



March 27, 2023

VIA ELECTRONIC MAIL

Hon. Michelle L. Phillips
Secretary
New York state Public Service Commission
3 Empire State Plaza
Albany, New York 12223-1350
secretary@dps.ny.gov

Re: Advanced Energy United and the Alliance for Clean Energy New York Comments in the Matter of a Comprehensive Energy Efficiency Initiative

Dear Secretary Michelle L. Phillips:

Advanced Energy United (“United”), formerly known as Advanced Energy Economy (“AEE”) and the Alliance for Clean Energy New York (“ACE NY”) are submitting these comments in response to New York Public Service Commission’s (“Commission”) Case 18-M-0084, In the Matter of a Comprehensive Energy Efficiency Initiative. Advanced Energy United is a national association of businesses that are making the energy we use secure, clean, and affordable. United works to accelerate the move to 100% clean energy and electrified transportation in the U.S. Advanced energy encompasses a broad range of products and services that constitute the best available technologies for meeting our energy needs today and tomorrow. These include energy efficiency, demand response, energy storage, solar, wind, hydro, nuclear, electric vehicles, and the smart grid. United represents more than 100 companies in the \$238 billion U.S. advanced energy industry, which employs 3.3 million U.S. workers, including 157,000 individuals in the Empire State.

ACE NY is a member-based organization with a mission of promoting the use of clean, renewable electricity technologies and energy efficiency in New York State to increase energy diversity and security, boost economic development, improve public health, and reduce air pollution. ACE NY’s diverse membership includes companies engaged in the full range of clean energy technologies as well as consultants, academic and financial institutions, and not-for-profit organizations interested in their mission. United and ACE NY are referred to collectively in these comments as the “advanced energy companies,” “we,” or “our.”

Respectfully submitted,

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Comments of Alliance for Clean Energy New York and Advanced Energy United in the Matter of a Comprehensive Energy Efficiency Initiative

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I. Introduction

If New York is to meet its ambitious goal of 70% renewable electricity by 2030 and 100% emissions-free electricity by 2040, as well as a net zero state economy by 2050, set forth in the Climate Leadership and Community Protection Act (“CLCPA”), the state must rapidly deploy a diverse mix of advanced energy resources, while making more efficient and electrifying most end-uses of energy in buildings. Energy efficiency and demand response, together known as demand side management, are consistently the lowest cost and most cost-effective options for meeting this expanding electric demand.¹ On December 19, 2022, Department of Public Service (“DPS”) staff filed their Energy Efficiency and Building Electrification report summarizing portfolio performance and posing questions for stakeholder input. Our detailed comments in response to these questions, as well as more general guiding principles for the future of energy efficiency and

¹ [1] Hoffman et al., The Total Cost of Saving Electricity through Utility Customer-Funded Energy Efficiency Programs (Berkeley: Lawrence Berkeley National Laboratory, 2015) <https://emp.lbl.gov/sites/all/files/total-cost-ofsaved-energy.pdf>.

building electrification programs run by the New York State Energy Research Development Authority (“NYSERDA”) and New York’s large investor-owned utilities (“IOUs”), follow.

II. General comments relevant to the Commission’s consideration of the next iterations of New York’s energy efficiency and building electrification programs

Investing in demand side management will be critical to addressing New York’s expected increase in demand for electricity as a result of electrifying the buildings and transportation sectors. Because energy efficiency reduces energy costs for all customers by lowering wholesale energy prices and deferring or avoiding the need for additional electricity generation resources and other costly infrastructure investments, it is the lowest cost and most readily available resource to meet energy demand. The Brattle Group and United member Oracle recently completed a study that quantified the relative emissions impacts of various utility customer actions, both energy supply relative to demand solutions, and demand-side solutions relative to each other.² Of all the demand- side actions (electric and gas efficiency, distributed solar, electric vehicle adoption, and home electrification), energy efficiency makes the largest single contribution in 2030. The research also found that consumer-driven demand-side solutions can contribute nearly two times the avoided emissions value than that of supply-side solutions alone, and at a significantly lower cost.

Currently, New York’s utilities are still incentivized to focus on specific outcomes, such as arbitrary effective useful life metrics, in their demand side management programs, rather than achieving all cost-effective energy efficiency or focusing on emissions. The Public Service Commission (“Commission”) should consider changing the success metrics of the New Efficiency New York program to incorporate avoided greenhouse gas emissions as well as consider the specific role demand-side resources will play in meeting the goals of the CLCPA.

Traditional energy and demand savings metrics for energy efficiency, electrification, and responsive load do not accurately describe the value of these resources to meet future energy needs, minimize grid investments, maintain reliability, and reduce greenhouse gasses. This

² Sanem Sergici, Ryan Hledik, Michael Hagerty, Ahmed Faruqui and Kate Peters, [The Customer Action Pathway to National Decarbonization](https://www.brattle.com/insights-events/publications/report-by-brattle-economists-quantifies-impact-of-customer-driven-adoption-of-decarbonization-technologies/#:~:text=The%20report%20finds%20that%2C%20by,clean%20energy%20supply%20policies%20alone.), September 27, 2021. <https://www.brattle.com/insights-events/publications/report-by-brattle-economists-quantifies-impact-of-customer-driven-adoption-of-decarbonization-technologies/#:~:text=The%20report%20finds%20that%2C%20by,clean%20energy%20supply%20policies%20alone.>

problem is exacerbated in an increasingly renewable grid in which efficiency, electrification, and demand response impact varies significantly with time and location. Moreover, different distributed energy resources (DERs), including energy efficiency and electrification, are also valued using disparate metrics; this fragmented valuation and procurement creates process and economic inefficiencies.

A new path forward is the Total System Benefits metric (TSB); the TSB aggregates all electric system benefits, and relevant environmental externalities that accrue to efficiency, electrification, distributed resources and other DERs. The TSB is the only metric that comprehensively values all these DERs to meet future electric system needs and environmental policy goals. This common metric will enable electricity planners, regulators, utilities, and implementers to best deploy and track all distributed resources to meet electric grid and environmental policy needs.

As the State implements the building electrification recommendations in the Climate Scoping Plan, the PSC should consider moving towards a TSB metric to assess the benefits of energy efficiency, weatherization, and electrification. A TSB can capture the differing benefits that these actions will have on a variety of systems, including distribution and transmission capacity, energy demand, carbon and air pollution emissions, and grid reliability. A well-designed TSB metric will allow for an easier way to balance and find the most cost effective way to electrify buildings and will drive energy efficiency.

A TSB measure can be created to assess the climate emission reductions, air pollution reductions and their resulting health benefits, and the lifetime benefits to the electrical system, such as savings from shaving the peak load. To integrate the goals of the CLCPA and the actions recommendations in the Climate Scoping Plan, the TSB should include an endogenous value of carbon, e.g. the value of efficiency should be relative to the most cost-effective ways to reduce carbon. In addition, TSB is a technology neutral metric and will drive investments in programs and technology into the more cost effective options.

Utilities and the market need to receive clear value signals from the PSC, in addition to strong performance incentives. For simplicity and alignment, utility performance incentives (e.g. EAMs) should be directly tied to meeting TSB goals. A TSB metric should be developed that clearly defines how much value is created from energy efficiency investments. The TSB should be designed to support and incentivize energy demand reduction measures, such as weatherization, in tandem with electrification and heat pump installations to ensure that heat pumps are right sized for existing buildings. The NY Technical Resource Manual (TRM) measures developed to support the Comfort Home Pilot provide this calculation of significant avoided demand impact.

Building shell improvement investments also provide customer facing benefits by reducing operating cost, and reducing the size and cost of installed heat pump equipment.

The advanced energy companies believe that there should be statewide coordination between the utilities and NYSERDA to ensure consistency on program administration. In addition, coordination should encompass simplifying program applications, and similar branding and outreach to increase program participation and reduce customer confusion.

We recommend that the low-and-moderate income (LMI) programs should not be subject to a cost effectiveness test and realize that additional resources will be needed to address health and safety issues in some buildings to make them electric-ready.

Utility, NYSERDA, and other state agency programs should be developed to allow New York State residents to take advantage of the incentives and programs funded through the federal Infrastructure Investment Act (IRA). This stacking ability will allow residents to fund more expensive shell improvement and electrification projects. Although, it is important that utility efficiency and electrification goals be increased appropriately as federal dollars are used to support utility goals.

The advanced energy parties support the strategic framework for investment. We support investing in strategic programs that are aligned with the state's Climate Scoping Plan to incentivize and promote deeper measures like weatherization and electrification. Efficiency and building electrification programs should divest from non-strategic programs that continue reliance on fossil fuel, including gas to gas HVAC programs. They should maintain neutral programs, where possible, like lighting and home energy reports that help meet energy efficiency and climate goals. Energy efficiency goals should be reoriented towards lifetime savings captured in a TSB metric in order to align utility strategy in the context of deep decarbonization goals, and driving a focus on strategic investments. A TSB metric will value energy savings in the present day over than future savings.

We recommend that program plans and/or budgets be extended to 2028 at least as part of the interim review process. Given the time frame for revisions of the NE:NY program are expected to be issued in late 2023, and implementation changes will occur in 2024, we recommend an extension until 2028 of program plans and budgets to ensure programs can implement any changes properly. In addition, a program extension will allow residents and consumers the ability to plan for program participation and pair utility, NYSERDA and IRA programs to maximize incentives to support upgrades to their homes.

We don't believe a wholesale shift from annual to lifetime goals is the right approach. American Council for an Energy-Efficient Economy (ACEEE) have recommended that portfolios balance

investments in both annual *and* lifetime savings.³ DPS staff points out in the paper that annual savings allow for accountability. This is true but annual savings also ensure that immediate benefits are being realized and consumers see bill savings today.

III. Comments in response to the compiled list of selected questions for stakeholder input

Q1. To establish a Strategic/Non-Strategic Framework for ratepayer-supported energy efficiency and building electrification programs, how should the definitions of Strategic, Non-Strategic, and Neutral be further refined?

The advanced energy companies believe that “Strategic”, in this context, should be defined such that it:

- Aligns with the goals of the CLCPA, defined as a X% carbon reduction assuming 100% renewable electricity
- Leverages commercially mature approaches, or technologies that are actively being sold in the market, outside of any state or utility pilot programs or strategies that have demonstrated large scale state or utility rollouts
- Significantly reduces site-level energy usage and/or replaces site-level fossil fuel appliances with electric or zero-carbon appliances, with “significantly” defined as 10%+ energy reductions (on a total energy or peak reduction basis) for a given building energy source

In the short term, we believe this should mean that ‘Strategic’ programs will be focused on weatherization, electrification, and other deep retrofit measures.

We further believe that “Non-Strategic” should be defined such that it:

- Replaces or adds fossil fuel appliances or energy sources to a building

In the short term, we believe this should mean that Non-Strategic programs consist of gas to gas, oil to gas, and/or propane to gas appliance programs.

Keeping with this theme, “Neutral” should be defined such that it:

³ Rachel Gold and Seth Nowak, Energy Efficiency Over Time: Measuring and Valuing Lifetime Energy Savings in Policy and Planning, February 2019, Report U1902. <https://www.aceee.org/research-report/u1902>

- Aligns with the goals of the CLCPA, defined as a X% carbon reduction assuming 100% renewable electricity
- Leverages commercially mature approaches, or technologies that are actively being sold in the market, outside of any state or utility pilot programs or strategies that have demonstrated large scale state or utility rollouts
- Reduces site-level energy use by <10% (on a total energy or peak reduction basis) for a given building energy source

In the short term, we believe this should mean that Neutral programs consist of behavior, lighting, and small appliance programs.

Program administrators should work to prioritize Strategic targets in each sector, and rely on Neutral and Non-Strategic approaches only when Strategic opportunities are not feasible. For example, within the LMI multifamily segment, program administrators should work to incentivize heat pump and envelope measures whenever possible and only offer incentives for gas boiler replacements as a last resort.

Q2. The scale of CLCPA-level energy efficiency and building electrification goals is far greater than what can be achieved through ratepayer-funded programs alone. How can the Strategic/Non-Strategic Framework be further refined to focus ratepayer funds on the activities that are most appropriate for this funding source? What criteria should the Commission adopt to direct investments to ensure prioritization of ratepayer funds within this Framework?

We recommend that DPS develop a program “loading order” that prioritizes Strategic approaches wherever possible, leverages Neutral programs to meet any important near-term milestones, and phases out Non-Strategic programs as quickly as possible.

To accomplish this goal, DPS must change the operating metrics that the Program Administrators are held accountable for, shifting from first year to lifetime savings such as in a total system benefit metric. Without a change in operating metrics, it will be difficult for Program Administrators to prioritize Strategic programs given the upfront cost and long useful lives of most measures incentivized through Strategic programs.

We also believe that DPS will also need to narrow the scope of sectors that incentive programs currently target. Historically, DPS and the Commission have tried to offer a program for every market, including agriculture, office buildings, schools, multifamily, single family, and more. However, we will need to move away from broad targets as we pursue deeper scopes of work. These shell improvements combined with electrification will result in higher costs, and thus, the need for higher incentives. We believe that care must be taken by DPS in prioritizing sectors.

Affordable housing, LMI, and disadvantaged communities (DACs) should be prioritized to meet CLCPA goals.

In addition, DPS should identify key sectors outside of the LMI and affordable housings areas. Within the market rate multifamily sector market for example, luxury developers have less need for incentive support than cooperatives and condominiums managed by residents. The former often have in-house technical expertise, whereas the latter often need nearly as much support and resources as affordable multifamily.

Q3. What are the strengths and weaknesses of the current suite of energy efficiency and building electrification programs in providing benefits to Disadvantaged Communities?

There are currently no special incentives for the installation of heat pumps in disadvantaged communities. Rather, all projects have to use Clean Heat, and there are few rule modifications within Clean Heat to serve DAC customers more effectively. The Commission should either incorporate heat pumps into the existing low-to-moderate-income programs or incorporate better protections for those projects participating in Clean Heat. In addition, there are currently no increased incentives for commercial buildings in DACs, the current programs focus solely on LMI in multifamily and single-family housing.

Q4. It is expected that benefits to Disadvantaged Communities will result both from LMI programs as well as non-LMI programs administered by the Utilities and NYSEERDA. Specifically, how can non-LMI energy efficiency and building electrification programs be altered in design, outreach, and implementation to increase benefits to Disadvantaged Communities? What other modifications should be made beyond potential increases in incentive levels?

We believe that LMI customers in the single-family sector should not be thought of as fundamentally different from a program design perspective. All customers need simple, streamlined programs that are impactful and accountable. Regardless of income level, most people follow the same adoption patterns, and creating programs that are designed in fundamentally different ways creates additional soft cost barriers for LMI customers.

For example, participation processes and forms should be simple for market rate and LMI customers — if anything, simplicity is even more important for LMI customers that often do not have the time or resources to navigate complex forms and bureaucracy. In addition, program design for all customers should be aligned with the IRA incentives to maximize benefits available. LMI programs should be structured to allow customer to access both State, utility and IRA incentives. The High-Efficiency Electric Home Rebate Act (HEEHRA) in the IRA provides point-of-sale customer rebates for equipment and installation costs to LMI households to electrify their homes.

Similarly, non-energy barriers should be an important program design element for all customers, and this is even more true for LMI customers that often have health and safety issues that need to be addressed in parallel to the installation of energy-saving measures.

The one big difference in program design between LMI and market customers is that LMI customers should have larger incentives. We recommend that LMI customers always receive at least double the incentive levels of market rate customers.

Q5. If greater incentives or resources are needed to support projects in Disadvantaged Communities, what impact could that have on the Program Administrators' ability to achieve the targets established by the Commission through 2025? How should this requirement factor into any post-2025 budgets and targets authorized by the Commission?

We believe that equity should always be prioritized, and that program investments should reflect the CLCPA requirements to ensure that at least 40% of all program investments are focused on DAC customers. The Climate Justice Working Group in its draft DAC criteria has recognized that LMI households should also be considered as DACs for the “purposes of driving New York State clean energy and energy efficiency investments”.⁴ Additional funds and program modification will be needed for DAC and LMI households for building shell and electrical system improvements.

While program Investments should always be as impactful as possible, investments in equity should not be subject to the same cost-effectiveness tests as market rate programs. In other words, there is no “balance” — equity should be prioritized, and budgets should be right-sized to ensure that overall energy efficiency goals are hit that are consistent with the energy and carbon reductions called for by the CLCPA.

This is also why it is so important that the PSC define new “value creation” metrics like a Total System Benefit (“TSB”) charge to better understand the best overall state and utility investment framework for energy efficiency and demand flexibility. See below for more details on this topic.

Q6. Given the necessity for energy efficiency and building electrification portfolios to evolve to support the State's ambitious climate goals and mandates, what performance metrics (i.e., beyond annual and lifetime MWh and MMBtu savings) should the Commission consider prioritizing to drive the types of programs, innovation, and outcomes needed?

We believe that fewer metrics are better. In any business or organization, too many priorities means that nothing is a priority. Similarly for Program Administrators, a small number of “Priority Metrics” should be defined.

⁴ <https://climate.ny.gov/-/media/project/climate/files/LMI-dac-criteria-fact-sheet.pdf>

For resource acquisition programs, we believe that DPS should define a single Total System Benefit metric that takes into account:

- The discounted lifetime energy value of measures, including the avoidance of future infrastructure investments otherwise needed to meet CLCPA goals
- The carbon benefits of measures
- The indoor and outdoor air pollution benefits of measures

For example:

- Weatherization should be valued today based on the reduction of the “shadow peak” that is likely to occur as electrification scales
- Heat pumps should be valued based on the carbon benefits of their energy reductions assuming that the grid is 100% renewable in the future
- Induction stoves should be valued based on the increase in occupant health as well as increasing the odds that gas infrastructure investments will not be needed for that home

For market transformation programs, we believe that DPS should focus on measure cost reductions for Strategic programs / measures, including:

- Reduction of government and utility soft costs, defined as the average administrative costs for a given measure (incentive paperwork, permitting, etc.)
- Reduction of project soft costs, defined as the average labor time required to scope and install a given measure
- Reduction of project hard costs, defined as the average materials cost per unit for a given measure

For example:

- Program designs like measured savings can be measured by contractor administrative time reductions
- Research and development support for tools that can automate aspects of project scoping (e.g. Tailorbird) can be measured by contractor labor time reductions
- Technology demonstration support of next generation electrification hardware (e.g., Gradient) can be measured by hardware cost reductions for both individual measures and the market as a whole

By keeping things simple, the Program Administrators will have the clarity and accountability necessary to execute and innovate.

Q7. Would distinct metrics and targets for different types of programs (e.g., heat pumps, envelope/shell, electric energy efficiency, gas energy efficiency, etc.) be more appropriate than a single metric and goal? If so, what level of granularity would be optimal?

Per above, different metrics for different types of programs are not likely to be successful.

Given the significant variation in the function, purpose, and characteristics of these technology solutions, the development of distinct metrics for the performance of such solutions would likely be necessary. To unify such metrics, programs with different objectives can be measured against a common framework of climate emissions reductions, air pollution reductions and their resulting health benefits, and the lifetime benefits to the electrical system, such as savings from shaving the peak load. As discussed in our introduction, the advanced energy companies recommend that the PSC institute a TSB metric that will assess the benefits of energy efficiency, weatherization, and electrification. The traditional measurement of energy usage developed for energy efficiency only programs does not capture the climate and health benefits of electrification. A TSB can capture the differing benefits that electrification, shell improvements and efficiency actions will have on the grid and climate and air emissions. Given that the TSB metric is technology neutral, it will result in the selection of the most cost-effective method to meet these varying goals.

Q8. Should implementation flexibility and performance measurement carry equal weight when determining the appropriate time period for budgets and targets? Should portfolio budgets and targets be single-year, multi-year, or some combination of the two? What would the reasonable bounds be for multi-year budgets and targets?

The current programs use multi-year targets, however, participants often don't see that benefit. Utilities still place their activities on hold in the fourth quarter to close out as many projects as possible prior to the end of the calendar year. So even though the multi-year target is supposed to prevent this, the advanced energy companies have experienced utilities creating a big end-of-year rush to finish projects, and utilities have put forward modified incentive levels proposals to encourage service providers to finish projects in the fourth quarter. DPS should push programs to set multi-year incentive levels in addition to the multi-year budgets. This will help prevent service providers from being pressured to finish projects in a rush at the end of the year. California currently uses 3 to 4 year cycles for most programs, and New York should adopt a similar structure. Setting multi-year incentive levels will be critical to encourage more building shell retrofits in larger multifamily and commercial buildings, because those measures are significantly more complex to plan and implement than lighting upgrades and other low hanging fruit. Often by the time a larger building plans any envelope work, the incentive levels have changed yet again.

Q9. To date, programs providing support for building electrification have been predominantly funded by electric ratepayers and administered by electric utilities. Should gas utilities administer building electrification programs and if so, how should this be coordinated with electric utilities?

We believe that gas utilities should have an important role in building electrification, including program administration. Very simply, gas utilities should have electrification program budgets just like electric utilities, with similar rate recovery and performance incentives.

Gas utilities are particularly important because they can target areas of the gas system that are most likely to need to be repaired or replaced if electrification does not occur. Gas utilities should therefore be able to invest in Non-Pipeline Alternatives (“NPAs”) at scale, with the Total System Benefits metric that includes the value of avoided future gas infrastructure spending.

It is important that these NPAs not be defined as “all or nothing” electrification investments except in areas where gas repair or replacement has already been planned. Few areas are likely to adopt 100% electrification in any given year (or program period), but the more homes and business that install heat pumps and other electrification measures, the lower likelihood that gas utilities will need to invest additional gas infrastructure in the future as the gas transition called for by the CLCPA accelerates.

In terms of coordination with electric utilities, there are a few practical ways this can happen:

- Many utilities serve both electric and gas customers, with significant overlap that removes any significant coordination challenges
- The Clean Heat Program already provides a forum for statewide coordination to minimize any market confusion or friction
- Utilities can negotiate MOUs to pool program resources for overlapping territories with a single Program Administrator responsible for program execution in any given geography

In any scenario, statewide utility coordination will be crucial to avoid market confusion.

Q10. Building envelope and shell measures are likely to become a larger component of energy efficiency and building electrification programs than in the past. What approach will work best in the marketplace, given the overlap between electric and gas service territories and the inherent complexities of programs co-existing with other programs targeting the same building stock or customers?

As we discussed in our introduction, and in the above, a TSB metric should extend to gas utility programs that incorporates avoided future gas infrastructure investments and building shell

improvements. Given the long life of weatherization programs, these actions undertaken by gas utilities will reduce both current gas heating usage and future electricity usage when heat pumps are installed.

We believe that utilities should coordinate to ensure that there is only one Program Administrator for any given geographic territory, but should also be encouraged to pool funds where appropriate when there are overlapping service territories between electric and gas utilities. To date, electric utilities have served as the lead in overlapping electric and gas territories, and we strongly support the continuation of this practice moving forward.

Q11. How does the overlapping nature of utility territories in some areas of the state hinder energy efficiency or building electrification program performance or customer engagement? What alternative approaches should be considered to alleviate these issues?

Overlapping utilities has resulted in discrepancies in available incentive offerings for buildings in the same region. For example, even though all utilities are supposed to accept measures listed in the technical reference manual, some will ignore the TRM and deliberately slow the pace of application reviews for certain measures so as to discourage participants from applying for measures that some utilities don't like. Meaning that owners with multiple buildings in one city could have drastically different incentive opportunities based on who their utility provider is.

Mandating statewide uniformity more closely might alleviate these issues, but uniformity also has challenges. High rises in NYC are significantly different typologies from garden style complexes upstate, and programs need flexibility to address those differences. Instead, we suggest the creation of a standard process for stakeholders to raise concerns to DPS about variation between utilities, that does not require a formal filing. This would avoid the pitfalls of mandating uniformity, but still allow stakeholders to identify where variation between utilities has become a barrier to getting projects done.

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

As an initial matter, the advanced energy companies have long been strong supporters of well-designed Earning Adjustment Mechanisms (EAMs) to help drive policy outcomes, going back to 2016 and the initial Commission orders that established EAMs. We continue to believe it is extremely important that program administrators be financially incentivized for meeting and exceeding energy efficiency, electrification, and demand flexibility targets necessary to achieve

the CLCPA greenhouse gas (GHG) emissions reductions. Frankly, without strong program administration incentives, we do not believe any of the state’s energy efficiency goals will be met.

We support Staff’s description that EAMs were designed primarily for rewarding “extraordinary achievements of overarching policy goals as the utilities shifted away from the traditional utility business model.”⁵ Thus, EAMs serve two basic functions – to reward performance tied to policy outcomes, and just as importantly, to provide earnings opportunities that can serve as an offset to foregone earnings that result from the utility achieving those policy outcomes. In that sense, EAMs are ideal for energy efficiency – even with revenue decoupling, which makes the utility, at best, indifferent to the achievement of higher levels of energy efficiency, EAMs can offset the forgone future earnings resulting from more efficient energy consumption. For example, more efficient consumption will decrease future capital investment in distribution capacity, all else equal, which in turn reduces earnings from those avoided investments.

With regards to Staff’s question as to whether utilities should be financially rewarded for *meeting* policy targets, if the question is whether EAMs should provide rewards for *meeting* policy goals, as a general rule, the answer to that question should be no. But Staff’s description of the purpose of EAMs would seem to already answer this question. And indeed, New York utilities already have the opportunity to treat NE:NY program spending as regulatory assets and therefore earn a return on that spending. Thus, basic achievement of (i.e., meeting) energy efficiency and electrification goals already provides a financial incentive via the existing cost-of-service business model and should not be subject to additional incentives from EAMs.

That said, meeting policy goals has more than one dimension. There are the targets themselves, but also the costs of achieving them. As Staff notes, significant investments are being made in both efficiency and electrification to meet CLCPA goals, including measures that drive deeper savings that may be more expensive to achieve. Regardless of the measures being pursued, it is important that CLCPA goals are met at the lowest possible cost, and the ability for utilities to earn on NE:NY spending via regulatory asset treatment of program costs presents the possibility that utilities may seek to increase those budgets. Thus, EAMs associated with cost efficiency would seem to be well suited to integration with NE:NY. In that regard, we respectfully disagree with Staff’s observations that cost saving “does not fully align with the current clean energy goals that rely upon utilities pursuing deeper, often more expensive energy savings.”⁶ We discuss this further in our response to Question 13 below.

⁵ NYS Department of Public Service, Energy Efficiency and Building Electrification report, p. 14, <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={B870F67B-E748-4910-BD25-C64B00652954}>

⁶ Ibid, p.15

Regarding Staff's question about the potential for negative revenue adjustments for missing CLCPA targets, we note first that the Commission considered this question regarding EAMs when establishing them and decided that EAMs would be positive only. We are supportive of continuing this approach for EAMs as a way to drive desired behavior but would also support consideration of EAMs that had both positive incentives and penalties. However, within the construct of EAMs we do not believe that negative-only metrics are appropriate, and indeed the threat of penalties for missing CLCPA targets may lead to excessive spending and higher program costs.

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

We understand and appreciate Staff's concerns with respect to the challenges associated with the setting of baseline costs and performance. We also agree with Staff's observation that the development of specific details associated with EAMs in rate cases has been difficult and time consuming. When the Commission initially adopted this approach, the thought was that the high-level guidance on EAMs was sufficient and that consideration of EAMs in subsequent rate cases would provide the opportunity to refine and apply developments from one rate case to the next. While progress has been achieved, the process has remained contentious and time consuming. This suggests that it is past time for the Commission to consider EAMs in greater detail outside of rate cases, where stakeholders can work together in a non-litigated setting to develop EAMs further. This will provide more detailed guidance and methodologies for EAM development that should reduce the burden they have added to already complex rate cases.

That said, we do support the development of an EAM focused on cost efficiency. Specifically, we believe that an EAM for NE:NY should be based on a "Share-the-Benefits" framework that leverages a Total System Benefit metric. In other words, if there are \$100 of TSB value, and utilities invest \$60 to achieve this value, then the remaining \$40 of value should be split between utilities and ratepayers. This creates the best incentive for utilities to create investment plans that maximize ratepayer benefits by holding down costs, increasing the savings per unit of spend, or both. It also ensures that utility shareholders are only rewarded via the EAM if utilities can deliver results that produce net benefits for customers. Such a metric may work well with the newly established (subject to final approval of the Joint Proposal in the current Consolidated Edison rate case) Smart Building Electrification EAM, which specifically targets savings for

selected measures to drive deep savings. Since that EAM is focused on lifetime energy savings, and not the cost of those measures, pairing it with an EAM focused on cost efficiency could help achieve those savings at lower cost.

Defining and calculating TSB should therefore be prioritized by the Commission in order to operationalize a Share-the-Benefits framework. We encourage the Commission to develop a Quick Start TSB based on the existing BCA handbook, including cost of carbon, and to initiate a proceeding to develop a more comprehensive TSB that takes into account all of the factors cited in our response to Question 6. Should the Commission choose, it could also use this new proceeding to address EAMs more broadly, and create a better defined set of metrics that could have significant benefits for administrative efficiency and reduced stakeholder disagreements in future rate case proceedings.

Regarding Staff's other questions above, we recommend that all utilities be subject to the same basic incentive design and receive the same level of reward, that is, their share of net benefits

Q14. Do stakeholders agree or disagree with the relative strengths and weaknesses of the Program Administrators as articulated by Staff? What are other relative strengths or weaknesses? Do these relative strengths and weaknesses differ by sector (low-income, market-rate residential, multifamily, commercial, industrial, institutional)?

We generally agree with Staff analysis of strengths and weaknesses of the Program Administrators. More generally, we believe that the strengths and weaknesses can be summarized as:

- Utilities are best positioned to lead resource acquisition due to their ability to have strong financial incentives to reach energy efficiency goals
- NYSERDA is best positioned to lead market transformation efforts to their ability to take more risk and invest over longer timeframes

NYSERDA is also well positioned to lead efforts to:

- Ensure statewide consistency for mass market programs
- Coordinate additional funding streams (e.g., non-ratepayer funds from state and federal authorities)
- Demonstrate market-based programs like measured savings that require minimal active program administration

Any NYSERDA investments that overlap with resource acquisition efforts should be stacked with utility programs to avoid market confusion or competition with utility programs. In other words, utilities will claim all savings even as NYSERDA investments may support their program efforts.

Where significant non-ratepayer dollars are invested by or through NYSERDA (e.g., IRA funds), utilities should claim all savings resulting from these non-ratepayer dollars, although utility goals should be adjusted upwards accordingly. Wherever practical, these non-ratepayer funds should be braided or stacked into existing utility programs in order to minimize market confusion.

We do not believe that these capabilities differ by sector, although there are certain sectors where specific attributes are more important than others (e.g., additional funding coordination for LMI customers).

Q15. Do the various programs administered by the electric utilities recognize and take advantage of the unique strengths of the electric utilities? If not, in what areas could improvements be made?

We believe that electric utilities can make many improvements in program administration, but that these improvements are more likely to happen when utilities have clear and strong financial incentives to reach state energy and climate goals.

Q19. Are there economies of scale and therefore overall reduced costs to ratepayers for a statewide online marketplace, such as NYSERDA's statewide pilot LMI marketplace, that should be explored in lieu of the continued practice of each utility either contracting out or providing this platform in-house?

We believe that the program administrator(s) that have the ability to reach customers at scale should be charged with developing and managing any online marketplaces. We believe that utility program administrators will make appropriate investments (higher or lower, coordinated statewide or not) in online marketplaces if they have simple and strong overall performance incentives. We do not believe that NYSERDA or any other state entity should invest in resource acquisition tools like online marketplaces — at the same time utilities should not receive rate recovery for online marketplaces outside of the context of their overall resource acquisition investment plans.

The dialogue around shifting the State's NE:NY goals has not yet considered impacts to distributional equity. There are many aspects to equity, including recognition, procedural, and restorative. Distributional equity pertains to the distribution of benefits and burdens across all segments of a community and across generations. E4theFuture and the Lawrence Berkley National Laboratory are in the process of developing guidance for distributional equity considerations

which are likely to include metrics such as bill impacts, program participation, and energy burden across target populations. As New York shifts ratepayer-funded programs beyond “low hanging fruit” and towards deeper measures, it is possible that fewer New Yorkers will directly benefit from NE:NY programs each year, which makes understanding the impact of the distribution of benefits across a population increasingly important.

Q21. Should incentives be provided for the purchase and replacement of new major appliances? If not, how should these appliance incentives be phased out? If so, are there certain criteria that should be imposed for the continuation of such program incentives? Should the program approach be revisited in conjunction with the review of online marketplaces?

We believe that incentives should be phased out as quickly as possible for replacement of fossil fuel appliances with new fossil fuel appliances. While these fossil to fossil programs do save energy, they are Non-Strategic and the state should not be investing scarce ratepayer resources in programs that are antithetical to broader state policy and the CLCPA.

Program administrators should only be allowed to continue fossil to fossil appliance programs if they can demonstrate that they are not able to meet their energy efficiency goals (per Quick Start or permanent TSB metric) in any given year through investments in Strategic and Neutral programs.

Effectively designed and implemented appliance incentive programs can be hugely impactful for customers in helping increase accessibility of high-efficiency appliances and driving lifetime energy savings. High-efficiency electric appliances should be prioritized in incentive programs to get the greatest emission reductions and to avoid free-ridership. Larger incentives should be considered for fuel switching to avoid LMI and disadvantaged communities being “stranded” on the gas grid. Best practices for high-impact appliance incentive programs include:

1. Offering incentives through the most influential market actors in a given supply chain (i.e. Distributors, contractors, retailers, etc.) through a streamlined midstream program approach,
2. Prioritizing measures with big impacts for LMI customers, small independent businesses, and those located in disadvantaged communities, and
3. Ensuring adequate incentive coverage of the incremental measure costs to influence customer and market decision making, with additional added incentives for LMI and DAC customers.

For natural gas appliances, an analysis should be conducted to determine if a viable electric alternative exists in a given appliance category for the different customer segments. If it is

determined that incentives and other program interventions can effectively drive a customer to an electric appliance for a given category, natural gas appliance incentives should be phased out for that product category. If an incentive cannot effectively drive a customer to install an electric model, then natural gas appliance incentives should remain and ramp down over time utilizing a data-driven approach reflecting the market conditions to prevent customers from reverting to inefficient gas appliances due to the lack of incentives for high-efficiency equipment and the lack of a viable electric alternative.

This strategy would require the Commission to define “Viable Electric Alternatives” in order to determine which measures are technically feasible and economically viable. This definition should consider availability and market readiness, incremental measure costs, customer operating and maintenance costs, as well as the availability of incentives. These costs vary by sector, building types, and climate zone, which should be considered. Infrastructure costs, such as panel upgrades, must be considered as a cost because these costs represent a substantial premium for customers who could otherwise replace their equipment with standard-efficiency gas measures. We suggest a distributional equity analysis which can determine the structural and procedural ramifications of the gas phase-out strategy.

Many energy efficiency program designs (such as midstream or upstream programs) partner local equipment distributors / dealers to provide discounts on eligible equipment, increasing dealer stocking and sales of high-efficiency equipment. These programs are heavily dependent on the engagement of these market actors and their confidence and trust in the program. Long equipment lead times (for some measures, 4-9 months) particularly exacerbated by pandemic supply chain issues underscore the importance of a communicating policy and program changes to these market actors far in advance so that they are not carrying “stranded” equipment that they had expected to be eligible for incentives. These market actors are crucial to the successful transition away from gas and towards electric, and it is critical not to damage trust with these market actors.

Q22. Do the various programs administered by the gas utilities recognize and take advantage of the unique strengths of the gas utilities? If not, in what areas could improvements be made?

As in our response to Question 9, gas utilities should be given the opportunity to invest in electrification to take advantage of their unique knowledge of the gas system. We recommend that the Commission maintains support for measures that facilitate the transition to electrification, both for gas and electric utilities. In particular, gas utilities should be encouraged to emphasize system efficiency by offering customers incentives for transitional measures and smart technologies that can deliver energy savings without burning gas.

California is on a pathway to adopting this approach. In a recent Proposed Decision on gas energy efficiency plans (A.22-02-005, et al.),⁷ the California Public Utilities Commission (CPUC) describes its plans to enable gas utilities to incentivize “exempt measures” using ratepayer funds, defining exempt measures as those which “result in gas savings but do not burn gas.” These include smart thermostats, building envelope measures, and energy efficiency audits among others.

In addition, the CPUC gives utilities a five-year timeline to develop plans for targeting exempt measure incentives towards the equity customer segment. As cost burdens increase for gas customers who cannot afford to electrify, the CPUC seeks to encourage greater uptake of exempt measures to reduce costs and energy losses. We support this approach and recommend adopting a similar approach in New York State and integrating it with the Strategic Framework.

Q23. Under what timeframe should the Commission require a phasing out of incentives supporting gas-fired space heating and domestic hot water heating equipment? Should different considerations be made for programs targeting LMI households or Disadvantaged Communities, or for different sectors (e.g., small residential, large multifamily residential, commercial, institutional, or industrial)?

See our response to Question 21.

Per our response to Question 21, the commission should direct the utilities to conduct analyses on each product category of natural gas heating and domestic hot water heating equipment in their programs to determine if a viable electric alternative exists in the market today for each customer segment. If local market conditions show that an incentive or program intervention can effectively influence purchasing decisions to electric equipment that provides the same service as a gas model, then incentives for those natural gas equipment categories should be phased out as quickly as possible.

If local market conditions show that electric alternatives for a given equipment category do not exist, are too costly (labor and materials costs), or are technically unable to provide the same service as a gas model, incentives for natural gas equipment should be phased down over a longer time period based on market readiness.

Longer timelines for phasing out these types of incentive programs may be necessary in the multifamily, commercial, industrial, and institutional, and LMI residential customer segments

⁷ <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M502/K981/502981822.PDF>

given the higher upfront costs and other market barriers for electric replacements in these sectors when compared to the single-family residential market rate sector.

Low income and historically underserved populations are least likely to be able to afford the transition to higher-priced electric equipment, while being the most likely to have suffered the greatest public health effects from natural gas appliances and infrastructure. Larger incentives and increased program support for fuel switching in these communities should be prioritized to avoid continuation of unjust energy impacts.

Q24. Should Home Energy Report programs continue to operate as stand-alone energy efficiency programs, or should they be discontinued? Alternatively, should Home Energy Reports be reimaged as a customer engagement tool or marketing component of other programs and deployed to all utility customers?

Yes, the Home Energy Report (“HER”) programs should continue. Of all Consolidated Edison’s (ConEd) residential and multi-family programs, their HER program delivers the most customer bill savings, except for lighting, which is exiting the portfolio. Of the top 10 largest residential and multi-family programs across the State of New York, HERs deliver 40% of bill savings. The HER program is therefore an important equity tool and if the program were to be discontinued, fewer New Yorkers will directly benefit from ratepayer funded programs. The HER program has generated \$91 million in direct bill savings in energy burdened households within disadvantaged communities throughout New York. Removing these programs will reduce near-term bill savings that consumers experience today while only benefitting a small portion of the population as we work towards the important outcome of building retrofits and electrification.

New York’s building sector will not be electrified or retrofitted overnight and thus it should not be the policy of the Commission to eliminate the HER program, which generates benefits to millions of New Yorkers. Currently lighting, marketplaces and HERs are the only programs of any size that benefit New Yorkers regardless of income, home type, or renter status. To put this in perspective, according to the clean energy dashboard filings, over 1 million ConEd customers benefit from the HER program each quarter. Fewer than 100 households benefit from the residential weatherization program during the same time frame. The kinds of savings these programs deliver are very different but the impact on participation and benefits across the population would be severe. With this in mind, DPS staff should conduct a participation analysis (from a distributional equity perspective) on utility portfolios as they look today and how those would look without HERs, lighting or marketplaces.

Q26. How can program incentives be structured to mitigate barriers associated with the deployment of building shell measures? What beyond program incentives can be done to support the shift to these types of measures?

In addition to shifting to a Total System Benefit metric, we believe that NYSERDA should demonstrate a measured savings approach that ensures savings accountability while maximizing incentive flexibility. NYSERDA has the potential to do this by leveraging federal IRA funds through the HOMES program measured savings pathway.

For affordable multifamily buildings in particular, requiring shell and envelope measures to be completed prior to heat pump measures has historically been extremely difficult to implement. Timeframe and costs are the greatest barriers: building shell measures are generally only included in renovation projects tied to a refinancing, which are conducted every 10-15 years. Due to the large cost of both shell upgrades and heat pumps, neither is likely to be implemented outside of a refinancing. Therefore, we strongly recommend that the PSC, utilities, and NYSERDA create paired incentives that drive both shell and heat pump implementation simultaneously during the refinancing process, and identify ways to ensure we reach 100% of buildings undergoing these types of upgrades.

Q27. Given the advancements in efficiency and options for commercial cooking equipment, how quickly should ratepayer-funded incentives for high efficiency gas commercial cooking equipment be phased out? During the transition period, should any criteria be imposed for the continuation of such program incentives?

See our response to Question 21.

A phase out of ratepayer funded incentives for high efficiency gas commercial cooking equipment should be intentional and well-communicated to the market. The purpose of ratepayer-funded incentive programs should advance the adoption of electric cooking equipment, but the timeline of the phase-down of gas commercial cooking equipment incentives should be data-driven and well-communicated to the market to avoid unintended negative impacts restaurant owners, market actors, and the state as a whole. A rapid ramp-down of natural gas kitchen equipment incentives could lead to a disruption in foodservice equipment dealer business models and a loss in dealer trust due to stranded high-efficiency equipment in stock that can no longer be sold without incentives, particularly considering the long lead time for equipment procurement (often 4-9 months, and exacerbated by pandemic supply chain issues). In the absence of a viable electric alternative (see our response to Question 21), an immediate cessation of gas incentives could cause customers to purchase cheaper, inefficient gas equipment that had been sold prior to the point-of-sale foodservice programs' implementation, which would lead to increased operating costs for New York businesses and GHG emissions in the near term.

When incentives for highly efficient gas equipment are lowered, program participation correspondingly drops. In August 2018, the National Grid Point of Sale (POS) kitchen equipment program reduced incentives by 25% for high-efficiency natural gas fryers and found that sales of

high-efficiency models decreased by 60% on average for the months following the change. In November 2018, the incentives were increased back to the previous level and the high-efficiency sales returned to the previous monthly averages.

We recommend analyzing each commercial foodservice appliance category currently being incentivized to determine if a viable electric alternative exists (see our response to Question 21) to determine the timeline to phase out ratepayer-funded incentives for high-efficiency gas commercial cooking equipment. If there are electric models of given category that can offer the same performance and can be purchased and installed at a comparable cost with an incentive or other program intervention, then natural gas incentives should be phased out as quickly as possible for those equipment categories. This approach would prevent small, independent restaurant owners from going back to purchasing less expensive, inefficient gas cooking equipment rather than high-efficiency gas cooking equipment in the absence of a viable electric alternative.

An intentional and phased approach to ramping up commercial foodservice electrification program offerings and reducing natural gas incentives over time based on the viability of electric alternatives within specific equipment categories would enable the programs to leverage the existing supply chain relationships and successful program processes built through the POS programs to successfully achieve long-term market transformation of the New York commercial kitchen equipment supply chain and reduce emissions.

Q28. Given the current imbalance of program activity between Air Source Heat Pumps (ASHP) and Ground Source Heat Pumps (GSHP), should the Commission dictate budgets for each heat pump technology type?

We believe program budgets should not distinguish between heat pump technology, but that program administrators should size incentives for each technology based on expected energy savings and Total System Benefit value. We believe that a measured savings approach, for example, would provide a simple framework to ensure incentive parity between technologies (e.g., ASHP vs. GSHP). As noted in our introduction, TSB is a technology neutral metric, that allows for the calculation of the most cost-effective option to achieve both efficiency and climate goals. The issues raised in the choice between ASHP or GSHP are the upfront costs for installation and the lifetime operating costs. Both of these can be captured in a TSB metric since it incorporates time and lifetime climate and air pollution emissions and costs.

Q29. Given the overall objective to electrify buildings' space and water heating uses, should ratepayer-funded programs continue to support projects that do not fully electrify these uses? If so, how can the program be structured to mitigate negative consequences such as heat

pumps being installed only for cooling purposes, customers needing to maintain two systems, uncertainty with regard to resultant GHG emission reductions, etc.?

We believe that the Total System Benefit metric should take into account the relative value of buildings that fully electrify, which in turn should send the right market signal (and incentive value) for homes that fully electrify. Full electrification is significantly more beneficial and should be valued accordingly.

Q30. Given the implications of a future winter-peaking electric system, should minimum levels of building envelope/shell conditions be a prerequisite for the receipt of heat pump incentives? If so, how could this practically be implemented?

We believe that the Total System Benefit metric should take into account the relative value of buildings that are weatherized, both before and after electrification. This in turn should send the right market signal (and incentive value) for homes to weatherize. A weatherized home is significantly more beneficial and should be valued accordingly. The correct valuing of load reductions associated with measures like weatherization will help to shift incentives in the direction of envelop improvements. The implementation of a normalized energy performance metric such as the Home Energy score can also help building owners evaluate their envelope condition. Such a metric can begin as a time-of-sale requirement, as has been implemented in Portland, OR. Tying these upgrades to the time-of-sale is particularly impactful as home improvements often occur in conjunction with a sale – most often shortly after. As stated previously, it is additionally important that heat pump installations are coordinated with these building envelope improvements and not treated as separate upgrades to be made at an as-yet undefined future date. As addressed in Question 26, affordable multifamily buildings are unlikely to implement shell measures prior to installing heat pumps, and in keeping with this, these measures need to be incentivized simultaneously, as a package, during the refinancing period.

Q31. Given the necessary evolution of other programs among the Program Administrators' portfolios, should the NYS Clean Heat program continue to operate as a heat-pump specific program, or should building electrification incentives become a part of other programs targeting the various building types? What are the pros and cons of these different approaches?

We believe that the NYS Clean Heat program has provided a good template for statewide coordination and should be applauded. We also believe that heat pumps should be integrated into overall program portfolios given the integrated nature of different measures (e.g., heat pumps and weatherization). Heat pumps work most effectively when they are paired with weatherization and building shell improvements. We also support the continuation of the Clean Heat branding as it is gaining in recognition across the state.

Q32. Should ratepayer funds be used to incent electrical panel upgrades necessary for the installation and operation of heat pumps? If so, should this be restricted to LMI/DAC customers? How would it best be structured?

There is currently little research on the typical cost to upgrade electrical panels in large buildings in New York, however, we've estimated that some multifamily properties could cost as much as \$10,000 per unit to install enough electrical capacity for heat pumps. This is a major barrier to electrification, and needs to be incentivized and studied further. We strongly support ratepayer dollars going to electrical panel upgrades and encourage DPS and the Commission to fund this work as soon as possible.

We also believe that non-ratepayer funds should be leveraged for these purposes wherever possible. Any state programs should enhance building owners ability to access federal electrification funds.

Q33. What criteria should be considered for allocation of NYS Clean Heat program funding among different building sectors?

Due to the Clean Heat Program pause in ConEd territory last year, we strongly support funding allocations for different building sectors. ConEd spent their entire program budget three years ahead of schedule, which was a major disruption to projects across all sectors. Electrification is already a very hard sell, and having a chaotic source of incentives has pushed several developers to replace old gas equipment with new gas equipment instead of electrification.

We propose several modifications to the program to ensure that it remains a stable source of funds over time:

- Set clear budget allocations for single family, affordable housing multifamily, market rate multifamily, and commercial sectors
- Ensure that, if the utilities want to move money between the different allocations, reallocating more than 20% of the budgets would require DPS approval
- Allow multifamily and commercial buildings to reserve funds prior to the full application submission
- Prioritize affordable, LMI, and DACs above all market segments

The real estate community needs to see a clear commitment to their heat pump projects, meaning that there is a significant portion of the budget set aside solely for them, with a multi-year guarantee of funding to ensure that more complex projects have several years to plan and

enroll in the program. Without strict DPS oversight of this issue, the utilities will continue to rely on single family projects to inflate their program targets and ignore the needs of the larger market.

Q34. Do the various activities administered by the electric utilities and NYSERDA through the NYS Clean Heat program recognize and take advantage of the unique strengths of the respective organizations? If not, in what areas could improvements be made? Are there refinements that could be made to the collaborative model to improve effectiveness?

We believe that the NYS Clean Heat program provides a good template to build from in terms of statewide coordination and consistency. Rather than continue to improve the NYS Clean Heat program, however, we recommend that these learnings be integrated into broader program portfolio strategies, including assigning resource acquisition accountabilities to the utilities, assigning market transformation and statewide coordination accountabilities to NYSERDA, and providing program administration flexibility on incentive levels to avoid market sugar crashes.

Q35. It is generally recognized that the workforce necessary to scale building electrification to meet the CLCPA goals needs to be further developed and significantly expanded. What critical building electrification workforce training and development needs are not currently being met, that should be further supported through ratepayer-funded programs?

We believe that workforce development is a crucial area of investment to meet the state's climate goals, and particularly important in the context of building electrification. We believe that NYSERDA should be primarily tasked with workforce training and development with a focus on trade unions and retraining existing plumbers, pipefitters, electricians, and HVAC professionals in building electrification.

Q36. What in-field experiences are there that demonstrate the complementary nature of NYSERDA's energy efficiency and building electrification market development activities and those of the Utilities' more traditional resource acquisition type programs? Alternatively, are there in-field experiences that demonstrate challenges to the complementary approach sought by the Commission?

NYSERDA's FlexTech Program, and new Low Carbon Capital Planning sub-program, are a great example of a complementary approach. FlexTech provides high-quality technical assistance to multifamily and commercial buildings in need of energy efficiency and electrification expertise. And then NYSERDA staff works to convert these studies into retrofits that then utilize utility incentive programs. We've seen first-hand how the program provides essential incentives to affordable multifamily and condos/co-ops that don't have deep cash reserves to help them prepare for decarbonization that they could not have paid for otherwise. In addition, FlexTech

helps broaden the scope of measures that owners consider when planning a project, including adding solar, energy storage, and deeper electrification to scopes considered by commercial and market rate multifamily. We strongly recommend DPS continue to support this program permanently, as it is the most valuable contributor to existing building implementation of retrofits and electrification across the state.

NYSERDA and the utilities both offer incentives for heat pump implementation, however none of the programs on their own are enough to support most multifamily and commercial projects. Therefore, we strongly suggest DPS continue to support double dipping of incentives from multiple programs for heat pumps.

Q37. Given the nature of NYSERDA's market development activities, are there more appropriate performance targets, other than MWh and MMBtu savings, that should be imposed to track performance and the impacts of these investments?

NYSERDA should use LMI programs and other market development activities to help build delivery capacity. The development of metrics for delivery capacity would serve to support the creation and allocation of related incentives.

Q39. Given the lack of performance to date and the administrative resource commitment required in developing and administering a statewide LMI framework, should this policy objective continue to be pursued? If so, what should be done differently to improve performance and delivery of services to LMI customers? If not, what alternative approach should the Commission take? Is it incompatible to impose individual program administrator budgets and targets within a statewide portfolio approach?

We believe that statewide consistency and coordination is not inconsistent with utility program administration and goals. Similar to the NYS Clean Heat program, each utility can design programs appropriate for their LMI customers within the framework of consistent application and incentive templates.

Q40. What barriers have prevented greater progress in the deployment of the Statewide LMI Portfolio and the expected scaling of services to the LMI Sector?

We believe that LMI customers have historically had more barriers to program participation than market customers due to income verification and other paperwork burdens. Single family LMI programs should consider the utilization of counterfactual baselines, recognizing the impacts of energy cost burdens on the operation of the buildings, which are operated to solve for an energy cost burden instead of comfort. One important barrier to note here is the way in which excessive

targeting of high-use LMI households ultimately penalizes those customers that seek to control energy bills by compromising on comfort.

Q41. What are the unique strengths that the electric utilities, gas utilities, and NYSERDA possess as LMI program administrators? Do the various activities administered by the electric utilities, gas utilities and NYSERDA under the Statewide LMI portfolio recognize and take advantage of these unique strengths? If not, in what areas could improvements be made?

For multifamily, the program administrators already transitioned incentives for affordable housing from the NYSERDA Multifamily Performance Program (MPP) to the new utility Affordable Multifamily Energy Efficiency Program (AMEEP). AMEEP offers higher incentives than MPP did, which is excellent, however, AMEEP has been a slower process. Utilities require more extensive Measurement and Verification (M&V) than NYSERDA did, adding several months to the timeline. This issue may be resolved with more flexible program targets, so that utilities would feel comfortable making M&V less arduous.

One significant issue with the AMEEP Program is that it inadvertently drives gas boiler replacements rather than electrification. This is because participants going through the Comprehensive Pathway cannot get points for heat pump installations. Moreover, the Consolidated Edison Clean Heat pause has stalled market confidence in utilizing the program's heat pump incentives. DPS should either incorporate heat pump incentives directly into AMEEP or make modifications to Clean Heat to make it a more suitable and stable choice for affordable multifamily. The former is a better choice for affordable multifamily because it removes the extra upfront cost required to participate in multiple programs.

Q42. Are there programmatic gaps in the LMI Portfolio as is currently being administered? If so, what services or market segments are not adequately addressed?

Currently, New York Power Authority (NYPA) customers can only participate in a few limited offerings from NYSERDA and the utilities, including NY Sun for solar PV and utility gas efficiency incentives. NYPA customers can't access Clean Heat, meaning that over 300,000 low-income residents in the New York City Housing Authority (NYCHA) housing cannot benefit from incentivized heat pumps. Even though NYCHA is taking steps to push electrification without incentives, many of their recent projects have had to abandon heat pumps and revert to gas boilers due to rising costs. We strongly suggest DPS revisit strategies to offer incentives to this growing pool of NYPA customers.

In addition, the PSC's historic unwillingness to offer incentives to "free riders" creates gaps for LMI customers especially. We've seen first-hand how many of these customers are not in compliance with code and other energy compliance requirements. And now with the transition

to electrification and decarbonization, there is more of a need than ever before to offer incentives to these properties that are subject to overlapping compliance requirements. If the PSC continues to use free ridership as a determining factor in program planning, there will be significant gaps in incentives available for LMI customers.

See our response to Question 41 regarding the AMEEP Program for low-income multifamily properties inadvertently results in more gas boiler upgrades and lack of market confidence in ConEd Clean Heat program. We echo our recommendation in Question 41 for DPS to either incorporate heat pump incentives directly into AMEEP Comprehensive Pathway or make modifications to Clean Heat to make it a more suitable and stable choice for affordable multifamily.

IV. Conclusion

We appreciate the Commission's consideration of these comments as it gathers input on topics relevant to the Commission's consideration of the next iterations of New York's energy efficiency and building electrification programs. ACE NY and United look forward to continuing to work with NYSERDA and the Commission on the implementation of energy efficiency measures to meet the state's clean energy needs in the coming years.