

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

**CASE 14-M-0094 - Proceeding on Motion of the Commission to
Consider a Clean Energy Fund**

**CASE 18-M-0084 - In the Matter of a Comprehensive Energy
Efficiency Initiative**

**Comments of
Natural Resources Defense Council,
Regional Plan Association,
Association for Energy Affordability,
Urban Green Council, and
New Yorkers for Clean Power**

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I. INTRODUCTION

Natural Resources Defense Council, the Regional Plan Association, Association for Energy Affordability, Urban Green Council, and New Yorkers for Clean Power (collectively, “Efficiency and Electrification Advocates”) respectfully submit these Comments on the “Department of Public Service Staff Energy Efficiency and Building Electrification Report” (Staff Report), which was filed in the above-referenced case on December 20, 2022. Efficiency and Electrification Advocates welcome the opportunity to comment on the Staff Report and to engage on the critical issue of New York’s energy efficiency and electrification program.

The clean energy regulatory, legal, and policy landscape in New York has changed dramatically since the Commission launched its Comprehensive Energy Efficiency Initiative.

Most significantly, in June 2019, New York passed the Climate Leadership and Community Protection Act (CLCPA or Climate Act),¹ which requires a 40 percent reduction in economy-wide GHG emissions by 2030 and no less than 85 percent reduction in economy-wide GHG emissions by 2050 from 1990 levels, with the goal of net-zero emissions. The Climate Act also requires that 70% of the State’s electricity is derived from renewable energy by 2030 (70x30) and 100% zero-emission energy by 2040 (100x40). Among several short-term technology specific standards, the Act codified the 185 TBtu of energy savings by 2025 target established by the Public Service Commission (Commission).²

The Climate Act also includes important provisions for climate justice that prioritize equity in fighting climate change to ensure that disadvantaged communities are not left behind in New York’s clean energy transition. These provisions include requirements that Disadvantaged Communities receive at least 35% of the overall benefits of spending on clean energy and energy efficiency programs, with a goal of 40%, as well as provisions requiring that State agencies ensure that permitting, licensing, contracting, and other approvals and decisions will not disproportionately burden Disadvantaged Communities and to prioritize reductions of greenhouse gas (GHG) emissions and co-pollutants in Disadvantaged Communities.

Spurred by ambitious targets, New York has become a leader in energy efficiency and electrification planning and implementation. According to the American Council for an Energy-Efficient Economy (ACEEE) 2022 State Energy Efficiency Scorecard, New York is the 3rd ranked state overall, and the 6th ranked state in terms of its policies advancing equitable utility-sector efficiency.³ New York’s energy efficiency and electrification leadership has driven lower costs for electricity and gas customers, reduced energy burdens for low- and moderate-income (LMI) customers, reduced GHG emissions, improved air quality, created new green jobs, and increased economic development in the state.

Yet much of the work remains to be done. Buildings are responsible for the largest share of greenhouse gas emissions in the state,⁴ and because our cold climate requires significant space

¹ Climate Leadership and Community Protection Act, New York Environmental Conservation Law, Article 75, at <https://www.nysenate.gov/legislation/laws/ENV/A75>.

² CASE 18-M-0084, *In the Matter of a Comprehensive Energy Efficiency Initiative*, Order Adopting Accelerated Energy Efficiency Targets, (Dec. 13, 2018).

³ Subramanian, S., W. Berg, E. Cooper, M. Waite, B. Jennings, A. Hoffmeister, and B. Fadie. 2022. 2022 State Energy Efficiency Scorecard. Washington, DC: ACEEE. At 14, 26. www.aceee.org/research-report/u2206.

⁴ New York State Climate Action Council. 2022. “New York State Climate Action Council Scoping Plan,” www.climate.ny.gov/ScopingPlan. (Scoping Plan) at 175.

heating, the older age of our building stock, and our large population, New York's buildings also produce more toxic air pollution than any other state, which is why New York leads the nation in premature deaths caused by burning fossil fuels in buildings.⁵

The Climate Action Council Scoping Plan (Scoping Plan),⁶ which is the roadmap for achieving the Climate Act targets, is clear that “[e]ven as New York demonstrates leadership, the speed and scale of action to decarbonize buildings must accelerate dramatically.”⁷ As the Scoping Plan’s Integration Analysis demonstrates, all pathways for achieving the State’s climate targets include rapidly scaling energy efficiency and electrification so that one to two million energy-efficient homes and 10% to 20% of commercial space are using heat pumps by 2030, with hundreds of thousands of additional homes and commercial buildings becoming efficiently electrified each year.⁸ By 2050, 85% of homes and commercial building space statewide must be electrified with a diverse mix of energy-efficient heat pump technologies and thermal energy networks.⁹ Energy efficiency and end-use electrification are and must continue to be a cornerstone of the State’s strategy for achieving the Climate Act’s goals.

The Scoping Plan also identifies that achieving the Climate Act’s emission limits will require a substantial reduction of fossil gas use in all sectors, and a strategic downsizing of the gas system.¹⁰ A well-planned and strategic transition of the gas system will require coordination across numerous sectors to integrate planning with the decarbonization of the power generation sector and the build-out of local electric transmission and distribution systems to meet anticipated increases in electric demand throughout the state.¹¹ Integrated planning will ensure the transition is equitable and cost-effective for consumers without compromising reliability, safety, energy affordability, and resiliency.¹²

The transition necessary to achieve the Climate Act’s goals is unprecedented, but the benefits from transforming in-building heating and hot water systems that currently rely on combustion of fossil fuels to clean, super-efficient systems using renewable electricity are tremendous. And making New York’s buildings more efficient will make them more comfortable and affordable to operate. Electrified buildings can also be active participants in a two-way optimized clean electric system, providing responsive load and reducing the costs of building out our clean, resilient grid powering our buildings and transportation.

Energy efficiency and building electrification are also essential strategies for reducing inequitable energy burdens and delivering benefits to Disadvantaged Communities and low- and-moderate income customers because of how they provide a variety of economic and social benefits by reducing demand, enhancing energy affordability, improving air and water quality, enhancing grid resilience, and elevating health and comfort.

⁵ Jonathan J Buonocore et al 2021 Environ. Res. Lett. 16 054030, A decade of the U.S. energy mix transitioning away from coal: historical reconstruction of the reductions in the public health burden of energy. Illustrated by RMI at <https://rmi.org/uncovering-the-deadly-toll-of-air-pollution-from-buildings/>.

⁶ Id.

⁷ Scoping Plan at 182.

⁸ Scoping Plan at 11, 175.

⁹ Id.

¹⁰ Id. at 20.

¹¹ Id.

¹² Id.

Efficiency and Electrification Advocates strongly recommend that the Commission use the opportunity presented by the Interim Review to scale energy efficiency and electrification programs consistent with Climate Act targets and the vision set forth in the Scoping Plan, and to direct a transition of the programs to a new structure that can optimally fulfill multiple climate and clean energy policy objectives. Failure to do so will jeopardize achieving the Climate Act targets.

New York needs an unbiased and accurate framework to ensure that energy efficiency and electrification are prudently utilized as a resource to help meet all energy system, emission reduction, and equity policy needs cost-effectively. To do so, Efficiency and Electrification Advocates offer several recommendations:

1. Scale NENY program targets and adjust budgets consistent with the Scoping Plan's vision for achieving Climate Act targets.
2. Transition from an energy savings metric to the Total System Benefits metric to capture the comprehensive value of achieving New York's climate targets.
3. Integrate the process for reviewing and setting program targets with electric and gas system planning.
4. Initiate an equity proceeding to comprehensively review all utility equity initiatives and use this proceeding to establish targets, metrics, and incremental budgets to support the State's policies related to affordability and Disadvantaged Communities.
5. Prioritize energy affordability in addressing climate justice.
6. Make electric utilities the Program Administrators for all resource energy efficiency initiatives, so that gas utilities can focus on the new and complex task of strategically downsizing gas systems through non-pipe alternatives and utility thermal energy networks.
7. Provide Program Administrators with flexibility to manage their budgets and targets.
8. Support and encourage innovation from Program Administrators.
9. Harness performance incentives to spur ambition and innovation.

II. BACKGROUND

On December 13, 2018, the Commission issued an Order Adopting Accelerated Energy Efficiency Targets in this case (Accelerated Efficiency Order) that adopted a statewide energy efficiency target of 185 TBtu of cumulative annual site energy savings by 2025 (i.e., below 2025 forecasted levels) on an all-fuels basis aggregating efficiency savings across electricity, natural gas, and delivered fuels such as oil and propane.¹³ The 185 TBtu target was informed by the New York State Energy Research and Development Authority's (NYSERDA) 2014 Energy Efficiency and Renewable Energy Potential Study (2014 Potential Study), which identified cost-effective energy

¹³ Accelerated Efficiency Order at 18-20.

savings using a twenty-year study period, 2013–2032,¹⁴ and efficiency savings that had been recently achieved in New York and other states.¹⁵

The Accelerated Efficiency Order also set immediate minimum electric and gas energy efficiency savings targets for each of the State’s utilities for the period 2019-2020 and laid out utility-specific goals of annual levels of efficiency savings by 2025 of 3% for electricity and 1.3% for gas, inclusive of NYSERDA’s market transformation efforts, an aggregate reduction of 5 TBtu through heat pump deployment, and the continued provision and enhancement of programs for LMI customers to create market certainty and guide future implementation decisions. The order further established a process for the utilities to propose variations in the presumptive figures, to achieve the overall goals with greater cost-effectiveness.¹⁶

On January 16, 2020, the Commission issued its Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025 (New Efficiency: New York or “NENY” Order) in this case, which established policies, including budgets and targets, that support the achievement of the State’s climate and clean energy goals through the deployment of cost-effective energy efficiency and building electrification (NENY Program).¹⁷ The NENY Program targets generally reflected those in the Accelerated Efficiency Order for electric efficiency and meaningfully increased the targets and budgets for gas efficiency and the budgets for heat pumps, placing New York on par with other leading jurisdictions at the time.¹⁸

The Commission intended the NENY Program targets and budgets to meet the principle of an “all cost-effective measures” policy, while retaining budget boundaries to ensure cost containment and net-benefits to customers.¹⁹ The Commission found that “[r]etaining the use of authorized budgets is an important cost-containment device, to provide the assurance that the planned cost-effectiveness levels are achieved, and customer impacts are appropriately limited.”²⁰

The NENY Order also established an Interim Review commencing in 2022 to assess all meaningful aspects of the NENY Program.²¹ The Commission required that the review “specifically consider the case for adjusting targets, and modifying budgets appropriately . . . [to] reflect direction setting that can emerge from the CLCPA, as well as insights and findings from potential studies and the like, from realized performance and field experience, and from the Performance Management and Improvement Process described [in the NENY Order].”²² Importantly, the Commission also acknowledged that “updates to the analysis of costs and benefits may be warranted in light of the changed circumstances presented by the CLCPA and its associated climate goals as well as its heightened consideration of the needs of low-income and disadvantaged communities.”²³

¹⁴ NYSERDA, Energy Efficiency and Renewable Energy Potential Study of New York State, Report Number 14-19, April 2014. <https://www.nyserdera.ny.gov/About/Publications/Energy-Analysis-Reports-and-Studies/EERE-Potential-Studies>.

¹⁵ Accelerated Efficiency Order at 19, 23.

¹⁶ *Id.* at 26.

¹⁷ NENY order at 34.

¹⁸ *Id.* at 43- 44.

¹⁹ *Id.* at 4, 51.

²⁰ *Id.* at 42.

²¹ *Id.* at 60.

²² *Id.* at 60.

²³ *Id.* at 42.

III. RECOMMENDATIONS

1. Scale NENY Program targets and adjust budgets consistent with the Scoping Plan's vision for achieving the Climate Act targets.

a. NENY Program targets and budgets currently do not reflect the available cost-effective potential of energy efficiency and building electrification and are not sufficient for meeting Climate Act targets.

The existing NENY targets and budgets are based on stale data that underrepresent the available cost-effective potential of energy efficiency and building electrification in New York. Several new transformative climate laws at the federal,²⁴ state,²⁵ and local²⁶ levels, in addition to technology improvement and cost declines, have caused a tectonic shift in the economic potential for energy efficiency and building electrification since the Commission established the 185 TBtu through 2025 target based on the 2014 Potential Study and the performance targets established by leading states. In addition, the over-performance with respect to achievement of NENY targets, which has generally occurred under budget, further indicates that the original NENY targets and budgets fall short of the principle of pursuing all cost-effective measures given these transformative climate laws.²⁷

As discussed at length in Section III.2, NENY targets fail to reflect the principle of pursuing all cost-effective measures because the existing energy efficiency goal setting process, which sets goals in terms of annual energy savings, fails to consider the wide range of energy system and policy needs (such as reduced carbon emissions, and less need to build more supply side resources) when identifying the cost-effective potential of energy efficiency and electrification. Annual energy savings goals also ignore the economic value of when and where energy is saved. Setting resource energy efficiency goals in terms of annual energy savings therefore provides a misleading signal: energy efficiency attainment should focus first on measures that fulfill the annual energy savings requirement. Importantly, in an increasingly renewable and electrifying grid, the value of demand side measures lies in alleviating capacity and congestion. These benefits are time and location varying. Annual energy savings captures neither.

Energy efficiency and electrification Program Administrators plan for compliance with whatever metric their obligation is set in; third party implementers maximize on whatever metric their contractual obligations are set in. Resource energy efficiency goals should therefore direct program administrators and implementers to cost-effectively attain the energy efficiency and electrification which best meets energy system needs and policy goals; described via a metric that captures and quantifies these benefits.

As noted above, the Scoping Plan is clear that “the speed and scale of action to decarbonize buildings must accelerate dramatically.”²⁸ To meet the State’s carbon reduction goals, the Scoping

²⁴ The Inflation Reduction Act and Bipartisan Infrastructure Law will provide hundreds of billions of dollars in funding and tax credits for projects from grid modernization, and large-scale renewables, to efficient windows and induction stoves, incentivizing and lowering the costs of the energy transformation.

²⁵ The Climate Leadership and Community Protection Act mandates a 40 percent reduction of greenhouse gas emissions from 1990 levels by 2030, and 85 percent by 2050, with the buildings sector currently the largest source of emissions in the state.

²⁶ New York City’s Climate Mobilization Act of 2019 sets greenhouse gas emission limits for large buildings in the City, with monetary penalties for exceeding those limits.

²⁷ See Staff Report at Appendixes 2 and 4.

²⁸ Scoping Plan at 182.

Plan calls for electrifying one to two million homes and 10 to 20 percent of commercial space by 2030, and hundreds of thousands of additional homes and commercial buildings becoming efficiently electrified each year thereafter.²⁹ To manage the impacts of widespread electrification on the State's electric grid, it is also essential that buildings make significant investments in energy efficiency, install a diverse mix of heat pump technologies, and adopt smart controls, energy storage, and other load flexibility measures.³⁰ The Integration Analysis Update presented to the Climate Action Council at its October 13, 2022 meeting identified how unmanaged building electrification with lower investment in building efficiency and smart device measures coupled with lower air source heat pump performance during coldest peak times could increase electric system costs by \$41 billion.³¹ Achieving requisite levels of energy efficiency and managed electrification will require that NENY Program targets double or triple by the end of the decade.

The Commission should use the Interim Review to scale energy efficiency and electrification targets, and appropriately adjust budgets, to the levels necessary to help the State meet its energy system needs and carbon reduction goals consistent with the Climate Act in a least-cost manner and equitable manner. There are two general methods that the Commission can use to set targets: (1) through a potential model, which forecasts resource adoption to determine feasible programmatic goals for cost-effective procurement, wherein inherent to the definition of cost-effectiveness is efficient achievement of state climate goals, or (2) through an integrated resource plan (IRP), a co-optimization model of all resources a utility should acquire to meet future energy needs and policy goals. The Commission should use the potential method for the remainder of the current NENY Program term, but transition to the IRP method for subsequent periods.

As further explained in Section III.3, a well-designed and fair IRP is the ideal avenue to develop cost-effective resource energy efficiency budgets because to pick the best mix of resources to attain energy system and emissions reduction goals all resources need to be fairly analyzed alongside each other. This approach is analytically demanding, but the Commission has initiated rigorous new electric system planning and gas system planning processes that it can leverage for an IRP analysis to set targets that better reflect the principle of pursuing all cost-effective measures.

In the meantime, the Commission should scale the NENY Program targets consistent with the pathways and strategies identified in the Scoping Plan and the results of the Statewide Energy Efficiency and Electrification Potential Study (2023 Potential Study) that the Commission in its NENY Order directed NYSERDA to complete, in consultation with the Utilities, New York State Department of Public Service (DPS) Staff, and the Long Island Power Authority (LIPA).³² Pursuant to the NENY Order, the 2023 Potential Study will encompass both energy efficiency and electrification and span the most prominent fuel types, building sectors, and customer segments. It should account for all the benefits that energy efficiency and electrification provide in contribution to meeting New York's climate goals, either by appropriately valuing carbon or by accounting for the benefit of displacing costlier supply side investments to meet climate goals.

²⁹ Scoping Plan at 10.

³⁰ Scoping Plan at 176.

³¹ New York State Climate Action Council, Meeting 26 presentation, (Oct. 13, 2022) at slide 5-8.

³² NENY Order at 77.

b. The 2023 Potential Study is incomplete and deficient, and therefore insufficient for informing how to enhance NENY Program targets and offerings.

The 2023 Potential Study remains incomplete. In consultation with DPS Staff, NYSERDA segmented the study into two companion parts: (1) Assessment of Energy Efficiency and Electrification Potential in New York State Residential and Commercial Buildings (Buildings Potential Study), which was filed on February 28, 2023, and (2) the Statewide Decarbonization Potential Study for the NYS Industrial Sector, which is due June 1, 2023. The filed version of the Buildings Potential Study, however, did not identify the economic potential of energy efficiency and electrification. According to its Scope of Analysis, “the body of this report focuses on technical and achievable potential scenarios. Economic potential results will be presented in an addendum to this report in March 2023.”³³ NYSERDA has not yet filed the addendum.

The filed version of the Buildings Potential Study is insufficient for informing NENY targets and program offerings because it does not provide adequate data for stakeholders to meaningfully comment on the study, nor does it provide adequate data for program designers or implementers to modify offerings and maximize benefits. This can be corrected by: (1) reporting economic potential at a more granular level; (2) providing more detailed measure level inputs, assumptions, and results; and (3) expressing results in a more applicable metric for New York’s climate goals. The Commission should direct NYSERDA to file an updated Buildings Potential Study as soon as practicable with these three elements, as detailed below.

First, the updated Buildings Potential Study should present economic potential at a more granular level. Reporting economic potential at a more granular level is an essential component of potential studies. Utility funded programs must strive to capture all available economic potential. A successful long-term program should be able to capture the vast majority of available economic potential. But, without economic potential data, stakeholders cannot determine what portion of the savings are being left on the table, and program administrators cannot determine the extent to which program design can be modified to capture more cost-effective savings.

Economic potential must be made available at a granular level so that program administrators and stakeholders can determine where there is additional economic potential available according to the model. Moreover, because achievable potential is an estimate calibrated to past program achievements, and thus past program design, projections of future program savings will, at least in the near term, not be reflective of how much programs could achieve if optimally redesigned.

Second, the updated Buildings Potential Study should provide more detailed measure level inputs, assumptions, and results. More measure level detail is necessary for stakeholders to meaningfully engage and for program administrators to make best use of the potential study. The potential study can serve as a starting point for program design; i.e., program administrators can look at detailed results of a potential study – the quantity of measures and savings considered achievable – and apply that to develop program offerings. They can then figure out how to improve upon the program level estimates. Stakeholders can study this data to provide input, benchmark to

³³ NYSERDA, *Assessment of Energy Efficiency and Electrification Potential in New York State Residential and Commercial Buildings*, at 1-2 (Feb 2023), available at <https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=301322&MatterSeq=55825>.

other jurisdictions, and suggest improvements and opportunities for additional savings. Currently no such data is available. For example, using the aggregate measure category savings data, it is impossible to say whether the study differentiates measure potential by climate zone – i.e., weather dependent measures will provide greater savings in certain climate zones for the same incremental cost. Importantly, the updated Buildings Potential Study should include a summary of all measure inputs and a summary of all outputs at the measure level.³⁴

Third, the updated Buildings Potential Study should express results in a more applicable metric for New York’s climate goals. As discussed in detail in the following section, results for all measures, electric, gas, and electrification, are all presented in Btu—i.e., an energy savings metric. This metric may suffice for gas measures, but it does not for electric measures. In an increasingly renewable grid, the value of efficiency and electrification varies with time. Demand side management measures are more valuable when thermal generation is on the margin and when the grid is capacity constrained. The value of demand side resources is also dependent on its location. Energy savings metrics fail to capture these critical factors.

New York’s ambitious climate targets necessitate use of a metric that comprehensively values all demand side management measures’ ability to meet future energy system needs (energy, capacity, transmission & distribution, etc.), environmental policy goals, such as greenhouse gas reduction goals, and environmental externalities (such as air pollution reduction). New York needs a new Total System Benefits (TSB) metric that aggregates all electric system benefits, and relevant environmental externalities that accrue to distributed energy resources (DERs), including efficiency, electrification, and demand response, to comprehensively value a DER’s ability to meet future electric system needs and environmental policy goals. This common metric, which is the subject of Section III.2, will enable electricity planners, regulators, utilities, and implementers to best deploy and track DERs to meet electric grid and environmental policy needs. All the information necessary to present the TSB is available in cost effectiveness calculations; depending on the definition of the cost-effectiveness test, the TSB is functionally the same as the numerator of the cost-effectiveness test or a simple derivative thereof.

Accordingly, the Commission should order NYSERSA to update its Buildings Potential Study to (1) report economic potential at a more granular level; (2) provide more detailed measure level inputs and assumptions, and (3) express results in a more applicable metric for New York’s climate goals. Similarly, the Commission should require the Statewide Decarbonization Potential Study for the NYS Industrial Sector, due June 1, 2023, also include these three elements. With this information, the Commission, after notice and comments, should scale NENY Program targets consistent with the pathways and strategies identified in the Scoping Plan.

- 2. Transition from an energy savings metric to the Total System Benefits metric to capture the comprehensive value of achieving New York’s climate targets.**
 - a. Savings target performance metrics do not accurately describe the contribution of energy efficiency and managed electrification to least cost-decarbonization.**

The NENY Program uses annual savings targets (i.e., the savings achieved in the one year following installation of a measure) as the primary metric. The determination of success has been

³⁴ See, e.g., <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/energy-efficiency-potential-and-goals-studies/2021-potential-and-goals-study>.

largely limited to counting annual and lifetime megawatt hour (MWh) or million British thermal unit (MMBtu) savings and the associated program expenditures. Given New York's ambitious climate and clean energy goals, an annual savings target is an inadequate metric that will become increasingly meaningless as the grid gets cleaner.

As renewable penetration on the grid increases, the value of all DERs—i.e., all load modifying (energy efficiency, demand response), distributed generation, and distributed storage resources—to avoid energy, capacity, carbon, transmission & distribution investment deferrals become increasingly time dependent. When low operating cost renewables are on the margin, wholesale energy prices are low and there are less carbon savings to be had; when traditional fossil-fired generation is on the margin, both wholesale energy prices and carbon savings are greater. Moreover, as supply side means of integrating intermittent renewables, such as storage or peaker plants, are expensive, DERs can integrate renewables and avoid overbuild of capacity-only resources. This benefit of avoiding capacity is temporal as well. Finally, DERs can help defer transmission and distribution investments if they reduce electricity demand at the right times and the right place. This is particularly important in parts of the New York grid, like New York City, that regularly experience congestion. A challenge that will be exacerbated by building and transportation electrification. Savings target metrics do not capture this temporal variation.

Energy savings metrics also cannot describe whether the net impact of electrification is beneficial. Electrification reduces carbon emissions by shifting load from carbon intensive fuels to an increasingly clean electricity grid. Energy efficiency and demand flexibility are valued because they reduce electricity generation and demand; in contrast, building electrification reduces fossil fuel use and increases electricity use. The net impact of building electrification is thus the difference between the value of fossil fuel savings and the increase in electric consumption. Some jurisdictions value this impact in terms of GHG savings, but that ignores the impact that changing electricity and gas demand due to electrification has on energy prices, capacity needs, and transmission and distribution infrastructure.

b. Fragmented DER valuation and procurement creates inefficiencies.

Fragmented DER procurement, each with its own methods of measurement and valuation, causes at least three inefficiencies: it leads to incomplete valuation of DERs. It prevents multiple DERs from competing to provide value and thereby it also ignores the interactive effects between multiple DERs. DER fragmentation also causes unnecessary administrative burden.

The same distributed resource can achieve multiple ends and should be valued accordingly. For example, a heat pump water heater can be used to electrify gas end uses (decarbonization and energy efficiency), it can be applied as an upgrade to an inefficient electric water heater (energy efficiency), and it can also be applied to shift load by pre-heating water in line with electric grid needs (demand flexibility/load shifting).

Similarly, a smart thermostat can reduce electric demand during times of supply constraint (demand response) and reduce annual energy consumption (energy efficiency). Including these technologies into energy efficiency-only programs, for example, means that they will be valued by planners and implementers for their annual energy savings contribution only.

Fragmented DER implementation also prevents multiple DERs that provide the same value from competing against each other; by doing so it also fails to account for the interactive effects between DERs. This leads to missed opportunities and/or unnecessary spending. For example, if

the objective of a regulatory planner is to cost-effectively avoid the need for building new capacity and to reduce total energy use, then that planner could apply energy efficiency, distributed generation, and demand response in various combinations to meet that goal.

Ideally a planner would define the total need and let providers of different DERs compete to meet that system need in a least cost manner. Moreover, the adoption of one type of DER impacts the incremental value of other DERs. For example, if energy efficiency does not fulfill its load management and demand reduction obligations, the need for incremental demand response will increase. And conversely, if energy efficiency over-achieves its load management obligations, incremental demand response is not needed to the same extent.

Finally, implementing DERs through separate and unrelated initiatives leads to added administrative burden and inefficient implementation. This is because there is a lot of overlap between the customers that each of these DERs is separately marketed to, and the energy and policy benefits these DER procurement programs target. Integrated deployment of DERs can also reduce soft costs by offering customers a one-stop shop for demand side management technologies and may also help customers identify the best combination of solutions given personal preferences and budgetary constraints.

c. The Staff Report identifies key challenges of the energy savings metric.

Staff correctly observes that energy savings metrics are not a functional metric for energy efficiency and electrification programs in New York: “Given the evolving State policy landscape surrounding energy efficiency and electrification (with particular emphasis on building electrification for purposes of this report and the Interim Review), Staff is not confident that the historic metrics around which the State’s energy efficiency and building electrification programs have been designed align with the future framework necessary to meet the expanded climate goals.”³⁵

Staff also astutely identifies that “metrics related to unit costs, with a goal of reducing the unit costs the Utilities are currently experiencing, are likely not sustainable.”³⁶ Indeed, utility portfolios evaluated on the basis of increasing annual energy savings while reducing unit costs will focus on low-cost energy savings that produce short-term energy savings and will ignore higher cost measures that are critical for avoiding system costs and reducing emissions to meet the State’s 2030 and 2040 electric sector targets, and 2050 emission reduction targets. This problem is further supported by the Integration Analysis Update that identified how managed building electrification with significant investment in deeper efficiency measures produces significant avoided costs when compared with lower investment in building efficiency and smart device measures.³⁷ Ultimately, energy savings metrics prioritize the wrong efficiency and electrification measures for New York’s clean energy transition.

Staff, however, mistakenly “believes that there may not be a singular metric to measure and compare the performance of different types of energy efficiency and electrification initiatives.”³⁸ In fact, there is one metric—the Total System Benefits metric (TSB)—capable of measuring and comparing all demand side management measures, and in doing so is able to solve the host of shortcomings presented by the energy savings metrics. The TSB is thus necessary for states like New

³⁵ Staff Report at 10.

³⁶ Staff Report at 10.

³⁷ New York State Climate Action Council, Meeting 26 presentation, (Oct. 13, 2022) at slide 5-8.

³⁸ Staff Report at 10.

York with climate goals that require inclusion of environmental impacts in energy planning and procurement.

- d. The Total System Benefits metric is one metric that comprehensively values all demand side management measures, which promotes an integrated approach that optimizes that program implementation.**

The Total System Benefits metric is the only metric that comprehensively values all demand side management measures' ability to meet future energy system needs, climate policy goals, and environmental externalities, as it can be applied uniformly to all DERs. Of note, while the TSB is fully compatible with the NY-Sun Value of DERs value stack and other DER programs for storage, demand response, or managed electric vehicle charging, Efficiency and Electrification Advocates are only recommending that the Commission apply the TSB to NENY program measures at this time.

The TSB is calculated by multiplying the DER load-shape by the hourly avoided costs through the DER's effective life.³⁹ To the extent that the avoided cost accounts for the various benefits of energy savings and how they vary with time, the TSB will capture the complete value stack of the DER.

$$TSB = \int_{t=0}^{t=n} (loadshape \times avoidedcosts) dt$$

This simple formula can be applied to all DERs. For energy efficiency measures, this is the sum of the product of a measure's load-shape and its time varying avoided costs through a measure's lifetime. For a demand response event, the TSB is equal to the product of the load-shape of the event and the applicable avoided costs. The TSB for electrification measures is the sum of the gas TSB (due to decreased gas use and related emissions reductions) and the negative electric TSB (due to increased electric use and related emissions increase).

The TSB is the "B" in "BCA"—i.e., it can be thought of as the numerator, or the lifetime benefits of the resource, in traditional utility system cost-effectiveness tests. The TSB is not completely novel, its application as a metric for demand side program achievement is. It is an aggregation of existing performance metrics; its application to set goals and track performance of energy efficiency and electrification is novel.

The TSB represents the aggregate value a DER provides toward meeting energy system needs (energy, demand/ reliability, transmission & distribution, capacity) and related energy sector policy goals such as GHG reductions. This holistic metric thereby describes the full value of a DER toward achieving a reliable, least cost, and decarbonized grid. For example, the TSB represents the aggregate value a smart thermostat provides as a demand response and an energy efficiency measure; it also accurately describes the value heat pump water heaters can provide for electrification, demand response and energy efficiency. The TSB also highlights the relative value of each measure's stream of benefits.

³⁹ For dispatchable demand response initiatives the lifetime is equal to the number of demand response events being analyzed.

e. The Total System Benefits metric will simplify and optimize NENY Program implementation.

Transitioning to the TSB metric to measure the value of DERs has many practical advantages. First, because the TSB is a single metric that can be used to set goals for all energy efficiency and electrification measures offered under NENY programs, it helps break down resource-specific silos. By setting one goal and by providing a common metric to value multiple DERs, resource planners can encourage competition between all DERs to meet energy system and carbon reduction needs most cost-effectively and can account for the interactive impacts of different DERs.

Second, the TSB enables the cream rise to the top of the portfolio because the measures that contributed the most to New York's climate and clean energy goals over their full measure life produce the highest TSB value. Setting goals and valuing measures in terms of a TSB helps develop a technology neutral priority order for DER procurement to meet grid needs and carbon reduction goals. It enables DERs to be combined and compared to offer more expansive programs as they now have a common unit of valuation.

The TSB also makes cost-effectiveness determinations easier and more intuitive. If the TSB for a DER measure, program, or portfolio is greater than the costs to acquire it, then that DER measure, program, or portfolio is cost-effective from a utility's perspective. TSB values are refreshed, and the entire portfolio of programs and measures is reoptimized every time the inputs to calculate the TSB are updated (data necessary to develop TSB goals are discussed in the subsection below).

Importantly, TSB obviates the need for the "Future Strategic Framework" identified in the Staff Report.⁴⁰ It also eliminates the need for distinct metrics and targets for different types of programs (e.g., heat pumps, envelope/shell, electric energy efficiency, etc.). While categorizing all program measures as Strategic or Non-Strategic or setting distinct metrics and targets has some utility for counterbalancing the deficiencies of an energy savings metric in an increasingly clean electric system, it is ultimately a clumsy solution that results in suboptimal micromanagement of the portfolio. It is also extremely subjective unless backed up by rigorous analysis that is both time and resource intensive, and unlikely to be reviewed and refreshed in a manner that can keep pace with the decarbonization of the grid and technology development. Any Future Strategic Framework or distinct metrics and targets for different types of programs that is appropriate in the short term should be abandoned as quickly as the TSB can be implemented.

Third, the TSB helps supercharge demand flexibility⁴¹ because it values those measures that save energy when and where it is most valuable to the grid. The TSB can describe the combined energy and load shifting value of each measure. So, for example, the TSB will capture the total value realized by a heat pump water heater with load shifting capability.

Fourth, TSB will harmonize NENY program implementation with New York City's Local Law 97 requirements by providing the framework and data to calculate time of use marginal carbon emissions, as is required by the law as a compliance option. And by simplifying and optimizing NENY programs overall, the TSB will improve access and offerings to buildings subject to Local

⁴⁰ See Staff Report at 6.

⁴¹ See Appendix A: TSB paper, appendix D for a detailed TSB calculation example.

Law 97, while appropriately valuing the significant contributions these buildings can make to emissions reductions, grid services, non-infrastructure solutions, and demand flexibility.

f. The data necessary to calculate the Total System Benefits metric is readily available.

No new data incremental to that which is already applied to determine NENY targets and evaluate their impact and cost-effectiveness is necessary to develop the TSB. Moving to the TSB, however, does underscore the importance of two categories of inputs that may be overlooked due to the focus on annual energy savings in existing processes: (1) DER measure characteristics, and (2) utility avoided costs.

First, DER measure characteristics have heightened importance under the TSB. The measure characteristics that are necessary to fully realize the potential of the TSB are primarily the DER impact load-shape and how long a DER is expected to be active (e.g., the effective useful life (EUL) for energy efficiency and distributed generation or the number of events for demand response initiatives). As the TSB intends to capture time varying impacts of DERs, it is important that time-varying DER load-shapes are as accurate as possible.

Similarly, because the TSB aggregates the impact of a DER through a DER's lifetime, an accurate estimate of EUL of energy efficiency and distributed generation measures is necessary. Although both of these inputs are necessary to estimate DER cost-effectiveness, due to the primary focus on annual energy and demand savings targets, potentially insufficient resources are spent researching and updating load shapes and EULs. Any errors and uncertainties that exist within these inputs flow through to cost-effectiveness estimates as well. Moving to the TSB highlights the importance of and encourages research on these inputs. This will also reduce any inaccuracies that exist in cost-effectiveness analyses.

Second, utility avoided costs have heightened importance under the TSB, as they are the backbone of any DER cost-effectiveness evaluation. It is essential for any DER planning process, whether it is based on the TSB or not, to start with comprehensive and time varying avoided costs. This is especially important in regions with clean energy policy and high renewable penetration where the value of avoided energy, capacity, and carbon emissions vary significantly with time.

Avoided costs should describe the incremental short- and long-run impacts of marginal change in energy consumption. These should include all relevant energy system costs and energy system related environmental and other policy compliance costs that would be incurred by the utility (and borne by its customers through their utility bills) in the absence of a demand side initiative. These avoided costs are dependent on when and where the distributed resource saves or produces electricity.

Avoided costs should be time varying and, to the extent feasible, account for geographic variation of the energy system. These avoided costs should include a valuation of environmental externalities that a utility is legally obligated to account for. There are models for public commissions to develop accessible and well documented avoided costs;⁴² providing these will not only help with the move to a TSB, it will also make the value of DERs accessible to DER providers and spur innovation.

⁴² See, e.g., the California Public Utility Commission's avoided cost calculator and related documentation here: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/idsm>

g. A roadmap for transitioning to the Total System Benefits metric exists.

The TSB has been implemented in California to describe goals for energy efficiency, some demand flexibility measures, and some electrification measures (i.e., for the measures comparable to those in the NENY program).⁴³ Accordingly, the Commission can follow the roadmap that the CPUC developed for transition to the TSB.

Specifically, the California Public Utility Commission (CPUC) decision required that the TSB be phased in over a three-year period; and it required the California investor-owned utilities (IOUs) to start tracking the TSB parallel to energy savings goals in the meantime and to apply it for developing their portfolios (i.e., shadow pricing). The CPUC developed a TSB target through their most recent potential study; this target is inclusive of energy efficiency, electrification, and some demand response measures.

Similarly, the Commission should require transitioning to the TSB by the end of the current NENY period and it should establish shadow pricing to occur throughout the transition, so all stakeholders become familiar with the metric. The Commission should use the transition period to develop an avoided cost calculator for the NENY Program that accurately reflects measure characteristics and utility avoided costs and is integrated with utility system planning processes. How to do this is discussed in Section III.3.

h. The Total System Benefits metric quickly produces planning improvements.

The TSB has already led to planning improvements in California. The CPUC has started using the metric to track goals and IOU accomplishments toward goals, which provides the IOU program administrators freedom to trade off different measures to best achieve these goals⁴⁴ and enables the initiation of building electrification efforts through their energy efficiency portfolios. The IOUs have reported in their recent energy efficiency program filings that the TSB metric has made planning for multiple resource procurement goals – energy, demand, and carbon savings – more efficient.⁴⁵ Marin Clean Energy has applied the TSB to develop innovative pay for performance programs that incentivize customers to adopt DERs that help meet California’s carbon reduction and reliability needs (in addition to all other services that DERs provide).⁴⁶

The TSB has also helped program administrators evolve program offerings to changing grid needs. For example, the CPUC released a ruling soliciting requests for special demand side management programs and no special carve-out was needed to focus energy efficiency programs to

⁴³ CPUC, 2021e. Assessment of Energy Efficiency Potential and Goals and Modification of Portfolio Oversight Process. Rulemaking 13-11-005, Decision 21-05-031 (May 20, 2021).

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M385/K864/385864616.PDF>.

⁴⁴ CPUC, 2021f, April 16. Public utilities commission April 16, 2021 Agenda ID #19409 Ratesetting to parties of record in rulemaking 13-11-005. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M378/K256/378256443.PDF>.

⁴⁵ Pacific Gas & Electric (PG&E), 2022. Pacific Gas and Electric Company Energy Efficiency 2024 Business Portfolio Plan; PG&E Energy Efficiency 2024–2031 Strategic Plan Prepared Testimony Exhibit 1. https://www.caeccc.org/files/ugd/849f65_3c74e70e20ae4c7d8e09edfbb402eb27.pdf.

⁴⁶ St. John, J., 2021, April 19. Can a new way to pay for behind-the-meter flexibility help prevent.... Canary Media. <<https://www.canarymedia.com/articles/grid-edge/can-a-new-approach-to-demand-flexibility-help-save-california-from-rolling-blackouts>>.

meet this goal.⁴⁷ This is because capacity shortfalls lead to higher avoided energy and capacity procurement costs that are reflected in CPUC’s regularly updated avoided costs; as the TSB is an aggregation of these avoided cost values, program administrators are naturally incentivized to target energy conservation in capacity shortfall hours because the TSB goal incentivizes them to target hours with highest utility avoided costs. Energy savings in these hours provides much greater TSB than in other hours, thus focusing efforts toward the most beneficial efficiency measures.

3. Integrate the process for reviewing and setting program targets with electric and gas system planning.

As discussed in Section III.1.a, the Commission should transition to an IRP method for establishing energy efficiency and electrification program targets by the conclusion of the current NENY period. The IRP model compares the costs of procuring each additional tranche of energy efficiency with the costs of alternative resources to meet system needs and policy goals such as electric sector targets and GHG emissions constraints. The IRP analysis will therefore incrementally procure more energy efficiency until the cost for the next marginal amount of energy efficiency is more than that of a feasible alternative to meet both energy needs and climate goals. The total resource energy efficiency selected by the IRP will thus be the amount and type of energy efficiency that program administrators need to attain. Then the total customer funds that the IRP spends to buy this selected energy efficiency is the budget to attain this amount of resource energy efficiency. The IRP is analytically complex and to ensure that the IRP model selects the right amount and type of resource energy efficiency, the IRP needs to be set up correctly through a transparent stakeholder driven process.

These estimates of total resource energy efficiency investments, and the costs associated with this procurement, provides resource planners with the information required to set resource energy efficiency budgets. These results should also be used to develop cost-effectiveness requirements and goals.

Of note, the Commission is establishing new statewide IRP processes for both the electric and gas systems—i.e., the Coordinated Grid Planning Process⁴⁸ and the Gas System Planning Process.⁴⁹ Using outputs from these studies, or scenarios within them, that are aligned with the achievement of Climate Act targets to set time-varying avoided costs enables DER solutions to be considered on an even playing field with traditional infrastructure solutions. It will also hedge against overreliance on costly transmission and distribution upgrades to achieve Climate Act targets because as grid upgrade costs increase, so do the avoided cost that justify increased DER penetration to optimally complement traditional infrastructure solutions. To this end, it is important that the inputs to the IRP account for the transmission and distribution savings that accrue to energy efficiency measures.

Moreover, integrating the process for reviewing and setting program targets with electric and gas system planning processes will enable use of consistent assumptions that have been vetted

⁴⁷ CPUC, 2021e. Assessment of Energy Efficiency Potential and Goals and Modification of Portfolio Oversight Process. <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M385/K864/385864616.PDF>.

⁴⁸ Case 20-E-0197, *Proceeding on Motion of the Commission to Implement Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act*, Order on Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act, (May 14, 2020).

⁴⁹ Case 20-G-0131, *Proceeding on Motion of the Commission in Regard to Gas Planning Procedures*, Order Adopting Gas System Planning Process, (May 12, 2022).

through an open and transparent process, which was not the case and is a major shortcoming of the Buildings Potential Study.

To that end, the total energy system and policy benefits of all demand side program measures should be calculated through representative avoided costs. Avoided costs facilitate demand side resource planning analogous to system and resource planning conducted by the IRP. The IRP must identify a resource mix that complies with the State's greenhouse gas reduction targets and ensure that the State's future electricity needs are reliably met while minimizing the cost impact on customer rates and bills. So, avoided costs must help the Commission accomplish similar ends for DER adoption.

Avoided costs should be aligned with the least-cost, best-fit, policy-compliant plan identified in the IRP planning process. They should represent costs of avoiding investments in the more expensive alternative to demand side programs in order to attain energy system and policy needs. As a guiding principle, avoided costs should thus include all relevant utility system costs and utility system related policy compliance costs that would be incurred by the utility (and borne by its customers through their utility bills) in the absence of a demand side initiative.

For example, in the absence of a distributed resource that produces carbon free electricity at 6 PM on a September weekday, the utility would have to purchase additional units of electricity from the wholesale market to deliver to customers. The associated costs that the utility avoids through that distributed resource include, at minimum, the cost of purchasing electricity, the cost of any additional strain on the transmission and distribution grid, the cost of procurement of clean supply side resources to meet state carbon reduction goals, and the costs with resource adequacy contracts. These avoided costs are dependent on when and where the distributed resource saves or produces electricity. Avoided costs used to evaluate DER cost-effectiveness must accurately reflect this.

One way to develop these avoided costs is to calculate avoided costs via the IRP by (1) first determining a least-cost best-fit policy-compliant portfolio that considers all DERs, and (2) then determining what this resource portfolio would look like if no incremental DERs were available. The difference in total resource procurement costs between these two scenarios represents the total benefits of procuring incremental DERs. This difference between the two portfolios can be applied to develop avoided costs that will correctly guide on the ground resource energy efficiency procurement.

Once resource energy efficiency procurement is determined through resource planning, Program Administrators and implementers will still need to test specific energy efficiency measure installations to determine whether those installations are cost-effective, i.e., whether they conform to the type of energy efficiency identified by resource planners for procurement.

4. Initiate an equity proceeding to comprehensively review all utility equity initiatives and use this proceeding to establish targets, metrics, and associated incremental budgets to support the State's policies related to affordability and Disadvantaged Communities.

There are two underlying issues inhibiting the ability of utility equity initiatives to perform as they as well as they could. The first is that equity enhancing initiatives are fragmented even though the individual requirements for these programs have similar and overlapping objectives, are all funded by utility customers, and have a similar target customer base. The second is that these initiatives are often not measured according to their policy objectives. Some equity enhancing energy

efficiency initiatives are mixed with resource programs and the efficacy of the resulting mix is measured through a resource only metric which disincentivizes spending on valuable equity enhancing programs. The way forward is to start a new proceeding, that subsumes all existing equity focused initiatives, to oversee all equity enhancing demand side programs funded by utility customers.

A proceeding that provides common oversight to equity enhancing programs will increase regulatory efficiency of these initiatives, increase the accountability of all actors involved, enable the Commission to better coordinate across these initiatives, deliver better and more comprehensive programs to customers, and develop guiding principles for success and an overarching budget that meets those requirements. In sum, it will enable the Commission to best enhance equity, by providing the most energy and non-energy benefits, for each customer dollar spent.

As part of this new comprehensive equity proceeding, the Commission should review and establish targets, metrics, and associated incremental budgets to support the State's policies related to affordability and Disadvantaged Communities. The Commission can also review and determine how program administration for energy efficiency and electrification equity initiatives should be allocated between the utilities and NYSEERDA. The proceeding should also identify various non-ratepayer fund streams that are available and determine how best to leverage them in combination with ratepayer-funded incentives.

5. Prioritize energy affordability in addressing climate justice.

New York's emphasis on climate justice is well placed. Historically marginalized communities have suffered a disproportionate burden of the impacts of climate change and environmental pollution. These communities generally experience a lower quality and length of life, live in homes that are often poorly built and maintained, and pay a much higher percentage of their income on energy services. As was detailed in the 2022 New York's Carbon Neutral Buildings Roadmap, NYSEERDA's 2017 LMI Market Characterization Study estimated that approximately 48% of New York households are low-to-moderate-income⁵⁰ and, on average, very low-income households in New York can face up to a 20% energy cost burden, far exceeding the non-LMI household average energy burden of 2.4%.⁵¹

This is also substantiated in research by ACEEE on energy burden in the largest US cities, which estimates that a quarter of low-income households in New York City have an energy burden above 17%, which is almost six times higher than the median energy burden. This burden falls disproportionately on communities of color: 32% of Black households and 33% of Hispanic households in New York City experience a high energy burden.⁵² Addressing energy affordability is thus a key component of climate justice.

Energy burden has been demonstrated to have extensive negative impacts, such as energy insecurity (due to inability to pay bills), increased economic hardship and long-term detrimental

⁵⁰ Assumes the 2021 income classifications guideline of annual income at 60% of AMI, of \$32,752 for a one-person household and \$62,984 for a four-person household.

⁵¹ NYSEERDA, *The Future of Buildings: New York's Carbon Neutral Roadmap*, December 2022, p. 138.

⁵² ACEEE, *Energy Burdens in New York City*, September 2020, at https://www.aceee.org/sites/default/files/pdfs/aceee-01_energy_burden_-_new_york_city.pdf.

impacts on health and wellbeing through greater risk for respiratory disease and increased stress. Energy burden also makes it challenging for low-income households to move out of poverty.⁵³

a. Weatherization and energy efficiency are critical for improving energy affordability.

Research shows that homes that receive weatherization and energy efficiency services improve energy affordability. The federally funded weatherization assistance program is considered cost-effective based on energy savings alone but also has additional non-energy benefits, resulting in a net benefit of at least \$13,000 per household.⁵⁴

Implementation of weatherization and energy efficiency measures is crucial to reducing the energy burden of LMI households and should be a precursor to electrification in most cases. From a public policy perspective, it is important to reduce building load through basic weatherization measures and building shell and envelope improvements before embarking on decarbonization measures.⁵⁵ This is because the weatherization and envelope measures can reduce the size of new (decarbonized) energy systems that cool and heat the home or water, decreasing the necessary level of up-front investment of both equipment and near- and longer-term grid services. This is important for the large number of LMI households for which public funding for electrification will be required.

The Commission should prioritize energy efficiency and weatherization measures for LMI households and the implementation of them alongside electrification measures, to ensure that LMI households see reductions in their energy burden.

b. Best practices in LMI program design

With these priorities in mind, we would like to emphasize best practices in LMI energy efficiency and building electrification program design. This is currently a hard to reach and complex market segment, especially in New York. As highlighted by DPS, New York's current LMI programming has faced considerable challenges in achieving its goals.

Best practices that we observe in other jurisdictions include:

- **Funding of barrier removal investments:** Many LMI households live in housing stock that is old (New York has the oldest housing stock in the country), may be poorly constructed and inadequately maintained. As a result, there are numerous health and safety issues in those homes that may require repair, some of which result in these homes not being eligible for weatherization or energy efficiency retrofits. Examples of health and safety issues may include the presence of mold or asbestos, knob and tube wiring, pest infestations, or major structural issues. It is important that weatherization and energy efficiency programs have the ability and funding to address issues so that these homes are not deferred from the

⁵³ See, for example, Drehbol, Ariel and Lauren Ross, "Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities, ACEEE, April 2016, and Brown, Marilyn, Anmol Soni, Melissa V. Lapsa, and Katie Southworth, "Low Income Energy Affordability: Conclusions from a Literature Review," Oak Ridge National Laboratory, March 2020.

⁵⁴ Brown, Marilyn, Anmol Soni, Melissa V. Lapsa, and Katie Southworth, "Low Income Energy Affordability: Conclusions from a Literature Review," Oak Ridge National Laboratory, March 2020, p. 38.

⁵⁵ Note that there will obviously be exceptions to this in the cases where there is a non-functioning fossil fuel fired furnace or hot water heater that needs to be replaced on an emergency basis.

program.⁵⁶ As an example, the Massachusetts LEAN program that supports low-income households provides up to \$10,000 per unit in 1-to-4 unit low-income homes to address barrier removal, which covers most of the health and safety issues listed above. IRA and other funding sources could be leveraged for such barrier removal investments.

- **Leveraging existing housing programs:** In the same way that energy efficiency and weatherization programs need to tackle health and safety needs in housing, it is efficient and pragmatic to implement energy efficiency and decarbonization measures in housing while other renovations are underway. New York State has piloted several such efforts with NYSERDA funding and technical assistance being provided the New York City's Department of Housing Preservation and Development, NYC Housing Authority and New York Homes and Community Renewal. These programs have the potential to help accelerate the transition to a clean energy economy, rooted in prioritizing LMI households. Efficiency and Electrification Advocates encourage these programs to be continued and their performance analyzed to ascertain the advantages and challenges that such programs have compared to other program delivery mechanisms.
- **Importance of community-based engagement:** Despite the existence of many weatherization and energy efficiency programs, LMI households remain a hard-to-reach market segment. Most utilities have found that their energy efficiency program strategies do not adequately reach these households.⁵⁷ Community engagement can ensure that programs are designed to meet community needs and build trust with communities that have a history of being taken advantage of by predatory salespeople. Community engagement can help create initiatives that meet community needs, leverage local networks to encourage program participation, and improve community support for program implementers.⁵⁸ New York has made a good start on this by funding 12 regional Clean Energy Hubs with teams of trusted, knowledgeable, community-based organizations from each region of the state with experience in clean energy and energy efficiency. As the Clean Energy Hubs get underway, the State should ensure they are sufficiently resourced and integrated with, and supported by, state programs and agencies to be able to fulfill their promise.
- **Concierge/one-stop shop model:** In addition to other challenges noted above, LMI households are often challenged by a lack of information about what retrofits should be made and a lack of time or flexibility to stay home for numerous contractor appointments. One-stop-shop program models minimize barriers and allow low-income households to access all available resources in one place with the least amount of effort. These models generally provide a single point of contact, universal intake applications, comprehensive technical assistance, and streamlined information and access to program resources. Elevate Energy's program, launched in Chicago but now found in a variety of Midwestern locations, is a good example of this model. While particularly helpful for the LMI sector, we

⁵⁶ The percentage of households "deferred" from the federally funded weatherization and utility low-income efficiency programs due to outstanding health and safety repairs varies widely by state, program, and type of analysis, however programs commonly report deferrals over 20%, and occasionally as high as 60%. (See Benshoff, L. 2022. "A low-income energy-efficiency program gets \$3.5B boost, but leaves out many in need." National Public Radio. May 13, 2022.)

⁵⁷ Drehbol, Ariel and Lauren Ross, "Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities, ACEEE, April 2016, p. 28.

⁵⁸ Morales, Diana and Steve Nadel, "Meeting the Challenge: A Review of Energy efficiency Programs For Low Income Households," ACEEE, November 2022, p. 38.

recommend that a “one-stop-shop” approach be explored for additional sectors, as well, to address existing market barriers and simplify the energy efficiency and electrification retrofit process for all building owners.

6. Make electric utilities the Program Administrators for all resource energy efficiency initiatives, so that gas utilities can focus on the new and complex task of strategically downsizing gas systems through non-pipe alternatives and utility thermal energy networks.

Efficiency and Electrification Advocates recommend that the Commission require that electric utilities be the Program Administrators for all resource energy efficiency and electrification initiatives, so that gas utilities can focus on the new and complex task of strategically downsizing gas systems through non-pipe alternatives and utility thermal energy networks. This makes sense for three reasons.

First, the different trajectories of gas and electric rates in the clean energy transition support all NENY Program offerings to be funded by electric ratepayers. As the Staff Report notes, utility energy efficiency and electrification programs continue to be funded through specific collections associated with either gas or electric ratepayers. The rationale for this cost recovery method is that programs administered locally by a utility, as opposed to on a more comprehensive statewide basis, should result in direct benefits to the applicable distribution system and directly benefit the ratepayers from whom funding is collected, beyond the overall societal benefit of GHG emission reductions.⁵⁹ This rationale is increasingly at odds with the context for gas utilities given the State’s climate policies.

As the Building Decarbonization Coalition’s “The Future of Gas in New York State” report identifies, the business model of gas utilities is facing mounting pressure and impending disruption.⁶⁰ Climate laws in New York State, as well as in localities such as New York City, promise to restrict the distribution and consumption of fossil gas with growing stringency, which will cause gas utilities to face reduced ratepayer counts and decreased demand for pipeline gas from those that remain.⁶¹ To offset declining demand and revenues, gas utilities will need to raise rates for their remaining ratepayers, and these higher prices will incentivize ratepayers to pursue alternative energy sources and seek disconnection from the gas network.⁶² This process creates a negative feedback loop that gas utilities cannot halt.⁶³ Accordingly, the Scoping Plan’s Gas System Transition chapter calls for a well-planned, strategic downsizing of the gas system that takes place as quickly as possible and to the greatest extent possible to maximize environmental benefits and minimize “stranded costs” of the legacy gas system.

NENY Program measures supported by gas customers will only exacerbate the negative feedback loop putting upward pressure on gas rates. Given the need to reduce gas use and downsize the system, cheaper measures like incrementally more efficient gas appliances for mass market customers should be eliminated from program offerings so as not to backslide on climate progress by perpetuating gas use over the long term in order to produce slightly less emissions with each unit

⁵⁹ Staff Report at 12.

⁶⁰ Michael Walsh PhD, Michael Bloomberg. The Future of Gas in New York State. Building Decarbonization Coalition (March 2023) at 18.

⁶¹ Id.

⁶² Id.

⁶³ Id.

of gas consumed. Deeper measures like tightening building envelopes are more costly and thus will have a greater impact on the negative feedback loop, putting more upward pressure on rates.

Notably, gas customers will overwhelmingly electrify their gas end uses in order to disconnect from the gas network. In contrast to the gas system, the electric system promises to dramatically increase the load it serves as well as to increase its utilization rate as load is made more flexible, which will ease any upward pressure on electric rates. Ultimately, NENY programs support the affordability of electric rates while exacerbating affordability challenges for gas rates.

Second, making electric utilities the Program Administrators for all NENY Programs will address the perverse incentive that gas utilities have to see energy efficiency and electrification programs not succeed. New York's gas utilities—except for Con Edison—have positioned themselves as the leading voices opposing New York's clean energy transition. The gas utilities' representative on the Climate Action Council voted against the Scoping Plan due to the extent to which it recognizes electrification as the optimal pathway for achieving climate targets, and that the gas system must undergo a well-planned and strategic downsizing.⁶⁴ National Grid and National Fuel Gas are also contributing members and on the steering committee of New Yorkers for Affordable Energy,⁶⁵ which has been orchestrating a campaign to promote fossil gas service and weaken New York's climate and building decarbonization policies.⁶⁶ The other gas utilities, except for Con Edison, are supporters of this fossil gas advocacy group.

The gas utilities' aggressive efforts to undermine New York's clean energy transition indicates a bias that is also reflected in their performance. As indicated in Table 6 of the Staff Report, only one of the nine gas utilities is above 50% achievement of its respective cumulative savings targets for the seven-year period of 2019 through 2025, and no utility has expended more than 40% of its authorized gas energy efficiency portfolio budget. Individual utility MMBtu savings, as a percentage of seven-year cumulative targets, range from just 23% to 59%, with the utilities collectively having achieved only 34% of their combined cumulative MMBtu targets.⁶⁷

Rather scaling up energy efficiency programs that are against their long-term interests, gas utilities should focus on strategically downsizing gas systems through non-pipe alternatives (NPAs) and utility thermal energy networks (UTENs). Each of these are new and complex tasks that will require their full attention. Where appropriate, NPA's can provide incremental incentives to those provided by NENY programs, which can be recovered through gas rates. Moreover, UTENs offer a scalable alternative business model for gas utilities that provide exciting opportunities for gas utilities, their workers, and customers that fully align with New York's climate targets.

Third, making electric utilities the Program Administrators for all NENY Programs will address the challenges identified in the Staff Report that stem from the difficulties of coordination between two utilities competing to procure energy savings related to their fuel-specific delivered energy, e.g., electricity or fossil gas.⁶⁸ It will also mitigate the confusion for prospective participants

⁶⁴ See Donna L. DeCarolis Statement, Climate Action Council Meeting, (Dec. 19, 2022), <https://climate.ny.gov/-/media/project/climate/files/Donna-DeCarolis.pdf>.

⁶⁵ <https://www.ny4affordableenergy.com/ourcoalition/>.

⁶⁶ Robert Galbraith, Yusra Bitar, Derek Seidman, Fueling Obstruction: The Fossil Fuel Networks Undermining Climate Action in New York State, Public Accountability Initiative (AKA "LittleSis"), (Nov. 2, 2022) https://public-accountability.org/wp-content/uploads/2022/11/LittleSisFuelingObstruction_11.02.pdf.

⁶⁷ Staff Report at 30-31.

⁶⁸ Id. at 13.

that makes it difficult to identify which programs are available to them and which solutions would serve them best.⁶⁹

Efficiency and Electrification Advocates agree with Staff that there is a need for more integrated energy efficiency and building electrification programming that provides streamlined access to comprehensive energy solutions.⁷⁰ Making electric utilities the Program Administrators for all NENY Programs is an important step in this direction. It also offers an opportunity for the Joint Electric Utilities to coordinate program administration to enhance uniformity of customer-facing materials as well as data and reporting for regulatory oversight, as they have been doing under the Clean Heat program.

Efficiency and Electrification Advocates would encourage the electric utilities to lean into a concierge efficiency delivery model that streamlines project implementation through the use of standardized packages of clean energy solutions that help reduce program complexity and customer confusion. Concierge efficiency represents a rededication to the tenets of the one-stop-shop approach, anticipating customer needs and offering actionable solutions. Further, standardized measure bundles will help streamline project scoping, reduce customer confusion, and improve the efficiency of more typical one-stop-shop approaches. This will ultimately reduce transaction costs and boost program participation.

7. Provide Program Administrators with flexibility to manage their budgets and targets.

It is not the job (nor within the expertise of DPS) to micro-manage energy efficiency and building electrification programs. This was one of the major lessons from implementation of the New York's former Energy Efficiency Portfolio Standard (EEPS) Order.⁷¹ Programmatic rigidity through DPS granular regulation of programs resulted in higher administrative costs and lost savings as Program Administrators had limited flexibility to respond to changing circumstances and unanticipated needs.

The Commission's responsibility should be to prescribe specific programmatic goals and then leave it to Program Administrators to develop programs that would timely achieve the Commission's established goals. As a regulator, the Commission's role should then reward Program Administrators for their success, especially superlative performance, or hold them accountable for their failures.

To take an example, question 28 asks whether the Commission should dictate budgets for each specific heat pump technology. The answer should be "no". The appropriate heat pump technology, assuming a heat pump is the correct technology to deploy in a specific circumstance, will vary by customer usage, location, and other factors. The Program Administrators should have the programmatic flexibility to develop and support deployment of the specific technologies most appropriate for an individual customer's unique needs in a way that advances achievement of an overall Commission or state policy goal.

Such an approach has already demonstrated that it can work in New York. Without such flexibility, the NY SUN program, often pointed to as a hallmark of New York's clean energy

⁶⁹ Id.

⁷⁰ Id. at 13-14.

⁷¹ Case 07-M-0548, Energy Efficiency Portfolio Standard Order June 2008.

success, would not have achieved its deployment goals. We should learn from that success as well as the failures of EEPS if the State is to meet its very ambitious CLCPA goals.

Importantly, transitioning to the TSB eliminates the need to micromanage program targets and budgets because it comprehensively values all demand side management measures' ability to meet future energy system needs, environmental policy goals, and environmental impacts. Setting and tracking goals through the TSB provides demand side program planners and implementers the information necessary to optimize deployment of distributed resources. The TSB is flexible and it represents the evolving needs of the grid; e.g., in a high renewable grid the TSB will help focus demand side measures on those hours where polluting resources are on the margin and to integrate intermittent renewables.

8. Support and encourage innovation from Program Administrators.

We must acknowledge that we do not now have all the answers to how the State will achieve many of the Climate Act goals. But while we may not know now all the specific answers, we do know that innovation – the development of new technologies and approaches to support deployment of these technologies – will be critical in providing answers and tools to achieve the State's and the Commission's clean energy policy goals.

The Commission should continue to support and encourage Program Administrators to develop and demonstrate, e.g. through pilot projects, new technologies and methodologies that will support achievement of these clean energy policy goals. Allow Program Administrators to determine what works best while recognizing that some failures will occur. The Commission and Program Administrators should not be afraid of failure from which we often learn more than from our successes. New York is fortunate to have a statewide entity such as NYSEERDA that can work directly with utility Program Administrators to test new technologies and new approaches that will achieve greater energy efficiency and facilitate more productive and sustainable building electrification that advance the State's clean energy policy goals.

The Commission's support for, indeed advocacy of, AMI technology, demonstrates its recognition of how valuable and necessary innovation is to enable greater cost-effective investment in energy efficiency and building electrification. The Commission established a policy goal, and left it to the Program Administrators to determine the best way to deploy this enabling tool within their franchise areas. There have been bumps along the way, and work remains to refine this tool, but few question that AMI will provide Program Administrators and others information critical to identify greater opportunities to deploy cost-effective technologies/programs that will achieve the goals of energy affordability, energy efficiency and building electrification.

9. Harness performance incentives to spur ambition and innovation.

Appendix D contains a report developed by Synapse Energy Economics, "Earning Adjustment Mechanisms for Energy Efficiency in New York: Addressing the Department of Public Service Staff's Energy Efficiency and Building Electrification Report" (Synapse EAM Report). As fully discussed therein, Earning Adjustment Mechanisms (EAMs) can serve a valuable purpose and provide benefits to ratepayers by aligning the utility's financial interests with public policy goals in a way that drives more innovative and efficient outcomes. While Staff's Report highlights several important flaws of EAM implementation to date, Efficiency and Electrification Advocates issue strong caution against the solutions staff appears to support—i.e., eliminating use of positive EAMs for energy efficiency and electrification programs and potentially replacing them with negative

EAMs—because such a proposal is in direct conflict with best practices for successful energy efficiency and electrification programs.

a. Traditional cost-of-service utility regulation provides a strong disincentive to utilities to pursue all cost-effective energy efficiency and electrification.

As detailed in the Synapse EAM Report, traditional cost-of-service utility regulation is a utility incentive mechanism that is in fundamental tension with the policy goals of energy efficiency and managed electrification.⁷² Without effectively designed EAMs, a utility does not have an incentive to expand energy efficiency and manage electrification beyond any minimum requirements established by regulators (while traditional cost of service regulation does provide electric utilities with incentive to pursue electrification, it does not incent managed electrification that harnesses demand flexibility to minimize grid expansion costs, which remains a nascent concept when applied to mass market customer load at scale). Specifically, a utility is motivated to (1) meet but not exceed EE/BE targets, and (2) use every dollar in its budget to do so.⁷³ As utility performance in New York demonstrates, simply meeting program targets at budget may be an imprudent and wasteful use of ratepayer funds if greater benefits could have been captured at a lower cost.

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

b. Energy efficiency and electrification program ambition and innovation are increased through positive EAMs but decreased by negative EAMs.

Positive EAMs encourage superior performance in energy efficiency and electrification programs because they provide utilities with positive motivation to implement highly effective programs and to innovate to deliver greater benefits than are established by program targets. Without EAMs, the utility business model still favors capital investments (even where revenue decoupling and timely cost recovery have effectively mitigated shorter term incentives to increase throughput). EAMs seek to address this issue by allowing utilities to earn an incentive on over-achieving energy efficiency and electrification program goals.

Positive EAMs are best practices for three reasons. First, they motivate utilities to increase the ambition of their energy efficiency and electrification programs. In 2019, ACEEE found that states with EAMs for energy efficiency programs had significantly higher program savings, including those states with EAMs averaged more than twice the energy savings of states without performance

⁷² Appendix C - Synapse EAM Report at 3-4.

⁷³ Id. at 4.

incentives.⁷⁴ Second, EAMs motivate utilities to implement programs that go “above and beyond” the minimum thresholds established by regulators.⁷⁵ Third, EAMs can influence utility decision making and move towards equalizing supply side and demand side technologies.⁷⁶ Given the many benefits of EAMs, the Commission should continue utilizing EAMs to financially reward utilities for exceeding energy efficiency and electrification program targets.

In contrast to positive EAMs, negative EAMs incentives are more of a mixed bag because they can have unintended consequences that conflict with energy efficiency and electrification goals. While negative EAMs may be effective tools for limiting the risk that utilities will not meet their energy efficiency and electrification program targets, they can have a strong chilling effect that incents utilities to lower program ambitions and stifle innovation. Utilities are deeply risk adverse and are thus much more motivated to limit financial downside than to strive for financial upsides, even if the upside potential is greater. As a result, negative EAMs incite utilities to advocate for lower program targets and to stick to “proven” methods for capturing savings.

c. Staff’s Report highlights several critical flaws in New York’s approach to EAMs.

The Staff Report identifies several important flaws of current EAM practices. First, energy efficiency and building electrification EAMs have been developed and implemented within individual utility rate cases. As a result, they have been subject to fragmented development in which the parties in one case are not necessarily learning from the parties in another. This is particularly true because rate cases in New York tend to result in settlement, meaning that the details of EAM design and the reasons for them were subject to confidential negotiations. This process is not transparent, likely places compromise for rate case outcomes over ideal policy, and has led to significant differences in EAMs across the state. This can be corrected by establishing EAM frameworks and designs that apply to all utilities in a generic proceeding, and only setting the specific EAM target and incentive levels in utility rate cases.

Second, Staff notes that the current focus on cost savings for EAMs, while an important consideration, does not fully align with the current clean energy goals that rely upon utilities pursuing deeper, often more expensive, energy savings. This is true, but is simply an extension of the problem of program targets that are based on energy savings metrics and can be corrected and optimized by transitioning to the TSB.

Staff’s discussion of EAMs, however, strongly implies that Commission policy is to provide shareholder incentives to meet minimum targets, which is not the case.⁷⁷ According to the Commission, the fundamental purpose of energy efficiency and building electrification EAMs is to focus management attention on and reward *superior* outcomes.⁷⁸

⁷⁴ ACEEE, A Models Comparison in Pennsylvania. Submitted to the Pennsylvania Public Utilities Commission. February 19, 2019, available at <https://www.aceee.org/topic-brief/models-comparison-pa>.

⁷⁵ Appendix E - Synapse EAM Report at Section 2.2.

⁷⁶ Id.

⁷⁷ Staff Report at 15.

⁷⁸ State of New York Public Service Commission, “Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025,” Case 18-M-0084, January 16, 2020, page 106.

Based on Staff's observations on EAMs, the Staff report posed several questions (Q12 and Q13) for stakeholders. Considering these questions, the Synapse EAM Report provides the following recommendations:

- Utility shareholders should be financially rewarded when utilities achieve superior performance in implementing energy efficiency and electrification programs. The utility should not earn an incentive for meeting minimum NENY program targets.
- To the extent negative EAMs are considered, the Commission should consider adopting an incentive structure that includes an asymmetrical dead-band around the target. A penalty would apply when the utility's performance is substantially below the target, while a reward would apply when the utility's performance is above the target (although not necessarily significantly above the target). The Commission should not adopt a penalty-only structure if EE/BE targets are not achieved; the reward component of the incentive mechanisms provides important financial motivation to the utilities. (see Section 4.6).
- A positive revenue incentive structure for utility shareholders should center on the TSB. The TSB aggregates all electric and/or gas system needs and environmental externalities that accrue to energy efficiency and electrification resources, which comprehensively values energy efficiency and electrification resources to meet future electric system needs and environmental policy goals. An EAM based on the TSB would best align the State's clean energy policies with shareholder incentives (see Section 4.2).
- Stakeholders should review and decide EAM targets and incentives in a single energy efficiency and electrification proceeding impacting all utilities, and those decisions should align with the EE/BE proceedings so utilities can adjust their programs based on the EAM targets and incentives. Targets and incentives could be utility-specific to reflect differences in service territories (see Section 4.3).
- All utilities should be subject to the same shareholder incentive design (see Section 4.1).

IV. CONCLUSION

Efficiency and Electrification Advocates strongly recommend that the Commission use the opportunity presented by the Interim Review to scale energy efficiency and electrification programs consistent with Climate Act targets and the vision set forth in the Scoping Plan, and to direct a transition of the programs to a new structure that can optimally fulfill multiple climate and clean energy policy objectives. Failure to do so will jeopardize achieving the Climate Act targets.

New York needs an unbiased and accurate framework to ensure that energy efficiency and electrification are prudently utilized as a resource to help meet all energy system, emission reduction, and equity policy needs cost-effectively. Accordingly, the Commission should adopt the nine recommendations contained in these comments.

Respectfully submitted,

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