and society as a whole. For several decades, electric companies have supported their customers' interest in energy efficiency by providing incentives and information that lower the cost of purchasing energy-efficient appliances and devices and encourage energy management through energy efficiency and demand response programs.

- The focus of energy efficiency programs is to reduce energy consumption while increasing energy input productivity (e.g., fewer kilowatt-hours in exchange for equal or improved output).
- The focus of demand response (DR) programs is to reduce peak energy demand when the wholesale price of electricity is relatively high or for power system reliability reasons.

2016 ENERGY EFFICIENCY SAVINGS

In 2016, EE programs saved 183 TWh of electricity, enough to power 20 million homes for one year, and avoided the generation of 136 million metric tons of carbon dioxide (see Figure 3).[4] The energy savings from EE programs is equivalent to 4.8 percent of total end use electricity consumption in 2016.

Figure 3. U.S. Energy Efficiency Savings and Carbon Dioxide (CO_2) Emissions Avoided (2008-2016)



4. U.S. Environmental Protection Agency Greenhouse Gas Equivalencies Calculator: http://www.epa.gov/cleanenergy/energy-resources/calculator.html

Of the total 183 TWh saved in 2016, 29 TWh are incremental energy savings from either new programs or new participants in existing programs in 2016. Estimates of energy savings are developed based on the following:

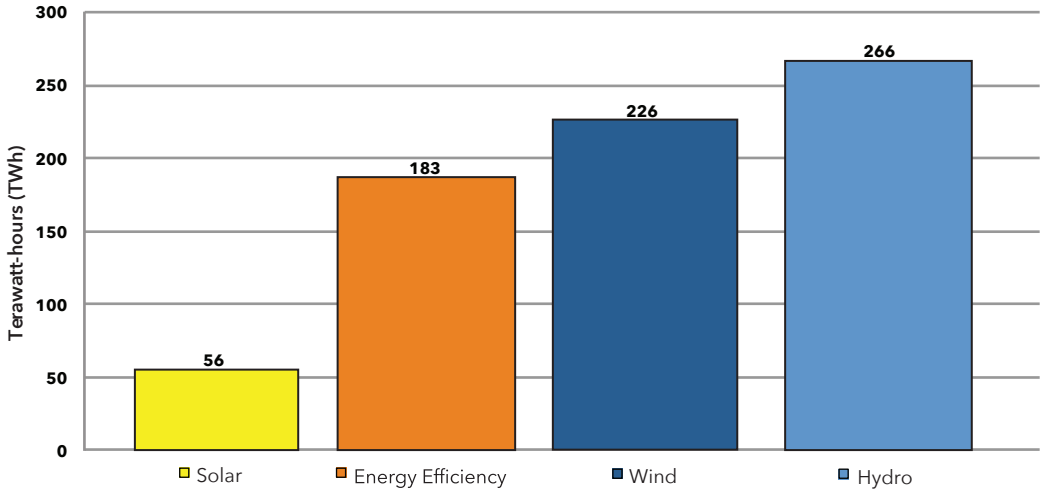
- Energy savings due to past program participation, which continue to deliver measurable and verifiable savings (e.g., a high efficiency refrigerator installed in 2011 continues to save energy in 2016).
- Energy savings due to customer participation in new programs (e.g., in 2016, an electric company offers a brand new LED product rebate and a customer purchases and installs an LED lamp in 2016).
- Energy savings due to new participants in an existing program (e.g., in 2016, an electric company continues to offer rebates for high efficiency refrigerators and a customer utilizes the rebate to purchase an eligible refrigerator).

EE programs are cost-effective ways to manage energy use. A 2017 report from Lawrence Berkeley National Lab found that electric company customer-funded efficiency programs that reported results during 2009-2013 delivered energy savings at a cost of roughly 2 cents per kilowatt-hour (kWh) saved over the lifetime of the investment.[5]

Similar to renewable energy resources, EE programs reduce carbon dioxide emissions and are an important part of the U.S. energy mix. Figure 4 shows that:

- EE programs in 2016 saved three-times the amount of electricity generated by solar resources in 2016.
- EE programs saved about 80 percent of the electricity generated by wind resources in 2016.

Figure 4. EE Programs Saved More Energy than Solar Generated in 2016



5. Trends in the Program Administrator Cost of Saving Electricity for Utility Customer-Funded Energy Efficiency Programs. Lawrence Berkeley National Laboratory. January 2017.

2016 ENERGY EFFICIENCY EXPENDITURES

Table 2 shows EE program expenditures of $7.5 billion in the United States in 2016, an increase of 4 percent from 2015. IEI believes that the slight increase is a result of more state regulatory policies supporting customer-funded energy efficiency programs, as well as state energy efficiency resource standards which set energy savings goals and targets that tend to increase over time. With energy efficiency resource standards in half of all U.S. states and with more than 30 states with regulatory frameworks that support electric company investments in EE, IEI believes that expenditures are likely to exceed $9 billion by 2025.

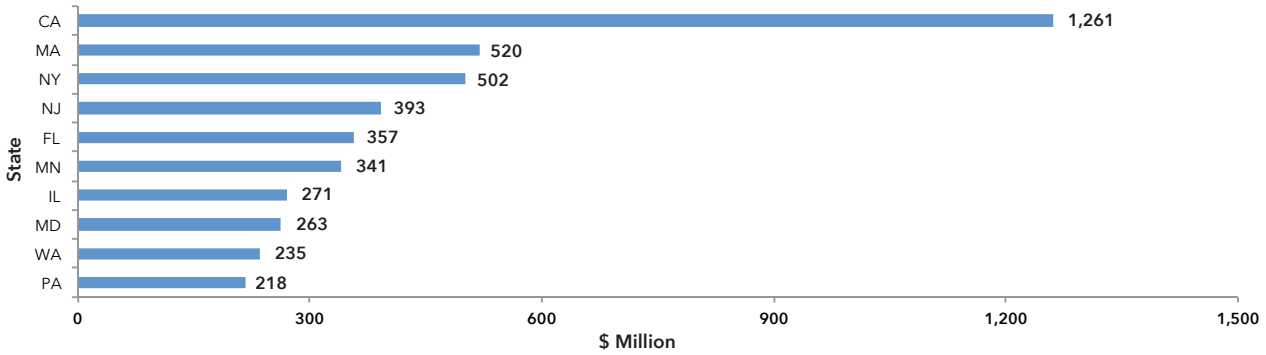
Electric companies, encompassing investor-owned, municipal, cooperative, and federal utilities, are the largest providers of EE programs in the United States, with program-related expenditures of $6.6 billion, comprising 88 percent of expenditures nationwide.

Table 2. U.S. Customer-Funded Energy Efficiency Expenditures (2008-2016)

Total		Electric Company	Third-Party Administrator	Electric Company Share of Total	Percent Increase
2008	**$3,395,273,000**	$3,009,522,000	$385,751,000	89%	
2009	**$3,770,398,000**	$3,312,287,000	$458,111,000	88%	11%
2010	**$4,831,868,000**	$4,271,691,000	$560,177,000	88%	28%
2011	**$5,711,277,000**	$4,914,351,000	$796,926,000	86%	18%
2012	**$5,861,219,000**	$5,244,288,000	$616,931,000	89%	3%
2013	**$6,440,303,000**	$5,811,865,000	$628,438,000	90%	10%
2014	**$7,285,637,000**	$6,589,178,000	$696,459,000	90%	13%
2015	**$7,232,937,000**	$6,490,523,000	$742,414,000	90%	-1%
2016	**$7,513,376,000**	$6,613,805,000	$899,571,000	88%	4%

Figure 5 shows the 10 states with the largest 2016 energy efficiency expenditures. These 10 states accounted for 58 percent of U.S. electric efficiency expenditures in 2016. California leads the states with $1.26 billion in expenditures, with Massachusetts second and New York third.

Figure 5. 2016 Energy Efficiency Expenditures – Top 10 States



Though expenditures at the national level grew modestly in 2016, two states increased their energy efficiency program expenditures by 50 percent or more relative to 2015 – Louisiana and New Jersey.

To provide some sense of the relative magnitude of spending, it is important to consider spending on energy efficiency in both absolute terms and in relation to the state's share of the nation's total population and electricity consumption. Table 3 shows 2016 energy efficiency expenditures, population by state, and the state's relative share of U.S. energy efficiency expenditures, population, and electricity consumption.

Nine states – California, Connecticut, Hawaii, Maryland, Massachusetts, Minnesota, New Jersey, Rhode Island, Vermont – have 2016 energy efficiency expenditure shares that are at least double their share of U.S. electricity consumption. Energy efficiency programs in these states have delivered substantial cumulative energy savings, thus lowering the per-capita consumption of electricity. This is reflected in the fact that in these nine states, the percent of U.S. electricity consumption is lower than the percent of U.S. population.

Table 3. Summary of U.S. Customer-Funded Energy Efficiency Efforts by State

State	2016 Energy Efficiency Expenditures ($Millions)	Population (2016 U.S. Census)	% of Total 2016 U.S. EE Expenditures	% of U.S. Population	% of 2016 U.S. Electricity Consumption
AK	$0.1	741,894	0.0%	0.2%	0.2%
AL	$69.3	4,863,300	0.9%	1.5%	2.3%
AR	$111.4	2,988,248	1.5%	0.9%	1.2%
AZ	$133.9	6,931,071	1.8%	2.1%	2.1%
CA	$1,260.6	39,250,017	16.8%	12.1%	6.8%
CO	$130.6	5,540,545	1.7%	1.7%	1.5%
CT	$177.2	3,576,452	2.4%	1.1%	0.8%
DC	$23.7	681,170	0.3%	0.2%	0.3%
DE	$15.1	952,065	0.2%	0.3%	0.3%
FL	$356.7	20,612,439	4.7%	6.4%	6.3%
GA	$67.7	10,310,371	0.9%	3.2%	3.7%
HI	$40.3	1,428,557	0.5%	0.4%	0.3%
IA	$178.6	3,134,693	2.4%	1.0%	1.3%
ID	$61.2	1,683,140	0.8%	0.5%	0.6%
IL	$270.5	12,801,539	3.6%	4.0%	3.7%
IN	$112.3	6,633,053	1.5%	2.1%	2.8%
KS	$9.1	2,907,289	0.1%	0.9%	1.1%
KY	$101.7	4,436,974	1.4%	1.4%	2.0%

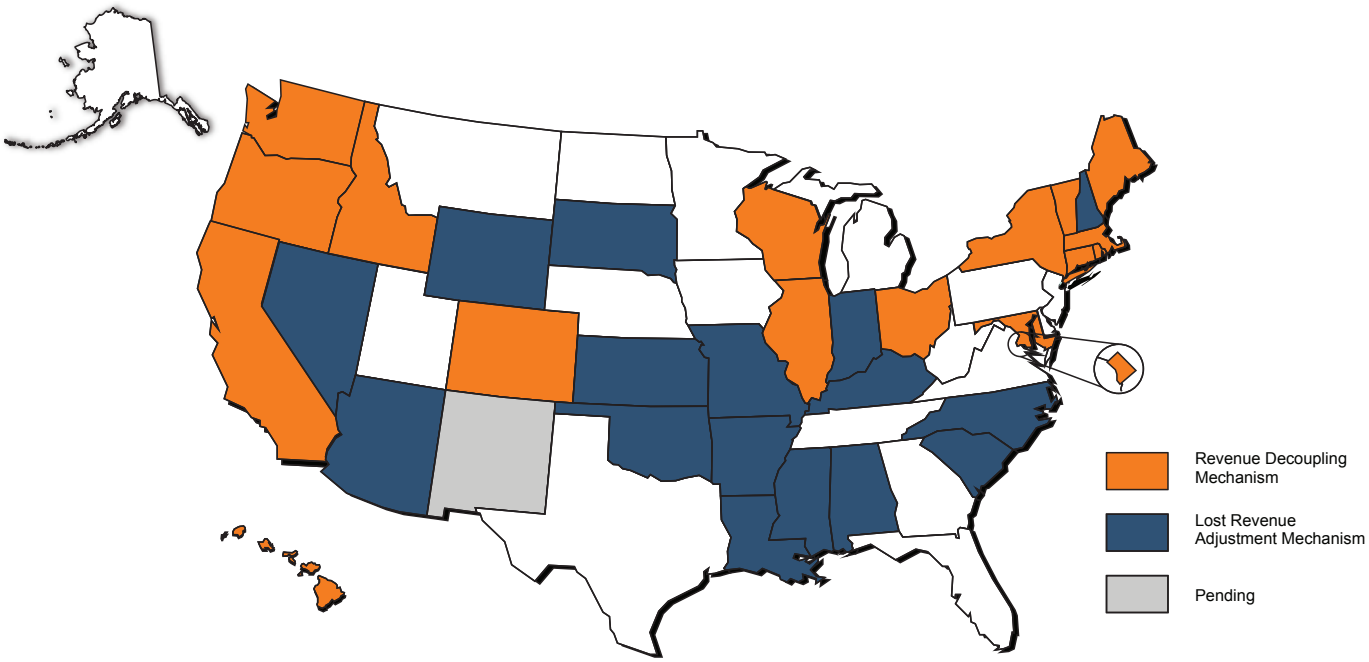
State	2016 Energy Efficiency Expenditures ($Millions)	Population (2016 U.S. Census)	% of Total 2016 U.S. EE Expenditures	% of U.S. Population	% of 2016 U.S. Electricity Consumption
LA	$13.5	4,681,666	0.2%	1.4%	2.4%
MA	$520.4	6,811,779	6.9%	2.1%	1.4%
MD	$262.7	6,016,447	3.5%	1.9%	1.6%
ME	$32.6	1,331,479	0.4%	0.4%	0.3%
MI	$190.5	9,928,300	2.5%	3.1%	2.8%
MN	$341.3	5,519,952	4.5%	1.7%	1.8%
MO	$91.0	6,093,000	1.2%	1.9%	2.1%
MS	$43.9	2,988,726	0.6%	0.9%	1.3%
MT	$14.3	1,042,520	0.2%	0.3%	0.4%
NC	$198.2	10,146,788	2.6%	3.1%	3.6%
ND	$17.4	757,952	0.2%	0.2%	0.5%
NE	$21.0	1,907,116	0.3%	0.6%	0.8%
NH	$8.1	1,334,795	0.1%	0.4%	0.3%
NJ	$392.5	8,944,469	5.2%	2.8%	2.0%
NM	$39.9	2,081,015	0.5%	0.6%	0.6%
NV	$48.9	2,940,058	0.7%	0.9%	1.0%
NY	$501.6	19,745,289	6.7%	6.1%	3.9%
OH	$146.6	11,614,373	2.0%	3.6%	4.0%
OK	$90.1	3,923,561	1.2%	1.2%	1.6%
OR	$157.4	4,093,465	2.1%	1.3%	1.3%
PA	$217.7	12,784,227	2.9%	4.0%	3.9%
RI	$60.6	1,056,426	0.8%	0.3%	0.2%
SC	$154.3	4,961,119	2.1%	1.5%	2.1%
SD	$13.1	865,454	0.2%	0.3%	0.3%
TN	$80.1	6,651,194	1.1%	2.1%	2.7%
TX	$175.4	27,862,596	2.3%	8.6%	10.6%
UT	$62.0	3,051,217	0.8%	0.9%	0.8%
VA	$58.5	8,411,808	0.8%	2.6%	3.0%
VT	$74.0	624,594	1.0%	0.2%	0.1%
WA	$235.0	7,288,000	3.1%	2.3%	2.4%
WI	$109.3	5,778,708	1.5%	1.8%	1.9%
WV	$10.4	1,831,102	0.1%	0.6%	0.9%
WY	$9.2	585,501	0.1%	0.2%	0.4%
Total	$7,513	323,127,500			

ENERGY EFFICIENCY REGULATORY FRAMEWORKS

The regulatory environment in each state is a major factor in determining the size of customer-funded EE programs. Three regulatory mechanisms are critical for aligning incentives for electric companies to treat demand-side resources as financial equivalents to supply-side investments: direct cost recovery, fixed-cost recovery, and performance incentives.

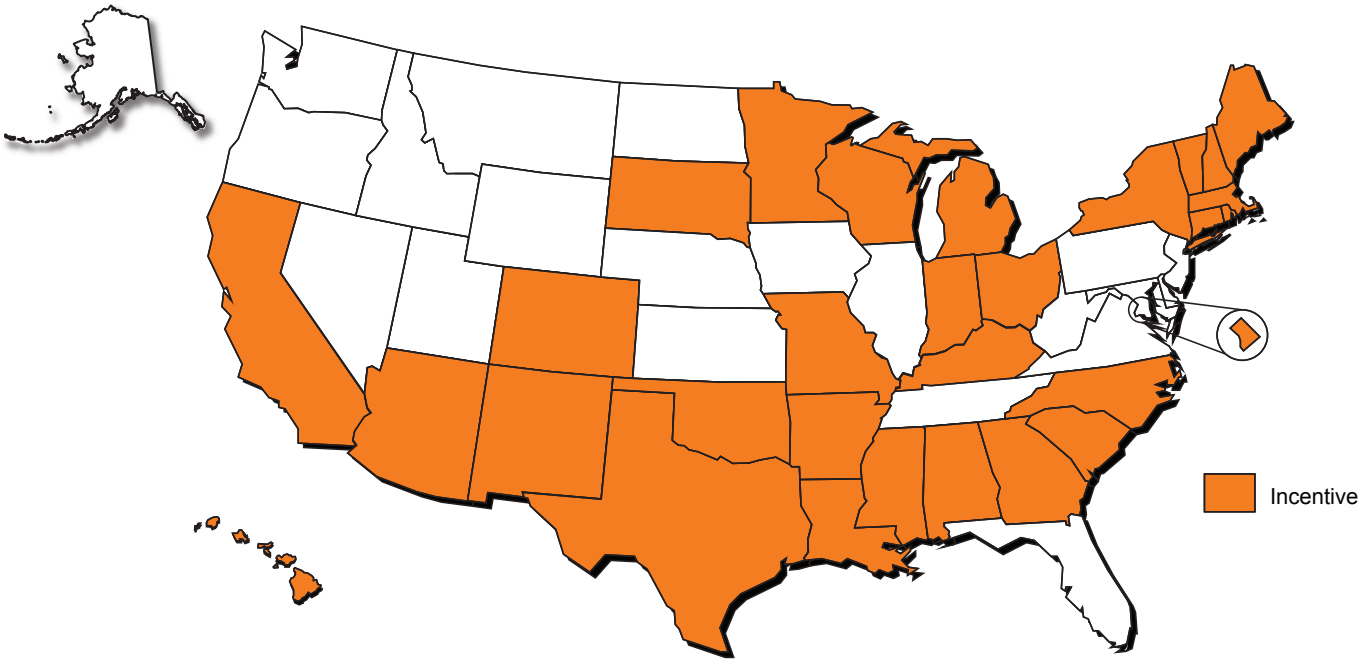
- Direct cost recovery refers to regulator-approved mechanisms for the recovery of costs related to the administration of the efficiency program; implementation costs such as marketing; and the actual cost of product rebates and mid-stream product buy-downs. Such costs are recovered through regulatory rate reviews, system benefits charges, and tariff rider/surcharges.
- Fixed-cost recovery refers to decoupling and lost revenue adjustment mechanisms that assist the electric company in recovering the marginal revenue associated with fixed operating costs. Ratemaking practices tie the recovery of fixed costs to volumetric consumption based on an assumed level of energy sales. The purpose of energy efficiency programs is to reduce the consumption of electricity; decoupling and lost revenue adjustment mechanisms allow for timely recovery of fixed costs. Figure 6 shows fixed-cost recovery mechanisms by state.

Figure 6. Lost Revenue & Decoupling Mechanisms – by State



- Performance incentives are mechanisms that reward electric companies for reaching certain energy efficiency program goals and that impose a penalty for performance below the agreed-upon goals. Performance incentives allow electric companies to earn a return on their investment in energy efficiency, similar to the return on supply-side investments. Figure 7 shows performance incentives by state.

Figure 7. Performance Incentives – by State



Over the past several years, state regulatory frameworks have changed significantly in support of EE programs. Since the last IEI report (December 2014), several states have updated their regulatory frameworks. Table 4 shows that 33 states allow for some type of fixed-cost recovery (either decoupling or a lost revenue adjustment mechanism) and 30 states have performance incentives. In addition, 26 states have enacted long-term (3+ years) energy efficiency savings targets known as Energy Efficiency Resource Standards (EERS).[6]

Table 4. Summary of State Regulatory Frameworks in 2017

Energy Efficiency Incentive Mechanisms		Number of States	Pending
Fixed-Cost Recovery Mechanisms	Lost Revenue Recovery	16	0
	Revenue Decoupling	17	1
Performance Incentives		30	0
Energy Efficiency Resource Standard (EERS)		26	0

6. State Energy Efficiency Resource Standards (EERS). American Council for an Energy-Efficient Economy. January 2017.

CONCLUSION

The role of demand-side resources continues to expand in the nation's energy mix. Electric companies are well-positioned to ensure that EE continues to grow as a smart business solution that delivers broad-based benefits to customers. IEI believes that EE expenditures and savings will continue to grow over the next decade.

While 2016 was a strong year in terms of energy savings and expenditures, challenges persist. Recent legislative efforts to either repeal or freeze EERS' create market uncertainty for customers who rely on EE programs to help manage energy costs. Low natural gas prices and the growth of distributed energy resources like private solar and storage impose new market dynamics and may challenge EE programs under current planning paradigms and cost-effectiveness tests.

The key issue facing not just EE programs but the industry as a whole is whether electric companies, technology companies, and regulators can collaborate to help customers take advantage of new service offerings and unlock value. Electric companies are instrumental not just in closing the energy efficiency investment gap in the United States, but also in providing energy services that customers want. The regulatory frameworks that support electric company investments in EE programs have proven successful and are a foundation for the next generation of electric company regulation.

METHODOLOGY

There is diversity in how electric companies estimate and report EE savings, largely influenced by filing requirements of their respective regulatory bodies.[7] Not all electric companies maintain EE 'aggregate' or 'annual' program results. In fact, the U.S. Energy Information Administration tracks and publishes only 'incremental' and 'lifecycle' impacts. Incremental savings only capture the impacts of new programs and new participants in existing programs for a one-year period (e.g., 2016). Lifecycle savings extend incremental savings over the anticipated useful life of the EE investment.

Electric companies may report energy impacts in 'net' or 'gross' terms. Gross savings are defined as the total change in energy consumption that results from program-promoted actions taken by program participants regardless of the extent or nature of program influence on their actions. Net savings are defined as the change in energy consumption attributable only to the EE program efforts, separating out exogenous influences on energy consumption, such as customer self-interest, program free riders, and program spillover. This report primarily includes gross energy savings.

To account for differences across the collected information, IEI employs a simple calculation to develop an aggregate estimate of energy savings in 2016. First, a basic decay rate is applied to 2015 aggregate energy savings by major census region to approximate the effect of past program measures reaching the end of their useful life. Second, 2016 incremental savings by region are added.

- 2016 aggregate energy savings *equals* 2015 aggregate energy savings by region, *less* the product of the decay rate, *plus* 2016 incremental savings.

DATA, LIMITATIONS, AND INTERPRETATIONS

All results were voluntarily provided and the total reported figures should be considered conservative. Information on program expenditures, impacts, and budgets are in calendar year format. In 2017, the U.S. Energy Information Administration (EIA) released customer-funded electric efficiency program savings and expenditures data for 2016. This dataset covers 574 companies in the U.S. – 564 electric and combined companies and 10 third-party energy efficiency administrators. From this dataset and past IEI survey efforts, IEI estimated energy savings in 2016.

We encourage participation from all EE program administrators, their staff, and the respective state commissions. We kindly request that comments or questions regarding the findings contained in this report be sent to Adam Cooper, Director, Research and Strategic Alliances at IEI, acooper@edisonfoundation.net.

7. For additional details on the diversity in how states report energy savings, see "Examining the Net Savings Issue: A National Survey of State Policies and Practices in the Evaluation of Ratepayer-Funded Energy Efficiency Programs." American Council for an Energy-Efficient Economy. January 2014.

LOST REVENUE AND DECOUPLING MECHANISMS – STATE DETAILS

The table below lists the states that have approved lost revenue and/or decoupling mechanisms in place, provides a short description of how the mechanism works, and the relevant regulatory order or decision.

State	Lost Revenue and Decoupling Description	Status	Codes, Orders & Resources
Alabama	• Lost revenue due to efficiency programs can be recovered through a rate rider. • Rates can also be set annually to allow for recovery of energy efficiency, through a Rate Stabilization and Equalization (RSE) mechanism.	Approved	**Lost Revenue:** Docket 31045
Arizona	• In May 2012, a lost-fixed-cost-recovery (LFCR) was approved, as part of a rate case filed by APS, effective July 1, 2012. • Electric companies can recover a portion of transmission and distribution costs related to sales reduced by efficiency or distributed generation. • Recovered revenue can be adjusted annually. • In April 2017, the Arizona Corporation Commission approved APS' reset of the LCFR to 2.2993% of a customer's bill.	Approved (2012)	**Lost Revenue:** Decision #73183, #75558 and #75742 (addendum), Docket E-01345A-11-0224
Arkansas	• In December 2010, the Arkansas Public Service Commission issued Order #14 in Docket 08-137-U, allowing electric companies to submit applications within the annual energy efficiency tariff filing process to collect "lost contributions to fixed costs" (LCFC) contemporaneously with program implementation. • LCFC is based on the best available data, which may include deemed savings, to be followed by an annual Evaluation, Measurement & Verification (EM&V) true-up calculation.	Approved (2010)	**Lost Revenue:** Docket 08-137-U, Order No. 14
California	• California has had some form of decoupling since 1982. • The current "decoupling plus" program is a revenue decoupling program combined with performance incentives for meeting or exceeding energy efficiency targets (performance-based rates). • Revenue requirements are adjusted for customer growth, productivity, weather, and inflation on an annual basis with rate cases every three or four years (varies by utility). • The incentive structure caps penalties/earnings for energy efficiency programs at $450 million.	Approved (Decoupling "Plus" approved in 2007)	**Decoupling:** Code Sec. 9, section 739(3) and Sec. 10, section 739.10, as amended by A.B. XI 29; Decisions 98-03-063 and 07-09-043

State	Lost Revenue and Decoupling Description	Status	Codes, Orders & Resources
Colorado	• In July 2017, the Colorado Public Utilities Commission issued a decision order granting Public Service Company of Colorado's (Xcel's) application to implement a Revenue Decoupling Adjustment (RDA) mechanism. • The RDA mechanism is "full decoupling" and will use actual sales (i.e., no weather normalization) to charge or credit customers based on changes to use per customer. • The RDA will apply to customers on residential (Schedule R) and small commercial (Schedule C) rate classes. • The annual adjustments to revenues by an RDA are capped at 3 percent. • The RDA mechanisms will operate through 2023, with true-up that may extend on customer bills through mid-2025. • The RDA formula will be filed by Xcel after its next Phase I rate case.	Approved	**Decoupling:** Proceeding Number 16A-0546E, Decision No. C17-0557
Connecticut	• Connecticut statute (Public Act 13-298), requires electric distribution companies to submit a comprehensive three-year Conservation & Load Management (C&LM) plan to the Department of Energy and Environmental Protection (DEEP) and the Public Utilities Regulatory Authority (PURA). • In December 2016, DEEP approved a final C&LM plan for the 2016-2018 program cycle. • United Illuminating's existing decoupling mechanism recovers revenues from lost sales, while Connecticut Light and Power's (CL&P) full decoupling mechanism was approved in a 2015 rate case. • Act 13-298 provides for PURA to ensure that additional revenues required to fund the approved C&LM budgets are "provided through a fully reconciling conservation adjustment mechanism for each electric company" of not more than three mills per kWh.	Approved (2013)	**Decoupling:** Public Act No. 13-298; Docket No. 12-08-11; Docket No. 13-03-02; Docket NO. 14-05-06; DOCKET NO. 16-06-04
District of Columbia	• The DC Public Service Commission approved PEPCO's Bill Stabilization Adjustment (BSA) in October 2009. • Like the BSA approved for Maryland, a revenue per customer (RPC) mechanism is employed which adjusts quarterly.	Approved (2009)	**Decoupling:** PSC Order 1053-E-549; PSC Order 1053, Case No. 15556
Hawaii	• The Hawaii PUC approved decoupling in August 2010 with a mechanism which allows for decoupling of revenues from sales, rate base adjustments for O&M costs and planned capital additions, and a mechanism for sharing earnings with rate payers should a company exceed their allowed ROE. • True-ups occur annually.	Approved (2010)	**Decoupling:** Docket 2008-0274 Order dated Aug.31, 2010

State	Lost Revenue and Decoupling Description	Status	Codes, Orders & Resources
Idaho	• After a five-year pilot, the Idaho Public Utilities Commission approved Idaho Power Company's request to convert Schedule 54, a fixed-cost adjustment (FCA) mechanism from a pilot to an ongoing, permanent schedule. • The FCA uses a fixed cost per customer approach and sales are adjusted for weather. • FCA rate increases are capped at 3% over the previous year. • The mechanism is only applied to residential and small general service customers.	Approved (2013, after a 5-year pilot, 2007-2011)	**Decoupling:** Case No. IPC-E-04-15, Order No. 30267; Case No. IPC-E-09-28, Order No. 31063; Case No. IPC-E-11-19, Order No. 32505, Order No. 32731
Illinois	• Enacted in December 2016, the Future Energy Jobs Act (FEJA, SB2814) contains a decoupling mechanism and allows for electric companies to earn a return on energy efficiency expenditures.	Approved (2016)	**Decoupling:** SB 2814
Indiana	• The Utility Regulatory Commission approved Duke Energy Indiana, Indiana Michigan Power Company, Northern Indiana Power & Light, and Indianapolis Power & Light for lost margin recovery mechanisms. • In 2014, after Senate Bill 340 was adopted, the Commission limited the "pancaking" effect of the lost revenue adjustment mechanisms (LRAM). • The cap is 4 years or life of measure, whichever is shorter, for all but Indiana Michigan Power Company, which was capped at 3 years or life of measure.	Approved	**Lost Revenue:** Cause No. 43827; Cause No. 43955; SB 340; SB 412; Dockets 43966, 44841, 44792, 44634
Kansas	• The Kansas Corporation Commission allows lost revenue adjustment in certain cases. • In Docket No. 10-WSEE-775-TAR, Westar was granted a shared savings mechanism, which is similar to lost revenue recovery. • The Commission does not favor lost revenue recovery, but will consider it if it achieves established efficiency goals.	Approved	**Lost Revenue:** Docket No. 10-WSEE-775-TAR; Docket No. 12-GIMX-337-GIV
Kentucky	• Lost revenue recovery mechanisms are determined on a case-by-case basis, but all electric companies in Kentucky have demand-side management (DSM) proposals in place that include similar lost revenue recovery due to DSM programs. • Lost revenue is calculated using the marginal rate, net of variable costs, times the estimated kWh savings from a DSM measure over a three-year period.	Approved (2006)	**Lost Revenue:** Statute Ch. 278, Title 285; Case No. 2016-00281

State	Lost Revenue and Decoupling Description	Status	Codes, Orders & Resources
Louisiana	• In June 2013, the LA PSC voted to reinstate a 2012 initiative, giving electric companies a year to develop energy efficiency programs for their customers. • In November 2014, the three investor-owned electric companies (Cleco, Entergy Louisiana/Gulf States, and SWEPCO) began implementing energy efficiency programs, to include a lost contribution to fixed costs (LCFC) mechanism. • The LCFC formula is still being finalized, with Phase II Rulemaking beginning in August 2017 (Docket R-31106). • The amount of proposed recovery may be considered a regulatory asset and may be considered in a base rate or formula rate proceeding, whichever comes first. • Alternatively, electric companies may use the Energy Efficiency Rate Rider to recover contemporaneously the amount of proposed recovery from participating customers, subject to annual true-up.	Approved (2013)	**Lost Revenue:** Docket R-31106
Maine	• Maine PUC statutory provisions allow for decoupling and incentives. • In 2014, Central Maine Power Company was granted decoupling in its rate case (Docket No. 2013-00168).	Approved (2014)	**Decoupling:** Docket No. 2013-00168; 35-A MRSA, section 3195, subsection 3195 (1)(A)
Maryland	• In 2007, Maryland electric companies were approved for a revenue per customer (RPC) decoupling mechanism, which adjusts quarterly and accounts for major customer outages. • The mechanism is similar to the Bill Stabilization Adjustment (BSA) approved for Washington, DC.	Approved (2007)	**Decoupling:** SB 205 (2008); PSC Case No. 9093; Order 81518, Case No. 9153; Case No. 9154; Case No. 9155; Case No. 9156; Case No. 9157
Massachusetts	• In May 2009, National Grid was the first electric company to submit a revenue decoupling ratemaking (RDR) plan, which proposed a revenue per customer (RPC) mechanism that adjusted quarterly. • Since 2012, all electric companies had RDR plans approved. • Target revenues are determined on an electric company-wide basis and can be adjusted for inflation or capital spending requirements if necessary.	Approved (2008), full implementation, 2012	**Decoupling:** Docket 07-50; Docket 09-39; DPU 07-50-A

State	Lost Revenue and Decoupling Description	Status	Codes, Orders & Resources
Mississippi	• In July 2013, the Mississippi Service Commission issued a final order in Docket No. 2010-AD-2, adding Rule 29, allowing for electric companies to recover energy efficiency program costs through a rider, the Energy Efficiency Cost Rate (EECR) • Energy efficiency costs are defined as incremental program costs that are not already included in electric company rates, and the lost contribution to fixed costs (LCFC) associated with approved programs. • Electric companies will file a schedule of actual program costs for the reporting period, actual amounts collected under the rider for the reporting period, actual and projected LCFC, and approved program budgets for the current calendar year. • The EECR will then be adjusted to reconcile any over- or under-recovery for the prior year and the approved budget for the current program year.	Approved (2013)	**Lost Revenue:** Docket No. 2010-AD-2
Missouri	• In 2011, the Missouri Energy Efficiency Investment Act authorized electric companies to file plans to recover a portion of the net benefits of demand-side energy efficiency programs. • In early 2016, the Commission approved DSM programs and demand-side programs investment mechanisms (DSIM) for Ameren Missouri (EO-2015-0055), KCP&L (EO-2015-0240) and KCP&L Greater Missouri Operations Company (EO-2015-0241), which allow each electric company to bill customers for estimated lost revenues due to the programs and to true-up the billed lost revenues as a result of energy savings.	Approved (2012)	**Lost Revenue:** SB 376; Case EO-2015-0055, Case No. EO-2015-0240, Case No. EO-2015-0241
Nevada	• In June 2010, Nevada's Public Utilities Commission (PUC) approved a lost revenue adjustment mechanism for electric companies, as legislated by the 2009 SB 358 (section 11.3). • The mechanism allows electric companies to recover "lost revenues" based on estimated savings through a third-party M&V contractor during annual DSM filings. • In 2015, the PUC completed an investigation into alternative lost revenue mechanisms and proposed a new multiplier method (multiplied by the utility's authorized overall rate of return grossed up for taxes applicable to the utility's equity portion of the authorized rate of return) (Docket No. 14-10018). Effective January 1, 2016.	Approved (2010)	**Lost Revenue:** PUC Docket 12-12030; Docket 14-10018

State	Lost Revenue and Decoupling Description	Status	Codes, Orders & Resources
New Hampshire	• In August 2016, as part of a settlement agreement (Order No 25932), it was recommended that the PUC implement a lost revenue adjustment mechanism (LRAM), beginning January 1, 2017. • The LRAM is calculated by dividing the projected cumulative lost distribution revenue associated with energy efficiency savings for a given period by the projected billed consumption for that period. • The annual savings, for which lost revenue may be recovered, will be capped at 110% of planned savings. • Settling Parties agreed that the LRAM for each electric company will cease when a new decoupling mechanism, or other mechanism as an alternative to the LRAM, is implemented.	Approved (2017)	**Lost Revenue:** Docket No. 15-137, Order No 25932
New Mexico	• In New Mexico, no electric company currently has a decoupling or lost revenue adjustment mechanism in place. • However, in Case No. 15-00261-UT, PNM proposed a decoupling mechanism. • In its August, 2016 Recommended Decision, the Hearing Examiner recommended rejecting the proposal; the Commission has not issued a final order.	Pending	
New York	• Following an April 2007 order, electric and gas electric companies must file proposals for true-up based decoupling mechanisms in ongoing and new rate cases. • Proposals have been approved for Consolidated Edison and Orange & Rockland utilities, both for revenue-per-class mechanisms. • True-ups occur annually.	Approved (2007)	**Decoupling:** Cases 03-E-0640, 07-E-0949, 07-E-0523
North Carolina	• The North Carolina Public Utilities Commission approved Duke Energy Carolinas' lost revenue adjustment mechanism LRAM as part of their cost recovery mechanism. • Net lost revenues for each annual period are recovered over 3 years and determined by multiplying lost sales by a net lost revenue rate, which is the difference between the average retail rate applicable to the customer class impacted by the measure and 1) the related customer charge component of the rate, 2) the fuel component rate, and 3) the incremental variable operations & maintenance (O&M) rate. True-ups occur annually.	Approved (2009)	**Lost Revenue:** Docket E-2, Sub 931; Docket No. E-7, Sub 1105; Docket No. E212, Sub 536

State	Lost Revenue and Decoupling Description	Status	Codes, Orders & Resources
Ohio	• The Public Utilities Commission of Ohio ordered AEP Ohio and Duke Energy Ohio to develop a 3-year decoupling pilot program for 2012-2014, which was revised and extended to 2020; or until its next distribution base rate case. • The original pilot had no cap of annual rate decreases to customers. The distribution decoupling rider is subject to a three percent cap on annual adjustment, with balances carrying forward at the long-term cost of debt.	Approved (2012)	**Decoupling:** ORC 4928.143(B)(2)(h); ORC 4928.66; ORC 4901:1-39-07; Case No. 11-3549-EL-SSO; Case No. 11-0351-EL-AIR; Case No. 14-841-EL-SSO; Case No. 11-5905-EL-RDR
Oklahoma	• OG&E has direct lost revenue adjustment ("Class Lost Revenue Factor") built into the approved demand program rider (DPR) structure, which includes a shared savings mechanism. • As the name implies, lost revenue amounts are examined by customer class.	Approved (2009)	**Lost Revenue:** Cause No. PUD 200800059, Order 556179; Cause No. PUD 200700449 (ID No. 3710105, April 8, 2008)
Oregon	• In 2009, Portland General Electric was approved for a two-year pilot employing a revenue per customer (RPC) decoupling mechanism, called a Sales Normalization Adjustment, under Order 09-020, which was twice extended for three additional years, through 2016. • In March 2016, PGE filed Advice No. 16-02, docketed as UE 306, seeking to renew the decoupling mechanisms for an additional three-year period, effective January 1, 2017. • The SNA mechanism was approved under Order 16-359; True-ups occur annually.	Approved (2009)	**Decoupling:** Order 16-359; Docket UE 306
Rhode Island	• In May 2010, Rhode Island passed the Decoupling Act (R.I.G.L. 39-1-27.7.1), mandating that Narragansett Electric Co., a subsidiary of National Grid Group Plc., decouple its revenue from sales. • In October 2010, National Grid filed a request with the Rhode Island Public Utilities Commission to implement revenue decoupling mechanisms for its electric and gas operations. • In May 2012, Order 20745 was issued approving National Grid's RDM proposal. It is retroactive to April 2011 and an adjustment factor is to be annually calculated.	Approved (2012)	**Decoupling:** R.I.G.L. 39-1-27.7.1; Docket No. 4206, Order 20745

State	Lost Revenue and Decoupling Description	Status	Codes, Orders & Resources
South Carolina	• The Commission approved a lost revenue adjustment mechanism for Duke Energy Carolinas as part of their cost recovery mechanism. • Net lost revenues for each annual period are recovered over 3 years and determined by multiplying lost sales by a net lost revenue rate, which is the difference between the average retail rate applicable to the customer class impacted by the measure and 1) the related customer charge component of the rate, 2) the fuel component rate, and 3) the incremental variable operations & maintenance (O&M) rate. • True-ups occur annually.	Approved (2009)	**Lost Revenue:** Docket 200-251-E
South Dakota	• Beginning in 2010, the South Dakota electric companies switched from receiving performance incentives to receiving a fixed percentage of lost revenues. • MidAmerican and Ottertail Power converted in 2010 and 2011, respectively. Black Hills and Xcel Energy began recovering in 2011, and NorthWestern Energy in 2012. • All programs are still in the pilot phase and have not been incorporated into the base rate cases yet. • All allow for riders with annual true-ups for the recovery of lost revenues.	Approved (2010)	**Lost Revenue:** Dockets EL11-012; GE10-001; EL11-002; EL11-013; GE12-001
Vermont	• In 2007, a revenue per customer (RPC) decoupling mechanism was approved for Green Mountain Power under the Alternative Regulation Plan. • Rates can be adjusted up to four times per year with an annual reconciliation on allowed earnings. • Changes in base rates cannot exceed 2% per year.	Approved (2007)	**Decoupling:** Dockets 7175, 7176, 7336
Washington	• In June 2013, the Washington Utilities and Transportation Commission (WUTC) approved decoupling mechanisms for Puget Sound Energy (PSE) effective in 2014. • PSE is allowed to increase rates through 2019, at a maximum of 3% of its revenue with any excess amounts above the 3% recovered in the following year. • Avista proposed a full decoupling mechanism in its 2014 general rate case (Docket UE-140188), which was approved by the Commission in November 2014.	Approved (2013)	**Decoupling:** Docket UE-140188 ; Docket UE-121373

State	Lost Revenue and Decoupling Description	Status	Codes, Orders & Resources
Wisconsin	• In 2008, a 4-year decoupling pilot by Wisconsin Public Service Corporation (WPS) was approved. • In 2012, the pilot was extended with a modified Revenue Stabilization Mechanism (RSM). • The RSM is based on a total rate case margin, instead of a total rate case margin per customer, intending to remove the sensitivity related to sales per customer. • Using a future test year to determine the revenue requirement, the electric company compares the total target revenue with actual revenue and defers the difference, subject to carrying costs based on approved short-term debt rate. • The margin equals the total revenue for each tariff, less the costs associated with the annual per-kWh value established for monitored fuel costs, and excluding any surcharges, credits, taxes, or similar charges. • The formula for calculating an over-or-under collection is: actual margin minus the rate case forecasted margin established in the most recent rate proceeding. • The new RSM will be in effect on a pilot base until WPS' next general rate order.	Approved	**Decoupling:** Docket No. 6690-UR-121; Docket 6690-UR-119
Wyoming	• In 2007, a tracking adjustment mechanism that includes direct lost revenue recovery was approved for Montana Dakota Utilities (MDU). • The adjustment is applied to all MDU customers to recover costs and lost revenues for load management programs only.	Approved (2007)	**Lost Revenue:** Docket No. 200004-65-ET-06

PERFORMANCE INCENTIVES – STATE DETAILS

The table below lists the states that have approved performance incentives in place, provides a short description of how the incentive is calculated, and the relevant regulatory order or decision.

State	Performance Incentive Description	Status	Codes, Orders & Resource
Alabama	• Alabama Power is able to recover a "reasonable rate of return" on efficiency program spending through a rate rider.	Approved	Docket 31045
Arizona	• Arizona Public Service (APS), Tucson Electric Power (TEP), and UniSource all have performance incentives in place under a shared savings mechanism, set at a percentage of demand-side management (DSM) program net economic benefits and capped at a percentage of total DSM expenditures. • The percentages are dependent on achievement relative to energy efficiency goals and determined on a case-by-case basis.	Approved (2005)	Docket No. E-01345A-05-0816 (Decision 67744), Docket No. E-01933A-12-0291 (Decision 73912), Docket No. E-0 1 345A- 12-0224 1 (Decision 74406)
Arkansas	• In 2010, the Arkansas Public Service Commission issued Order No. 15, approving performance incentives through a shared savings approach limited to 10% of net benefits of budgets. • Total incentive awards are capped at: 4% of budgets for 80% achievement; 5% for 90% achievement; 6% for 100% achievement; 7% for 110% acheivement; and 8% for 120% achievement. • Net benefits shall be based on a total resource cost (TRC) test. • Recent energy efficiency portfolio goals as a percentage of energy sales include: 2011: 0.25%, 2012: 0.50%, 2013: 0.75%, 2014: 0.75%, 2015: 0.9%, 2016: 0.9%. • 2017 - 2019 second cycle goals are to be determined.	Approved (2010)	Docket 08-137-U, Order No. 15

State	Performance Incentive Description	Status	Codes, Orders & Resource
California	• Adopted in 2013, California electric companies are eligible to earn the Energy Efficiency Savings and Performance Incentives (ESPI) mechanism, authorized for 10 years of funding. • Potential ESPI earnings available annually are capped for each utility individually. • Performance incentive opportunities include the following categories: • A. Energy Efficiency Resource Savings paid as a combination of ex ante "locked down" and ex post verified savings results, according to the level of uncertainty of the measure for which savings are being claimed. Resource savings are measured based on net lifecycle savings. Incentives for EE resources savings are capped at 9% of resource program budgets, minus funding dedicated to administrative activities, codes and standards programs, EM&V, and community choice aggregator and regional energy networks programs. • B. Ex-Ante Review (EAR) Process Performance rewards an IOU's conformance with the ex-ante review requirements, as a means to benchmark performance, with incentives earned based on performance scores and paid as an award of up to 3% of resource program expenditures. • C. Codes and Standards (C&S) Program Management Fees for savings associated with an utility's advocacy for energy savings through appliance and building code change, equaling 12% of the authorized C&S program expenses, excluding administrative costs. • D. Non-Resource Management Fees for implementing energy efficiency activities and programs that do not directly generate energy savings but provide support to savings-based programs. Capped at 3% of non-program expenditures.	Approved	R. 12-01-005; Decision 13.09.023
Colorado	• In May 2014, the Colorado Public Utilities Commission issued a decision order on Public Service Company of Colorado's demand-side management (DSM) plan, providing a financial incentive of 5% of net dollar savings when energy savings are 100% or greater goal. • The cap on the percentage of net dollar savings earned has been removed as the approved incentive no longer constrains an incremental adder for energy savings over 100% of goal. • The current $30 million cap on the combined bonus and performance incentive is retained to ensure ratepayers are protected from rate increases.	Approved	Proceeding No. 13A-0686EG, Decision No. C14-0731

State	Performance Incentive Description	Status	Codes, Orders & Resource
Connecticut	• The Connecticut PUC requires annual hearings for utilities, where the past year's results for energy savings are reviewed and a performance incentive (known as a "management fee") is determined, which ranges from 2% to 8% of program costs before taxes. • The threshold for earning the minimum incentive (2%) is 75% in 2016-18; reaching 100% of goals earns 4.5% and reaching 135% of goals earns 8%.	Approved (1988, mechanism changes over time)	Dockets 07-10-03; 08-10-03; 09-10-03
District of Columbia	• Section 202 of the DC Clean and Affordable Energy Act of 2008 authorizes the District's Department of the Environment to award "performance based" and "financial" incentives to the operator of DC's Sustainable Energy Utility, VEIC, for meeting or exceeding specific performance benchmarks established in its contract. • The contract with the Department of the Environment also includes financial penalties should the utility fail to meet the performance benchmarks.	Approved (2008)	Section 202 of the DC Clean and Affordable Energy Act of 2008
Georgia	• Georgia Code (O.C.G.A 46-3A-9) authorizes electric companies to recover costs and an "additional sum" for approved programs • As agreed to under the 2013 Integrated Resource Plan stipulation resolution, Georgia Power will receive an Additional Sum of 8.5% of the net present value of verified electricity savings for achieving 50% of more of the projected savings, with no cap. • If savings are less than 50% of the projected savings, the Additional Sum is 0.5% for demand response measures and 3% for energy efficiency measures. • If the Additional Sum exceeds program costs, the portion that exceeds program costs shall be calculated based on 4% of actual net benefits of verified kWh savings as determined by the Program Administrator test from certified DSM programs • Georgia Power will update all data relating to actual program participation, as well as the actual energy savings and actual program costs when calculating the Additional Sum each year.	Approved	Docket & Order 36499
Hawaii	• In July 2009 Hawaiian Electric Company (HECO) transferred administration of its energy efficiency programs to a third-party "Public Benefits Fee" administrator, Hawaii Energy. • Hawaii Energy is compensated by the Commission for satisfactory performance of its contract.	Approved (2008)	Docket 2009-0029, Order 23258; Docket 2007-0323, Order 23681

State	Performance Incentive Description	Status	Codes, Orders & Resource
Indiana	• Indiana statute allows for either shared savings or adjusted/bonus ROE mechanisms as DSM incentives. • For I&M, the 2017 order (Cause No. 44841) allows a two-tier shared savings mechanism calculated as the lower of (a) 15% of 90% of each individual sector's net benefits under the utility cost test, or (b) 15% of sector program costs. • Second, individual sector performance incentives will be (a) reduced by 15% if IBM fails to achieve at least 15% of the sector's energy savings goal based on final EMSV analysis, and (b) increased by 10% if IBM achieves 105% of the sector's energy savings goal.	Approved	Administrative Code, Title 170, 4-8-7 (a), 44497, 44495, 44486, 44634; Cause No. 44841
Kentucky	• Kentucky Statute 278.285 allows utilities to recover the full costs of DSM programs via rates and allows incentives designed to provide financial rewards for utilities and encourage implementation of cost-effective DSM programs. • Duke Energy, Kentucky Power (AEP), and Louisville Gas & Electric (LG&E) each have a shared savings mechanism in place. • Duke and AEP can earn an incentive of up to 10% of net savings after program costs while LG&E can earn up to 15% of net resource savings.	Approved (2007)	Rev. Stat. 278.285(1)(c); Docket 2008-00473; 2007-00477; Docket No. 2016-00382
Louisiana	• In June 2013, the LA PSC voted to reinstate a 2012 initiative, giving electric companies a year to develop energy efficiency (EE) programs for their ratepayers. • In November 2014, the three investor-owned electric utilities (Cleco, Entergy Louisiana/Gulf States, and SWEPCO) began implementing energy efficiency programs, including a Lost Contribution to Fixed Costs (LCFC) performance incentive mechanism. • The LCFC formula is still being finalized, with Phase II Rulemaking beginning in August 2017 (Docket R-31106).	Approved (2013)	Docket R-31106
Maine	• Overseen by the Maine PUC, statutory provisions (35-A MRSA) allow for decoupling and incentives.	Approved	Docket No. 2013-00168; 35-A MRSA, section 3195, subsection 3195 (1)(A)

State	Performance Incentive Description	Status	Codes, Orders & Resource
Massachusetts	• Electric companies can earn about 5% of program costs for energy efficiency programs that meet established program goals. • The incentive structure is determined on a program-by-program basis but generally utilizes a three-tiered structure. • The first "design performance" level is defined as performance that a Program Administrator expects to achieve in implementing its energy efficiency programs. • The second "threshold performance" level is 75% of the design level. • The third "exemplary performance" level is 125% of the design level. • Incentives are awarded only if a program achieves the threshold level or above.	Approved (2010)	Docket 04-11, Order 98-100; Order 11-120A
Michigan	• Under PA 295, Michigan electric companies were also allowed to request a performance incentive mechanism in their Energy Optimization plans that allow them to earn the lesser of 15% of program expenditures if they reach 115% of their savings goals, or 25% of net benefits. • Newly passed legislation (PA 342, Section 75) revised the performance incentives to be the lesser of (a) 15% of program expenditures, or 25% of net benefits if annual incremental savings are 1-1.25% of prior year electricity sales, (b) 17.5% of program expenditures or 27.5% of net benefits if annual incremental savings are 1.25-1.5%, or (c) 20% of program expenditures, or 30% of net benefits if annual incremental savings are greater than 1.5%.	Approved (2009)	PA 295 (2008); PA 342 (2017), Section 75; Case No. U-1762; Case No. U-18262
Minnesota	• Since 1999, Minnesota has had a shared benefit incentive in place, with electric companies retaining a portion of net benefits based on the level of achievement, measured as a percent of retail sales (including a cap of 20% of net benefits on the amount of incentive that may be earned). • At savings of 1.5% of retail sales, electric companies will earn an incentive of $0.07 per kWh saved. • The percentage of net benefits to be awarded to each electric company at different energy savings levels will be set at the beginning of each year. • The PUC adopted an updated DSM benefit incentive mechanism for 2017-2019 with the following provisions: For electric companies, the threshold is set for 1% of retail sales. For each energy savings increase of 0.1% of retail sales, net benefits awarded increase by 0.75% until reaching the net benefits cap at energy savings achievements equal to 1.7%. • At savings of 1.7% and higher, the incentive provided equals the net benefit cap times the net benefits.	Approved (1999), Revised Mechanism (2010)	Docket CI-08-133; Statute 216B.241

State	Performance Incentive Description	Status	Codes, Orders & Resource
Mississippi	• In July 2013, the Mississippi Public Service Commission issued a final order in Docket No. 2010-AD-2, adding Rule 29, related to the Conservation and Energy Efficiency Programs. • Section 106 in Rule 29 states that electric companies may propose an approach to earn a return on energy efficiency investments through a shared savings or other performance based incentive mechanism to make these investments more like other investments on which they earn a return. • The electric company may file a return on investment calculation through the Energy Efficiency Cost Rate (EECR) based on its performance to meet or exceed specific reporting year energy savings targets expressed as percentages of energy sales.	Approved	Docket No. 2010-AD-3
Missouri	• The approved DSM programs and DSIMs for Ameren Missouri (Case No. EO-2015-0055), KCP&L (Case No. EO-2015-0240) and KCP&L Greater Missouri Operations Company (Case No. EO-2015-0241) allow each electric company to receive an earning opportunity determined after the completion of the 3-year plan period and to recover any approved earnings opportunity over a 2-year period. • The earnings opportunity amount is based upon the achievement of each DSM program relative to established performance metrics for the DSM program, which metrics are most commonly 3-year cumulative annual energy targets and/or 3-year cumulative annual demand savings targets. • Actual 3-year cumulative annual energy and/or demand savings for programs are determined through retrospective net-to-gross EM&V performed by each utility's independent EM&V contractors and reviewed by the Commission's EM&V auditor. • For the 2016-2018 cycle, earnings opportunity caps (including adjustments) are as follows: Ameren Missouri, $53,783,516; KCP&L GMO, $20,000,000; and KCP&L, $15,500,000.	Approved (2012)	Case Numbers EO-2015-0055; EO 2015-0241; EO 2015-0240
Montana	• Montana statute allows for the Public Service Commission to add 2% to the authorized rate of return for demand side management (DSM) investments. • It has not yet been approved for a specific utility.	Pending	Code 69-3-712

State	Performance Incentive Description	Status	Codes, Orders & Resource
New Hampshire	• In September 2013, the New Hampshire Commission approved a new performance incentive mechanism beginning with the 2014 program year. • The new mechanism applied a new ratio of electric lifetime savings to total lifetime energy savings, as related to the total program portfolio. • If electric lifetime savings are greater than or equal to a 55% threshold of total lifetime energy savings, a higher performance incentive applies. • If electric lifetime savings are below the 55% threshold, a lower incentive applies. • In August 2016, as part of a settlement agreement (Order No. 25932) the PUC recommended that performance incentive levels going forward be identical for electric and gas companies. • The performance incentive maximum was reduced to a cap of 6.875% with a target of 5.5% upon implementation of the LRAM in 2017.	Approved (2013)	Docket DE 12-262, Order No. 25569
New Mexico	• New Mexico's Efficient Use of Energy Act and Rule allows an electric company to propose a profit incentive mechanism that is based on satisfactory program performance and does not exceed the product of the approved annual program costs and its weighted average cost of capital. PNM, EPE, and SPS all earn an incentive award. • El Paso Electric's annual incentive from 2014-2016 was 7% of program expenditures; its 2017 incentive is 7.1% (Case No. 16-00185-UT). • PNM's 2017 proposed incentive is 7.5% (Case No. 16-000096-UT). • Southwestern Public Service (SPS) earned a base level of 6.8% of program expenditures in 2016 (case No. 16-00110-UT)	Approved	Case No. 16-00096-UT (PNM), Case No. 16-00110-UT (SPS); Case No. 16-00185-UT (EPE)
New York	• Beginning in 2011, The incentive program provided for a two-tier incentive: for achievement of company targets, and also for the achievement of statewide goals (based on its proportional share of the electric company's aggregate targets). • In 2014, New York initiated a proceeding, Case 14-M-0101, "Reforming the Energy Vision," (REV) to examine the potential for major changes to the regulatory structure within the state. • The PSC's Phase I REV Decision established minimum savings goals of 0.37% in 2016, and required energy efficiency plans for 2016-2018 but did not specify specific energy savings goals. • Additionally, in 2015, the Commission established a new case, 15-M-0252, for electric companies post-2015 energy efficiency programs.	Approved (2011)	Commission Opinion No. 89-29, Case 14-M-0101; Case 15-M-0252

State	Performance Incentive Description	Status	Codes, Orders & Resource
North Carolina	• North Carolina statute states that an electric company may propose incentives for demand side management (DSM) or energy efficiency programs to the Commission for consideration. • In 2015, Duke Energy Progress was granted a new recovery mechanism (Docket No. E-2, Sub 931 - Order dated January 20, 2015), including a bonus incentive of 11.75% on a shared savings model. • Dominion received approval of a revised cost recovery mechanism (May 7, 2015 in Docket No. E-22, Sub 464) with a program performance incentive (8% for DSM programs and 13% for EE programs).	Approved (2009)	Docket No. E-2, Sub 931 (Order dated January 20, 2015); Docket No. E-22, Sub 464 (Order dated May 7, 2015)
Ohio	• Statute OAC 4901:1-39-07 allows utilities to submit a request for a shared savings incentive, approved on a case-by-case basis. • First Energy and AEP have had performance incentives approved; the recovery mechanism is an annually reconciled rider which includes conditioned adjustments for shared savings with a maximum 10% shareholder incentive if at least 65% of targeted savings are achieved. • In 2017, Duke Energy Ohio received approval for a share savings performance incentive structure, ranging from six to twelve percent if Duke exceeds its annual statutory benchmark for savings achieved, and caps the company's recovery on annual shared savings at $8 million after taxes. • AEP Ohio, Duke Energy Ohio, and Dayton Power & Light have annual caps on total EE/PDR program costs and shared savings equal to four percent of the company's 2015 operating revenues.	Approved (2008)	Statute OAC 4901:1-39-07; Case No. 11-4393-EL-RDR; Case No. 16-576-EL-POR; Case No. 16-574-EL-POR; Case No. 16-649-EL-POR
Oklahoma	• A shared savings program has been approved for Public Service Oklahoma (AEP), which allows for two different returns: an incentive of 25% of net savings for programs for which savings can be estimated and 15% of the costs for other programs (e.g. education and marketing programs). • OG&E also has an incentive mechanism where they receive shared benefits for achieving savings goals, calculated on a measure-by-measure basis.	Approved: PSO (2008), OG&E (2009)	Cause No. PUD 200700449, Order 555302; Cause No. PUD 200800059, Order 556179

State	Performance Incentive Description	Status	Codes, Orders & Resource
Rhode Island	• Since 2005, Rhode Island has had a shareholder incentive for electric companies, with the mechanism including two components: performance-based metrics for specific program achievements and kWh savings target by sector. • The program performance metrics are established for each individual program, such as achieving specific savings or a certain market share for the targeted energy-efficient technology. • National Grid's target base incentive rate is 5%, applied to the annual eligible spending budget. The threshold performance level for energy savings by sector is set at 75% of the annual energy and demand savings goal for the sector (Docket 4366). • The cap for the target incentive amount of energy savings is 125%. • Additionally, in 2015, the Commission approved 30% of the target electric program incentive to be based on demand savings, while the remaining 70% will be based on energy savings (Docket 4527).	Approved (2005)	Docket 3635, Order 18152; Docket No. 4527; Docket No. 4366
South Carolina	• South Carolina law allows for the PSC to adopt procedures encouraging electric company investments in energy efficient technologies and conservation programs. • Duke Energy Progress and South Carolina Electric & Gas Company both have shared savings incentives based on the net present value (NPV) of each program, calculated using a Utility Cost Test (UCT) (Docket 2009-261-E). • In addition, the PSC approved Duke Energy's Save-A-Watt program (Dockets 2007-358-E and 2008-251-E.	Approved: Progress Energy Carolinas (2009), Duke Energy (2010)	Title 58. Public Utilities, Services And Carriers, Chapter 37, Energy Supply and Efficiency; Dockets 2007-358-E, 2008-251-E, 2009-261-E
South Dakota	• The South Dakota Commission approved performance incentives for OtterTail in 2008, and MidAmerican in 2010. • OtterTail has a flat-rate bonus incentive, while MidAmerican has a straight return on the program's budget. • Montana-Dakota Utilities, Northwestern Energy, Black Hills Power, and Xcel Energy also have performance incentives.	Approved (2008)	Docket Nos. EL-07-015, GE10-001, GE09-001

State	Performance Incentive Description	Status	Codes, Orders & Resource
Texas	• Texas state code specifies that an electric company may be awarded a performance bonus (a share of the net benefits) for exceeding established demand reduction goals that do not exceed specified cost limits. • Net benefits are the total avoided cost of the eligible programs administered by the company minus program costs. • The performance bonus is based on the energy efficiency achievements for the previous calendar year. • If achievements exceed 100% of its demand reduction goal, the bonus is equal to 1% of the net benefits for every 2% that the demand reduction goal has been exceeded, up to a maximum of 20% of the utility's program costs. • Electric companies that meets at least 120% of its demand reduction goal with at least 10% of its savings achieved through Hard-to-Reach programs receives an additional bonus of 10% of the bonus calculated.	Approved (2008)	PUC of Texas Substantial Rule 25.181(h); CenterPoint Energy Houston Electric 2016 Energy Plan & Report
Vermont	• The operator of Efficiency Vermont, VEIC, is eligible to receive a performance incentive for meeting or exceeding specific goals established in its contracts. • There is also a holdback in the compensation received by VEIC, pending confirmation that contractual goals for savings and other performance indicators have been achieved. • The initial contract (2000-2002) allowed incentives of up to 2% of the overall energy efficiency budget over the three-year contract period. • The 2015-2017 plan allows for incentives up to 2.5%.	Approved (2000)	Contract 0337956, Attachment C; Efficiency Vermont Triennial Plan 2015-2017
Wisconsin	• As of 2008, Wisconsin Power & Light (Alliant Energy) may earn the same rate-of-return on its investments in energy efficiency made through its "shared savings" program for commercial and industrial customers as it earns on other capital investments. • Electric companies may propose incentives as part of their rate cases, but there have been no proposals from other companies under the most recent version of performance incentives. (Note: Wisconsin dropped performance incentives in the 1990s.)	Approved (2008)	Docket 6680-UR-114

ABOUT THE INSTITUTE FOR ELECTRIC INNOVATION

The Institute for Electric Innovation focuses on advancing the adoption and application of new technologies that will strengthen and transform the energy grid. IEI's members are the investor-owned electric companies that represent about 70 percent of the U.S. electric power industry. The membership is committed to an affordable, reliable, secure, and clean energy future.

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Comments of Gabel Associates, Inc.
to the
DRAFT STUDY: ENERGY EFFICIENCY POTENTIAL IN NEW JERSEY

May 16, 2019

Pursuant to the Clean Energy Act (P.L. 2018, c. 17), and in response to the email distribution provided by the New Jersey Clean Energy Program on Thursday, May 9, 2019, containing the Draft Study: Energy Efficiency Potential in New Jersey ("Draft Study"), Gabel Associates welcomes the opportunity to provide comment and feedback to further the states' efforts in reviewing and finalizing the findings of the Draft Study. We appreciate the effort and considerable work that has gone into completing this Draft Study in such a short time frame. We also applaud the BPU for undertaking the implementation of one of the highest energy efficiency standards in the country.

Gabel Associates, Inc. is an energy, environmental and public utility consulting firm with its principal office in Highland Park, New Jersey. For over 25 years, Gabel Associates has provided highly focused energy consulting services and strategic insight to its clients. Gabel Associates provides consulting services to energy consumers in the State of New Jersey, including more than 400 school districts and over 200 municipalities, to make their operations more energy efficient; to several electric and gas utilities in New Jersey on energy efficiency program design, policy, and cost benefit analysis; and has undertaken studies of energy efficiency issues throughout the country. We have a deep understanding of customer needs as well as utility ratemaking and policy considerations. As such, the firm has an interest in the Draft Study results and subsequent BPU guidance resulting from the Draft Study and specific and unique experience in these issues.

The comments provided below describe various key concerns related to the Draft Study itself, the process undertaken to develop it, potential outcomes related to its implementation, and recommendations to the Board on how each issue may be addressed.

Issue 1: The reasonableness of the analysis and results cannot be determined because the underlying data was not provided

Discussion: None of the appendices were included in the Draft Study and many of the assumptions have not been disclosed. The lack of data and underlying assumptions makes it impossible for stakeholders to review the reasonableness and validity of the analysis presented in the Draft Study. For example, it is unclear what costs, savings, and measure penetration assumptions were made to arrive at the aggressive savings targets presented. The Draft Study

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also does not discuss or disclose the net to gross assumptions used to arrive at the net savings presented. Stakeholders should be provided full information to allow a reasonable review of the underlying data to ensure the savings targets are realistic.

Recommendation: The full Draft Study, including all underlying assumptions and appendices, should be provided to all parties, who should then be given adequate time to review and respond. At this time, the Board should only recognize the Draft Study as a filed document, and it should not serve as the basis for (or be deemed as precedential value for) setting EE or QPI policy targets or guidance or for EE ratemaking.

Issue 2: Ramp rates are excessively high and should be lowered

Discussion: The Draft Study assumes ramp rates, i.e. the change in savings levels from one year to the next, of 0.35% per year for electric savings. The Draft Study cites the ACEEE annual state scorecard as a source of ramp rates. However, this data source should not be relied on for several reasons. First, ACEEE has not used a consistent methodology in tracking savings achieved by utilities across past analyses, making a comparison of ramp rates from year to year unreasonable. In addition, the proposed 0.35% ramp rate outlined in the Draft Study exceeds those cited in the literature review provided in Section 2 of the Draft Study and exceed the ramp rates experienced in Massachusetts, a leading state in energy efficiency.

In addition, because of the impending change to lighting standards, historical ramp rates are much less relevant when considering future ramp rates. This is because ramp rates in prior years are dominated by portfolios which relied on residential lighting to achieve savings targets, a low effort, low cost, high savings technology that will not be available moving forward because of the impending changes to lighting standards.

Recommendation: The BPU should reconsider the ramp rates recommended by the Draft Study in light of these factors. Finally, as discussed in Issue 1, stakeholders have not had the opportunity to review assumed market uptake assumptions, which underlie the target ramp rates. This data should be carefully reviewed and vetted with parties to realistically estimate how quickly the programs in New Jersey can grow.

Issue 3: The Draft Study results do not inform the QPIs

Discussion: According to the Clean Energy Act, the Market Potential Study should inform the QPIs. While the Draft Study does inform the QPIs for energy, demand, and lifetime savings, the other QPIs proposed in the Draft Study, including QPIs for low income energy savings, small business energy savings, and "to be determined", are not discussed or informed by the Draft Study.

In addition, the low income energy savings, small business energy savings, and other "to be determined" QPIs, are vague and undefined, and therefore will require a much deeper analysis

to understand how to define the characteristics of the goals, establish utility specific goals, and measure the results. This is typically achieved through a stakeholder process. The Draft Study provides no information on the number of low-income customers or number of small businesses in New Jersey or any other relevant data that would help define and inform these QPIs.

Recommendation: The BPU should not adopt a focused list of QPIs at this time and should develop metrics through a focused stakeholder process.

Issue 4: No cost information is presented for the demand response programs

Discussion: The demand response programs are presented in the Draft Study as cost-effective; however, no cost or benefit assumptions are presented on the cost benefit analysis of these programs. Therefore, the review of the reasonableness of this analysis cannot be determined without understanding how the costs and benefits were estimated for these programs. One program shows a cost benefit ratio of nearly 600, which requires additional review to substantiate.

Furthermore, it appears the Draft Study assumed New Jersey has AMI deployed to achieve demand savings beginning in 2020 for the residential CPP opt out with thermostat program. This is incorrect and an unreasonable assumption. In addition, it is unrealistic to believe wholesale rate design and a large-scale roll out of opt-out demand response programs can occur in such a short time frame.

Recommendation: BPU should open an investigation into the future of demand response programs in New Jersey, allowing an open, transparent stakeholder process to determine how these types of programs will be implemented and what their interaction should be with the energy efficiency programs. The demand response programs should also be limited to programs that are currently technically feasible in New Jersey, unless or until the Board implements comprehensive AMI which would greatly facilitate achievement of the EE goals.

Issue 5: The Draft Study is focused solely on net savings, but the Clean Energy Act is based on gross savings

Discussion: The analysis and recommendations presented in the Draft Study are heavily focused on net energy savings. However, the energy savings goals in the Clean Energy Act are based on gross savings. This is evident by the fact that the law allows the goal to be met with building code changes and appliance efficiency standards. While it is unclear what assumption underlie the Draft Study regarding net to gross ratios, the energy savings goals should be based on gross savings, not net savings.

Recommendation: The BPU should clearly state the net to gross assumptions used in the Draft Study and also adjust the savings targets to gross values, as called for the Clean Energy Act.

Issue 6: Performance incentive and penalty proposal is to complex and does not send a clear signal for utilities to follow

Discussion: The performance incentive and penalties proposal in the Draft Study is undefined, overly complex, and unfocused and should be refined in a subsequent stakeholder process. In order for the incentive structure to work it must provide clarity to utilities with respect to goals. There are numerous issues with the current proposal, including whether utilities can be penalized for a failure to meet savings targets if OCE is still administering programs. It is unfair to award or penalize a utility for exceeding or not meeting a goal when the ability to meet that goal is out of its hands.

The performance incentive structure also includes too many metrics. This makes it to complex which means it does not provide clear, defined signals for action and is not well defined. This also makes it an easy target for litigation as the targets can be interpreted in many different ways.

Recommendation: BPU should not make a decision on performance incentives, penalties, and QPIs until stakeholders have a full opportunity to be heard.

Issue 7: The QPIs recommended in the Draft Study cannot be adopted by the Board as the process did not adhere to the Administrative Procedures Act

Discussion: The QPI recommendations were not developed pursuant to the Administrative Procedures Act. The Clean Energy Act requires that adoption should be consistent with the APA as it clearly states that "the board shall adopt quantitative performance indicators pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.) for each electric public utility and gas public utility, which shall establish reasonably achievable targets for energy usage reductions and peak demand reductions."

Recommendation: Adoption of QPIs should follow the Administrative Procedures Act.

Issue 8: The Draft Study does not recommend a reasonable cost recovery and performance incentive structure

The Draft Study (p. 81) notes that a lower return might be appropriate for energy efficiency investments than traditional supply side investments by stating that "efficiency programs carry much lower risks to shareholders than do most supply side investments."

However, this assertion misses a critical point of why utilities should be allowed the same return on investment for energy efficiency than other investments. Utilities have limited capital to invest. If one alternative has a higher return than another, utilities will make investments in the

opportunities with higher returns. The Board's ratemaking for utilities should be in alignment with and encourage utilities to achieve and surpass the Sate's EE goals. Certainly a result that leads to utilities experiencing reduced financial outcomes for achieving or surpassing New Jersey's goals should be avoided.

To encourage utility investment and ownership in energy efficiency programs, the utility ratemaking and business model should be updated. As with other investments, utilities should be permitted to earn a return on and of energy efficiency investments under a reasonable time period. Utilities should also be made whole in terms of lost revenues resulting from reduced sales driven by efficiency improvements. Instead of a mechanism that only allows recovery of calculated lost revenues, the BPU should approve full revenue decoupling for electric and gas utilities. Lost revenue adjustments outside of full revenue decoupling are administratively burdensome for utilities and difficult to review and verify for the BPU. Full revenue decoupling balances risk between utilities and customers and symmetrically adjusts revenues in a fair way for both. Finally, a simple performance incentive structure should be adopted to encourage utilities to go above and beyond energy efficiency targets.

Recommendation: As discussed above, the BPU should align utility ratemaking with its goal of growing energy efficiency.

Issue 9: Environmental benefits valuations should be transparent and should align with Governor Murphy's Environmental Justice and Energy Policies

Discussion: It is not clear from the Draft Study how environmental valuations were considered. Energy efficiency will provide a host of environmental benefits, including reductions in greenhouse gas emissions (including carbon dioxide); as well as nitrogen oxide (NO_x) and sulfur dioxide (SO_2), two pollutants that are of significant concern in New Jersey especially in urban areas and environmental justice communities, a key policy focus of the Murphy Administration. Accordingly, it is important that the BPU appropriately value the benefits of these emission reductions. If these benefits are not properly monetized, the BPU's EE policies will not live up to the vision of the Clean Energy Act and the state's goals. In fact, the Clean Energy Act requires these social benefits to be captured in the analysis.

It is recommended that the BPU use the following well recognized and thoroughly peer reviewed studies to value emissions benefits:

- CO_2 – Technical Support Document – Technical Update on the Social Cost of Carbon for Regulatory Impact Analysis. Interagency Working Group on Social Cost of Greenhouse Gases, United States Government. August 2016. epa.gov/sites/production/files/2016-12/documents/sc_co2_tsd_august_2016.pdf.

- NO_X and SO_2 - Technical Support Document for Estimating Benefit per Ton of Reducing PM2.5 Precursors from 17 Sectors. United States Environmental Protection Agency.

February 2018. epa.gov/sites/production/files/2018-02/documents/sourceapportionmentbpttsd_2018.pdf.

Recommendation: Environmental benefits should be clearly valued in the BPU's Energy Efficiency goals and target setting and should use the studies cited above.

Gabel Associates appreciates the opportunity to provide comment on the Draft Study. We would be pleased to discuss these issues further and look forward to further participation with the Board and other stakeholders.

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May 16, 2019

VIA ELECTRONIC MAIL ONLY

Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue
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Re: Energy Efficiency Potential Study
Jersey Central Power & Light Company's Comments on Draft Report

Dear Secretary Camacho-Welch:

On behalf of Jersey Central Power & Light Company ("JCP&L" or the "Company"), please accept this letter as JCP&L's comments in response to the draft market potential study ("Draft MPS") made available to stakeholders on May 9, 2019. JCP&L thanks the New Jersey Board of Public Utilities (the "Board") for the opportunity to provide these comments and hopes that they will be instructive as the Board reviews and evaluates the Draft MPS.

I. BACKGROUND

On May 23, 2018, Governor Murphy signed into law P.L. 2018, c. 17, now commonly referred to as the "Clean Energy Act." Pursuant to Section 3 of the Clean Energy Act (subsequently codified as N.J.S.A. 48:3-87.9(b)), the Board was required to "conduct and complete a study to determine the energy savings targets for full economic, cost-effective potential for electric usage reduction and natural gas usage reduction by the customers of each electric public utility and gas public utility and the timeframe for achieving the reductions." The Act also specifically called for the Board to accept comments and suggestions from interested parties when performing the study. N.J.S.A. 48:3-87.9(b). On January 24, 2019, the Board entered into a contract with Optimal Energy, Inc. ("Optimal") to have it perform the market potential study required by the Act.

From late February to early May, Optimal held four stakeholder meetings which were attended by the New Jersey utilities, Rate Counsel, Board Staff, and other interested parties. At the first two of these meetings, Optimal generally discussed its plans for performing the study and certain inputs it was using. During these meetings, Optimal made it clear that it was working on an expedited timeframe compared to what is normally required for this type of study. Optimal also informed stakeholders that it was relying heavily on data from other states because of a lack of New Jersey-specific information.

On April 23, 2019, a third stakeholder meeting was held at the Board's offices. At this meeting, Optimal revealed what it characterized as "preliminary results" of its analysis, including preliminary economic and maximum achievable energy savings figures for the state as a whole. There was no discussion of utility-specific potential at this meeting and no utility-specific savings targets were discussed. On May 3, 2019, a final stakeholder meeting was held. Optimal's report was not provided at this meeting; however, Optimal did share, for the first time, its recommendations for utility-specific savings targets, quantitative performance indicators ("QPIs"), cost recovery mechanisms, and incentive structures.

Finally, on May 9, 2019, a copy of the Draft MPS was released to the public for comment by May 16, 2019. The Draft MPS, totaling ninety-six pages, provides the results of Optimal's analysis, but does not include any of the technical appendices detailing that analysis. Notwithstanding the lack of necessary information and the expedited timeframe, JCP&L offers the following comments on the Draft MPS and the recommendations therein.

II. COMMENTS

Opportunity for Meaningful Review and Comment

As an initial matter, the minimal opportunity provided to interested parties to review and provide meaningful feedback on the Draft MPS raises a question as to whether their due process rights may have been violated. N.J.A.C. 48:3-87.9(b) explicitly provides that "[t]he board, in conducting the study, shall accept comments and suggestions from interested parties." Even when the Administrative Procedure Act ("APA") is not invoked by the Board's action, there is still a requirement to give effected parties notice and a meaningful opportunity to comment. *See In re Provision of Basic Generation Service for Period Beginning June 1, 2018*, 205 N.J. 339, 359 (2011) (holding that, while the Board's actions complied with the provisions of the APA, due process was violated because the Board did not provide "a meaningful opportunity for comment by interested parties").

Here, interested parties certainly have not been provided a meaningful opportunity to comment on the Draft MPS. As indicated above, it was not until the final stakeholder meeting on May 3, 2019 that Optimal shared, for the first time, its recommendations for utility-specific savings targets, QPIs, cost recovery mechanisms, and incentive structures. In other words, interested parties were not privy to any of Optimal's conclusions regarding the utility-specific savings potential assessment required by N.J.S.A. 48:3-87.9(b) until May 3, 2019. Further, interested parties were not provided any of the details on which those conclusions were based until the release of the Draft MPS to the public on May 9, 2019. And finally, compounding the problem, the Draft MPS did not include sufficient information regarding the study or any of the technical appendices necessary to evaluate the details of Optimal's analysis. In light of all the above, requiring interested parties to provide their comments on the ninety-six page Draft MPS by May 16, 2019 cannot be said to constitute an opportunity to provide meaningful comment.

Interested parties having a meaningful opportunity to review and provide comments on the Draft MPS is important. As detailed below, there are several places throughout the Draft MPS where Optimal has offered legal interpretations that expand beyond the potential study required by N.J.S.A. 48:3-87.9(b). There are also instances where it appears that the methodology and assumptions utilized in the Draft MPS do not comport with the language of the Act or are otherwise unreasonable. To ensure that New Jersey's energy efficiency programs move forward in a workable manner, these issues need to be addressed by the Board and interested parties. JCP&L hopes that the Board will take advantage of the additional stakeholder proceedings contemplated by the Act to further refine the Draft MPS, as well as its results, and provide interested parties with the time necessary to meaningfully address these outstanding concerns.

Draft MPS Sections Not Related to Savings Potential

N.J.S.A. 48:3-87.9, which codified the energy efficiency provisions of the Clean Energy Act, sets forth various requirements to be met by the Board within one year from the effective date of the Act. The Board performing and completing an energy efficiency market potential study is one of those requirements. N.J.S.A. 48:3-87.9(b). In furtherance of this effort, Optimal was retained to perform a study and the Draft MPS was prepared. Yet, the Draft MPS goes far beyond the mandate found in subsection (b) and provides Optimal's interpretation of statutory language found in other parts of N.J.S.A. 48:3-87.9, including those provisions related to QPIs, cost recovery mechanisms, and incentive structures. As explained below, Optimal's interpretations of these various provisions do not align with the plain language of the Clean Energy Act and should not be adopted by the Board as part of its completed potential study.

A. N.J.S.A. 48:3-87.9 does not require that utilities meet energy savings targets as early as 2020.

In the Draft MPS, "Optimal has derived and recommends overall net savings goals for each utility." (Draft MPS at 78). In making its recommendations, Optimal observed that "[t]he experience and current state of efficiency programs in New Jersey constitute an important starting point for any recommendations on performance incentives." (*Id.*). Accordingly, Optimal concluded that "a five-year ramp up to a level somewhat above the legislatively mandated minimums is reasonable." (*Id.*). JCP&L agrees that allowing the utilities time to ramp-up programs in accordance with the Clean Energy Act is reasonable.

In drawing the above conclusions, however, the Draft MPS also implicitly touches on another issue that is not directly addressed by the Act – when should utilities be required to begin implementing energy efficiency programs to meet the mandates of N.J.A.C. 48:3-87.9. Optimal proposes that the five-year ramp-up period should begin in 2020, with the utilities being responsible for achieving an electric net savings target of 0.75% in 2020. (Draft MPS at 79, Table 35). This ramp-up period beginning in 2020 is not mandated by the Clean Energy Act and, indeed, contravenes the provisions of the Act. Moreover, expecting the utilities to implement energy efficiency programs in time to meet mandatory energy savings requirements for 2020 is simply

unrealistic given the current juncture of this stakeholder process and the state of the utilities' energy efficiency programs.

N.J.S.A. 48:3-87.9(a) contains two different statements regarding the Board's actions pertaining to energy efficiency and the savings that are to be attained by utilities. First, subsection (a) provides that:

> No later than one year after [May 23, 2018], the Board of Public Utilities shall require each electric public utility and gas public utility to reduce the use of electricity, or natural gas, within its territory, by its customers, below what would have otherwise been used.

In other words, by May 23, 2019, the Board is required to order the utilities to reduce their customers' energy use. Importantly, this provision does not require that the energy use be reduced by any specific point in time. Rather, it only requires that the Board's order requiring such reductions occur within a specified period of time. As such, the assumption in the Draft MPS that energy efficiency programs must begin, and mandatory savings targets must be met, in 2020 are not supported by this portion of N.J.S.A. 48:3-87.9(a).

Another statement in N.J.S.A. 48:3-87.9(a), however, does address when utilities are required to reach mandatory savings targets. Specifically, the second paragraph of subsection (a) provides:

> Each electric public utility shall be required to achieve annual reductions in 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 . . . The amount of reduction mandated by the board that exceeds two percent of the average annual usage for electricity . . . shall be determined pursuant to the study conducted pursuant to subsection b. of this section until the reduction in energy usage reaches the full economic, cost-effective potential in each service territory, as determined by the board. (emphasis added).

Unlike the first paragraph of subsection (a), which does not include any specified savings targets or a time-period in which savings are required to be achieved, the second paragraph of subsection (a) requires each utility to achieve certain specified energy savings targets within five years of implementation of the utility's energy efficiency program. Based on these provisions, Optimal's assumption that the "first five years of program administration under the Act" should begin in 2020, as well as its establishment of interim targets, is unwarranted. (Draft MPS at 78-79).

In fact, a review of the legislative history confirms that Optimal's interpretation is flawed. The original version of what was to become the Clean Energy Act was Assembly Bill 2850 ("A-

2850"), which was sponsored by Assemblymen McKeon, Burzichelli and Deangelo. A-2850 included both the Clean Energy Act provisions and the "Zero Emissions Certificate" ("ZEC") program. The sponsors later bifurcated the Clean Energy and ZEC provisions into two separate and new bills, with new bill numbers. However, it is important to note that, unlike the version of the Clean Energy Act that was ultimately passed, A-2850 explicitly required that utilities begin to meet reduction targets beginning "no later than one year after the date of enactment." A-2850 also established an initial target of one-percent reductions for the initial two-year period after passage of the law and 1.5 percent reductions per year in subsequent years. On March 5, 2018, the Assembly Telecommunications Committee released a substitute bill eliminating that language and replacing it with the language found in the final Clean Energy Act requiring that a saving target be met "within five years of implementation of [a utility's] energy efficiency program."

As the legislative history demonstrates, the Legislature explicitly rejected the notion that timing of targets should be based on the date the law was enacted and instead endorsed targets that go into effect based on the date each utility's programs are implemented. Additionally, this history shows that the Legislature rejected language that would have required specific targets during the years immediately following passage of the Act.

Moreover, requiring the utilities to implement programs and meet mandatory savings targets in 2020 contravenes other provisions of the Act. For example, N.J.S.A. 48:3-87.9(d) provides that: "Each electric and gas public utility shall establish energy efficiency programs and peak demand reduction programs to be approved by the board no later than 30 days prior to the start of the energy year in order to comply with the requirements of this section." Admittedly, the reference in the Draft MPS to 2020 is ambiguous and may mean a calendar year, energy year, or some other annual period associated with 2020. Regardless what was intended though, it virtually would be impossible for the utilities and Board to comply with this requirement if there are mandatory savings targets in 2020. If Optimal's recommendation is that mandatory savings targets be implemented for energy year 2020, the deadline in this provision has already passed.[1] And if Optimal's recommendation is that mandatory savings targets be implemented for calendar year 2020, and the deadline set by subsection (d) is interpreted to not have already been missed, it means that the Board would be allowed to approve a utility's programs up to five months after the mandatory targets those programs are designed to meet would have taken effect. The Board should avoid interpreting the Act in a manner that would cause such a confusing result.

Finally, it would simply be highly improbable that the utilities would be able to prepare proposed programs for the Board's review, receive the Board's approval, and implement the programs in time to meet mandatory savings targets for 2020. To begin, if the utilities' filings are to include anything about expected cost recovery for the programs, the Act contemplates that any

[1] Notably, Public Service Electric and Gas Company has received criticism from intervenors and Board Staff that its pending energy efficiency program filing is premature given that the Board has not yet concluded the several stakeholder processes envisioned by N.J.S.A. 48:3-87.9. *See In re Petition of [PSE&G] for Approval of its Clean Energy Future (CEF-EE) Program on a Regulated Basis*, BPU Docket Nos. GO18101112 and EO18101113, Direct Testimony of Ezra D. Hausman, Ph.D. On Behalf of the Division of Rate Counsel; *See also id.*, Hearing Tr. 74:12-77:9 (Board Staff cross of PSE&G witness Reif).

cost recovery mechanism associated with implementation of the programs would be filed for pursuant to N.J.S.A. 48:3-98.1 (the "RGGI Law"), which has prescribed time-periods set by the Board. N.J.S.A. 48:3-87.9(e). Under the requirements set by the Board for RGGI Law filings, the utilities would be required to have a pre-meeting with Board Staff and Rate Counsel thirty days before making such a filing, and then the proceeding could last up to an additional 180 days. As such, assuming the utilities' program filings will address the expected cost recovery for those mechanisms, the law contemplates that a process lasting as long as 210 days may be required prior to energy efficiency programs being started – taking the utilities well into 2020 by the time targets are adopted by the Board.[2] Moreover, it would not be unreasonable to expect that the utilities have not begun designing programs given that the MPS has not been completed, the Board has not established targets, and the Act, as described above, does not set a requirement for when the energy efficiency programs must start.

Put simply, the Act does not require mandatory savings requirements in 2020. Indeed, the plain language of subsection (a), the legislative history, and several other provisions in N.J.S.A. 48:3-87.9 contravene the notion that mandatory savings targets would be established at this juncture. As such savings requirements are not required by the Act and would be unworkable as set forth above, the Board should refuse to adopt that portion of the Draft MPS that recommends mandatory savings targets be established as early as 2020. Instead, the Board can meet the requirements of the Act by ordering the utilities to implement programs to reduce customers' usage and setting a process to adopt mandatory savings targets to be achieved five years after the utilities have implemented their programs.

B. The cost recovery mechanism envisioned in the Draft MPS requires some clarifications.

In setting forth the rationale for its proposed incentive mechanism, Optimal takes an aside to discuss its interpretation of a cost recovery provision in the Act. Specifically, Optimal states:

> We note that the Act seems to envision an annual accounting and recovery of efficiency investments, and therefore does not anticipate treatment of efficiency program costs as a regulatory asset that is amortized over time.

In drawing this conclusion, Optimal quotes N.J.S.A. 48:3-87.9(e)(1), highlighting certain provisions:

> *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*

[2] N.J.S.A. 48:3-87.9(c) requires that the Board adopt quantitative performance indicators pursuant to the Administrative Procedure Act, which shall establish reasonably achievable targets for energy usage reduction. The Board has not yet adopted such targets and, accordingly, the utilities are not able to design programs to meet them.

> *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)****.* (emphasis in Draft MPS)

Optimal's focus on the first highlighted portion of this subsection does not distinguish between operations and maintenance ("O&M") expenses and capital investments. Indeed, that same provision makes clear that the utilities are allowed recovery of all reasonable and prudent costs incurred, "including but not limited to recovery on and of capital investment . . ." Thus, it should be clarified that the Act explicitly recognizes that a utility is entitled to recovery "on and of" its capital investments during the life of those investments. Such treatment is consistent with recovery mechanisms approved under the RGGI Law, which the Act also references.

JCP&L agrees with Optimal's interpretation that the utilities are entitled to recovery of their program costs on a full and current basis; however, it needs to be clarified that the use of what Optimal refers to as an "annual accounting and recovery of efficiency investments" includes both capital costs and O&M expenses and will necessarily result in the creation of a regulatory asset to, at a minimum, account for the under or over-recovery of deferred balances over the course of the year. Accordingly, the utilities are entitled to recover their carrying costs on these deferred balances commensurate with their actual financing costs. Again, this is consistent with the language of subsection (e)(1) providing for recovery on a "full and current basis" and similar efficiency investment mechanisms approved under the RGGI Law.

C. Optimal's assertion that energy efficiency investments are entitled to a lower return because they are less risky is not supported by the energy efficiency risk environment or the structure of the Act.

In conjunction with its discussion regarding its recommended incentive mechanism, Optimal opines that "efficiency programs carry much lower risks to shareholders than do most supply side investments, because of the vast number of individual efficiency projects and measures versus the investment in a single, large asset like a distribution line or substation." (Draft MPS at 81). Optimal further concludes that "[b]ecause some significant portion of the ROE compensates for risk, a lower return might be appropriate. (*Id.*). Finally, in making its recommendation for an incentive mechanism, Optimal states:

> As mentioned above, earning the full utility ROE on efficiency might be excessive, given the lower risk that efficiency programs present. By expensing annually, absent a major imprudent action, utilities are all but assured of recovering their spending in a timely way. This eliminates risks such as stranded assets, investments that might never be used and useful, or investments that become uneconomic . . . The value of an efficiency resource comes from

> thousands of small assets. This provides significant diversity and assurance that the resource will continue to be there as planned, and will also tend to follow loads. (Draft MPS at 82).

Optimal's conclusion about the relative risk of energy efficiency investments is flawed and ignores several important issues. To begin, the utilities are essentially implementing a new business model by investing in energy efficiency programs instead of utility infrastructure and operations and face increased executional risk as a result. Further, the results of energy efficiency programs are much more dependent on actions of consumers and, therefore, the utilities have less control over the success or failure of such investments compared to traditional utility infrastructure investments. Many of the business risks associated with investing in energy efficiency are also comparable to the risks associated with investing in utility infrastructure and operations. For example, the utility still faces collection risk, the risk that an act of god will prevent performance, the risk that there will be an accident that may or may not result in litigation, and so on. These risks do not change simply because the utility is investing in something different. Additionally, the utilities' underlying cost of capital does not change as a result of the investment being made in energy efficiency programs rather than in utility infrastructure. Finally, a utility's collective investment in energy efficiency faces increased risk because the utility can be assessed a penalty if it fails to meet its QPIs. This risk is enhanced when the amount of the penalty is driven by the size of the approved budget for programs, as proposed by Optimal (See Draft MPS at 85). As such, Optimal's conjecture that the utility's capital investment as part of its energy efficiency programs are inherently less risky and, therefore, deserving of a lower return is flawed.

D. The incentive mechanism recommended by Optimal improperly assumes a utility's QPIs must be tied to the savings requirement found in N.J.S.A. 48:3-87.9(a).

As discussed above, the second paragraph of N.J.S.A. 48:3-87.9(a) requires that utilities achieve a minimum level of energy savings within five years of implementing their energy efficiency programs. N.J.S.A. 48:3-87.9(c) requires the Board to adopt quantitative performance indicators ("QPIs") for each electric and gas public utility, "which shall establish reasonably achievable targets for energy usage reductions and peak demand reductions and take into account the public utility's energy efficiency measures and other non-utility energy efficiency measures including measures to support the development and implementation of building code changes, appliance efficiency standards, the Clean Energy program, any other State-sponsored energy efficiency or peak reduction programs, and public utility energy efficacy programs that exist on the date of enactment of [the Clean Energy Act]." Finally, N.J.S.A. 48:3-87.9(e)(2) and (3) provides that a utility will receive an incentive (or penalty) if it achieves (or fails to achieve) "the performance targets established in the quantitative performance indicators."

In interpreting the above provisions, Optimal states: "Our interpretation of the law therefore is that incentives can be earned only once a utility achieves 100 percent of goals, and that penalties must be assessed for any achievement level falling short of 100 percent." (Draft MPS at 84). Further, in making its QPI recommendations, Optimal states in the Draft MPS that "[t]he

utilities must ramp up to a *minimum* of 2 percent savings . . ." (emphasis in original). (Draft MPS at 75). Additionally, at the final stakeholder meeting prior to release of the Draft MPS, Optimal informed attendees that it believes the savings requirement in N.J.S.A. 48:3-87.9(a) means that the QPI five years out must be in excess of two percent.

As discussed at length above, N.J.S.A. 48:3-87.9 does not require the timeframes assumed by Optimal in the Draft MPS. Putting that to the side, the Act also does not require that the QPIs be established with any reference to the savings requirements in subsection (a). Under subsection (c), the Board must establish "reasonably achievable targets," which will form the basis for the incentives or penalties rewarded to or assessed against utilities. Contrary to Optimal's interpretation, that provision does not require those reasonably achievable targets to be in excess of the minimums set forth in subsection (a). Indeed, based on industry and New Jersey-specific experience, the two percent savings minimum is extremely aggressive and rarely attained. (See Draft MPS at 56, which notes that only three states achieved greater than two percent electric savings in 2018). Thus, as required by the Act, the Board can and should review the various factors set forth in subsection (c) and make a determination as to "reasonably achievable targets" (i.e. QPIs) without reference to the minimum savings requirement established in subsection (a). Moreover, contrary to Optimal's assertion in the Draft MPS, those QPIs can be set at a level that would allow the utilities to begin earning an incentive at levels lower than the requirement set forth in subsection (a).

In addition to the issues raised by its mistaken interpretation of the above requirements, the performance incentive/penalty mechanism ultimately proposed by Optimal is also overly-complicated and unworkable. In the draft MPS, Optimal advises that an incentive/penalty mechanism should be "simple." (Draft MPS at 62). It appears, however, that Optimal has refused to follow its own advice. The mechanism proposed in the Draft MPS uses eight distinct target metrics with different weightings and relies on ex-post evaluated net savings to determine whether each of those target metrics has been attained. Given the number of variables involved in performing the calculation, including but not limited to different assumptions that could be made about the calculation's inputs (which could lead to conflicting results), the structure of the proposed performance incentive/penalty mechanism could lead to protracted litigation.

As discussed in the Draft MPS, there are generally three types of performance incentives – shared net benefits, savings-based, and multi-factor. (See Draft MPS at 65-66). Most states employ the shared net benefits structure as opposed to the savings-based or multi-factor incentive structures.[3] The multi-factor structure, such as the one proposed in the Draft MPS, is used in only a handful of states and the eight target metrics proposed by Optimal exceeds the number of metrics used in most states utilizing a multi-factor mechanism.[4] Moreover, the factors proposed by Optimal exceed what is contemplated by the Act. For example, Optimal's proposed metrics would have performance incentives/penalties apply when the utilities meet or fail to meet established requirements for lifetime energy or savings attributable to small business customers. There is no

[3] American Council for an Energy-Efficient Economy (ACEEE), "Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency," at 7.
[4] *See id.* at 14.

language in the Act calling for such specific accounting of energy savings or sector targets in determining whether the utilities should receive incentives or be penalized. The Board should reject the proposed performance incentive/penalty mechanism in the Draft MPS as it is unworkable and not supported by the provisions of the Act.

Rather than adopting Optimal's overly-complex, eight-factor incentive mechanism, the Company recommends that the Board adopt a shared benefit mechanism. This approach aligns the interest of the utilities and their customers, as they both share in the benefits of energy efficiency savings. In addition, this approach does not require that a complex set of countervailing factors be considered and is easy to implement, evidenced by the fact that most performance incentives use this structure. (See Draft MPS at 64-65). JCP&L also recommends that the Board, as contemplated by the Act, determines the incentives rewarded or penalties assessed based on a utility's annual performance. The use of an annual determination encourages a continued focus on achieving energy savings year-over-year and avoids situations where one bad year negates the incentive to maximize performance in subsequent years. And, finally, as discussed above, the Board has authority to set QPIs at "reasonably achievable" levels, including at levels below the minimum threshold contemplated by N.J.S.A. 48:3-87.9(a). It is common industry practice to reward utilities for achieving threshold savings that are below the savings targets.[5] Consistent with this industry practice and the discretion given to the Board to set QPIs at "reasonably achievable" levels under the Act, JCP&L recommends that the Board adopt an incentive mechanism that allows the utilities to begin receiving incentives once a certain threshold percentage of their savings targets are achieved.

Draft MPS Findings

As set forth above, the analysis found in the Draft MPS exceeds the scope of the study required by N.J.S.A. 48:3-87.9(b) and, in doing so, offers legal interpretations that cannot be squared with the provisions of the Act. Similarly, the study that forms the basis for the conclusions in the Draft MPS appears to have relied on various assumptions that are unreasonable and contradict the Act's language and framework.

A. The statute does not require that savings be counted on an ex post evaluated net basis.

In providing its recommended savings goals for the utilities, Optimal states that "[p]er the requirements of the Act, these goals are defined in terms of *annual incremental net energy savings*." (Draft MPS at 78) (emphasis in original). In a footnote, Optimal further clarifies that "*[n]et savings* refers to the estimated additional savings resulting from the programs, beyond what otherwise would have happened." (*Id.* at fn. 64) (emphasis in original). Optimal also refers to its recommended targets as "Net savings targets" and suggests that one of the performance indicators used to determine whether utilities receive incentives be "Ex-post evaluated net annual incremental savings for the plan period." (Draft MPS at 79, Table 35 and 88, Table 49). Taken together and

[5] *See id.* at 10 (highlighting that the most common achievement thresholds for incentives to begin becoming awarded range between 70 and 85% of savings targets).

literally, these statements mean that utilities would not be able to count all of the actual energy savings that occurred under the energy efficiency programs, whether they be from utility or non-utility programs, as they would have to remove actual energy savings that an after-the-fact study suggests would have occurred even without the program (typically referred to as "free riders").

Optimal's reliance on net savings is inappropriate under the plain language of the Act, which clearly allows all energy savings to be applied by the utilities. N.J.S.A. 48:3-87.9(c) is clear that "[a] public utility may apply all energy savings attributable to programs available to its customers, including demand side management programs, other measures implemented by the public utility, non-utility programs, including those available under energy efficiency programs in existence on the date of enactment of the [Clean Energy Act], building codes and other efficiency standards in effect, to achieve the targets established in this section." In other words, the statute makes it unmistakably clear that the utilities can count all savings that occur and not just a portion of those savings. As such, Optimal's reliance on net savings when setting recommended targets in the Draft MPS is improper.[6] The Board should make clear that utilities get to count all energy savings that occur (often referred to as "gross savings") and not just "net savings" when counting the savings applied toward the utilities' achievement of their QPIs and statutory minimums. Net savings should instead be used for cost effectiveness testing to inform adjustments to future utility and non-utility program offerings.

In addition to the plain language of the Act requiring counting savings for QPIs and statutory minimums on a gross basis, such a practice is also common in the industry and amongst the states listed in the Draft MPS as having aggressive savings goals. For example, the Draft MPS references the fact that Maryland is one of just seven states with electric savings goals of two percent or greater. (Draft MPS at 56). Maryland counts its savings on a gross basis, as do other jurisdictions, including Pennsylvania and Ohio, in which JCP&L's affiliates run energy efficiency programs.

Optimal's recommendation that performance indicators be based on "Ex-post evaluated net annual incremental savings for the plan period" is also not required by the Act. Utilities do not have control over ex-post savings and, accordingly, may end up being penalized if certain measure assumptions do not come to fruition. As an example, a utility could implement a program plan as approved by the Board based on the best available ex-ante savings estimates and later be unfairly penalized if the ex-post evaluated savings suggest lower than planned savings for the installed measures. Similarly, using ex-post evaluated savings would contradict assumptions used to develop the Draft MPS, savings targets and QPIs. It is unreasonable to adopt one set of assumptions for the potential study, develop recommended targets and QPIs based on the results of that study, and then require that utilities' attainment of those targets and QPIs be measured on an ex-post evaluated net savings basis, completely ignoring the assumptions that informed the potential study and potentially penalizing the utilities for factors beyond their control. Instead, the

[6] Moreover, the use of net savings in the Draft MPS implies that Optimal would have applied "net-to-gross" ratios to determine the appropriate amount of savings to be counted for each measure. If such ratios were indeed used, they do not appear to be referenced anywhere in the Draft MPS and, accordingly, interested parties have not had an opportunity to review them and make a determination as to their reasonableness.

assumptions used to develop the potential study, as well as the recommended utility savings targets and QPIs, should be consistent with utility program planning assumptions and the methodology used to determine a utility's compliance. In accordance with the structure of the Act, the Board should establish the utilities' QPIs utilizing a gross savings basis and clarify that a utility may make its filing pursuant to N.J.S.A. 48:3-87.9(e)(1) relying on ex-ante (estimated) gross savings.

B. The Draft MPS does not make the individualized assessment required by N.J.S.A. 48:3-87.9(b).

At the stakeholder meeting held on April 23, 2019, Optimal provided what it characterized as "preliminary results" of its analysis, including determinations as to the economic and maximum achievable savings potentials in the state as a whole. In later assigning this potential to the individual utilities in the Draft MPS, "[u]tility-specific sales forecasts were used as weights to assign individual utility shares of the estimated statewide potential for electric and gas efficiency." (Draft MPS at 29). This arbitrary assignment is flawed and does not constitute the individualized assessment required by N.J.S.A. 48:3-87.9(b).

As a reminder, N.J.S.A. 48:3-87.9 (b) provides that:

> . . . the board shall conduct and complete a study to determine the energy savings targets for full economic, cost effective potential for electricity usage reduction and natural gas usage reduction as well as the potential for peak demand reduction by the customers of each electric public utility and gas public utility . . . (emphasis added)

Simply allocating the savings potential it found based on its statewide analysis to each of the utilities based on sales forecasts does not satisfy the requirement to determine the potential for each utility. Moreover, assigning the savings potential in such a manner is flawed because it does not account for differences in customer demographics, customer base, avoided costs, market barriers, and other factors, that can vary significantly amongst utilities. The Board should further refine the results of the study based on utility-specific considerations as it moves forward with other stakeholder proceedings contemplated by the Act.[7]

[7] For example, N.J.S.A. 48:3-87.9(f) requires that the Board establish a stakeholder process to "evaluate the economically achievable energy efficiency and peak demand reduction requirements, rate adjustments, [QPIs], and the process for evaluating, measuring, and verifying energy usage reductions and peak demand reductions by the public utilities." As part of this stakeholder process, the Board is also supposed to establish an independent advisory group and have the utilities conduct a "demographic analysis . . . to determine if all of its customers are able to participate fully in implementing energy efficiency measures, to identify market barriers that prevent such participation, and to make recommendations for measures to overcome such barriers." N.J.S.A. 48:3-87.9(e)(1) and (2).

C. The Draft MPS relies on certain measure assumptions that appear to be outdated or unreasonable.

As referenced above, the Draft MPS does not include any of the technical information or appendices necessary to allow interested parties to perform a detailed review of the study. Based on the information that is provided, however, it appears that the Draft MPS relies on certain measure assumptions that are outdated or unreasonable. For example, one of the top ten residential savings measures (in the year 2029) identified by Optimal's study is "Water Heater Jacket Installation." (Draft MPS at 27, Table 10). According to the Mid-Atlantic Technical Resource Manual, this measure is for homes that have electric water heating that is not already well insulated. However, the most recent federal standards for water heaters became effective in April 2015. According to the Appliance Standards Awareness Project, the three major water heater manufacturers increased insulations levels to meet the new standards, leaving little to no benefit to the installation of water heater jackets.[8] As such, there will not be as great of an energy savings opportunity for water heater jackets installed after April 2015. Additionally, certain major manufacturers discourage the installation of such jackets and have concerns relating to their effect on the water heater's UL ratings. As another example, the demand response potential identified by Optimal "assumes a steady rollout of smart meters until the state is fully covered in Year 10 of the study." (Draft MPS at 32). This could be considered an aggressive assumption considering that only one of the state's utilities has any smart meters installed in its service territory, as part of a pilot program.

The issues identified above are certainly not all inclusive of the potential issues that could be identified by interested parties given an opportunity for further review. JCP&L encourages the Board to take advantage of any further stakeholder proceedings contemplated by the Clean Energy Act and to use them as an avenue to further evaluate and refine the results of the study set forth in the Draft MPS.

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[8] *See* "Water heaters get an efficiency makeover courtesy of the Department of Energy," Appliance Standards Awareness Project (Feb. 25, 2015), *available at* https://appliance-standards.org/blog/water-heaters-get-efficiency-makeover-courtesy-department-energy.

III. CONCLUSION

JCP&L again thanks the Board for the opportunity to provide these comments on the Draft MPS and hopes that they will be considered as the Board performs its review and evaluation of the potential study. The Company looks forward to the opportunity to continue working with the Board and other interested parties as further necessary steps are taken to implement the energy efficiency provisions of the Clean Energy Act. Please do not hesitate to contact me should you have any questions about any of JCP&L's above comments.

Very truly yours,

Joshua R. Eckert

From: Lloyd Kass <LKass@Lime-Energy.com>
Sent: Thursday, May 16, 2019 3:15 PM
To: publiccomments@njcleanenergy.com
Cc: Adam Procell
Subject: Energy Efficiency Potential Study

To Whom this May Concern,

On behalf of Lime Energy and its parent company Willdan, I would like to provide some very brief feedback on the draft "Energy Efficiency Potential in New Jersey" recently made public by the Board of Public Utilities (BPU).

We strongly support the draft study's broadest conclusion:

> There is more than enough attainable and cost-effective energy efficiency in New Jersey to reach the targets established in the Clean Energy Act (CEA), and there is sufficient potential to significantly exceed the mandated annual reductions of electricity consumption of 2%, and gas of 0.75% for each utility in the state.

The study results are exciting for companies like Lime. Our business model and approach to the market can be very supportive of pushing smaller, harder-to-reach commercial customers toward significant contributions to the CEA efficiency targets, while driving job growth and decarbonization efforts in the state.

Furthermore, the CEA clearly places the onus for reaching these energy efficiency goals on the utilities (as does the draft study), imposing "QPIs" that have major financial consequences for the utilities' businesses. For these reasons, it is clear the utilities should be responsible for designing and administering these programs, and applying best practices whereby on-the-ground implementation of these programs are competitively bid and contracted out to experienced industry service providers such as Lime. We would assert that the BPU – like any utility effective regulator – is ideally suited to review plans, approve, and monitor the utilities' programs aimed at reaching the CEA goals.

There appears to be a lot of consideration being given to maintaining certain legacy BPU-administered programs over the long term, and even starting a new statewide multifamily program in the coming months. In our opinion, dividing administration of the programs to between the BPU and the utilities (beyond any initial transition period), confuses matters and will delay efforts to truly act in progressing toward these important CEA goals. In neighboring New York State, for example, the confusion and complexity associated with distributing program administration functions across state agencies and utilities has been a continuous challenge. And, more importantly, we cannot wait and study which entity should do which program, as any unneeded postponement of commencing the utility programs will be unfortunate given the urgent climate crisis society faces.

We would hope that the Board will send clear signals to the utilities indicating that they are now primarily responsible for energy efficiency administration in the state, and encourage each of them to aggressively pursue development of robust portfolios of programs. PSE&G has set the pace with their pending "Clean Energy Future – Energy Efficiency" filing (which Lime Energy supports) and the other gas and electric utility companies should be encouraged and empowered to do the same. The faster we can

move as a state, the more rapidly we can reap the economic and environmental benefits of energy efficiency.

Thank you for the opportunity to comment on this important matter.

Sincerely,
Lloyd Kass

_____

Lloyd Kass
Senior VP, Utility Strategy

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May 16, 2019

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: **Energy Efficiency Potential in New Jersey**

Dear Secretary Camacho:

Please accept these comments on behalf of New Jersey Natural Gas Company ("NJNG") in response to the May 9, 2019 draft study "Energy-Efficiency Potential in New Jersey" ("Draft Study") prepared for the New Jersey Board of Public Utilities ("Board") by Optimal Energy, Inc. ("Optimal"). NJNG appreciates the opportunity to offer these comments and take part in the development of a framework for the State's energy-efficiency spending and saving targets.

NJNG recognizes the importance of this type of Draft Study in setting the foundation for the long-term goals for achieving energy efficiency and demand reduction. NJNG remains committed to supporting New Jersey's energy-efficiency goals and appreciates the key role our company plays in achieving the targets contained in the New Jersey Clean Energy Act of 2018 (the "Act"). Beginning well before the promulgation of the Act, NJNG's energy-efficiency programs have saved money for New Jersey customers and generated jobs, while reducing greenhouse gas emissions. NJNG will continue to support programs that encourage energy efficiency, which in turn make energy bills more affordable for our customers.

However, NJNG is quite concerned about the validity of the analysis and fairness of the process relied upon to develop the Draft Study, as well as the soundness of several findings and recommendations (or absence of findings/recommendations) contained in the Draft Study. Our concerns are addressed in these comments; although given the extremely limited time period[1] provided for stakeholder comments, this submission does not represent an exhaustive list of concerns. NJNG respectfully requests the BPU provide for a full and substantive stakeholder process to weigh in on the enormity of the Draft Study prior to

[1] The Draft Study entitled "Energy Efficiency Potential in New Jersey" authored by Optimal Energy, Inc. was publicly released after the close of business on May 9, 2019 and comments were required within seven (7) calendar days, not business days. A weekend was included in the response period. Under the Board's rules of procedure, governed by the Uniform Rules of Procedure, set forth at N.J.A.C. § 1:1-1.4 Computation of time: "In computing any period of time fixed by rule or judicial order, the day of the act or event from which the designated period begins to run is not to be included. The last day of the period so computed is to be included, unless it is a Saturday, Sunday or legal holiday, in which event the period runs until the end of the next day which is neither a Saturday, Sunday or legal holiday. In computing a period of time of less than seven days, Saturday, Sunday and legal holidays shall be excluded," the seven (7) day time period should have commenced on Monday, May 13, 2019 with comments due on May 20, 2019. As a result, the stakeholder's due process rights were violated. Notwithstanding, the Company believes given the magnitude of the proposed Optimal paradigm shift, a longer time period should have been afforded the interested stakeholders to provide meaningful comments to the Draft Study.

implementing any of the recommendations or imposing targets. It is respectfully submitted the Board has violated the due process rights of the affected stakeholders (i.e. the New Jersey natural gas and electric distribution utilities, along with other interested stakeholders). Moreover, the Draft Study does not include any supporting appendices. Without this data, stakeholders are unable to review underlying assumptions and provide meaningful guidance to the Board and its staff. This is another fundamental flaw of the Stakeholder process, as described below.

STAKEHOLDER PROCESS:

The stakeholder process used to develop the Draft Study provides very limited opportunity for the utilities and other stakeholders to give meaningful input and contribute to an informed discussion. Over a four-month period, there were four meetings held with all stakeholders – one with less than three (3) days' notice – with very limited analytical or supporting data disseminated by Optimal to the attendees. Further complicating the lack of data and process transparency is the challenge of providing comments on a Draft Study intended to inform the Board on targets and related information critical to meeting the State's goals — within only a week of issuance.[2] NJNG appreciates the time constraints facing the State; however, we are concerned the compressed review period for submitting comments has compromised our ability, as well as the ability of all interested stakeholders, to appropriately reflect on the analysis and findings contained in the Draft Study. As discussed below, while the process for the adoption of the quantitative performance indicators ("QPIs") and related findings reflected in the Draft Study remains a concern, we respectfully submit that ultimately the Act requires the Board to adopt the QPIs in accordance with the requirements of the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.).

Turning to our concerns about some of the findings and recommendations contained in the Draft Study, a critical foundational issue is the responsibility for program administration. Yet, the Draft Study does not clearly indicate whether the utilities or BPU Office of Clean Energy ("OCE") will be responsible for administration of the energy-efficiency ("EE") programs. Fundamentally, where a utility may be subject to a reward/penalty based on the achievement of targets (in this case), the utility at least must have the ability to administer and control its own programs. In other words, if we are responsible for ensuring our programs facilitate the attainment of required savings targets, then we must be empowered to control the administration of our EE programs, and not compete with the OCE. This will allow the State to accomplish its EE goals while also holding each utility accountable for its efforts in support of efficiency. Furthermore, the Draft Study's performance incentive and penalties proposal lacks sufficient detail and definition; thus, it should be further considered in a subsequent stakeholder process. It would be unreasonable to apply a penalty and incentive system that is vague and does not provide clear and well-defined signals for action.

PLANNED INITITAL BOARD ACTION:

The Request for Comments Reminder issued after close of business of May 15 contained some alarming expectations regarding the anticipated actions the Board will take at the May 28 BPU Agenda meeting. Based upon our review of the Draft Study and extensive discussions with a broad range of stakeholders engaged in this effort, we expect the Board will need to consider significant technical limitations and errors, as well as serious legal considerations regarding this Draft Study. Accordingly, it is hard to fathom how the Board could consider the release of the final "Energy Efficiency Potential Study in New Jersey" within less than two weeks of receiving that information.

[2] The deadline for comments on the May 9, 2019 Draft Study was set for May 15, 2019, less than 7 business days from the date of issuance on May 10, 2019, in violation of N.J.A.C. § 1:1-1.4.

Moreover, the same Reminder Notice appears to suggest the Independent Advisory Group will meet during July and August to discuss issues concerning utility-specific energy usage and peak reduction targets, the program structure, cost recovery, utility filing requirements and timeframe and evaluation and reporting requirements. We recognize these all are incredibly important topics that demand thoughtful consideration to ensure the new direction for energy efficiency in the state is grounded in solid and practical policy. However, the Reminder Notice appears to imply such foundational issues may be resolved within that two-month window. If this is the expectation, and some of the recommendations within the Draft Study regarding utility coordination are proposed, it only would allow for a 10-month period to accomplish all of the following:

- The BPU would address the relative roles of utilities and NJCEP regarding program administration.
- The BPU will establish a process and timeline for utilities to file their program plans and related budgets and evaluation plans.
- The utilities would be asked to develop such plans with a concerted effort to offer consistent incentives and strive for joint/collaborative efforts.
- The regulatory process regarding the review of such plans would occur.
- The BPU would approve the utility plans; and it is reasonable to assume there may be modifications to the original utility proposals based on the regulatory process and stakeholder input.
- Utilities would have to work to implement these plans as appropriate, which is likely to involve hiring new staff, issuing requests for proposals, drafting and executing vendor contractors, qualifying trade allies eligible to participate in programs, developing customer participation agreements, establishing proper internal controls, developing marketing plans, building systems to track results and many more key activities.

Based upon the nuanced policy discussions that occur in many other states regarding the key issues the Independent Advisory Group is charged with considering, as well as the historical experience in New Jersey regarding energy-efficiency programs from a regulatory and implementation perspective, this is an incredibly unrealistic expectation. Programs launched in such an expedited timeframe run a very high risk of unintended consequences, including poor customer experience, flawed program design, unaddressed market barriers to participation, and lapses in internal controls just to name a few. A rushed approach to key issues will miss the opportunity to set the foundation for long and sustained growth in the energy-efficiency markets, and will certainly not generate the "best practices" approach to energy efficiency.

Customers and trade allies must have a strong positive experience with new program offerings to ensure long-term goals are met. We need to ensure quality service is delivered and energy savings are achieved to continue to ensure additional customers and trade allies are willing to participate. Investing resources in setting the proper foundation for a positive customer and trade ally experience will be the most productive way to ensure long-term energy savings goals are met and New Jersey realizes growth in our clean energy economy.

LEGAL INTERPRETATION OF THE ACT:

First and foremost, Optimal is not a New Jersey licensed law firm engaged by the Board to provide a legal opinion of what the Act mandates. The New Jersey Office of the Attorney General is the only authorized entity to provide legal advice to the Board. Notwithstanding, Optimal opines throughout its Draft Study what it perceives to be the legal requirements of the Act. Optimal goes beyond its subject matter expertise by stating the intent of the New Jersey Legislature. To cite an example, Optimal states, "Our

interpretation of the law therefore is that incentives can be earned only once a utility achieves 100 percent of the goals …" Draft Study at p. 84.

NJNG respectfully submits the Board not accept Optimal's legal opinions or interpretations regarding the specific requirements of the Act, as the Board has not retained Optimal to provide legal guidance and counsel.

SUBSTANTTIVE COMMENTS:

Limitations in Review of Maximum Achievable Energy Efficiency

NJNG has successfully implemented energy-efficiency programs since 2009, and continues to do so, as part of our energy-efficiency program The SAVEGREEN Project®, and even longer through our work with the New Jersey's Clean Energy Program™ ("NJCEP") New Jersey Comfort Partners ("Comfort Partners") program and others prior to the creation of NJCEP. We recognize the importance of aggressively growing energy-efficiency programs to reach important policy goals, but significant barriers exist that complicate the pursuit of those goals.

The Draft Study suggests utilities may plan to target less than mandated efficiency goals, and would do so at their own risk since they cannot control third-party activities. However, it would be far more cost-effective and conducive with collaborative efforts in place to proactively plan for expected energy savings attributable from other major sources, such as Codes and Standards, Energy Savings Improvement Plans ("ESIP") and more, and only hold the utilities responsible for the balance of energy savings. The assumed savings from these other sources can be subject to independent studies in advance of the program years.

As an example, NJNG has conducted considerable outreach to municipalities and school districts regarding energy efficiency. Frequently, interested customers in these market segments initiate ESIP plans as they consider implementing energy-efficiency measures — as the state continues to aggressively promote this path for financing such improvements. Figure 6 of the Draft Study represents the maximum achievable potential by building type and indicates education is one of the greatest opportunities for natural gas savings. In working with these market segments, we know savings is occurring from projects, and it is critical to gain an understanding as to what degree these projects are currently contributing to energy savings statewide and how much they may be expected to contribute toward proposed target increases.

Points for consideration:

Low-Income Households

A case in point is the ability for utilities to fairly serve low-income customers, and it supports why a detailed review of the Draft Study's assumptions is necessary. Through the Comfort Partners program, NJNG has worked together with other utilities in the state to help more than 114,000 low-income customers since the program's inception, significantly reducing their energy bills and improving the health and safety of their homes. While many customers have benefitted from the program, there are currently barriers to participation for many income-eligible customers because of the premises' health and safety issues, such as:

- Asbestos
- Lead paint
- Mold
- Roof leaks
- Moisture in basements or crawlspaces

- Open sewer lines and drainage problems
- Leaky plumbing
- Insect infestations

While Comfort Partners allows for the improvement of minor health and safety issues to ensure the completion of weatherization measures, it does not have sufficient funding to tackle these more challenging and expensive conditions. A review of 2018 statistics for Comfort Partners found of all enrolled homes visited by a Comfort Partner representative, 1,697 (43.58 percent) were unable to get needed weatherization because the cost of remedying the homes' health and safety conditions was beyond the programs funding scope. The Draft Study indicates approximately 25 percent of New Jersey's single-family homes are low-income. We recognize the current administration places an emphasis on ensuring all customers benefit from a clean energy economy; but in the absence of new funding from other sources to address the significant health and safety issues mentioned above, the utilities are not likely to achieve full energy-saving potential for low-income customers. As the Draft Study provides no supporting information or data sources on the assumptions regarding New Jersey's low-income households, it is not possible to assess the accurate maximum achievable value for this market.

Similarly, there should be strong stakeholder input on the assumptions made for the barriers of each market segment specific to New Jersey conditions, including the level of building code enforcement, and variables such as prevailing wage requirements.

Concerns with Assumptions about Top Energy-Saving Measures

Inaccurate assumptions and modeling methodologies, or inconsistencies with New Jersey policies, can lead to significant overstatement of the market potential for specific measures and for the state as a whole. Both measure-level assumptions and overall modeling methodologies require further review to more accurately reflect the New Jersey marketplace. Tables 10 to 15 of the Draft Study present the current draft top 10 energy-savings categories by fuel type and market segment. Discussions with other stakeholders indicate serious concerns regarding the presumption that these accurately reflect the top potential measures in New Jersey. A few examples include:

- Table 12 of the Draft Study presents the top residential natural gas saving measures and lists two separate line items for natural gas furnaces. While Table 12 does not show the assumed efficiencies, the April 23 stakeholder meeting listed a second furnace category as high efficiency (90% to 94% AFUE). New Jersey has not provided incentives for furnaces in this efficiency range since 2015 due to the evolution of the New Jersey marketplace and maturity of DSM programs. Unless New Jersey amends current policy regarding eligible furnaces, the target for residential savings could be overstated by 2.2 percent. This concern was raised at the May 3 stakeholder meeting. This efficiency- level discrepancy calls into question the efficiency-level assumptions for all measures. The potential exists that multiple measures are currently utilizing assumptions that are not currently eligible for efficiency rebates and potential levels could be significantly overstated.
- Table 12 also shows the combined assumptions for low-flow showerheads in residential single and multi-family homes account for 11.4 percent of the total residential energy savings. These warrant further discussion given the experience in other states, and the generally acknowledged negative customer reactions to these types of energy-saving products. It again points to the need to understand the assumptions behind the analysis that led to this measure accounting for such a large share of the energy savings. To fully assess these measures, stakeholders need access to Appendix E of the Draft Study and adequate time to review and comment on these assumptions. The Impact Factors used by Optimal in the Draft Study are key drivers to the potential results. It is imperative these factors are

based on the best available information applicable to New Jersey, and best reflect the market conditions in New Jersey.

- It is very surprising seal up and insulation does not appear in Table 12 as one of the top 10 energy-saving measures. These measures are typically large contributors to natural gas potential study savings estimates. It is unclear how the potential for seal and up and insulation is being treated since it is not present in the top measures. Based on the NJCEP's experience within the Home Performance with ENERGY STAR® programs at the Tier 2 incentive level, there is significant evidence of seal up and insulation energy-savings potential in homes. While it may be challenging to get a significant amount of energy savings from seal-up and insulation in the short-term due to the limited engagement of those trade allies, the Draft Study tracks potential savings through 2029. Given NJNG's experience in performing more than 45,000 home audits, it seems unlikely a focused effort on educating customers and workforce development initiatives would not be a visible share of the potential energy savings.
- Additionally, there appears to be a mathematical error within Table 12 since the total of the percentages exceeds 100 percent. It is not possible to determine whether an error is limited to the presentation within this table, or an error that affected the outcome of the overall Draft Study.
- Table 15 of the Draft Study presents the top 10 commercial and industrial natural gas measures, and there are similar concerns about the potential for measures potentially being overstated as in the residential sector. ENERGY STAR griddles and ovens collectively account for an estimated 6.5 percent of total commercial and industrial energy savings. Given the majority of commercial and industrial customers may not even own these pieces of equipment, it is very surprising to see them account for this large a share of the energy savings for this market. NJNG reached out to several other program implementers and did not see evidence of savings exceeding 1 percent of the portfolio for the commercial and industrial market. The market share assumptions for these measures is needed to fully review them. Assumed baseline conditions and equipment for the entire market, otherwise known as a Market Profile, is needed to assess whether Optimal has accurately characterized the baseline market conditions from which potential projections are based upon.
- Based on our experience as members of several energy-efficiency organizations with significant participation by program implementers, we were surprised the water heaters did not show up as one of the top 10 measures for the commercial and industrial market.
- Additionally, NJNG is pleased to see furnaces and boilers as a significant source of savings within Table 15; however, we would like to share the practical experience regarding our program supporting the NJCEP Direct Install program. We have frequently encountered instances where natural gas equipment could not pass the cost-effectiveness tests embedded within the Direct Install screening tool. If these natural gas measures are expected to account for a significant share of the energy-savings potential used to build the energy-savings targets, we must ensure the same cost effectiveness screening lens is used for program implementation. If not, all the natural gas utilities will struggle to achieve the established goals.
- For comparison purposes, NJNG has pulled together results from other recently completed energy efficiency natural gas potential studies. This is not a comprehensive or exhaustive list of all studies across the country, but the purpose is to put the draft New Jersey potential study results into context of other studies across the country. As the table below shows, New Jersey has an average yearly maximum achievable potential significantly higher than the other potential studies, especially in the latter years. In many cases, savings decrease over time due to saturated markets and increased baseline conditions, the doubling of potential between 2020 and 2024 in the New Jersey Energy Efficiency Potential study is troubling because New Jersey is already a mature energy-efficiency market – so the doubling of savings within 5 years is highly unlikely, if not impossible.

	Yearly Maximum Achievable Potential per Study				
Year	New Jersey (2019)	Vectren Ohio (2017)	Central Hud (2015)	Ameren (2015)	Vectren Gas (2014)
2020	0.8%	0.8%	0.8%	0.5%	0.9%
2021	0.9%	0.8%	0.8%	0.5%	0.8%
2022	1.3%	0.9%	0.8%	0.5%	0.8%
2023	1.4%	0.9%	0.8%	0.5%	0.8%
2024	1.6%	0.9%	0.8%	0.5%	0.8%
2025	1.6%	0.9%	0.8%	0.5%	0.9%
2026	1.6%	0.9%	0.8%	0.5%	0.8%
2027	1.6%	0.9%	0.8%	0.4%	0.8%
2028	1.7%	1.0%	0.8%	0.4%	0.8%
2029	1.7%	n/a	0.8%	0.4%	0.7%
Average	**1.4%**	**0.9%**	**0.8%**	**0.5%**	**0.8%**

Proposed Target Increases

The Draft Study proposes set energy savings targets that exceed the legislative minimums based on the determination of Maximum Achievable Energy Efficiency — defined as "the maximum level of program activity and savings that is possible, given the market barriers to adoption of energy-efficient technologies, with no limits on incentive payments, but including administrative costs necessary to implement programs." The Draft Study references a 2013 study from the American Council for Energy Efficient Economy ("ACEEE") as an overview of general market barriers. But it does not identify the assumed barriers that exist in New Jersey, and what must be done to overcome such barriers to achieve the proposed savings targets. This is critical information to assess whether the proposed targets are "aggressive but reachable" — a standard proposed with the discussion of performance incentives.

Furthermore, as the Draft Study notes, according to ACEEE's recent State Energy Efficiency Scorecard, only six states currently achieve natural gas savings higher than the targets mandated by the Act. It is important to note only Minnesota is currently performing above the target proposed for year five, and it has a significantly higher heating load than New Jersey. While the Draft Study provides no insights into the savings assumptions from other sources, all stakeholders can see how aggressively the targets for natural gas increase. The savings target doubles between year one and two, and by year five it is more than five times the current level of natural gas savings reported by ACEEE. Many natural gas utilities across the country struggle to meet the energy-saving targets as the low cost of the commodity makes it challenging for individual pieces of equipment to pass some screening tests for cost effectiveness. It is important all stakeholders understand it is not appropriate to apply the results from other states when there are significant varying factors like commodity costs, labor costs and climate.

Proposed Quantitative Performance Indicator (QPI) Structure

Regarding the QPIs presented within the Draft Study, it is incredibly challenging to consider whether some are appropriate given the uncertainty regarding program administration. NJCEP currently administers the Direct Install program, which is generally regarded as the primary path to energy efficiency for small businesses. If the utilities are not playing a central role in the administration of programs that meet the needs of these customers, it is unreasonable to hold the utilities accountable for meeting specific targets for this market. Similarly, the optional metric outlined is presented as accounting for 6 percent of the goal,

but it is completely undefined. If it is optional, the proposed percentages should equal 100 percent with adjustments as necessary when the optional metric may be included.

While the Draft Study does provide utility specific tables for the energy-savings targets, those targets do not reflect a thoughtful consideration of the differences between service territories. As an example, NJNG does not have a significant industrial customer load so it may be challenging to secure savings from measures common to the industrial market. Formal targets should reflect a more robust analysis of service territory demographics.

Additionally, NJNG does not agree with the strict interpretation of the word linear for the performance incentives or penalties. We believe based on the experience of other states, it is worth considering a deadband that would result in neither a penalty nor an incentive. Results that fall within that deadband can avoid an excessive drain on regulatory resources of all parties. Greater attention would be warranted when targets are falling below the deadband to assess a penalty as appropriate and, more importantly, to understand what corrective action can be taken to get energy savings back on track. Similarly, when results indicate savings were achieved in excess of the deadband, further review would be warranted to award an incentive and consider what best practices may be applied to other programs to ensure outstanding performance continues.

COST RECOVERY:

Regarding cost recovery, the Draft Study indicates a lower return might be appropriate for energy-efficiency investments rather than traditional supply-side investments by stating "efficiency programs carry much lower risks to shareholders than do most supply side investments." See, Draft Study at p. 81. However, the Board historically has taken the position utilities should be allowed to earn the same return on investments for energy efficiency as its other investments. The return on investments in energy efficiency should be commensurate with other utility investments to further encourage ongoing and future investments in energy efficiency. The Act clearly authorizes utilities to earn a recovery on its energy-efficiency investments, and nowhere indicates this return should be different from the return earned on other traditional (i.e. pipes and wires) utility investments.

The language and structure of the Act and Section 13 of the Regional Greenhouse Gas Initiative ("RGGI") Act, along with the historic treatment of public utility energy-efficiency investments in New Jersey, are clearly consistent with the utilities earning a rate of return on these investments. In addition, it is NJNG's position an artificially low amortization period or, for that matter, no amortization period will result in inter-generational inequity regarding the costs and benefits of EE investments, as well as rate shock if the EE expenditures were recovered on a "pay-as-you-go" basis.

AMORITIZATION PERIOD:

The short amortization period has a lower total revenue requirement over the entire program period on a nominal basis. However, the "real cost" of these revenue requirements to ratepayers must consider the time value of money by applying a discount rate to future revenue requirements. Moreover, the Draft Study does not consider that savings are realized over the life of the equipment, and not in the year of investment. In addition, customers would pay significantly more in the initial years of the program than under the longer amortization period. It is likely many customers would prefer the lower near-term bill impacts associated with the longer amortization period.

RETURN ON EQUITY:

Regarding the return on equity, the Act specifically states pursuant to N.J.S.A. 48:3-87.9.e. (1) 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).

Following the subsection quoted above, specifically e. (1), there are two subsections (e. (2) and e. (3)) requiring the Board to establish, respectively, incentive and penalty structures. Then, subsection 48:3-87.9.e. (4) specifically states:

> The adjustments made pursuant to this subsection may be made through adjustments of the electric public utility's or gas public utility's return on equity related to the energy efficiency or peak demand reduction programs only, or a specified dollar amount, reflecting the incentive structure as established in this subsection. The adjustments shall not be included in a revenue or cost in any base rate filing and shall be adopted by the board pursuant to the "Administrative Procedure Act."

This language confirms the utility shall have a return on equity related to its EE programs. Similarly, RGGI section 13 (N.J.S.A. 48:3-98.1) includes the following cost recovery language in subsection b. and definition in subsection d.:

> b. An electric public utility or a gas public utility seeking cost recovery for any program pursuant to this section shall file a petition with the board to request cost recovery. In determining the recovery by electric public utilities and gas public utilities of program costs for any program implemented pursuant to this section, the board may take into account the potential for job creation from such programs, the effect on competition for such programs, existing market barriers, environmental benefits, and the availability of such programs in the marketplace. . . Ratemaking treatment may include placing appropriate technology and program cost investments in the respective utility's rate base, or recovering the utility's technology and program costs through another ratemaking methodology approved by the board, including, but not limited to, the societal benefits charge . . . All electric public utility and gas public utility investment in energy efficiency . . . 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.
>
> d. "Program costs" means all reasonable and prudent costs incurred in developing and implementing energy efficiency, conservation, or Class I renewable energy programs approved by the board pursuant to this section. These costs shall include a full return on invested capital and foregone electric and gas distribution fixed cost contributions associated with the implementation of the energy efficiency, conservation, or Class I renewable energy programs until those cost contributions are reflected in base rates following a base rate case if such costs were reasonably and prudently incurred.

Optimal misses a critical point of why distribution utility companies should be allowed the same rate of return on their investments for energy efficiency as other investments. The point is utilities have

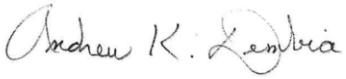
limited capital to invest. If one investment alternative has a higher return than another, that company will make investments in the opportunities with higher returns. Therefore, the return on investments in energy efficiency must be commensurate with other utility investments to further encourage investments in energy-efficiency projects.

LOST REVENUE:

As it relates to cost recovery for lost revenue, the Act expressly provides utilities to recover "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." *Id*. While the Draft Study indicates the Act "… directs some sort of cost recovery mechanism to account for the utilities' net lost revenue," the goals outlined in the Act reflect gross savings, and not net savings. The Act allows utilities to meet goals by counting savings outside of the programs they are administering, including codes and standards. Therefore, it is reasonable to interpret the intent of that statement is to allow utilities to make whole the revenues lost from sales losses due to the targets established by the Board.

In closing, NJNG remains committed to partnering with the State to help achieve its energy-efficiency goals. Thank you, again, for the opportunity to provide these comments and allow us to be a part of the State's energy future.

Respectfully submitted,



Andrew K. Dembia

Comments of Natural Resources Defense Council, Environmental Defense Fund, New Jersey Conservation Foundation, New Jersey League of Conservation Voters and Sierra Club Concerning the Energy Efficiency Potential Study Prepared by Optimal Energy for the New Jersey Board of Public Utilities in the Matter of P.L. 2018, c. 17 Regarding the Establishment of Energy Efficiency and Peak Demand Reduction Programs

The undersigned environmental organizations ("Clean Energy Advocates") appreciate this opportunity to comment on the Energy Efficiency Potential Study (the Study) prepared by Optimal Energy for the New Jersey Board of Public Utilities (BPU) in the above-referenced proceeding. As a cornerstone of our work to reduce greenhouse gas emissions from the energy sector and combat climate change, the Clean Energy Advocates have been actively engaged in working with a range of stakeholders in New Jersey to address the climate crisis and are committed to working with the state to reach its energy efficiency targets as outlined in the Clean Energy Act in a cost-effective, timely, and equitable manner.

I. Introduction

The Study's preliminary findings are encouraging on several fronts. Most importantly, the Study confirms the significant benefits for New Jersey consumers if all parties can reach consensus on a clear, cost-effective, and equitable energy efficiency program design. In particular, we are encouraged by the study's findings of an overall benefit of $2.57 for every dollar spent on efficiency projects, and by the $14 billion in overall net benefits to the state. We are also encouraged by a potential 21 percent reduction in forecasted annual energy demand by 2029, which, if achieved, will help the state reach its climate goals by reducing statewide emissions, and by making it easier to meet other clean energy goals such as the state's Renewable Portfolio Standard, which requires that 50% of the state's electricity come from clean energy sources by 2030.

Achieving energy efficiency savings at the level required by the Clean Energy Act and identified in the Study, however, necessitates a well-designed program that is created with the benefit of input received through a robust stakeholder process. To that end, while we recognize the Clean Energy Act's tight timeline, we have serious concerns regarding the one-week period provided for stakeholders to review and comment on the maximum achievable savings numbers, in addition to reviewing the other important topics addressed in the Study, such as demand response, combined heat and power, and quantitative performance indicators (QPIs). This expedited timeframe does not allow for a review at the level of depth that these important issues warrant.

II. The energy efficiency savings potential identified in the Study is achievable under a well-designed program that includes appropriate performance incentives and is guided by meaningful stakeholder engagement

The Study's finding of an average annual maximum achievable potential of 2.8 percent electric savings and 1.4 percent annual gas savings from 2020-29 confirms that the baseline savings targets in the Clean Energy Act of 2 percent for electric and .75 percent for gas will not only provide tremendous benefits to New Jersey residents, but are also financially and technically feasible. Further, the magnitude by which the Study's numbers surpass the statutory minimums demonstrates the additional benefits to be captured, and therefore, the importance of a comprehensive program design that will encourage achievement above and beyond the initial mandates, truly pursuing all cost-effective energy efficiency. These higher savings numbers represent additional energy efficiency measures that will provide significant savings and health benefits to New Jersey residents – the 2.57 benefit-cost ratio is reflective of a scenario in which the entire maximum savings potential identified is achieved, not just the minimum mandate. Utility programs that reach these higher savings levels will only occur, however, if they are

properly incentivized by the regulatory framework through measures such as decoupled revenue streams and appropriately-scaled performance incentives.

The 2020-24 savings ramp-up rate set forth in the Study is appropriately ambitious and achievable with the proper regulatory framework in place to ensure that utilities can deliver these savings. As explained in the "Aiming Higher" report by Synapse Energy Economics, the fundamental driver of high savings in leading energy efficiency states like Massachusetts and Rhode Island has been aggressive regulatory policies.[1] Importantly, the report describes such policies in a complementary suite: aggressive energy efficiency savings targets, effective shareholder performance incentive mechanisms, and true engagement with active, inclusive energy efficiency advisory committees. Indeed, we were excited to see the Office of Clean Energy announcement of the stakeholder committee to be formed this summer, and urge the BPU to engage stakeholders in a true bi-directional dialogue with real sway in the regulatory process.

We are concerned, however, by the lack of appendices attached to the Study that show supporting data and calculations for the numbers included. Without this information, it is impossible to fully evaluate the Study's analysis. This proves problematic, particularly when some assumptions that were used in the Study (for instance, the assumption of a large uptake in advanced metering infrastructure (AMI) that is not certain or even planned, or the lack of distinguishing between customer type by territory) raise flags. Without supporting data attached, it is unclear from where these assumptions were derived. And while four stakeholder meetings were held, as noted in the Study, actual engagement in the form of receiving comments beyond

[1] "Aiming Higher: Realizing the Full Potential of Cost Effective Energy in New York," April 22, 2016, Synapse Energy Economics. https://www.synapse-energy.com/sites/default/files/Aiming-Higher-NY-CES-White-paper-15-056.pdf.

in-meeting reactions was limited. We hope that the advisory committee to be formed will move toward a more substantive collaborative model.

III. The proposed quantitative performance indicators framework will not encourage the achievement of all cost-effective energy efficiency; further exploration and stakeholder feedback is needed

As the "Aiming Higher" report makes clear, for New Jersey to achieve ambitious energy efficiency savings, effective performance incentives and meaningful stakeholder engagement are essential components. The first section of the Study ("Energy Efficiency Potential Study") conducts a potential study as required and described by the Clean Energy Act. However, the "Recommendations on QPIs and Performance Incentives" section, while an essential topic to be addressed in program design, represents a part of the implementation process separate from the potential study that merits greater stakeholder engagement.

A. QPI design should not be done in a vacuum; a holistic perspective should be taken to consider how program administration, cost recovery mechanisms, and performance incentives can complement each other to best meet New Jersey's efficiency needs

We are concerned that making decisions at this juncture concerning performance incentives and penalties for non-performance is premature without also addressing program administration and cost recovery. As currently formulated, the threshold of achievement that utilities are held responsible for is based on the total potential found in the service territory. In our view, this is appropriate *if* utilities are empowered through cost recovery mechanisms to pursue all cost-effective energy efficiency. What is not appropriate is if utilities are held accountable for savings they are not empowered to achieve.

Further, the appropriate magnitude of incentives depends on cost recovery structures and other ratemaking rules. Under the current prevailing recovery structure, which rewards utilities for selling more energy, performance incentives would need to be larger so as to counteract the disincentive to energy savings built into the regulatory model. However, if revenue decoupling is adopted, a lower performance incentive would be adequate to achieve the same ambitious results.

B. Prioritizing lifetime savings is commendable, but QPI design should also prioritize simplicity to provide administrative efficiency and market certainty

We recognize that the multi-factor approach attempts to strike a balance between first-year and lifetime savings to encourage savings that persist well into the future and to discourage an over-reliance on measures with shorter effective useful lives (also known as "cream skimming"). Like the use of a societal cost test and low discount rate for future valuations, the consideration of lifetime energy efficiency savings maximizes savings over time and ensures that the most cost-effective measures are implemented. However, the overly complicated structure for incentives and penalties is not well suited to achieve this goal.

Indeed, while it is essential that lifetime savings be encouraged, utilities must be able to receive credit for these savings in the near term, as well, in order to stay on track and incentivize the fast action needed. We are concerned that, as currently contemplated, the complexity of the QPI structure creates uncertainty and would lead to an emphasis on short-term savings rather than long-term measures that maximize savings. Such an approach may be well-suited for other states attempting to achieve more modest goals or that are further along in their program development. However, New Jersey needs to quickly ramp up its efficiency program. Any source of uncertainty or bureaucratic confusion that could delay this acceleration should be avoided.

C. Performance incentives and penalties should be structured to disincentivize "gaming" and incentivize energy efficiency savings beyond the minimum

As currently proposed, the QPI structure does not encourage the achievement of all cost-effective energy. Rather, the anchoring of the incentives and penalties to planned budgets and the "cliff" created by the proposed design of the incentives and penalties could easily result in sub-optimal energy savings. The problem with basing incentives and penalties on utility budgets is not only that budgets can change, but, more importantly, that it allows for "gaming" in which profit rather than achieving all cost-effective efficiency guides utility decision-making. It rewards utilities for spending money, not saving customers energy and money.

As recommended in the Study, penalties would be levied at any level of achievement under 100 percent and would scale linearly to a maximum loss of 2.5 percent of a utility's planned budget. Incentives would start at any amount greater than 100 percent and jump immediately to an incentive payment of 5 percent of the planned budget. This "cliff" creates an odd incentive where even a tiny proportion of savings above or below the exact target is worth far more than additional savings achieved, which seems counter to the intentions of the Clean Energy Act's emphasis on linearity and the goal of achieving all cost-effective energy efficiency.

Given the fact that the proposed evaluation structure is based on a proposed budget but evaluated retrospectively, we suggest that a linear "dead band" be introduced to allow for a normal amount of discrepancy between budget projections and actual savings, as well as to reduce the disproportionally large incentive to achieve 100.01 percent savings as compared to relatively low payout for anything beyond that, and as compared to a startingly large financial gap between 99.99 percent achievement and 100.01 percent achievement. A dead band would be some percentage amount above and below the target in which no additional performance incentive or penalty is assessed. In some states, this dead band extends to 15 percent below the

target. Importantly, the size of that dead band should be directly contingent on the level of ambition when it comes to utility ramp rates and overall annual savings targets (i.e. aggressive targets warrant a larger dead band).

D. The Study's mentions of cost recovery questions appear to misinterpret the Clean Energy Act and should be addressed in a more appropriate stakeholder process

Sections two and three of the Study cite sections of the Clean Energy Act and then offer interpretations of what the Act "seems to envision" and make recommendations based on these interpretations. While the potential study should be guided by the Act, this guidance should be limited to what is within the scope of the Study. For instance, the Act's text directly pertaining to the linear nature of penalties and incentives is relevant to the Study, but broader statements on cost recovery are not. The risks posed by these informal legal interpretations added into the Study are well illustrated by the passage cited and interpreted on page 81:

> *From statute:* "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 …" [emphasis added]
>
> *From Study:* "We noted that the Act seems to envision an annual accounting on recovery of efficiency investments, and therefore does not anticipate treatment of efficiency program costs as a regulatory asset that is amortized over time."

The Act's text explicitly allows for utilities' recovery *of* (annual recovery of direct costs) and *on* (implying interest on investments made by utilities) their efficiency investments, in addition to recovering costs associated with lost sales. The language provides explicit support for treating energy efficiency as a regulatory asset— consistent with the overwhelming amount of

stakeholder support expressed in the first round of formal public comment for valuing efficiency as a multi-faceted resource. To do otherwise would be inconsistent with the Act and would severely disincentivize utilities from pursuing efficiency savings. The Study also justifies excluding energy efficiency investments from amortization because the investment is relatively low risk, but there is no reason why one should necessitate the other. It is appropriate to discuss a reasonable timeframe for amortizing these costs, but to simply disallow it is contrary to the Act's language and creates a significant hurdle the achieving its objectives.

IV. Conclusion

We respectfully submit these comments and look forward to engaging in the broader stakeholder process for energy efficiency implementation as outlined by the BPU on May 15, 2019. We are very encouraged by the significant amount of energy efficiency potential identified in the state and are confident that pursuing this efficiency pursuant to a well-designed framework will maximize benefits for New Jersey residents and businesses.

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Tom Schuster
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Jeff Tittel
New Jersey Director
Sierra Club

Open Energy Efficiency

Comments for Board of Public Utilities Staff regarding the Draft Study: Energy Efficiency Potential in New Jersey / May 16, 2019

The Energy Efficiency Potential Study completed by Optimal Energy puts New Jersey on an exciting path toward increased investment in energy efficiency and demand response. OpenEE provides brief comments to support keeping the valuation of energy efficiency as a resource in sharp focus and ensure symbiotic structures to support the scaling of distributed resources as part of the New Jersey Energy Master Plan set by the state.

Keep focus on the Objectives of the Energy Master Plan

Overall, we encourage the New Jersey BPU to keep the energy efficiency and demand response potential opportunities closely aligned with the broader objectives of the Energy Master Plan. Ultimately they should be optimized alongside other resources to enable value comparisons between different behind the meter resources to meet the state's objectives.

Rather than focusing on traditional program delivery approaches to meet these objectives, we encourage New Jersey to adopt a meter-based, actuarial model for efficiency that will enable external infrastructure financing of the grid and carbon value of energy efficiency--in the same way we finance other grid infrastructure investments. Managing portfolios of energy efficiency resources are a key enabling factor for the future. Until this model can take shape, efficiency will be constrained to the rate-payer funded investments deployed through the energy efficiency portfolio.

Tie Potential and Goals to Local Procurement Decision Making

Utility-level potential was an important component of the analysis and could be aligned with localized grid planning efforts to ensure consideration resource planning and procurement activities. Policies and structures supporting energy efficiency and distributed energy resources should ensure a tight linkage to grid need through utility resource planning and competitive procurements. Contributions from a wide range of integrated demand side interventions can be validated by meter-based quantification of changes in consumption.

Building and Sector-level Potential is the Right Level of Analysis

For many states, measure-based quantification is the dominant means of estimating savings potential and quantifying progress towards savings goals. This can be limiting in the long term. It can lead to focus on single-technology rebate programs which may bog down the core need of the Energy Master Plan to support flexibility in solutions to support innovation and drive down consumption.

In this regard, several components of the potential report were encouraging. First, the study did include analysis at the sector and building type, as well as “whole building” categories, that acknowledge multi-measure behavior combination opportunities. From here, meter-based

tracking of changes in consumption by building type and sector (including peak) could be used to fill acknowledged gaps in the analysis in the future. While the study did include measure level analysis, it did not appear to be overly dependent on an optimization by measure at this time.

Energy efficiency programs are typically focus on measure-based interventions and the associated incremental savings. These “deemed” estimates facilitate transactions but, as static estimates, can become outdated quickly and cannot capture true grid impacts. Alternatively, meter-based assessments of changes in energy consumption can be deployed alongside traditional programs to offer a near real-time view of progress and performance. Consistent, repeatable, standard methods create a transparent foundation of measurement and verification for all actors in the system and provide actionable intelligence for continuous improvement.

With a meter-based consumption framework to assess potential, the measures, business models and financing structures can be left to the market. Technical potential can be based on historic interventions and naturally occurring consumption trends at the sector and building level. This will allow for a relative gauge of the possibility, but not be strictly limited to that potential through each technology (which cannot capture every eventuality of measure combinations). If more cost-effective energy efficiency can be captured in the market, that would be encouraged through the competitive procurements. The value structure to deliver where the resource is needed and when it is needed can be built into this framework, and the onus is on those delivering services to meet these obligations.

Tracking and reporting impacts on a meter-basis will provide the actuarial datasets necessary to support the next forecast, creating a virtuous cycle to identify and capture the next tranche of energy efficiency potential.

Meter-Based Efficiency Is Foundational to Analytical Feedback

New Jersey’s Clean Energy Act of 2018 adopted a percent based consumption reduction target for electricity and natural gas compared to the last three years of annual consumption. New Jersey can leverage meter-based results as foundational to the state’s deployment of efficiency. While advanced metering infrastructure may not yet have traction, adding the monthly meter-based dimension to energy efficiency is a no-regrets strategy. Using consistent methods to quantify impacts at the meter means that New Jersey can support efficient deployment of programs and effectively track progress for the Energy Master Plan. As opportunities to use hourly methods emerge, New Jersey can continue to adapt to create incentive structures that align with more granular grid value.

Reporting requirements for future energy efficiency and demand response programs could include meter-based savings results derived from embedded M&V. With improved data infrastructure, streamlined performance program designs, and time valued savings, the entire system of investing in energy efficiency can be designed to provide this kind of information to support this study and the broader market through actuarial feedback loops. For example, the study noted that “Percent of load for peak demand savings for the entire system can be estimated, but sector-level peak-demand forecasts were not available.” This could be part of the

reporting requirements from utilities or programs to support future analysis and understand the value of the grid impacts from these investments.

Parallel potential analyses, that are focused on changes in consumption and aligned with the state goals, could also support the existing potential scenarios.[1] Historic data could be used to track meter-based savings for past programs and calibrate the forecast to sector level metrics by geography. Going forward, hourly metered data can be the foundation of these analyses.

Thank you for the opportunity to share our perspectives and contribute to the stakeholder process.

Respectfully submitted,

Carmen Best
Director of Policy & Emerging Markets
OpenEE

Reference: OpenEE Comments on NJ Energy Master Plan

[1] In early 2018, the California Energy Commission analyzed naturally occurring changes in energy consumption and has developed a tool to filter and isolate sector-building combinations to analyze consumption across the state. This short video illustrates the power of metering everything for planning and forecasting purposes demonstrated through this preliminary project.

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May 16, 2019

By Hand Delivery and Electronic Mail
Honorable Aida Camacho-Welch, Secretary
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Re: Energy Efficiency Potential in New Jersey
Optimal Energy Draft Report, May 9, 2019

Dear Secretary Camacho-Welch:

Please accept these comments of the New Jersey Division of Rate Counsel ("Rate Counsel") on the *Draft Report on Energy Efficiency Potential in New Jersey* ("Draft Report" or "Optimal study") prepared by Optimal Energy ("Optimal") for the New Jersey Board of Public Utilities ("BPU" or "Board").

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

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Comments

Rate Counsel appreciates the opportunity to provide comments on the Draft Report. However, we note that the Draft Report was not received until after business hours on the evening of May 9, and an extraordinarily short deadline of May 16, 2019 was set for comments. In addition, none of the technical appendices for the report have been made available for review. Thus, these comments must be seen as preliminary. Given the importance of the issues raised in the Draft Report, and the significant investment and ratepayer contributions that are likely to be involved in achieving the goals of the Clean Energy Act ("CEA") (P.L. 2018, c.17), Rate Counsel assumes that this report is merely a first step in the public process that will set the targets, incentives and regulatory requirements of the State's energy efficiency ("EE") programs going forward. Rate Counsel looks forward to working with Board Staff, the Office of Clean Energy, New Jersey's gas ("GDC") and electric ("EDC") utilities, and other stakeholders in developing the Board's rulemaking in this area once all the necessary information has been provided and adequate time for review and comment is allowed.

While Rate Counsel has not had time or sufficient information to fully review the Draft Report, we offer the following preliminary comments:

1. With regard to the maximum achievable electric and gas savings, it is impossible to fully understand or evaluate the study's conclusions without the underlying technical appendices and workpapers. However, Rate Counsel notes that while the annual potential savings shown in Tables 4 and 5 are disaggregated into residential and C&I savings, and maximum achievable savings for 2029 shown in Tables 6 and 7 are disaggregated by

sector, the annual utility-specific targets for gas energy and demand reductions (Tables 40 through 47) and gas energy use reductions (Tables 48, 50, 42 and 54) are all based on identical percentage reductions. There are differences among New Jersey's utilities, including residential vs. C&I usage, housing and building stock, and C&I sector breakdown, that would suggest different potentials and ramp-rates for each utility. In addition, New Jersey's various electric and gas utilities have had different histories of energy efficiency program administration since the passage of N.J.S.A. 48:3-98.1 in 2007. For some utilities, much of the "low-hanging fruit" of energy efficiency may have already been harvested, while for others there may be ample cost-effective opportunities that have not yet been exploited. Furthermore, where there are overlapping EDC and GDC service territories, GDC EE measures may affect electric usage and vice versa. To suggest that the exact same gas and electric savings and peak reduction targets are appropriate for all of New Jersey's utilities, on a percentage basis, does not comport with these realities. Moreover, Optimal sets QPIs and utility targets for a five-year period, without recognition of the CEA provision which requires the Board to review each QPI every three years. N.J.S.A. 48:3-87.9(c). As the Board can adjust targets and establish revised QPIs as a result of that triennial review, a five-year timetable for assessing utility compliance with potentially moving targets does not seem feasible.[1]

[1] In a Notice received via email yesterday, the Office of Clean Energy indicated that "The Board will consider for adoption preliminary quantitative performance indicators (QPIs) related to electric and natural gas usage reduction targets, which will apply to the public electric and gas utilities." The draft Optimal report does not provide the Board with sufficient information to establish these QPIs, and the establishment of the QPIs should take into account some of the significant errors in the Draft Report that are discussed in these comments and those that will be submitted by other stakeholders. If the Board were to set the QPIs at the May 28 Agenda meeting, there will be little or no opportunity for stakeholder input other than this current set of comments, which, as noted, were prepared without

2. The Optimal study purports to present the economic potential and costs and benefits based on the Societal Cost Test ("SCT"), claiming that "the use of [the SCT] is implied by the Clean Energy Act of 2018." Rate Counsel does not agree that the CEA "implies" the use of the SCT or any other specific test in determining potential savings or for any other purpose. The CEA states merely that "the board shall conduct and complete a study to determine the energy savings targets for full economic, cost-effective potential for electricity usage reduction and natural gas usage reduction as well as the potential for peak demand reduction by the customers of each electric public utility and gas public utility and the timeframe for achieving the reductions." N.J.S.A. 48:3-87.9(b). The same section notes that these targets are to be reviewed every three years, and that "The board, in conducting the [EE potential] study, shall accept comments and suggestions from interested parties." Historically, the Board has required the full suite of standard cost-benefit tests be conducted for in support of utility energy efficiency program filings. These are the Total Resource Cost Test ("TRC") and Societal Cost Test ("SCT"), the Participant Cost Test ("PCT"), the Program Administrator Test ("PA", sometimes called the Utility Cost Test or "UCT"), and the Ratepayer Impact Measure Test ("RIM") as generally defined in the California Standard Practice Manual. These five tests provide different perspectives on cost-effectiveness and all are important for full consideration of the costs and benefits of proposed programs.

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access to technical details and in only a matter of days. The Board should not set the QPIs until sufficient information and opportunity for analysis has been provided.

3. The Optimal study notes on page 90 that "total net benefits used for an SCT calculation can be both difficult to track and measure, and potentially subjective." Rate Counsel agrees with this statement. Yet, Optimal has applied the SCT to determine energy efficiency potentials without even disclosing the underlying assumptions or the specific costs and benefits included in its SCT. Rate Counsel recommends the application of multiple tests of cost-effectiveness, and makes the following specific recommendations regarding the use of cost-effectiveness tests for establishing cost-effective energy savings potential:

    a. Provide results based on, at a minimum, the TRC test and the PA test. These are the most common standard tests for cost-effectiveness and are less reliant on subjective and arbitrary judgments and assumptions. Results should also be provided based on other cost-effectiveness tests.

    b. Provide all underlying assumptions so that stakeholders can fully evaluate the results provided for cost-effective energy efficiency and demand reduction potential.

4. Rate Counsel recognizes that the CEA mandates that "[t]he energy efficiency programs and peak demand reduction programs shall have a benefit-to-cost ratio greater than or equal to 1.0 at the portfolio level, considering both economic and environmental factors." N.J.S.A. 48:3-87.9(d)(2). Taken in context, this requirement applies specifically to utility-proposed energy efficiency and demand reduction programs, and does not define the basis for the establishment of cost-effective savings and peak reduction potential.

Further, the reference to "economic and environmental factors" should not be interpreted as mandating the use of the SCT, or applying a societal discount rate, even in the context of utility EE filings. Rather, as further noted in N.J.S.A. 48:3-87.9(d)(2), "[t]he methodology, assumptions, and data used to perform the benefit-to-cost analysis shall be based upon publicly available sources and shall be subject to stakeholder review and comment." To the extent possible, the Board should establish the assumptions and methods for applying cost-effectiveness tests for energy efficiency programs in New Jersey to minimize ambiguity and avoid litigation over these matters in the future.

5. Regarding the discount rate to be used for establishing cost-effectiveness, Rate Counsel does not object to the use of a real discount rate based on the 7% discount rate used by Rutgers in 2019, reduced by the long-term inflation rate as recommended on page 51 of the Optimal study. However, more information is needed to evaluate Optimal's calculations:

    a. A more specific reference to the Rutgers study, including an internet address, is needed. Rate Counsel was unable to locate the referenced Rutgers study based on the information provided by Optimal. If the information is not yet available for stakeholder review, Optimal should provide alternate support for its assumption.

    b. It would be more appropriate to identify a basis for estimating the long-term inflation rate rather than prescribing a specific number (2.16% in the Optimal study, provided without support).

c. The applicable discount rate cited by Optimal needs to be verified for accuracy, since 7% reduced by 2.16% yields a real discount rate of 4.84%, not 4.74%. It is unclear which value was actually used in the Optimal study.

6. It appears that the incentive and penalty structures proposed in the Optimal study are based on an erroneous assumption that New Jersey utilities do not earn a rate of return on their energy efficiency investments. In fact, despite the fact that "earning the full utility ROE on efficiency might be excessive, given the lower risk that efficiency programs present," (Draft Report, p. 82), pursuant to N.J.S.A. 48:3-98.1, New Jersey gas and electric utilities have routinely requested and generally received their full utility return on equity ("ROE") for their energy efficiency investments, which they have amortized over time.[2] Further, there is no basis to assume utilities will abandon the return on investment and amortization provisions of N.J.S.A. 48:3-98.1 in the future under N.J.S.A. 48:3-87.9(e)(1), which provides (emphasis added in bold):

> 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).

[2] Indeed, it appears the report overall would benefit from a closer look at and greater use of New Jersey specific data and information on how New Jersey's current EE programs operate.

7. Any incentives and penalties established by the Board pursuant to the CEA should take into account that the utilities are likely to request an ROE at least close to their "full utility ROE," despite the fact that these investments carry much lower risk than other utility investments. Optimal noted the reduced risk of such investments (Draft Report, p. 81). Depending on whether the utilities are compensated for alleged lost sales, the risk may even be far lower still. The Board should ensure that the total compensation claimed by the utilities for their energy efficiency programs is just and reasonable, commensurate with the inherent risk, and does not lead to double recovery or unjust enrichment for the utilities at ratepayers' expense.

8. In particular, Rate Counsel does not believe it is appropriate to award an incentive of 5% of program budgets to utilities that merely meet the Board-established energy savings and peak reduction targets that they are obligated to meet under the CEA (Draft Report, pp 85-86). Such an award would result in excessive incentive amounts for public utilities that are merely following the law. If incentives and rewards are to be awarded in proportion to filed and approved program costs as the Optimal study recommends, Rate Counsel recommends a much smaller incentive of, say, 0.05% for meeting the target savings requirement consistent with the CEA mandate that "an electric public utility or gas public utility [that] achieves the performance targets established in the quantitative performance indicators…shall receive an incentive." N.J.S.A. 48:3-87.9(e)(2). Rate Counsel does not object to scaling this incentive linearly to a greater percentage of approved program costs for utilities that meet or exceed 125% of the targets, in

recognition that it is reasonable to share the savings benefits to the extent that they exceed the targets set for each utility without imposing additional costs on ratepayers.

9. Rate Counsel does not believe that the penalties proposed in the Optimal study would be sufficient to deter or penalize poor performance by utility EE programs. Optimal has proposed a penalty that would only amount to approximately 0.5% of approved costs for a utility that achieves only 80% of its target, and a penalty of only 2.5% for a utility that achieves nothing at all. As noted above, this is likely to be after the utility earns a rate of return on its program investments, so that it would amount to a small effective diminution in ROE even in the face of dramatically poor performance. Rate Counsel believes that it would be more appropriate to have a symmetrical structure for the penalties and incentives, so that if a utility achieves only 75% of its target, it would incur a penalty commensurate with the incentive for reaching 125% or the target..

10. Optimal's proposed incentive mechanism calls for the establishment of the amount of base earnings opportunity and ramp rates for incentives and penalties based on *planned annual budgets* rather than actual spending. (Draft Report p. 85). Optimal argues that this avoids any incentive for the utility to simply spend more in order to make more. While Rate Counsel agrees that penalties and incentives should be based on actual performance, not the level of spending, we do not agree that planned budgets are a "good proxy" for actual effort. Under Optimal's proposal, a woefully under-funded program would automatically incur only a small penalty. This is not consistent with the Act's requirements. The incentive and penalty structures should be carefully designed such that

if a utility falls short of its targets (*i.e.* sales are not sufficiently reduced through energy efficiency measures) the net impact of increased sales and the penalty assessed still results in a meaningful disincentive for underperformance.

11. If the proposal presented in the Draft Report is adopted, the Board should ensure that there are adequate sanctions available for utilities that underperform by failing to propose programs that can realistically be expected to meet their targets.

12. Rate Counsel agrees with the recommendation to establish penalties and incentives based on multiple metrics, including considerations beyond total annual energy savings and peak reduction. (Draft Report, pp. 88-89). In particular, Rate Counsel supports the use of the Utility Cost Test (another name for the PA test) as a measure that ensures cost-effectiveness for all ratepayers, and mitigates the risk of providing excessive incentives for participants to inflate total savings.

13. Beyond setting forth general principles and recommending components and weighting for New Jersey's QPIs, the Optimal study does not provide any guidance on how the metrics shown in Table 39 (Draft Report pp. 88-89) are to be applied – such as sub-targets or scoring details for the individual components. For example, Optimal recommends a 35% weighting for the Utility Cost Test, but provides no guidance on how a utility's "score" under this test is to be incorporated into the overall utility targets. Much more detail is needed in this area, along with specific numerical examples.

14. Generally, Rate Counsel notes that as part of establishing any utility targets, compensation, rewards, penalties, and revenue recovery mechanisms, the Board must

establish well-defined and consistent analytical approaches to be used by all of New Jersey's utilities. This includes establishing which cost-benefit tests are to be used for what purposes, what components are to be included in these tests, and how to establish the discount rate and other key assumptions. The quantification of performance relative to Board-established targets cannot be subject to the ambiguity and subjective implementation that have characterized cost-benefit analysis in support of past utility program filings. Well-defined and consistent analytical approaches must also be established for Evaluation, Measurement and Verification ("EM&V") of program performance, including annual and lifetime savings, if these are to be included under the QPIs. As the Draft Report states (pp. 83-84):

> It is critical that any [performance incentive] metric be measurable and objective, as well as based on actual performance. This will ensure that all parties understand and can agree on the level of performance achieved, and enables utilities to manage their progress effectively. It is important to clearly define metrics, and establish any assumptions necessary to calculate performance in advance. For example, if a metric is tied to achievement of net benefits, but allows the avoided costs by which they were set to vary, depending on future estimates, or does not clearly identify all the costs and benefits that can be included, it can result in protracted disagreements. Such a situation also makes it difficult for utilities to monitor their programs' progress.

Rate Counsel emphatically agrees with this statement and asks that it be incorporated into the development of EE programs going forward.

15. As a general observation, Optimal makes several legal conclusions interpreting the language of the Clean Energy Act. Not only is it inappropriate for a consultant to determine the appropriate interpretations of statutory language, many of Optimal's conclusions are simply wrong. It is distinctly the province of the Board to interpret the statute, in conjunction with advice received from the Attorney General, and that function should not be delegated to outside, non-legal entities.

16. Optimal reaches a conclusion based on its reading of the statute that "Utilities are allowed to count savings of all efficiency initiatives and other activities that result in savings within their individual territories, regardless of whether the initiative was administered by the utility or by some other party such as the State." (Draft Report, p. 75) While savings from all programs available to a utility's customers may be considered in determining whether the overall targets have been met, N.J.S.A. 48:3-87.9(c), the issue of utility responsibility for ensuring that all QPIs are achieved, including total energy savings that may derive in part from non-utility programs, building codes and appliance standards, etc. remains unresolved. The Optimal study acknowledges that it "[did] not make specific assumptions about what strategies are used, what entities deliver them, or what portion of the potential might come from different implementation approaches." (Draft Report p. 75). Utilities should not be rewarded or penalized for the performance of programs and measures over which they have no control. One solution is to establish utility targets that are designed to reflect only the target level of savings attributable to utility EE and DR programs, *i.e.*, that reflect the overall target "net of" the projected savings from other, non-utility (or overlapping utility) measures that affect their service territories. However,

care should be taken to avoid inefficiencies that might result from competing measures and programs, and complementary measures should be encouraged.

17. Moreover, while the CEA allows consideration of all available programs in reviewing the overall achievement of targets in a service territory, the Legislature clearly did not intend to allow the utilities to count savings that resulted from other factors for all purposes. The CEA requires the Board, in establishing the QPIs, to "use a methodology that incorporates weather, economic factors, customer growth, outage-adjusted efficiency factors, and any other appropriate factors to ensure that the public utility's incentives or penalties … are based upon performance and take into account the growth in the use of electric vehicles, microgrids and distributed energy resources." (N.J.S.A. 48:3-87.9(c), cited at Draft Report p. 76). If the Legislature's intent was to simply allow a utility to count factors other than its own performance for all purposes, it is unclear why this limiting language would be used to describe how to establish the QPIs and resultant utility targets.

18. There is much ambiguity regarding how Optimal expects utility performance to be measured. Optimal appears to base utility performance based on what it calls a traditional EM&V approach. (Draft Report, p. 77). Estimates of savings attributable to other than utility programs could also be tracked using traditional EM&V protocols according to Optimal. Overall, Optimal recommends tracking programs activity and presumed savings attributable to each measure, instead of actual customer load data. More information is needed from Optimal to show how EM&V factors would operate to set utility incentives and penalties based on performance, including numerical examples.

19. Even if savings from all sources were to be considered to determine whether the overall savings goal was reached in a particular utility's service territory, certainly those additional savings cannot be counted if the Board were to entertain any recovery of "lost revenues" by the utilities. Savings that result from OCE programs, for example, have already been paid for by ratepayers through the SBC charge. If utilities were permitted to count those savings when attempting to prove that they have lost revenues, ratepayers would end up paying for those programs twice. Moreover, to the extent those or other non-utility energy use reductions are taken into account in load forecasts, there would not be any "lost sales" associated with them and thus they should not be taken into account in reviewing claims of "lost sales." This would clearly be inequitable and will result in unjust enrichment for the utilities.

To the extent that the Board entertains a request for lost revenues associated with energy efficiency programs, the Board must be careful not to allow any such recovery to interfere with the incentives for performance by the utility or the benefits to be gained by ratepayers. The calculation should be done in the course of ordinary ratemaking by projecting energy sales that reflect each utility's achievement of its savings targets. The incentive and penalty structures should be carefully designed such that if a utility falls short of its targets (*i.e.*, sales are not sufficiently reduced through energy efficiency measures) the net impact of increased sales and the penalty assessed still results in a meaningful disincentive for underperformance.

Thank you for your consideration of these comments. As noted, Rate Counsel urges the Board not to adopt any QPIs or finalize its targets or rules until the issues raised in these comments and those of other stakeholders are adequately considered. Rate Counsel has supplied these comments with the limited information provided and in the extraordinarily short timeframe permitted, but believes that much more work needs to be done to ensure that New Jersey's energy efficiency programs are well-designed, fair, and will achieve the desired results. While we recognize that further discussion and comment will be involved as the Board moves forward with the rulemaking necessary to implement the EE provisions of the CEA, more work needs to be done at this stage to allow that process to proceed smoothly.

Respectfully submitted,

By: 

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From: Ron Gerhold <rong@vannattamechanical.com>
Sent: Thursday, May 16, 2019 8:05 AM
To: publiccomments@njcleanenergy.com
Subject: [EXTERNAL] Energy efficiency potential study comments

The Honorable Board,

From a residential view point, one of the most effective peak demand reduction measures would be to add closed cell spray foam insulation to the underside of a home's attic roof deck. During peak demand, this measure would substantially lower the temperature difference between the attic and the living space as well as any heating/cooling ductwork that may be located in the attic. This single measure would reduce energy consumption year round and out perform any other measure available.

Regards,
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May 16, 2019

Via FedEx & Electronic Mail
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Honorable Aida Camacho-Welch, Secretary
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Trenton, NJ 08625-0350

Re: **Energy Efficiency Potential Study**

Dear Secretary Camacho:

Please accept these comments on behalf of South Jersey Gas Company ("SJG") and Elizabethtown Gas Company ("ETG") in response to the May 9, 2019 "Draft Energy Efficiency Potential in New Jersey" study ("Study") prepared on behalf of the New Jersey Board of Public Utilities ("Board") by Optimal Energy, Inc. ("Optimal"). SJG and ETG appreciate the opportunity to offer comments on the Study and to take part in the development of an appropriate framework for achieving the State's energy efficiency ("EE") spending and savings targets.

SJG and ETG remain committed to supporting the State's EE goals and appreciate the key role we play in achieving the targets contained in the New Jersey Clean Energy Act of 2018 (the "Act"). Beginning well before the promulgation of the Act, SJG's and ETG's EE programs have generated jobs and enabled their customers to save money, all while reducing greenhouse gas emissions. We will continue to support programs that encourage EE and, in return, make energy bills more affordable for our customers.

SJG and ETG are concerned, however, about the validity of the analysis and fairness of the process relied on to develop the Study, as well as the soundness of several of the findings and recommendations (or absence of findings/recommendations) contained in the Study. Our concerns are addressed in these comments, although given the condensed time period provided for stakeholder comments,[1] this submission does not represent an exhaustive list of our concerns.

[1] See http://www.njcleanenergy.com/main/njcep-policy-updates-request-comments/policy-updates-and-request-comments setting the deadline for submission as May 16, 2019.

Validity of Analysis/Fairness of Process

For SJG and ETG to validate the analysis and recommendations contained in the Study, it is imperative that we have the data relied on by Optimal. The Study, as issued, did not include copies of the technical appendices or details concerning the assumptions relied on by Optimal, making it nearly impossible to assess the propriety of the analysis contained in the Study. For example, the Study provides a list of technical appendices relied on, but indicates that copies of this information will be available with the final Study. This information is critical for determining whether the targets reflected in the Study are realistic and attainable. While SJG and ETG believe the targets reflected in the Study are unfairly aggressive and effectively unfeasible to achieve, without adequate disclosure of Optimal's source data, the accuracy of the analysis cannot be confirmed with any degree of certainty.

Further still, the stakeholder process used to develop the Study provided very little opportunity for the utilities and other stakeholders to provide meaningful input and help inform the discussion. Over a four-month period, there were four stakeholder meetings -- one on less than three days' notice – with very limited analytical or support data disseminated by Optimal to the attendees. Further complicating the lack of data and process transparency, is the challenge of having to provide comments on a Study that is intended to inform the Board of targets and related information critical to meeting the State's goals within only a week of issuance.[2] Inasmuch as SJG and ETG appreciate the time constraints facing the State, the compressed review period for submitting comments has compromised our ability to appropriately evaluate and comment on the analysis and findings contained in the Study. As discussed below, while the process for the adoption of the quantitative performance indicators ("QPI's") and related findings reflected in the Study remains a concern, it is respectfully submitted that ultimately the Act requires that the Board adopt the QPI's in accordance with the requirements of the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.).

Planned Initial Board Action

After the close of business on May 15, 2019, a "Request for Comments Reminder" ("Reminder") was posted on the New Jersey Clean Energy website. That Reminder described the action planned to be undertaken by the Board at the May 28, 2019 agenda meeting as follows:

- The Board will consider for release the final "Energy Efficiency Potential in New Jersey" study;
- The Board will consider for adoption preliminary quantitative performance indicators (QPIs) related to electric and natural gas usage reduction targets, which will apply to the public electric and gas utilities. These are anticipated to serve as preliminary indicators that New Jersey has significant energy efficacy potential, but further

[2] The deadline for comments on the Study was set for May 16, 2019, less than 7 business days from the issuance.

deliberation and stakeholder input on utility-specific QPIs will occur in the summer; and

- The Board will consider the structure of the Independent Advisory Group and the method for appointing members.

Based on our review of the Study and discussions with other stakeholders engaged in this effort, we expect the Board will need to consider significant technical limitations and errors as well serious legal considerations regarding the Study. Thus, while ETG and SJG appreciate the need for expediency, we are concerned about the Board deeming the Study "final" within less than two weeks of receiving that information. The Reminder also appears to suggest that the Independent Advisory Group will meet during July and August to discuss issues concerning utility-specific energy usage and peak reduction targets, the program structure, cost recovery, utility filing requirements and timeframe and evaluation and reporting requirements. We recognize that these are very important topics that demand thoughtful consideration to ensure that the new direction for energy efficiency in the State is grounded in solid and practical policy. However, the Reminder then appears to imply that such foundational issues may be resolved within that two month window. Considering the magnitude of the issues at stake, this schedule seems unrealistic and will likely compromise the quality of the outcome.

Program Administration

A critical foundational issue is the responsibility for program administration. Yet, the Study does not clearly indicate whether the utilities or the Board's Office of Clean Energy ("OCE") will be responsible for administration of the EE programs. Where, as here, a utility may be subject to a reward/penalty based on the achievement of targets, the utility must at least have the ability to administer and control its own programs. In other words, if we are responsible for ensuring that our programs facilitate the attainment of required savings targets, then we must be empowered to control the administration of our EE programs, without competing with the OCE. This will allow the State to accomplish its EE goals while also holding each utility accountable for its own efforts in support of efficiency. Further still, the performance incentive and penalties proposal in the Study lacks sufficient detail and definition and thus should be the subject of further consideration in a subsequent stakeholder process. It would be unreasonable to apply a penalty and incentive system that is vague and does not provide clear and well-defined parameters.

Savings Targets

As a preliminary matter, the Study incorrectly assigns identical savings targets for SJG (page 95, Tables 54 and 55) and ETG (page 93, Tables 48 and 49) without regard to the unique programs, customer bases and corporate separateness of these two utilities. Once again, while the Study provides limited information on the data used to formulate its conclusions, therefore making it difficult to understand the basis on which Optimal thought it appropriate to attribute identical savings targets for SJG and ETG, it is wholly inappropriate to set the same targets for these two very different utilities. Relatedly, as discussed further below, the savings targets reflected in the Study are unreasonably aggressive, arbitrary and capricious and inconsistent with the Act.

In addition, while the Study makes clear that savings targets commence in 2020, consistent with the Act, it did not, but should have, recognized that utilities are entitled to capture energy savings for all customer classes within five years regardless of program start/end dates. While the SJG and ETG EE programs were filed in advance of the implementation of the Act, any savings achieved during the 2020 period should be credited toward utility savings targets.

A further concern relates to the acceleration of targets for the period 2020 through 2024. These targets are unreasonably aggressive and inconsistent with the savings targets contained in the Act which, for gas, require a gas utility to achieve annual reductions in the use of natural gas of 0.75 percent within 5 years. In contrast, for the first year, the chart on page 95 of the Study shows that net savings targets are expected to rise from 128 (BBtus) to 578 (BBtus) in 5 years, or an increase of over 350%. That is not only a rapid rate of savings, but is also a metric that requires further vetting on how these estimates were developed. The chart on page 95 of the Study specifically mentions that the savings represent net incremental savings targets, but does not indicate what the "net" savings targets are "net" of. Savings should be measured against actual reductions against comparative years, regardless of how the savings are achieved, why the measures were installed, or why the consumer changed their energy consumption behaviors.

The Study also attributes a great deal of savings to certain market segments that do not appear congruent to the State's current clean energy protocols and cost/benefit test requirements. For example, page 21 of the Study states that "[o]ver 90% of the residential potential from electric and gas comes from single family homes, with 25% of that coming from low-income single-family homes for each of electric and gas, as shown in Figure 3 and Figure 4., or 5,039BBtu". But on what set of protocols, and at what cost? The current budget for that program is set at $38,500,000 for FY2019 and is proposed to be increased to $45,500,000 for FY2020. That program has a wide opportunity for energy savings and is one of the most important programs available to customers. Therefore, it is critical that the savings protocols reflect all the benefits of that program, along with all other energy program savings that need to be captured, recorded and verified.

In addition, the Study lacks the necessary detail required to guide a program administrator in capturing both deemed and actual savings data. Accurately measuring and verifying savings data, is the foundation upon which success can, and should be measured. Unfortunately, these recommendations are absent in the Study.

Yet another concern is the fact that energy savings should be captured for any EE device installed, whether it involves replacing a like energy sourced device, or a piece of equipment formerly powered by a less efficient energy source. High efficiency products that utilize natural gas provide benefits to customers in the form of less energy consumed, and less environmental particulates, generated by conventional sources of power.

Finally, critical to achieving savings targets is the engagement of trade allies. Yet, the Study is silent on how EE programs will be accepted by market influencers, such as contractors, distributors, and design professionals, and manufacturers. EE equipment can, and should be installed by accredited, licensed professionals. The industry requires highly skilled coaches, engineers, technicians, and labor staff, who can design, build, and install

the technical equipment and weatherization items required to meet the goals recommended in the Study. If the contracting and the manufacturing community rejects the plans either approved, and / or implemented by the Board, or any other market actor, then none of the savings illustrated in the Study can be realized. EE is a business that must be supported by a congruent policy to ensure that the trade allies can deliver value to the consumer and help meet New Jersey's EE goals.

Cost Recovery

The Study indicates (at page 81) that a lower return might be appropriate for EE investments rather than traditional supply side investments by stating that "efficiency programs carry much lower risks to shareholders than do most supply side investments." However, utilities must be allowed to earn the same return on investments for EE that are applicable to all other investments. The return on investments in EE should be commensurate with other utility investments to continue to encourage investment in EE. The Act (N.J.S.A. 48:3-87.9.e.(1)) clearly authorizes a utility to earn a recovery on its EE investments and nowhere indicates that this return should be different from the return earned on other utility investments.[3] Section 13 of the Regional Greenhouse Gas Initiative ("RGGI") Act, along with the historic treatment of public utility energy-efficiency investment in New Jersey, are also consistent with the utilities earning a rate of return on these investments.[4] RGGI similarly does not require a return for EE investments that is different from the return earned on other utility investments.

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

> 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).

Following the subsection quoted above, specifically e. (1), there are two subsections (e. (2) and e. (3)) requiring the Board to establish, respectively, incentive and penalty structures. Then, subsection 48:3-87.9.e. (4) specifically states:

> The adjustments made pursuant to this subsection may be made through adjustments of the electric public utility's or gas public utility's return on equity related to the energy efficiency or peak demand reduction programs only, or a specified dollar amount, reflecting the incentive structure as established in this subsection. The adjustments shall not be included in a revenue or cost in any base rate filing and shall be adopted by the board pursuant to the "Administrative Procedure Act."

[4] RGGI section 13 (N.J.S.A. 48:3-98.1) includes the following cost recovery language in subsection b. and definition in subsection d.:

> b. An electric public utility or a gas public utility seeking cost recovery for any program pursuant to this section shall file a petition with the board to request cost recovery. In determining the recovery by electric public utilities and gas public utilities of program costs for any program implemented pursuant to this section, the board may take into account the potential for job creation from such programs, the effect on competition for such programs, existing market barriers, environmental benefits, and the availability of such programs in the marketplace. Ratemaking treatment may include placing appropriate technology and program cost investments in the respective utility's rate base, or recovering the utility's technology and program costs through another ratemaking methodology approved by the board, including, but not limited to, the societal benefits charge. All electric public

In addition, an artificially low amortization period or, for that matter, no amortization period will result in inter-generational inequity regarding the costs and benefits of EE investments, as well as rate shock if the EE expenditures were recovered on a "pay-as-you-go" basis. The short amortization period has a lower total revenue requirement over the entire program period on a nominal basis. However, the "real cost" of these revenue requirements to customers must consider the time value of money by applying a discount rate to future revenue requirements. Moreover, the Study does not consider that savings are realized over the life over equipment, and not in the year of investment. In addition, customers would pay significantly more in the initial years of the program than under the longer amortization period. It is likely many customers would prefer the lower near-term bill impacts associated with the longer amortization period.

Finally, the Act (N.J.S.A. 48:3-87.9.e. (1)) expressly provides that utilities are allowed to recover "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." This portion of the Act appropriately provides for recovery of lost revenue and utilities should be made whole from sales losses in a manner consistent with the Act.

In closing, SJG and ETG remain committed to partnering with the State to help achieve its EE goals. Thank you again for the opportunity to provide these comments and allowing us to be a part of the State's energy future.

Respectfully yours,

Deborah M. Franco

DMF/adh
Enclosures

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utility and gas public utility investment in energy efficiency . . . 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.

d. "Program costs" means all reasonable and prudent costs incurred in developing and implementing energy efficiency, conservation, or Class I renewable energy programs approved by the board pursuant to this section. These costs shall include a full return on invested capital and foregone electric and gas distribution fixed cost contributions associated with the implementation of the energy efficiency, conservation, or Class I renewable energy programs until those cost contributions are reflected in base rates following a base rate case if such costs were reasonably and prudently incurred.