STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

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

ORDER ADOPTING ACCELERATED ENERGY EFFICIENCY TARGETS

Issued and Effective: December 13, 2018

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STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

At a session of the Public Service Commission held in the City of New York on December 13, 2018

COMMISSIONERS PRESENT:

John B. Rhodes, Chair
Gregg C. Sayre
Diane X. Burman, concurring, in part and dissenting, in part
James S. Alesi

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BY THE COMMISSION:

I. INTRODUCTION

With this Order, the Commission adopts accelerated energy efficiency goals, targets, and budgets for investor-owned utilities and provides direction on numerous implementation issues. The Order finds that a statewide goal of 185 trillion British thermal units (TBtu) of customer-level energy reduction by 2025 is reasonable and adopts an incremental target of 31 TBtu of reduction by the State's utilities toward the achievement of that goal. The Order further adopts a subsidiary target of an annual reduction of 3% in electricity sales by 2025,[1] as well as a subsidiary target of at least 5 TBtu in reduction through heat pump deployment. These targets, coupled with activity already underway at the utilities and the New York

[1] Percentage of load reduction goals are measured against a forecast of usage at the target date.

State Research and Development Authority (NYSERDA) and other complementary actions, will put New York on a path to achieve the 185 TBtu goal as well the overall state goal of 40% statewide reduction of greenhouse gas (GHG) emissions from 1990 levels by 2030.

The overarching policy of this Order is to support cost-effective energy efficiency programs that contribute to achieving the State's carbon reduction goals. The Order establishes an iterative approach, with immediate accelerated utility targets and budgets adopted for the years 2019-2020 and a process for developing utility-specific targets and budgets for the years 2021-2025, to be authorized by the Commission in 2019.

Of the total 31 TBtu of incremental achievement through 2025, the Commission has already authorized 4.6 TBtu in recent rate cases. The estimated additional ratepayer contribution to achieve the 31 TBtu target is $1.61 billion. Total bill savings for customers participating in the efficiency programs are estimated to be over $15 billion.[2]

In April 2018, Department of Public Service Staff (Staff) and NYSERDA issued a report entitled New Efficiency: New York (NE:NY or the White Paper). The report was called for in the Governor's 2018 State of the State Address. The report describes energy efficiency as an essential component of the comprehensive approach needed to achieve the State Energy Plan's carbon reduction goal of 40% statewide reduction of greenhouse gas emissions from 1990 levels by 2030.[3] The contents of the report have been subject to a total of thirteen technical

[2] These bill savings do not reflect the participating customers' costs of purchasing energy efficient equipment and services.

[3] 2015 New York State Energy Plan, available at https://energyplan.ny.gov/Plans/2015, at 112.

conferences and stakeholder forums and two rounds of written comments.

This Order specifically applies to the large jurisdictional investor-owned utilities.[4] The reasonableness of the actions taken here is supported by estimates of benefits and customer impacts based on historic trends, as well as the broader context of a statewide carbon reduction strategy as described and established in the New Efficiency: New York report, the State Energy Plan, and recent Commission orders related to the Reforming the Energy Vision (REV) initiative. The iterative approach established in this Order provides for additional public review of specific implementation plans, including program budgets.

While the direct subjects of this Order are regulated utilities, achieving the goals of this Order in a cost-effective manner will also involve third-party market participants. At every stage of implementation, the market enabling impacts of utility actions must be considered. Through REV, New York broadly, and the Commission specifically, aim to lower the costs and speed the achievement of the State's policy goals, through accelerating the deployment at scale of solutions that create the most economic value for both consumers and the state's energy system. These solutions should draw on innovation and investment from all sectors. They should leverage the potential of technology or deployment alternatives that are more optimal for specific locations or other system needs and business model

[4] Central Hudson Gas & Electric Corporation (Central Hudson), Consolidated Edison Company of New York, Inc. (Con Edison), KeySpan Gas East Corporation (KEDLI), The Brooklyn Union Gas Company (KEDNY), National Fuel Gas Distribution Corporation (NFG), New York State Electric & Gas Corporation (NYSEG), Niagara Mohawk Power Corporation d/b/a National Grid (Niagara Mohawk), Orange and Rockland Utilities, Inc. (O&R), and Rochester Gas and Electric Corporation (RG&E).

alternatives that yield additional savings or produce additional value, yielding revenues and economic benefits that can be shared among market participants, utilities, and ratepayers.

The REV Framework Order[5] determined that utilities will play a central role in this transition, in part because they are ultimately responsible for the reliability of distribution systems. That Order also emphasized that the utilities must continuously earn their central role by facilitating third party and market solutions. In the context of this Order, the Commission looks to the utilities to use their position, knowledge, and capacity to improve outcomes and cost-effectiveness.

Focusing program design on clarity, stability, and simplicity will create the preconditions for private companies to invest in bringing forward solutions. This can include: authorizing and encouraging programs and approaches that support stable markets at scale; authorizing and encouraging programs and approaches that specify problems and look to the provider to specify solutions; authorizing and encouraging the provision of data and information that enables these firms to direct their work and investment most productively; and encouraging approaches that streamline program and utility processes to permit effective participation by the best range of suitable providers. In all cases, appropriate levels of security, prudence, and consumer protection must be maintained.

As the Commission made clear in the REV Framework Order, longer term goals should always be greater than near-term

[5] Case 14-M-0101, Proceeding on Motion of the Commission Regarding Reforming the Energy Vision, Order Adopting Regulatory Policy Framework and Implementation Plan, issued February 26, 2015 (REV Framework Order).

targets.[6] Innovative means of achieving efficiency targets will build markets for related products and services, and whole building, cross-fuel, and building management innovations will serve related long-term energy policy goals while also achieving immediate efficiency targets.

II. BACKGROUND

A. Prior Commission Actions

New York's Energy Efficiency Portfolio Standard (EEPS), adopted in June 2008, established energy efficiency programs to be implemented by NYSERDA and eleven investor-owned gas and/or electric utilities.[7] Under EEPS, utility efficiency programs were typically resource acquisition programs, oriented toward direct rebates and subsidies to encourage individual customers to procure and employ more efficient end-use equipment and systems, thereby acquiring energy savings as a resource.

In the 2015 REV Framework Order, the Commission established a new framework for the electric energy efficiency programs of investor-owned utilities, based on the REV goals of reorienting the electric industry and the ratemaking paradigm toward a consumer-centered approach that harnesses technology and markets.[8] The Commission adopted the same framework for the

[6] Case 14-M-0101, supra, REV Framework Order at 73.

[7] Case 07-M-0548, Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard, Order Establishing Energy Efficiency Portfolio Standard and Approving Programs (issued June 23, 2008).

[8] Case 14-M-0101, supra, REV Framework Order.

gas efficiency programs of the major investor-owned utilities in an Order issued June 19, 2015.[9]

Under the new framework, utilities were granted increased flexibility and responsibility for the administration and design of their energy efficiency programs beginning in 2016 and were directed to begin a gradual and steady evolution of those programs to align with REV approaches. The utilities were given the freedom to design and manage the programs within their authorized budgets to meet directed targets and transition to market-based programs.

For planning purposes, the Commission directed the establishment of a three-year rolling cycle.[10] As part of the cycle, utilities were directed to file, on an annual basis for Commission approval, a Budgets and Metrics (BAM) Plan containing proposed portfolio budgets and metrics for a three-year period. Utilities were also directed to file an Efficiency Transition Implementation Plan (ETIP) as a companion filing to inform the authorization of such budgets and metrics, but not subject to Commission approval.

The Commission further required the utilities, as a unified group, to maintain their own tools for planning, evaluation and benefit/cost analysis, to maintain and update the Technical Resource Manual (TRM), and to increase uniformity across the State and coordination with NYSERDA. The Commission also directed utilities to conduct Evaluation, Measurement & Verification (EM&V) activities that would yield timely information and to incorporate the results of those activities

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[9] Case 15-M-0252, Utility Energy Efficiency Programs, Order Authorizing Utility-Administered Gas Energy Efficiency Portfolios for Implementation Beginning January 1, 2016 (issued June 19, 2015) (June 2015 Gas ETIP Order).

[10] Case 15-M-0252, supra, CE-01: Utility Energy Efficiency Program Cycle Guidance.

into the annual modifications to utility programs, resource manuals, and guidance. The Commission stated that it was the utilities' responsibility to ensure that EM&V activities were planned to be used and useful and coordinated with NYSERDA EM&V activities to avoid duplicative efforts. Staff maintained a monitoring and auditing role with respect to these activities.

In compliance with the Commission's Benefit Cost Analysis (BCA) Order, the Societal Cost Test (SCT) is used as the primary benefit-cost analysis tool for assessing utility-administered energy efficiency portfolios.[11] A demonstration that the overall ETIP portfolio of programs yields a SCT at 1.0 or better, in addition to benefit-cost screening at varying levels of granularity for informational purposes, is described in the Commission-ordered ETIP Guidance, CE-02: ETIP Guidance, which outlines the required elements of the ETIP filings.[12]

In addition, the Commission required each electric utility to include a Self-Direct Program in its electric energy efficiency portfolios that would allow large commercial and industrial customers to self-direct funds that would otherwise support the utilities' portfolios. The Commission directed Staff and the electric utilities to work in consultation with the large commercial and industrial customers to develop guidance regarding self-direct programs.[13]

The Commission also stated that NYSERDA would remain the default provider of low-income programs, but encouraged the

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[11] Case 14-M-0101, supra, Order Establishing the Benefit Cost Analysis Framework (issued January 21, 2016) (BCA Order). While the BCA Framework did not address gas efficiency programs explicitly, the overall framework is applied to gas efficiency programs for consistency.

[12] Case 15-M-0252, supra, CE-02: ETIP Guidance, July 15, 2015.

[13] Case 15-M-0252, supra, CE-03: Self-Direct Program Guidance, June 9, 2016.

utilities to develop innovative programs to expand the reach of measures that include energy efficiency within low-income communities, in concert with and not in competition with efforts of NYSERDA and private market activity.

To initiate the first iteration of the three-year cycle, the Commission authorized utility portfolio budgets and metrics for 2016 at the 2015 levels, required utilities to propose budgets and targets for the remaining years of the 2016-2018 cycle in a BAM Plan by July 15, 2015, and required utilities to file, as a companion filing, proposed 2016–2018 ETIPs to inform consideration of the proposed budgets and metrics. On January 22, 2016, the Commission authorized the utilities' 2016-2018 energy efficiency portfolio budgets and targets and corresponding collections through the Energy Efficiency Tracker surcharge mechanism (EE Tracker surcharge).[14]

The 2015 REV Framework Order also provided for a transition in cost recovery, so that rather than being recovered through a surcharge, efficiency programs "will be integrated into the utilities' businesses and costs will be recovered through rates like other ordinary components of the revenue requirement."[15] Because of difficulties in providing for Self-Direct programs within that framework, subsequent orders continued the use of a surcharge temporarily while alternative recovery options were considered.[16]

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[14] Case 15-M-0252, supra, Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets for 2016 – 2018 (issued January 22, 2016) (2016 ETIP Order).

[15] Case 14-M-0101, supra, REV Framework Order at 79.

[16] Case 15-M-0252, supra, June 2015 Gas ETIP Order at 15; 2016 ETIP Order.

In a January 2016 Order authorizing NYSERDA's Clean Energy Fund (CEF),[17] the Commission approved the CEF as a core component of the State's comprehensive plan to reform the power industry under REV. In the CEF Order, the Commission authorized NYSERDA to implement a ten year, $5.322 billion CEF to meet four primary objectives: 1) GHG emission reductions, as measured in tons of carbon dioxide equivalent (CO2e) reduced; 2) Affordability, as measured by reductions in customer energy bills; 3) Statewide penetration and scale of energy efficiency and clean energy generation, as measured by the total increase in energy efficiency savings and renewable energy generation, measured in MMBtu and MWh; and 4) Growth in the State's clean energy economy, as measured by private investment in clean energy technologies and solutions. The CEF consists of four portfolios: Market Development, which includes energy efficiency work; Innovation and Research; the NY Green Bank; and NY-Sun.

In recent rate orders, the Commission has approved expanded energy efficiency activities by several utilities and provided for alternative cost recovery mechanisms for energy efficiency spending at those utilities based on individual utility circumstances. In the January 2017 Con Edison Rate Order,[18] the Commission approved additional energy efficiency programs, as well as programs for system peak reduction, including an electric vehicle initiative, that were demonstrated to be cost effective on a portfolio basis. The portfolio was

[17] Case 14-M-0094- Proceeding on Motion of the Commission to Consider a Clean Energy Fund, Order Authorizing the Clean Energy Framework (issued January 21, 2016) (CEF Order).

[18] Case 16-E-0060, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service, Order Approving Electric and Gas Rate Plans (issued January 25, 2017) (Con Edison Rate Order).

designed to move toward integrating efficiency with demand reduction at Con Edison while increasing the total amount of efficiency activity during the three-year term of the rate plan.

In March and June 2018, the Commission approved increased energy efficiency levels for Niagara Mohawk and Central Hudson, respectively, including recovery of associated costs through base delivery rates as opposed to the EE Tracker surcharge.[19] The Niagara Mohawk Rate Order addressed previous concerns that shifting ETIP costs fully into base delivery rates would prevent the utilities from implementing a self-direct program and maintaining current exemptions from the EE Tracker surcharge. By calculating and applying credits for those specific customers, the full transition of utility-administered energy efficiency funding from the EE Tracker surcharge to base delivery rates was achieved while maintaining the ability to offer a self-direct program and the historic EE Tracker surcharge exemptions.

In March 2018, the Commission also approved the 2019 and 2020 budgets and targets for utilities in response to the BAM Plans filed on June 1, 2017.[20] The budget and targets

[19] Case 17-E-0238, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric Service, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans (issued March 15, 2018) (Niagara Mohawk Rate Order); Case 17-E-0459, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Central Hudson Gas & Electric Corporation for Electric Service, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan (issued June 14, 2018) (Central Hudson Rate Order). Orange & Rockland filed an electric and gas rate case on January 26, 2018, Cases 18-E-0067 and 18-G-0068; the proceeding is currently pending.

[20] Case 15-M-0252 – In the Matter of Utility Energy Efficiency Programs, Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets for 2019-2020.

authorized in that order provided a base level of funding and minimum targets for 2019 and 2020, effectively maintaining the same annual levels previously authorized for 2016-2018.

Utilities were encouraged to build on base ETIP efforts in preparing their rate case and Distributed System Implementation Plan (DSIP) filings.[21] Con Edison, Central Hudson and Niagara Mohawk already have targets for 2019 and 2020 that are substantially higher than the ETIP targets, as a result of rate case determinations, as described above.[22]

B. The Staff/NYSERDA White Paper

In April 2018, Staff and NYSERDA issued the New Efficiency: New York White Paper. The White Paper established the context for a 2025 statewide energy efficiency target of 185 TBtu of energy usage reductions at the customer level, and articulated a portfolio of actions necessary to achieve it which, sustained through 2030, would represent nearly one-third of the total GHG emission reductions needed to achieve the State's 40% by 2030 reduction goal as established in the 2015 State Energy Plan.[23] The White Paper proposed an electricity-specific sub-target of a 3% reduction of forecasted investor-owned electric utility sales in 2025.

The NE:NY paper recognized that a mix of strategies would be needed to achieve these goals, including a range of

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[21] Case 16-M-0411, In the Matter of Distributed System Implementation Plans, DPS Staff Whitepaper issued May 29, 2018, at 18.

[22] Case 16-E-0060, supra, Con Edison Rate Order. Cases 17-E-0238 and 17-G-0239, supra, Niagara Mohawk Rate Order. Case 17-E-0459, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Central Hudson Gas & Electric Corporation for Electric Service, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan (issued June 14, 2018)

[23] 2015 New York State Energy Plan at 112.

activities that are not within the jurisdiction of the Commission. Utility-related proposals included:

- Accelerating and shifting the portfolio of utility energy efficiency programs, seeking more effective measures and program structures, greater leverage of public funds, and increased market-based energy efficiency.
- A shared savings approach that provides greater opportunity and reward for utilities to advance energy efficiency as a business and as a resource.
- A fuel-neutral approach to programs to be delivered by utilities.
- Ensuring that at least 20 percent of any additional levels of public investment in energy efficiency is dedicated to the LMI sector.
- Driving deep energy savings in building retrofits and construction and supporting cost-effective heat pump adoption.

Other proposals outside the Commission's jurisdiction included:

- Lead by example in the State's own facilities and construction activities; and
- Strengthening statutes on building codes, appliance standards, and finance.

The White Paper also anticipated that NYSERDA CEF activities would be aligned with the NE:NY goals and utility activities. This alignment will be implemented through additional CEF chapter filings.

Reducing customer usage by 185 TBtu by 2025 is consistent with the achievable potential for reducing 600 TBtu of primary energy usage by 2030, as identified in a 2014 Energy Efficiency and Renewable Energy Potential Study and adopted in

the 2015 State Energy Plan.[24] The potential study identified the areas of greatest potential savings as single-family housing (31%), multi-family housing (17%), and office and retail (24%), as well as other sectors offering significant potential.[25] When measured by end-use, the greatest saving potential was found to be in heating and cooling (38%), lighting (21%), and water heating (19%).

The White Paper also noted that increasing electrification in the building and transportation sectors is necessary to achieve the State's carbon reductions goals and proposed that any increased electric usage from beneficial electrification should be netted against load in calculating achievement of the 3% electricity reduction sub-target.

Of the 185 TBtu reduction needed by 2025, the White Paper identified 144 TBtu as resulting from the continuation of actions already in progress and 41 TBtu coming from accelerated actions. Of the accelerated actions, the paper proposed that 31 TBtu should come from an increase in utility-leveraged energy efficiency investments.[26]

III. NOTICE OF PROPOSED RULE MAKING

Pursuant to the State Administrative Procedure Act (SAPA) §202(1), a Notice of Proposed Rulemaking was published in the State Register on August 8, 2018 [SAPA No. 18-M-0084SP1]. The time for submission of comments pursuant to the Notice expired on October 9. 2018. Seventeen entities submitted written comments pursuant to the SAPA Notice.

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[24] Reducing customer usage by 185 TBtu is roughly equivalent to reducing primary usage at combustion points by 390 TBtu.

[25] White Paper at 11.

[26] White Paper at 24-27.

IV. STAKEHOLDER INPUT AND PUBLIC COMMENT

Between the issuance of the White Paper and July 17, 2018, twenty-three comments were filed by interested parties; many of these comments represented multiple entities. In response to the SAPA notice, an additional seventeen comments were filed on or before October 9, 2018. In addition to written comments, Staff conducted two technical conferences and eleven stakeholder forums on issues related to the White Paper.[27] Eighteen individual public comments were submitted on the Commission's website, as well as numerous comments made during the technical conferences and stakeholder forums.

Stakeholder comments overwhelmingly supported the expansion of utility-sponsored energy efficiency programs. Some comments expressed concern regarding the costs of the initiative and potential economic effect, as well as caution regarding the level of detail in the White Paper and the need for more development before final decisions. Multiple parties urged the Commission to adopt a "no regrets" order in the near term, to begin the acceleration of efficiency achievements. A large majority of the party comments relate to specific implementation details. A list of parties and summary of party comments is attached as Appendix G. Many comments are addressed in the discussion of specific issues below.

[27] Technical conferences were conducted on June 18 and June 29. Stakeholder forums related to data, system value, heat pumps, and cyber security were conducted on September 7, September 14, October 3, and November 14, respectively. Seven separate stakeholder forums on low and moderate income efficiency programs were conducted statewide between September 20 and November 5.

V. LEGAL AUTHORITY

The Commission has the responsibility and the authority under the Public Service Law (PSL) to ensure that utilities carry out "their public service responsibilities with economy, efficiency, and care for the public safety, the preservation of environmental values and the conservation of natural resources." PSL §5(2); see also PSL §66(3). Pursuant to the New York Energy Law (Energy Law), including §§ 3-103 and 6-104, the Commission is required to consider actions to effectuate State energy policy and the New York State Energy Plan, which includes increased energy efficiency as a major contributor to New York's energy future.[28] In fulfilling the mandates of the PSL and the Energy Law, the Commission has directed the development and implementation of a number of programs to increase the deployment of energy efficiency resources in New York, including the Energy Efficiency Portfolio Standard, the Clean Energy Fund, and the Energy Efficiency Transition Implementation Plans. The activities directed and authorized in this Order will continue and build upon the progress made through those programs.

VI. DISCUSSION

A. Governing Principles

Achieving the efficiency goals of the State Energy Plan, as presented concretely in the White Paper, requires a reconsideration of some of the methodologies that have governed utility efficiency programs in the past. In developing this Order and subsequent implementing measures, a number of principles will be taken into account:

[28] 2015 New York State Energy Plan.

- The overarching principle is to support the State's 40% by 2030 GHG emissions reduction goal with maximum cost-effectiveness, across a range of fuels and market segments and at an increasing depth of energy savings.
- Status quo program approaches will not suffice; costs per unit of achievement must be continuously reduced; and utilities will be rewarded for achieving cost reductions. Utilities are expected to seek cost reduction opportunities, including innovations driven by market participants, and where such opportunities are concretely identified utilities will be directed to develop them.
- Where cost reduction opportunities are within the control of the Commission, Staff and the Commission will be diligent in working with utilities and stakeholders to ensure that such reduction opportunities are realized.
- While pursuing program targets, market-enhancing structures will continue to be built in areas including data availability, consideration of temporal and locational values, outcome metrics, and cooperation with NYSERDA market transformation programs. Energy efficiency strategies will be designed to spur clean energy markets and private sector investments, leading to greater scale and efficiency outcomes and cost reduction.
- Market-enhancing structures will be integrated with, and aligned across, all relevant programs and engaged entities.

- Considerations of equity, both geographically and across customer classes, will be balanced with considerations of cost-effectiveness and achievability.
- Strong efficiency service targets for low-and-moderate income (LMI) customers will be required, and initiatives to address the unique barriers faced by LMI customers will be prioritized.
- The primary target for jurisdictional utilities will be measured in terms of TBtu of site building energy use across all emission-producing fuel sources, with the subsidiary target of an annual 3% reduction in electricity sales by 2025, contributing to the primary target.
- Efficiency programs will be developed and administered consistent with other elements of the State Energy Plan carbon reduction policy, such as beneficial electrification.
- Implementation by utilities and by the Commission must be focused on systematic solutions, rather than merely hitting targets. The regulatory system must be made to properly value the clean energy and energy efficiency attributes that in the past have been promoted through discrete programs and must envision that clean energy and energy efficiency are integrated into core electric operations.[29]
- Flexibility for utilities in program design and implementation will be accompanied by transparency,

[29] See REV Framework Order at 18.

accountability, and performance review. Market participants will be engaged to enhance program performance.

- Implementation will be subject to pragmatic adjustments in light of actual experience and market realities, with reduction of costs to utility customers a primary consideration.

B. Targets and Budgets

1. Background and Summary of Relevant Comments

The State Energy Plan established a climate goal of reducing GHG emissions statewide to 40% below 1990 levels by 2030. The White Paper reflects calculations showing that a statewide energy efficiency target of 185 TBtu of cumulative annual site energy savings by 2025 will reduce more than 22 million metric tons of carbon dioxide annually, delivering nearly one-third of the GHG emission reductions needed to meet the 2030 goal.[30] Achieving these levels of efficiency by 2025 will require efforts beyond sustaining current program commitments.[31] The 2025 load forecast used to set these targets is consistent with the forecast used in the Clean Energy

[30] The 2025 efficiency target is stated in terms of site efficiency, while the 2030 target is stated in terms of primary energy. Primary efficiency measurements account for energy conversion from combustion-based electricity generation, as well as losses in the distribution system. 185 TBtu of site energy savings equates to approximately 390 TBtu of primary energy savings. As renewable generation grows to comprise half of the electricity consumed, and as more distributed generation occurs at or near consumption sites, the attribution of losses in primary efficiency calculations will need to be changed. See White Paper at 21.

[31] White Paper at 20.

Standard Order,[32] in order to provide for alignment across policies for renewable energy and energy efficiency.[33]

In developing the 2025 goal of 185 TBtu, Staff and NYSERDA consulted published potential studies, recent achievements in New York and other states, and stakeholder input, to determine that 185 TBtu is realistically achievable. Because 185 TBtu of reductions at the usage level equates to approximately 390 TBtu of reduction at the generation level, 185 TBtu establishes solid progress toward the 2030 GHG goal. Appendix B of the White Paper shows how achieving and sustaining the 2025 target levels will put the State on a trajectory to meet or exceed the 2030 efficiency goal.

The White Paper detailed the expected achievements of current efforts, referred to as "sustained commitments," as totaling 144 TBtu. Accelerated actions are needed to achieve the remainder of 41 TBtu toward the total goal of 185 TBtu. Of the 41 TBtu of accelerated action, the White Paper proposed that 31 TBtu should be achieved through incremental utility programs.[34]

Sustaining current levels of achievement is an essential premise of the White Paper. Current utility targets were initially established in the ETIP process, and some utilities have added to their targets in the context of rate proceedings. For that reason, current targets as a percentage of initial ETIPs, and as a share of incremental achievements needed for the 2025 goal, are not equivalent across utilities.

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[32] Case 15-E-0302, Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard, Order Adopting a Clean Energy Standard (issued August 1, 2016) (Clean Energy Standard Order).

[33] White Paper at 22.

[34] White Paper at 24 and 27.

Current commitments also include NYSERDA's market-oriented programs that are expected to produce longer term direct and indirect impacts. The longer term impacts of NYSERDA programs will be quantified and reported using periodic market evaluation studies.

The goals in the White Paper are proposed on an all-fuels basis, aggregating efficiency achievements across electricity, natural gas, and delivered fuels such as oil and propane. The White Paper further proposes a subsidiary target of an annual 3% reduction in electricity sales from investor-owned electric utilities in 2025. The electricity sub-target will account for NYSERDA's achievements in the market and will need to be adjusted for increased electricity sales from beneficial electrification activities. The proposal considered in this order is the 31 TBtu of incremental achievement for the State's utilities, including the electric sub-target and a proposal that 20% of incremental efficiency budgets should be dedicated to LMI programs.

The NY Utilities[35] stated that the goals in the White Paper are laudable and they are prepared to help attain them, while noting that substantial work is required to determine the most effective combination of programs and activities, including NYSERDA's. The NY Utilities noted that each utility has, or will have, completed by December 2018 an energy efficiency potential study unique to its territory and the results of the studies should inform the ramp rates and target proposals for individual utilities. The NY Utilities proposed, instead of targets being assigned by the Commission, that each utility

[35] The "NY Utilities" represent the state's large regulated investor-owned electric and gas utilities with the exception of National Fuel Gas.

should be allowed to develop its own targets and budgets aligned with local demographics and customer needs.

Stakeholders expressed a range of positions on the treatment of targets. Environmental and energy efficiency advocates were generally supportive of the proposed target for 2025. Energy Efficiency Advocates supported the targets and emphasized the need for a schedule of ramping to 2025. ACEEE and AEA also recommended interim goals to provide market predictability. Acadia suggested that the proposed goal is too limited and will still leave New York behind other states. Acadia also stated that the target should only include clearly attributable savings, not indirect savings from codes and standards. Citizens' Environmental Coalition also stated that the goals should be more aggressive and argued that the efficiency targets as presented would account for only 25% of the 2030 GHG goal, not one-third. ACE NY and AEEI suggest that the utility portion of the 185 TBtu statewide goal should be increased to 92.5 TBtu from 77 TBtu as proposed. Some efficiency advocates further argued that the 3% electricity usage sub-target should be allocated entirely to utilities in addition to NYSERDA's targets.

Several parties including Energy Efficiency Advocates and AEA recommended an immediate "no regrets" order designed to begin program expansion in 2019, to lessen the need for steep ramping in later years. ACE NY and AEEI proposed a "no regrets" order using the 2019-2020 targets in the ETIPs as a baseline. Pace Energy and Climate Center emphasized that aggressive ramping of near term targets will avoid backloading into future years.

The City expressed strong support for the initiative while cautioning that the implementation approach should be iterative and flexible to maximize the chances of cost-effective

success. The City urged the Commission to avoid setting hard deadlines and schedules, because of the diverse ways in which efficiency programs produce results. The City suggested that program targets and budgets should be the result of detailed market potential assessments by utilities. The City further proposed that utility targets should be set on a load-proportional basis to maintain regional equity.

MI argued that the White Paper was too high-level to allow for detailed analysis and that much more work is needed regarding program details and costs, particularly bill impacts and indirect economic impacts. MI also stated that the goal of 185 TBtu is not adequately supported. MI argued that the cost of energy efficiency programs must be considered in the context of numerous other clean energy programs. NFG warned of unintended consequences, particularly for lower-income customers not participating directly in programs, who might see bill increases pushing them into payment difficulties. NFG also stated that transportation sector initiatives should be part of the program and count toward the goal.

Regarding the all-fuels approach, the NY Utilities supported consideration particularly in the context of heat pump development. AEA emphasized that current fuel-siloed approaches leave out large numbers of customers who are dependent on delivered fuels. ACEEE emphasized that targets for electricity should net out increased consumption from heat pumps, so that achievement of energy usage reduction targets will not conflict with beneficial electrification. MI supported tracking achievements on an all-fuels basis, but opposed a fuel-neutral program approach in which customers of one fuel pay for efficiency measures of another fuel. NYC supported an all-fuels approach and suggested separate tracking of different fuel

savings to ensure that curtailment of high-emitting fuels is achieved.

2. Discussion

a) Adoption of Targets

The White Paper presents a comprehensive approach to achieving the energy efficiency goals of the State Energy Plan, which are closely tied to the State's carbon reduction goals. The overall goals are reasonable. The 185 TBtu site-efficiency goal for 2025, equivalent to 390 TBtu of primary energy savings, represents an achievable interim measure toward the 2030 SEP goal of 600 TBtu of primary energy. This is supported by the 2014 potential study and the analysis in the White Paper, which details 17 separate categories of activity contributing to implementation. The jurisdictional utilities' share of the goal, which is the direct subject of this Order, is achievable, as detailed below. Along with the sub-target of 3% reduction in electricity usage, this goal will place New York's utilities on a performance trajectory comparable to neighboring states[36] and will result in reasonable bill impacts and positive societal benefit.

Of the incremental 31 TBtu identified in the NE:NY paper, 4.6 TBtu have already been authorized in recent rate proceedings. Additional ratepayer contributions to achieve the full 31 TBtu target are estimated to be $1.6 billion.[37] Gross participant bill savings over the lifetime of the projected efficiency measures are estimated to be over $15 billion,

[36] See 2018 State Energy Efficiency Scorecard, American Council for an Energy Efficient Economy, at 42-44.

[37] This estimate is based on historic performance and does not account for the cost reduction opportunities described below. The cost estimate is reflected in the presumed program budgets enumerated in Appendix E.

exclusive of participants' private investment in efficiency equipment and services. Gross lifetime utility system benefits associated with the target are estimated to be $6.7 billion, representing avoided energy, capacity, and distribution costs that are also reflected in participant bill savings. In addition, carbon reduction will create $1.8 billion in societal benefits. For a typical residential customer, bill impacts through 2025 associated with the incremental spending will average 0.6% for electric bills and 0.1% for gas bills.[38]

In addition to direct benefits, employment opportunities in the energy efficiency field will continue to grow as a result of this order. Energy efficiency firms employed over 117,000 people in New York in 2017. The energy efficiency segment created more than 10,200 jobs in New York State in 2016 and 2017 and employers expected jobs to grow by another 5.6% by the end of 2018.[39] Energy efficiency firms could continue to see strong employment growth in excess of 5% annually, creating about 7,000 new jobs each year on average over the 2019-2025 period, for a total of 50,000 new jobs by 2025. NYSERDA plans to provide training to approximately 20,000 potential employees in the energy efficiency industry.

MI lists several related initiatives including the Clean Energy Standard and the Clean Energy Fund, arguing that the costs of energy efficiency targets must be considered in the context of these other programs. MI is correct that ratepayer

[38] Bill impacts are estimated based on direct impacts to base utility rates. These estimates do not include impacts that may occur due to changes in energy sales as reflected through the revenue decoupling process. Numerous other factors will affect adjustments in the revenue decoupling process, such as changes in economic activity.

[39] 2018 New York Clean Energy Industry Report, available at nyserda.ny.gov/clean-energy-jobs.

impacts are a constant concern, and every significant undertaking of utilities must be evaluated for its costs, benefits, and potential bill impacts. That principle is reflected in the process established in this Order.

MI is not correct, however, in describing clean energy and efficiency programs as discretionary and extraneous. Reducing carbon emissions is a critical priority and a significant portion of the Commission's responsibility, as identified in the State Energy Plan, authorized in the Public Service Law and Energy Law, and encoded in the BCA Framework adopted by the Commission. Like all other utility functions, the cost to ratepayers of carbon reduction should be as low as possible within a reasonable balance among competing concerns. That is the approach taken by the Commission in this Order, in rate cases, and in other recent clean energy orders. But the place of carbon reduction in this balancing is not, as MI implies, a discretionary excursion from the Commission's core business; it is a part of the Commission's core business.

The range of party comments on targets reflects the concerns that must be balanced in implementing the State's efficiency goals. Efficiency and environmental advocates urge an immediate "no regrets" order to avoid losing potential achievements from early years and thus to avoid a correspondingly steep increase in later years. MI urges that the process requires a detailed consideration of potential costs and optimal implementation strategies. The utilities urge that targets should be fine-tuned to the needs and potentials of individual territories. NYC urges that hard deadlines should be avoided in favor of pragmatic and iterative implementation strategies.

Each of these arguments is reasonable, and all of them are accommodated in the balanced approach adopted in this Order.

NYC, the utilities, MI, and other parties are correct that further process will help to refine and support the details of the proposal through 2025. Efficiency advocates are correct that immediate action is needed to spread the targets across a longer period.

In order to achieve the accelerated goals in the most cost-effective manner, an iterative approach will be adopted. The approach to targets and budgets in this Order is threefold: (1) overall jurisdictional goals through 2025 are adopted to create market certainty and guidance for future implementation decisions; (2) immediate targets and budgets are established for 2019-2020 in order to expedite the acceleration of program activities; and (3) a process is established to set detailed utility-specific targets and budgets for the period 2021-2025, to result in a Commission order in 2019.

The overall utility goal of 31 TBtu is hereby adopted, as well as the subsidiary goal of reducing electric usage by 3% of projected annual sales, adjusted for energy efficiency, by 2025.[40] Utilities also must sustain previously authorized target levels, which over the 2015-2025 period will include 40 TBtu of savings from sustaining achievement under ETIPs and System Energy Efficiency Plans (SEEPs) and additional savings projected to be achieved through demonstration projects and non-wires alternatives (NWAs).

The electric reduction target will be adjusted to reflect load increases from heat pumps and electric vehicles.

[40] NY Geothermal Energy Organization and Bob Wyman urge that all targets should be articulated on a MWh basis rather than Btu. Each of these parties also endorses an all-fuels approach. Because the ultimate goals are carbon reduction and customer savings, each of which can be achieved across multiple fuels, maintaining Btu as the common standard of measurement is more practical at this time.

No less than 20% of incremental program budgets will be allocated to LMI programs. Subsidiary targets for heat pumps are also adopted as described below.

The argument that the full 3% of sales reduction target should be assigned solely to the utilities, excluding the contributions of NYSERDA's CEF initiatives, is rejected. In authorizing the CEF, the Commission authorized specific minimum MWh and MMBtu goals over the 10-year period supported by substantial ratepayer investment. Ignoring this contribution would increase ratepayer costs. The process established in this Order recognizes the role of NYSERDA as integral to achieving overall efficiency goals.

b) 2019-2020 Targets

Utility-specific targets and budgets for calendar years 2019 and 2020 are adopted here as detailed in Appendix A. The common reference point for these targets is the set of 2017 ETIP targets adopted by the Commission in January 2016.[41] Several utilities have already seen large increases in these targets, through individual rate case processes, while others have not. Additionally, each utility's existing targets represent different percentages when viewed on a percentage of load basis. For these reasons, a simple pro rata increase from existing targets would produce disproportionate results. Instead, target increases are measured against the common 2017 reference point, ensuring that utilities that have not yet received increases over the 2017 reference point are placed trajectories to share comparably in achieving the 2025 goal.

[41] Case 15-M-0252, supra, 2016 ETIP Order.

In the case of Orange & Rockland, a Joint Proposal has been filed in that company's ongoing rate proceeding.[42] The energy efficiency targets in the Joint Proposal for 2019-20 are higher than the targets in Appendix A. In this Order, the Commission will not make a determination on the matter pending in the rate proceeding. The 2019-20 targets in Appendix A are not intended to preclude higher targets that may be adopted by the Commission in a rate proceeding.

Because increases in utility targets require a lead time to allow vendors and service providers to ramp up capacity, utilities will be granted flexibility in achievement of these targets and expenditure of funds through the full 2019 – 2020 period.

Budgets for the immediate increases are based on the lesser of Commission-authorized or current actual run rates for each utility's existing portfolio.[43] Funding of the immediate increases will be provided from uncommitted funds already collected pursuant to the EEPS and CEF programs.[44] No new

[42] Case 18-E-0067, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Orange and Rockland Utilities, Inc. for Electric Service, Joint Proposal (filed November 9, 2018).

[43] Run rates in this context represent the ETIP portfolio level expended funds divided by the portfolio level acquired savings through Q4 2017. Budgets and targets associated with the mandated 20% LMI allocation are based on NYSERDA historic LMI run rates.

[44] Utilities filed EEPS Reconciliation Reports on June 30, 2018, in Case 07-M-0548 documenting the remaining uncommitted EEPS funds, including any accrued interest through December 31, 2017. Additionally, per the CEF Order utilities were directed to segregate interest-earnings related to collections for NYSERDA's CEF portfolio subject to the Bill-As-You-Go disbursement of funds to NYSERDA for future rate-payer benefit. To the extent these funds do not sufficiently cover the budgets authorized for this period, NYSERDA uncommitted

ratepayer collections will be needed to fund the 2019-2020 target increases. Specific sources of funds for each utility are detailed in Appendix B.

c) 2021-2025 Targets

A further process will establish detailed utility-specific targets for 2021-2025. This process will allow for targets and programs to be tailored to the needs and potential of each service territory and will provide for optimally cost-effective approaches to the overall TBtu goal. A straightforward pro rata increase of targets for each utility through 2025 would be a reasonable approach, taking into account the variations in current target levels described above. The NY Utilities, however, state that they can improve the cost-effectiveness of the overall program by aligning targets and portfolio design with local customer characteristics, informed by utility-specific potential studies that are in the process of completion. The two-staged process established in this Order gives the utilities that opportunity.

In this Order, the utilities are instructed to prepare a joint filing, in consultation with NYSERDA, detailing utility-specific targets and budgets through 2025. Presumptive targets and budgets are identified here as a reasonable starting point for the utilities' and NYSERDA's follow-on discussions of specific portfolio proposals. These presumptive targets and budgets are enumerated in Appendix C. The presumptive targets are based on the New York Independent System Operator (NYISO) 2015 econometric statewide load forecast for 2025, adjusted to reflect the share of load of jurisdictional utilities, and further adjusted for each year to reflect prior years' projected efficiency achievements under current programs, so that the

EEPS funds will be used for the balance, thereby avoiding any new rate-payer collections.

forecast for 2025 estimates actual utility sales after accounting for energy efficiency at current levels. The presumptive electric targets build each utility to a 2% reduction of electric sales in 2025, which combined with the NYSERDA projected achievement will meet the 3% sub-target adopted in this order. As no sub-target is specified for gas targets, the presumptive gas targets take a similar approach in ramping all utilities to a relative percentage of load reduction based on the understanding that this metric can serve to allocate targets in an equitable manner across utilities.[45]

The utility targets are based on a combined utility goal of 31 TBtu. The recommended figure of 31 TBtu in the White Paper avoids overlap with incremental LIPA activities.[46] NYSERDA achievements under the CEF are not counted toward the 31 TBtu utility goal; they are accounted for separately toward the statewide 185 TBtu goal. NYSERDA achievements are, however, counted toward the subsidiary 3% sales target.

[45] Rather than using a forecast, the gas targets are based on targets as a percent of 2016 gas sales. Utilities are invited to provide an alternative methodology while considering equity across service territories as part of their March 31, 2019 proposal.

[46] The TBtu figures on page 24 of the White Paper are adjusted, that is, they account for overlap in reported results, e.g., where utilities and NYSERDA may be cooperating on the same program and each reporting the results. The TBtu figures presented by activity on pages 25-27 sum to more than 185 TBtu before overlap adjustments are applied. The 31 TBtu of savings associated with "Increased Utility Leveraged Energy Efficiency Investment" were shown as adjusted. The unadjusted figure is 34 TBtu, inclusive of LIPA activities. In this Order, 31 TBtu are assigned to the jurisdictional utilities with the expectation that LIPA will contribute a proportional share of increased energy efficiency savings no less than 3 TBtu over the 2019-2025 period.

As noted, NYSERDA's CEF initiatives are oriented toward substantial indirect savings;[47] therefore realized efficiency gains from CEF are less linear year to year than utility programs. The assumptions for CEF achievements reflected in Appendix D are simplified for purposes of establishing utility targets; they do not reflect expectations of specific verified annual achievements in the CEF. According to NYSERDA approximately 40% of the CEF's minimum electric goals are expected to be acquired after 2025. Interim review of NYSERDA's programs will assess the rate of realized CEF savings in relation to utility progress toward the 2025 target. To maintain stability and predictability in the efficiency marketplace, overall utility targets established through this Order will not be revised based on NYSERDA performance.

Utilities are directed to work cooperatively among themselves, in consultation with NYSERDA, toward a joint filing of specific utility program proposals not later than March 31, 2019.[48] The participation of NYSERDA in coordinating with utilities and consulting in best practices will be important to the development of optimal utility targets and program strategies. The collaboration structure between utilities and NYSERDA should clearly delineate roles, taking current operational functions into account. It should align mutual efforts with State goals, serve markets with comprehensive offerings including outreach and marketing, and inform NYSERDA's

[47] "Indirect" savings are the market effects expected to accrue over the longer term as a result of NYSERDA investment and subsequent market activity.

[48] This process does not contemplate any significant revision to NYSERDA's already-approved CEF, other than any process changes that NYSERDA may propose to enable the implementation of cooperative programs identified through the consultative process.

CEF planning as well as utility targets. An important objective of the cooperative arrangement will be to better connect the market development work in the CEF with utility strategies, which may include greater emphasis on resource acquisition efforts. This collaboration should also develop the market enhancing structures that support more effective roles for market actors in driving uptake, reducing costs, and developing innovative solutions. Because public-facing resources will be essential to effective participation by customers, market actors, and stakeholders, utilities will be required to develop, make available, and maintain suitable program information. The collaboration should also enhance procedures, over time, to ensure accountability for such results. Coordinated roles with NYSERDA should be detailed in the March 2019 filing.

Numerous parties requested the formation of an advisory body. The timing of determining 2021-25 targets and budgets is driven by the need for consistency with major rate cases, as well as the need to establish market certainty for contractors and program planners. Requiring a collaborative stakeholder process, or the participation of a formal advisory body, would risk delaying the development of utility proposals beyond the March 31, 2019 date needed to achieve these goals. Instead, throughout the development of their March 2019 filing the utilities should consult with stakeholders to the extent practical, and no fewer than ten days prior to filing, the utilities must conduct at least two technical conferences with stakeholders to present the terms of a prospective filing and receive input.[49]

The presumptive budgets are based on the lesser of Commission-authorized or current actual ETIP run rates. The

[49] One of these conferences should be conducted in the New York City area, and one in an upstate location.

total budgets in the joint utility filing, to achieve the total of 31 TBtu, must be equal to or lesser than the total budget for 2021-2025 in Appendix E plus budget amounts already authorized. Utility-specific presumptive targets for 2021-2025, combined with already authorized targets from the ETIP process and rate cases, are illustrated graphically in Appendix F.

The NY Utilities and other parties have expressed concern that maintaining current cost trends may be difficult, assuming reduced reliance on lighting programs and other factors. While some cost factors may be increasing, numerous opportunities to reduce costs are created by changes in regulatory constructs and utility operations, as discussed below. New energy efficiency solutions and the expansion of programs to delivered-fuel customers offer additional opportunity to reduce per-unit costs.

The utility-specific targets and budgets filed in March 2019 are expected to depart from the presumptive figures enumerated here, in a manner that tailors programs to utility service territories and reflects cooperation with NYSERDA.[50] The result of this process will be Commission approval of portfolio targets and budgets for 2021-2025, leaving flexibility for utilities to revise specific programs as needed.

In assessing the utility filing or filings, the Commission will employ a pragmatic standard of optimal reduction, with the paramount goals of achieving TBtu reduction

[50] If the utilities are not able to agree on a joint filing, or present one or more alternative proposals, the Commission will solicit comment on the presumptive targets enumerated in Appendix C as well as alternative proposals put forward by individual utilities, toward action in 2019 to establish targets through 2025.

and minimizing overall program costs.[51] Consistent with current practice, benefit-cost analysis will be applied to each utility's portfolio as a whole. Because of the sizable increase in LMI funding, the LMI portion of a portfolio may be removed from the portfolio BCA and considered separately.

As AEA and other parties observe, an efficiency approach that limits measures to specific fuels would leave large numbers of customers, and large amounts of cost-effective efficiency, beyond the reach of utility programs. To take full advantage of cost-effective opportunities and reduce total program costs, utility programs may extend to customers whose primary heating fuel is a delivered fuel such as oil or propane, under the following conditions: (1) the program must demonstrate that it delivers Btu savings at an average cost per-Btu-saved that reduces total portfolio costs; (2) the program may not fund installation of delivered-fuel space heating and domestic hot water equipment; and (3) the portfolio must produce year over year efficiency gains in usage of the utility's primary product (electricity or gas). The total amount of such programs authorized by the Commission will reflect the paramount goals of achieving TBtu reductions in the most cost-effective manner and reducing carbon emissions.

An example of such a program for an electric utility, assuming cost criteria are met, would be building-shell improvements for an oil-heating customer which could reduce air-conditioning load in the summer. Failure to consider these

[51] Some parties cautioned that geographic and customer-class equity must be observed to ensure that customers in all parts of the State have access to energy efficiency and to ensure that program costs are not disproportionately born by any one customer class or utility. As stated in the governing principles, principles of equity will be maintained in the context of achieving overall cost reduction.

types of shell improvements across multiple fuels could be a lost opportunity for cost-effective carbon reductions that would, if not pursued, increase the relative cost of achieving total TBtu targets. The New York State Energy Coalition points out that efficiency opportunities are already offered by delivered-fuel providers; utility-sponsored shell improvement programs could complement these programs, particularly for lower-income customers.

Heat pumps represent another opportunity to optimize TBtu reductions while increasing electric sales volume and thus reducing overall costs for non-participating customers. A separate minimum heat pump target will be established, as discussed below. Electric sales increases from heat pumps and other forms of beneficial electrification will be netted against electric efficiency achievements so that they do not count against the achievement of targets.

Many parties, including MI, support increased reliance on appliance standards and energy codes as cost-effective ways to achieve efficiency and carbon goals. Codes and standards are highly cost-effective from a ratepayer standpoint, and they are included in the plan to achieve 185 TBtu.[52] Codes and standards complement utility-run efficiency programs, but they do not replace them. Codes and standards are the culmination of a market transformation curve that often requires, at earlier stages, direct support from energy efficiency programs in order to develop technologies toward widespread market adoption.

In its March 2018 Order authorizing ETIP budgets for 2019-2020, the Commission noted that customer participation in self-directed efficiency program opportunities had been

[52] White Paper at 25, 27.

minimal.[53] NYSERDA has initiated a pilot program under the CEF to develop innovative approaches to self-direct programs for large customers. NYSERDA's pilot is budget-bounded, relies on competitive proposals from customers, and requires a carbon reduction goal.[54] Experience with the NYSERDA approach will be analyzed for potential further development of self-direct programs.

The White Paper stated that in order to achieve the increased goals of the NE:NY initiative, a renewed emphasis on comprehensive savings will be needed. With over 40% of the state's GHG emissions coming from building occupancy, GHG reduction will require a combination of end-use electrification and comprehensive building efficiency improvements, including incorporating energy efficiency into building maintenance and upgrade schedules and capital planning cycles. In the residential sector, customer recruitment is a substantial cost driver, and achieving the State's ambitious targets will require maximizing the number of efficiency measures for each customer contact. Comprehensive programs that combine lower-cost-effective measures with higher-cost-effective measures can optimize the total reduction that can be attained through a single customer transaction. Further, comprehensive building efficiency improvements often result in the installation of measures with longer effective useful lives (EUL), resulting in savings that persist well into the future.

[53] Case 15-M-0252, supra, Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets For 2019 – 2020 (issued March 15, 2018) at 47.

[54] See https://www.nyserda.ny.gov/Funding-Opportunities/Closed-Funding-Opportunities/2018.

C. Cost Reduction Opportunities

1. Background and Summary of Relevant Comments

The White Paper identified numerous opportunities that the REV initiative creates for continuous reduction in costs for each unit of efficiency achieved. The White Paper stated that data useful to the development of energy efficiency market activity at scale includes: energy usage data, both at the individual customer and at the aggregated community level; asset data, which captures key energy characteristics of the building or facility; project data, which captures the implemented measures and achieved results of projects, useful for benchmarking and estimating project performance; tariff/rate data, for estimating the bill savings that result from changes in physical energy use and demand; and locational data, to identify areas where energy efficiency can provide especially high value.

Another opportunity to reduce costs is the alignment of energy efficiency projects with locational system values. The White Paper proposed that, with more granular analysis of system value, utilities could structure a performance-based $/kW adder to increase the incentive available for specific energy efficiency upgrades that are under-compensated for the value they provide to the grid through system-coincident peak demand reductions. Adding system values into the transactional analysis of specific efficiency measures can reduce the need for other sources of incentives, thereby reducing program costs.

A closely related proposal is the integration of efficiency programs into NWA projects that all utilities are now undertaking as a consequence of REV. NWA projects clearly define the location value of efficiency and other demand-reducing projects, and these ready-made markets can reduce the

transaction costs of efficiency measures as well as adding to the value calculation.

The White Paper proposed investments in workforce training that could increase the efficiency of operations and competitiveness of service providers and thereby reduce overall utility program costs.

The White Paper also proposed a Pay-for-Performance (P4P) model, in which incentives are provided based on actual savings over a portfolio of buildings, shifting the risk of underperformance to the service provider while providing flexibility in customer offerings. There are currently two P4P pilot projects underway.

The White Paper stated that P4P and other initiatives can be supported by the NY Green Bank, which addresses barriers of lack of precedent, standardization, and scale of economically viable business models through serving as senior capital provider, subordinated capital provider, credit enhancer, or aggregator. The Green Bank can also work with large property owners and management companies to provide financing to incorporate energy efficiency measures into the build-out or retrofit of tenant improvements to their premises.

Another opportunity for reducing the costs of each Btu of energy saved is optimizing usage reduction across various fuel types, including reducing fuel usage of oil and propane customers, and reducing carbon via beneficial electrification of building uses.

Numerous parties supported the cost reduction proposals and added suggestions. The ACE NY, AEEI, and the Home Performance Coalition agreed that location-specific values should be accounted for, including in NWA projects, and argued that system values of efficiency are greater than those suggested in the White Paper. NEEP and others argued that

National Standard Practices include more value categories than are used in New York. ACEEE cited research showing that benchmarking customer data can produce savings up to 14%. This argument was also supported by the Energy Efficiency Advocates. ACEEE as well as other parties including the Building Performance Contractors' Association, Centsible House, AEA, and the EEFA agreed that building workforce skills will improve program performance.

AEA, along with the Energy Efficiency Advocates and WE ACT, described how stronger financial programs can improve multifamily housing efficiency efforts. The Nature Conservancy emphasized the potential for better financing vehicles to enhance small business participation. AEA also stated that P4P should be expanded beyond the pilot stage and used for large-scale procurements. Enervee and the NY Geothermal Energy Organization emphasized the importance of online utility portals in making data more available. The Home Performance Coalition suggested numerous data access standards. The City suggested that changes to current data access policies would improve the effectiveness of efficiency programs.

The NY Utilities stated that they are prepared to help attain the State's efficiency objectives but expressed strong reservation on the potential for per-unit cost reductions. The NY Utilities stated that per-unit costs are likely to rise in the near future as a result of introducing new technologies, relying less on lighting (which has been among the most cost-effective approaches in recent years), developing deeper savings approaches, and spending 20 percent of incremental funding on higher-cost LMI projects. They urged that the unit cost of savings needs to be considered within the context of balancing multiple objectives. The NY Utilities support an all-fuels approach.

The NY Utilities also opposed any mandate of additional incentives based on locational or temporal values. While agreeing that locational and temporal values should be considered, the NY Utilities argued that any compensation method should be technology-agnostic and that such incentives run the risk of inflating compensation above competitive levels. NFG states that system-value incentives may be valuable, increasing customer participation and measure uptake. NFG suggests that their use should be a utility-specific decision, and subject to benefit-cost analysis.

2. Discussion

The utilities are correct that cost reductions would be difficult to achieve based on current program models with a business-as-usual approach.

The White Paper, however, identified numerous opportunities for innovative program approaches that are made possible by the REV initiative. Improved access to customer data has the potential to reduce costs substantially. Accounting for system values can reduce the level of customer incentives attributed to program budgets. In addition to program reforms, another opportunity for cost reduction is expanding utility portfolios to heat pumps and to the optimal reduction approach. Cost-effective TBtu reductions may be pursued for delivered-fuel customers, under the constraints detailed above. Adjusting the program mix toward more cost-effective programs is another opportunity to reduce overall costs. While equity across customer classes remains a governing principle, it must be balanced with the overarching principle of achieving TBtu reductions at the lowest cost to ratepayers. Finally, the market stability created by longer-term approvals through 2025 should enable providers to reduce costs.

The White Paper identified other cost reduction opportunities, such as P4P, and inquiry into best practices will reveal numerous other tactics to reduce costs. Coordinating program offerings with the financing and capital budgeting cycles, for example, is likely to be effective not only with multifamily buildings but with other customer classes as well. To promote cost reduction, Staff will convene a Performance Management and Improvement process, discussed below in the section on Implementation.

a) Data

The REV Framework Order emphasized that ready access to information regarding customer energy usage is vital to the success of distributed energy resource (DER) markets. A persistent observation of DER providers is that high transaction costs are caused, in part, by limited access to customer energy usage data. Because customer energy usage data is especially relevant in the case of energy efficiency, the White Paper identified increasing access to useful data and information as a critical market enabling mechanism.

As discussed at the stakeholder forum, data-related topics have been addressed across a number of Commission proceedings in recent years. While this approach has been necessary to deal with discrete issues and applications unique to individual proceedings, addressing data across numerous proceedings is not the optimal way to develop a unified treatment of data issues. Further, it has required parties interested in data access to engage in multiple proceedings. While access to customer data may be particularly important in the energy efficiency field, many of the same considerations are relevant to other types of DER providers. Therefore, a new, comprehensive proceeding to assess the strategic use of customer energy usage data will be initiated.

In establishing the new proceeding, the following guiding principles will serve as foundational elements to develop policies that appropriately balance privacy concerns with the rapidly changing energy marketplace:

- Increase customers' familiarity with, and consent to, appropriate data sharing;
- Move towards improved access by third party service providers to customer energy usage data, consistent with such consent;
- Link customer energy usage data with other sources of building data, energy use drivers, and energy systems data to enable enhanced identification of EE/DER opportunities; and
- Provide that mechanisms for appropriate access to customer energy usage data are implemented in a useful, timely, and quality-assured manner.

In the context of energy efficiency programs, there are actions that can be taken immediately to enhance access to customer energy usage data and reduce program costs while protecting customer privacy, as described below.

i. Utility Use of Data

Pending the development of policies and mechanisms for broader access to data by the DER industry, utilities should make full use of available data to optimize program operations in the near term.[55] In 2010, the Commission authorized utilities to provide individual customer information and usage data to efficiency contractors performing functions on behalf of the

[55] For a study of the benefits of utility use of selective customer data, see Scheer, Borgeson and Rosendo, Customer Targeting for Residential Energy Efficiency Programs: Enhancing Electricity Savings at the Meter (October 27, 2017).

utilities, with specified safeguards including limits on further distribution of information to subcontractors.[56] Consistent with that Order, utilities should continue to share data within their control, including detailed customer data, with energy efficiency providers acting as utility contractors, as needed, subject to appropriate safeguards. These safeguards should ensure that data provided to third-party contractors is only used for implementing utility programs and that appropriate security and privacy protections are in place. The utilities currently use contracts including such safeguards when working with third-party contractors. Utilities should also develop means of encouraging customers, on a going forward basis, to authorize release of their energy consumption data for future clean energy or demand response programs at the time of key customer interaction points such as establishment of new service or participation in existing energy efficiency programs.

ii. Green Button Connect

Green Button Connect (GBC) is a widely recognized and well-accepted method of providing customers access to their energy usage data and enabling customers to consent to the provision of their energy consumption data to one or more third parties. Utilities have been encouraged to include GBC implementation plans in their DSIP plans and in plans for rolling out Advanced Metering Infrastructure (AMI).[57]

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[56] Cases 07-M-0548, supra, Order on Rehearing Granting Petition for Rehearing (issued December 3, 2010) (2010 Data Order).

[57] Case 16-M-0411, In the Matter of Distributed System Implementation Plans, DPS Staff Whitepaper (filed May 29, 2018) at 22-23. At this time, all electric utilities are pursuing implementation of GBC, with the exception of Central Hudson which is implementing tools with similar functionality. Any reference to GBC in this Order does not preclude use of a tool with comparable or superior capabilities.

The rollout of AMI will not be complete for several years. Monthly customer usage, available with current metering, is also useful to potential efficiency vendors, as well as vendors established with customers to support management of their energy needs. For that reason, utilities should expedite their implementation of GBC to enable efficiency vendors to gain access to customers' monthly data.

In order for the full benefits of GBC to be realized, responsibilities for third parties accessing data through GBC as well as the utilities' interaction with these third parties must be clearly articulated in a GBC Terms and Conditions agreement. This agreement must, among other things, include reasonable requirements for third parties to ensure the privacy and integrity of customers' data in relation to the risk associated with any breech of customer data. Parties have had difficulty agreeing on terms and conditions, particularly with respect to data security.[58] The utilities and Staff are directed to conduct a collaborative with DER providers and other interested parties to develop GBC terms and conditions that are consistent across utility service territories. The terms and conditions should make it no more difficult for a DER provider, for whom a customer has provided consent, to access data than it is for the individual customer to access data. GBC terms and conditions or other customer privacy agreements being used in other jurisdictions should be used as a reference in this collaborative. In the event the collaborative does not produce

[58] A stakeholder meeting was held by Staff on November 14, 2018 to discuss the Data Security Agreement recently developed as part of a business-to-business process with the ESCOs. The focus of the meeting was to receive input from DER providers as to the requirements of the DSA as they had not fully participated in the DSA development. Parties disagree on numerous aspects of the current DSA.

a mutually agreed upon agreement, Staff will propose GBC terms and conditions based on successful terms utilized in other jurisdictions.

The collaborative should also assess the feasibility of differentiating a "customer agent," an entity to whom the customer has given permission to access their data, from other third parties for simplified/streamlined data access. This may have particular relevance prior to the full implementation of GBC.

GBC reporting is currently administered in the proceeding on DSIPs and that will remain the venue for reporting progress on implementing GBC.[59]

iii. Benchmarking

Benchmarking of building energy performance is an important market enabling mechanism to provide energy users information about how their consumption compares with peer buildings. New York City began requiring benchmarking and disclosure of energy and water usage in 2009, and cities in other states have also implemented this requirement.[60] Legislation to require mandatory energy benchmarking of large buildings in the remainder of the state was recommended in the White Paper. Because of its high value and low cost, utilities should begin now to plan for mandatory benchmarking.

Building energy benchmarking through the EPA Energy Star Portfolio Manager system requires entry of monthly whole building energy consumption for each fuel used in the building, which in many larger buildings may include tenant electric or gas meters that the building owner may not be able to easily access. To facilitate NYC's benchmarking law, Con Edison and

[59] Case 16-M-0411, supra.

[60] New York City Local Law 84 of 2009.

National Grid developed systems that electronically provide aggregated meter consumption data for all electric or gas accounts in any building.[61]

Other utilities will have the benefit of the NYC experience in providing for customer access to aggregated data. To prepare for eventual statewide energy benchmarking, all utilities are directed to:

i. upon customer request, provide aggregated whole building electric and/or gas meter data for any given building or tax lot to an owner, subject to the anonymity rules established by the Commission, for use in benchmarking through Energy Star Portfolio Manager;
ii. develop capability for automated upload of the aggregated energy data to Portfolio Manager; and
iii. along with NYSERDA, develop a benchmarking offering to be marketed to decision-makers of suitable building types, including cost-sharing of such benchmarking.

Each utility will file a report not later than June 30, 2019 regarding its progress and state of readiness to implement these requirements.

Improving access to data, as a method of reducing costs, will depend on Commission action as well as utilities and third-party providers. As stated above in the governing principles, the Commission and Staff must be responsible for working with utilities and stakeholders to ensure these opportunities are achieved.

[61] See Con Edison AMI Customer Engagement Plan, July 29, 2016, Chapter 8 "Local Law 84"; filed by Con Edison in Cases 15-E-0050, 16E-0060, and 14-M-0101.

iv. Asset Data Matching Pilots

Monthly customer energy usage data can be matched against other building asset characteristics and geographic identifiers such as tax maps and made available in an aggregated and anonymized manner to identify clusters of customer types likely to be well-suited for energy efficiency work and therefore responsive to marketing efforts. This is a promising approach to enabling data to reduce the cost of delivering energy efficiency while maintaining customer privacy.

The utilities are directed to work with NYSERDA to conduct one to three pilot programs with qualified partners to develop priority mapping based on customer usage patterns and asset data. Utilities in whose territory a pilot is being conducted will provide the data necessary for the conduct of the pilots, under a strict data security agreement with the entity that compiles the information, such as that authorized under the 2010 Data Order.[62] A similar but distinct pilot will be conducted based on direction in the storage proceeding to provide insight into the feasibility of establishing a DER Data Platform.[63] Results of these pilots will be coordinated to determine which pilots have demonstrated scalable value and should be pursued further, and whether resulting tools should be coordinated or combined to avoid the potential duplicative development and maintenance of such tools.

b) System Values

Another opportunity to reduce costs is to fine-tune customer incentives using system values. Since the inception of the EEPS program, the Commission has promoted energy efficiency

[62] Cases 07-M-0548, supra, Order on Rehearing Granting Petition for Rehearing.

[63] Case 18-E-0130, In the Matter of Energy Storage Deployment Program.

measures that also reduce peak demand. This approach recognizes that the economic value of energy efficiency savings to ratepayers is enhanced during some seasons and times of day, based on the operational characteristics of the system. A primary goal of REV is to integrate system values into compensation for DER, including energy efficiency, and to align system values and environmental values with commercial incentives.

Adding a customer incentive based on system value, referred to here as a "kicker," may be an effective form of cost reduction, enabling utilities to address barriers to customer adoption by aligning measure incentives with system values. In some cases, the system value kicker may displace a portion of the customer energy efficiency incentive that would otherwise be needed to attract the customer. In the context of NWA projects, in which utilities are seeking specific levels of demand reduction, the value of a kicker may be simplest to define. Demand reduction benefits are also generalized across the system, and not confined to NWA projects; therefore a system-wide approach of applying kickers to certain measures may be warranted.

The analysis presented by Staff's consultants at the stakeholder conference on system values illustrates that energy efficiency measures targeting space cooling have the highest system values as well as carbon values, by virtue of reducing peak demand. In some cases, the system values exceed the bill savings to participating customers. The structure of peak-reducing efficiency measures should take these system values into account.

The NY Utilities express concern that adding kickers to measure incentives will increase program costs rather than reducing them. If the system benefits experienced by the

utility are realized in the context of capital or maintenance budgets, the benefits will not appear directly in the form of lower efficiency program costs. Where kickers result in measure incentives increasing under efficiency program budgets, the monetary value of system benefits will appear elsewhere. This can be addressed through accounting measures, such as a tracking process; the system value identified in the efficiency program BCA may be tracked and netted against the nominal efficiency program budget, for purposes of reporting total efficiency program costs. In the context of rate cases, utilities should propose effective methods of achieving this. In the context of the March 2019 filing, anticipated kickers may be netted out of proposed program budget levels for purposes of fitting total program budges within the limits established in this Order.

The potential for system value kickers to increase the effectiveness of programs is such that utilities, where peak reduction is a substantial portion of a program's benefit, must present a program that includes the use of kickers.[64] If a utility determines that a program structure without kickers would be more effective, the utility may also present an alternative and demonstrate why the alternative is preferable. When the Commission considers the proposed utility programs in 2019, all cost reduction assumptions will be analyzed, and lost opportunities represented by the absence of kickers and other cost reduction possibilities will be taken into account.

In sum, while there are trends indicating an increase in program costs under status quo approaches, the factors described here are sufficient for utilities to develop program portfolios that achieve the 31 TBtu target at or below the

[64] At a minimum, this requirement will apply to space cooling programs.

budget cap, with additional opportunity to reduce costs for ratepayers and earn EAMs.

D. Low- and Moderate-Income Portfolio Approach

1. Background and Summary of Relevant Comments

The White Paper described several ways in which LMI households are currently served by NYSERDA, gas utilities, and the Weatherization Assistance Program (WAP). These efforts have reached 12% of eligible households over the past 12 years, leaving much to be accomplished. Because more than 40% of New York's LMI households are in buildings exceeding five units, and 20% live in buildings exceeding 50 units, continued and potentially expanded emphasis on multifamily affordable housing is needed. The Commission has adopted an Affordability Policy establishing an energy burden goal of 6% of household income.[65] The White Paper recommended that at least 20% of additional levels of energy efficiency investment should be dedicated to services for LMI households.[66] Staff and NYSERDA conducted seven forums on LMI programs in locations across the state.[67]

Parties including Energy Efficiency for All, the New York Energy Democracy Alliance, and WE Act for Environmental Justice supported increased funding for LMI and suggested implementation methods. The New York City Environmental Justice Alliance proposed several improvements and adjustments to existing LMI program practices, including an equity screening

[65] Case 14-M-0565, Proceeding on Motion of the Commission to Examine Programs to Address Energy Affordability for Low Income Utility Customers, Order Adopting Low Income Program Modifications and Directing Utility Filings (issued May 20, 2016).

[66] The 20% figure represents the current percentage of rate-payer funds statewide allocated to designated LMI programs as a percent of total statewide ratepayer energy efficiency funds.

[67] A summary of the input received at the series of LMI forums was filed on December 10, 2018 in this proceeding.

methodology, financing programs, steps to prevent rent increases and displacement, incentives for in-unit measures, community-based program delivery, job creation, public accountability, and an emphasis on healthy homes. WE Act for Environmental Justice argued that a 20% allocation to LMI would be insufficient and would still leave the sector underrepresented.

AEA and ACEEE described how whole-building retrofits to multifamily buildings can achieve large savings. EEFA advocated increased incentives, or reduced cost-sharing requirements, for buildings with a large percentage of LMI customers, and urged that utilities can be more effective in working with NYSERDA to identify barriers to participation and develop solutions. EEFA further urged that the Green Bank should tailor more loans for multifamily housing work. The NY Geothermal Organization and Renewable Heat Now (RHN) observed that heat pumps may be particularly effective in some LMI housing stock.

The NY Utilities argued that appropriate funding levels for LMI should be determined on a service territory basis, as potential engagement opportunities may vary. NFG supported increased funding for LMI initiatives and noted that over 57% of its program funding is already dedicated to LMI customers.

2. Discussion

When the Commission adopted a household energy burden standard in 2016,[68] it emphasized that success in achieving this standard could only occur through the integration of all available resources, including energy efficiency. While over

[68] Case 14-M-0565, Proceeding on Motion of the Commission to Examine Programs to Address Energy Affordability for Low Income Utility Customers, Order Adopting Low Income Program Modifications and Directing Utility Filings (issued May 20, 2016).

$100 million per year has been directed at LMI energy efficiency in New York, only 12% of all income-eligible households have been reached by these programs. As noted in the LMI stakeholder forums, reducing energy burden should be viewed in a holistic manner. Within the broader context of achieving the statewide TBtu reduction goal, expanding the reach of LMI efficiency programs serves the additional purpose of moving the State closer to achieving its affordability goal.

While NYSERDA will maintain its central role in administering LMI programs, the utilities can expand the reach of services to the LMI sector. Utilities can assist program administration in numerous ways. They have direct access to customers and familiarity with the unique characteristics of their customer base and service territory. Utilities also have direct access to customer data that can be utilized to target services and the ability to coordinate energy efficiency with their low-income bill discount and other bill assistance programs. NE:NY's proposal to dedicate at least 20% of incremental efficiency funding to LMI programs, ensuring LMI customers receive at least the same proportionate level of programming that is currently provided, is reasonable and is adopted here. This allocation percentage will occur over the 2019-2025 period; it need not be imposed on an annual basis, as ramping up programs will occur at different rates. As several commenters noted, program design should consider regional characteristics and needs that take account of housing stock, climate, demographic and economic factors. The percentage of LMI spending need not be identical across all utilities, but the aggregate percentage of LMI spending must equal or exceed 20% of the incremental budgets.

To achieve the best outcome with expanded funding, new administrative approaches should be developed with an emphasis

on uniform approaches, ease of access for customers, and cooperation among utilities and NYSERDA. Objectives of the expanded LMI programs will include:

- Increasing scale of customer adoption of measures that improve energy affordability;
- Optimizing resources among and between Program Administrators;
- Increasing program accessibility for customers and property owners, with seamless experience between NYSERDA and utility;
- Reaching customers not currently or traditionally served;
- Addressing multifamily housing with an increased emphasis on the building/capital finance cycle;
- Testing new program administration approaches; and
- Improving coordination and planning among Program Administrators and other involved entities at the State and local levels.

In the LMI stakeholder forums, many advocates stated that coordination between programs must be improved. The additional LMI funding that will result from this order increases the need to improve coordination in delivering efficiency services to the LMI sector. Utilities will collaborate with NYSERDA in preparing an LMI proposal in the March 2019 filing, as well as a subsequent implementation plan. This collaboration is critically important given stakeholders' comments on the need for greater coordination of services, and NYSERDA's central role in administering LMI programs as well as NYSERDA's central role in coordinating with other state agencies where increased coordination may improve services to this sector.

Although budgets will be allocated by utility, the collective program offerings, including NYSERDA CEF initiatives, will be considered as a statewide ratepayer supported LMI portfolio.[69] The proposal should include collaboration between utilities and NYSERDA to develop a single platform for LMI efficiency program administration, utilizing the relative strengths of each with respect to point of outreach, cohesive branding, eligibility determination, and uniformity from the standpoint of customers, property owners, and contractors. The proposal should include effective approaches to increase awareness and education at the consumer and service provider level to minimize confusion and ensure participation in the program offerings. Under the CEF, NYSERDA will be able to leverage the ability to operate at a statewide level achieving economies of scale of implementation and consistent approach to management of a statewide network of service providers; coordinate with other state agencies, programs and advocate/trade associations; develop and test novel solutions prior to large scale deployment with utility partners; implement market development activities related to soft-cost reductions and work-force training, and financing approaches. This approach to program administration should achieve cost reductions and increased customer participation, as well as addressing areas not served by a combination utility.

An effective statewide portfolio of LMI programs should include several features. First, consideration should be given to an increased use of direct-install LMI programs,[70] as an

[69] BCA analysis and cost-reduction are expected to be viewed from the overall statewide ratepayer LMI portfolio vantage point.

[70] Direct-install measures typically can be implemented in a single visit with little or no cost to customers, including lighting, weather-stripping, and furnace filters.

accompaniment, not a displacement, of comprehensive efficiency treatment. The current emphasis on comprehensive treatment is appropriate, but reasonable direct-install savings may be achieved in homes where comprehensive treatment is not possible. Providing no-cost direct-install measures is particularly valuable in the rental customer sector, where investment in comprehensive treatment runs into mixed incentives.

Second, community-based approaches to customer outreach, working with local community organizations, should be pursued. To facilitate this, utilities may consider methods of determining eligibility on a community-wide basis rather than on a household basis. This has the potential to reduce per-customer program costs while increasing participation.

Third, participation in multifamily building programs can be improved through an increased emphasis on the capital planning and finance cycle for these buildings. Emphasis on finance cycles is not intended to replace existing program methods, but rather to add to the effectiveness of existing programs. Because of the potential for cost savings in these programs, and considering that approximately 40% of LMI customers live in multifamily housing, the proposal should consider directing 40% of incremental LMI program budgets to multifamily programs.

Benefit-cost analysis for LMI programs will be separated from other program BCAs and will not count toward each utility's aggregate portfolio BCA. Instead, the BCA and cost reductions from the statewide ratepayer-supported LMI portfolio, including both NYSERDA and all utilities, will be reviewed collectively. This will encourage innovation both in the LMI programs and within the rest of the utility's portfolio. While substantial cost reductions should be achievable through a cooperative administrative approach, LMI program BCAs need not

score 1.0 or higher to satisfy the BCA criterion. This takes into account the relatively high implementation costs and customer incentive levels of LMI programs.

Progress in delivering a statewide coordinated LMI portfolio should not wait until the 2021-25 period. Instead, utilities and NYSERDA should begin implementation in 2020 and should expect to file a separate statewide ratepayer LMI implementation plan, within 60 days of the Commission's 2019 order approving targets and budgets.

As documented in the summary of input received at the series of LMI forums, stakeholders representing LMI customers presented a variety of viewpoints and some of the input received relates to topics beyond the scope of this order. However, one common theme was a request for increased visibility in the processing of comments and inputs from those who are affected by policies and programs. Staff and NYSERDA are directed to file a report by January 31, 2019 assessing the input received through the recent round of LMI Forums and making recommendations related to the March 31, 2019 utility program filings, as well as any recommendations that may be appropriate regarding subsequent implementation or issues under consideration in other proceedings.

E. Heat Pumps

1. Background and Summary of Relevant Comments

The White Paper described how heat pumps can improve overall efficiency and reduce carbon emissions. However, programmatic complications occur because the costs and benefits of heat pumps cross traditional fuel and accounting lines. Heat pumps improve efficiency compared with conventional air conditioning and heating but increase overall electricity usage when they offset onsite fossil-based heating sources. The increase in total electricity sales can have a beneficial effect

on non-participating electric ratepayers, as the increased sales units from heat pump customers reduce per-unit rates for all customers. By changing primary fuel use from direct combustion to electricity, heat pumps will utilize the low-carbon electric generation mix the State is developing, resulting in large reductions in GHG emissions over time, compared with on-site combustion by customers.

The White Paper recommended that an all-fuels approach to efficiency programs should be adopted in order to encourage heat pumps, and that a longer-term market strategy should be developed for large-scale integration of heat pumps into efficiency and carbon reduction goals.

On October 3, 2018, Staff and NYSERDA conducted a stakeholder forum on heat pumps in which current heat pump programs were discussed and NYSERDA presented an evaluation of heat pump market potential showing high achievable potential with the carbon reduction value and peak reduction value exceeding the cost. Additionally, substantial non-participant benefits are associated with increased electric sales.

Parties expressed widespread support for increased reliance on heat pumps in meeting efficiency and carbon reduction goals. Energy Efficiency Advocates stated that a clear strategy for advancing heat pumps is needed. The NY Utilities supported approaches to encourage conversion of heating equipment that currently relies on delivered fuels. Renewable Heat Now urged a major shift in policy toward electrification, including support for heat pump conversions in LMI households. ACEEE cited studies showing the heat pump potential. AEA argued that heat pump conversions for LMI households relying on delivered fuels can be highly cost effective. Bob Wyman urged that, because of high capital costs, third-party ownership will be necessary to encourage large

numbers of homeowners to participate in heat pumps, just as it was for the rooftop solar market. He further argued that rate design changes are needed to account for the increased electricity usage of heat pump customers and to avoid a subsidy from heat pump customers to non-participating customers. NYC advised that efficiency targets should be designed to accommodate beneficial electrification including heat pumps, and that an all-fuels approach to efficiency may be needed.

The NY Geothermal Organization and the Geothermal Exchange Organization offered a range of suggestions toward integrating ground-source heat pumps into efficiency programs. These included: a statewide online pre-screening tool, a rate structure that accounts for increased electricity usage displacing other fuels, clear direction for rate case implementation, accounting for locational benefits, improved financing offerings, distinct annual targets for heat pumps, counting upstream methane emissions for purposes of calculating benefits of renewable electricity, and developing a glide path toward a net zero carbon emissions building code.

In the technical conference, the Vermont Energy Investment Corporation (VEIC), based on its experience with heat pump programs, underscored the need to clarify and streamline the roles of utilities and NYSERDA to provide consistent market signals and drive heat pump adoption. VEIC noted that New York's current landscape for heat pump promotion has inconsistent offerings and designs and may result in market confusion.

UIU cautioned that not all electrification is beneficial and the long-term implications of heat pump conversions must be considered carefully. UIU urged that the BCA process for electrification measures must question whether there may be a level of market penetration when the benefit-cost analysis changes, for example as increased reliance on

electricity adds winter peak demand. UIU suggested a test for considering the benefits of electrification, in which one or more of three elements must be present without adversely affecting the other two. The three elements in the test are: saves consumers money in the long run; enables better grid management; and reduces negative environmental impacts.

2. Discussion

As discussed in the stakeholder forum, the potential of heat pumps to contribute to energy efficiency and carbon reduction goals is very large. Heating and cooling of buildings causes one-third of the state's GHG emissions, and heat pumps are more efficient than many other heating and cooling methods. As the electric system evolves to a low-carbon generation mix, electrification of heating and cooling becomes a critically important way to reduce GHG emissions.

Heat pumps can also be one of the most cost-effective means of achieving TBtu reductions. NYSERDA estimates that heat pumps can deliver carbon reduction at a cost of approximately $30 per ton.

In cases of conversion from oil or propane, heat pumps present a near-term benefit to non-participating customers by increasing the number of electricity sales units across which the utility revenue requirement is recovered.[71] This revenue increase will account for a substantial portion of the customer incentive needed to attract heat pump investments. NYSERDA estimates that with 6 TBtu of total customer usage reduction from heat pumps, the net ratepayer benefits including peak reduction would be over $150 million over the useful life of the

[71] This benefit to non-participating customers is much more pronounced for residential heat pump installations than it is for commercial installations, because residential rates are more heavily weighted to volumetric sales levels.

equipment, with an additional carbon benefit value of $220 million. Heat pumps may also achieve added value through NWA programs where they may replace existing cooling systems and reduce demand. Heat pumps represent relatively low program cost per unit of efficiency achieved, while also providing a rate benefit to non-participating customers.

As a subsidiary target within the larger jurisdictional 31 TBtu efficiency target, a minimum target of 5 TBtu of customer usage reduction from heat pumps is adopted here for the electric utility portfolios. This subsidiary target is to be considered within the overall portfolio-wide benefit-cost-analysis of each utility.[72] Because of the relatively low cost of efficiency derived from heat pumps, and because the bill credits or incentives reflecting increased sales levels will not be counted as direct program costs, as described below, the contribution of heat pump programs to portfolio cost reduction is expected to be significant.

5 TBtu is established here as a minimum target that utilities should include in their program filing for 2021-2025. The filing should detail the allocation of this target among utilities and should include a statewide framework to achieve market adoption. This target may be adjusted upwards by utilities in their 2021-2025 filing or may be adjusted upward by the Commission in a future order, based on confirmation of benefit estimates, potential studies, and strategies for

[72] The program cost to achieve 5 TBtu is estimated to be $250 million. The total program cost may be reduced by the use of bill credits or comparable incentives to reflect increased electric sales. The figure of $250 million is included within the estimated total ratepayer contribution of $1.6 billion for the incremental utility targets.

extending heat pump programs to larger buildings.[73] NYSERDA presented a statewide goal of 6 TBtu assuming 100,000 residential buildings. The jurisdictional target of 5 TBtu, representing 83,000 buildings, is a reasonable portion of that goal.[74]

The design of the heat pump program should:

- Drive market scale to produce cost reductions;
- Provide a clear and stable market signal;
- Be simple and workable from the consumer standpoint;
- Be uniform from the provider standpoint, avoiding a patchwork of incentives; and
- Provide a smooth transition from current programs to avoid disruption.

The heat pump program will provide incentives to create conditions for investment. These incentives may take the form of a bill credit or equivalent to reflect increased electric sales as discussed below, a market acceleration incentive similar to NY Sun or other incentive programs, or a combination of these.

The benefit of heat pumps to non-participating ratepayers, where conversions from oil or propane result in large volumetric increases in electric sales, should be captured

[73] Although initial uptake of heat pump incentives is expected to be primarily in residential markets, larger customers will not be precluded.

[74] Much larger estimates of feasible heat pump penetration have been put forward. The Vermont Energy Investment Corporation's analysis suggested that a 12 TBtu target would be achievable for New York under moderate growth. Energy Efficiency Advocates' analysis proposed that 30TBtu is achievable by 2025.

in whole or in part to incentivize heat pump installations.[75] This will increase market penetration while reducing direct program costs. Central Hudson has adopted a bill credit mechanism to achieve this.[76] In financing heat pump investments, variable annual bill credits are likely to be significantly discounted by consumers, which impairs their ability to encourage customer participation. In developing a mechanism to account for the increased sales volumes to heat pump customers, utilities may consider periodic bill credits or front-loaded incentives or some combination of these. The portion of the total customer incentive comprised by bill credits should not ordinarily exceed 50% in the absence of a demonstration that a proportionately larger bill credit will benefit ratepayers and stimulate a sustainable market.

Some parties suggested that a separate rate design for heat pumps may be the best way to account for increased sales volume. Others stated that clear and predictable incentives or credits are a better means to attract customers. As a general matter, technology-specific rate designs are not preferred where they are not necessary. In this instance, bill credits or incentives will suffice in the near term. In the longer term, generic rate design reform that is under consideration in other

[75] The bill credit/incentive mechanism will only be applicable in the case of conversions from delivered fuels. In all cases, a traditional rebate incentive is likely to be needed to accelerate market development and adoption by customers.

[76] Cases 17-E-0459 and 17-G-0460, supra, Central Hudson Rate Order at 72-73. See also Central Hudson 2018-2021 Carbon Reduction Implementation Plan (filed August 30, 2018) at 11.

venues may have the effect of compensating heat pump customers for volume-based values.[77]

Because these types of bill credits or incentives reflect value that is realized in other aspects of a utility rate plan, they should be netted against program costs. To the extent that bill credits are front-loaded into incentives paid from approved efficiency budgets, utilities should propose accounting methods to allow for the rate benefits to non-participating customers to be offset against efficiency budgets.

Given the importance of heat pumps to the achievement of overall targets at minimum cost to ratepayers, heat pump program implementation should not wait until the 2021-25 period. Instead, utilities should plan to begin heat pump implementation in 2020 and should expect to file a separate heat pump implementation plan, in consultation with NYSERDA, within 60 days of the Commission's 2019 order approving targets and budgets. NYSERDA is anticipated to release a detailed market potential study of heat pumps in the near future, which utilities should reference in developing their program proposals. In preparing their March 2019 filing for the years 2021-2025, utilities may include 2020 spending on heat pumps within the budgets and targets for those years.

Utilities will work in consultation with NYSERDA in preparing a heat pump proposal in the March 2019 filing, as well as a subsequent implementation plan. The heat pump program will contain a statewide framework to drive markets to scale and will

[77] In the context of other proceedings related to rate design, rate design reforms may be adopted that would benefit heat pump customers due to their volumetric usage and demand profile. To the extent there are large numbers of heat pump customers who have already received front-loaded incentives to account for increased sales volume, their ability to opt into redesigned rates may be limited to avoid a windfall at the expense of non-participating customers.

leverage the relative strengths of the utilities and NYSERDA to enable market growth. Under the CEF, NYSERDA will provide numerous forms of assistance including: technical and financial assistance; marketing, outreach, and education; workforce training; quality assurance and measurement and valuation best practices; and community-scale assistance. Utilities are best positioned to target locational values, to quantify non-participating ratepayer benefits, and to leverage customer relations to support market penetration. NYSERDA can address cross-cutting barriers (e.g., workforce development and consumer awareness) and can potentially take on program administration functions as part of a uniform statewide approach. Heat pump program administration models will be evaluated by their potential to stimulate industry scale as well as achieving near term targets. The success of the NY Sun program should be used as a model in considering a TBtu block program for heat pumps. The credit/incentive mechanism must be uniform statewide from the standpoint of customer experience, although the specific dollar figures will vary across utilities. The transition should not present customers with a gap between existing programs and new programs. Where feasible, programs should be designed to combine heat pumps with other measures to achieve comprehensive savings.

UIU cautions that large-scale deployment of heat pumps has the potential to dramatically alter system load profiles, potentially turning some utilities from summer-peaking into winter-peaking. At the penetration levels anticipated with a 5 TBtu reduction prescribed here, the shift in system load

profiles is not large,[78] but UIU is correct that this may be a significant long-term factor if heat pump penetration in the heating and cooling market increases by larger amounts. Planning processes will need to take this possibility into account, in conjunction with the numerous other system changes that are underway through the REV initiative. Integrating heat pump installations with thermal shell measures will mitigate potential winter-peaking concerns by reducing heating load and ensuring units are sized at the lowest level necessary.

F. Regulatory Construct

1. Background and Summary of Relevant Comments

In the REV Framework and Track Two orders, the Commission initiated a process of transitioning utility program cost recovery away from surcharges and through base rates, being recognized as a component of the utility's revenue requirement, as determined in rate cases. This transition is accompanied by new approaches to performance incentives in the form of Earning Adjustment Mechanisms (EAMs), which are established in rate cases.

The White Paper identified regulatory construct issues including: the use and improved design of EAMs; coordinating recovery of new program costs with existing rate plans; and coordinating recovery of costs for programs that extend across more than one regulated fuel source. The White Paper also noted

[78] Statewide heating and cooling energy use is approximately 1000 TBtu, of which a large amount is electric; the heat pump penetration that would result in a reduction of 5 TBtu will not have a dramatic impact on load profiles for electricity. Conservative estimates, assuming that all heat pumps are operating in resistance mode at the winter peak, would require at least 650,000 residential heat pump installations to convert the statewide bulk system to winter peaking. Assuming normal operation of heat pumps at the winter peak, over 1.9 million installations would be required.

that self-direct programs have complicated the transition away from surcharges, have had low participation, and require consideration as to how they can be improved.

The White Paper suggested that higher levels of EAMs could be allowed in exchange for reductions in the level of ratepayer funding for program support. The NY Utilities sought clarification as to whether this implied a reduction in cost recovery to levels below program cost, in exchange for an opportunity to earn higher EAMs. Under that interpretation, the utilities opposed any proposal that might not allow basic cost recovery. Energy Efficiency Advocates, Acadia Center, ACE NY and AEEI supported the utilities on this point, arguing that assured cost recovery is necessary for utilities to support increases in efficiency targets. EEA suggested that allowing utilities to earn a return on their investments might be preferable to outcome-based incentives. The utilities stated that the best incentives will be those that are meaningful, timely, and based on outcomes that are within the utility's ability to influence. Con Edison stated that amortization of utility investments over the estimated life of the measures is the most equitable way of recovering costs. NFG also supported an amortization framework for cost recovery. Other utilities have supported annual expense-based recovery.

ACEEE suggested that both expanded EAMs and rate-basing of investment should be experimented with. AEA argued that the existing EAM levels are not sufficient. MI argued that the existing EAMs are unnecessary and add cost to utility programs without any showing of benefits. MI also argued that costs should be recovered on a demand basis, rather than a volumetric basis, especially where programs are designed in part to reduce peak demand.

2. Discussion

Some adjustments to the current regulatory construct are warranted, based on practical experience. The governing principle for cost recovery will continue to be full recovery of prudently incurred costs. Incentives will be based on performance that demonstrably saves money for ratepayers. EAMs will not be an additional cost, nor will they replace cost recovery of prudent expenditures; rather, as a rule, they will be used to incentivize cost reductions that allow utilities to achieve or surpass their energy savings targets with spending below authorized program budgets.

The normal mode of recovery for energy efficiency program costs has been to treat them as operating expenses, and this will remain the expectation in the absence of demonstrations that amortization alternatives are in the ratepayers' interest. In individual rate plans, amortization of energy efficiency program costs may be permitted where the overall context of the rate plan establishes a benefit to doing so, such as moderation of overall customer bill impacts.

This Order has identified certain elements of efficiency programs that may require adjustments in other parts of utility rate plans. These include consideration of system benefits created by peak-reducing measures and increased sales from heat pumps. Each of these has been described above, and rate case processes will be the correct venue in which to enact the necessary tracking or reporting adjustments.

The energy efficiency EAMs most recently approved in rate cases reflect a hybrid approach of both program- and outcome-based metrics, combining direct utility program achievements with energy intensity metrics. Energy intensity metrics are valuable because they measure market effects, not merely direct program effects, and utilities should be

incentivized to build the market enhancing structures that enable broader economy-wide energy efficiency improvements. In the context of rate cases, however, it has become apparent that such energy intensity metrics are best suited for longer term measurement of trends, which are not easily accommodated when setting annual goals within a one-to-three-year rate plan horizon. For that reason, utilities and Staff should work with NYSERDA to determine the most effective techniques and period for measuring energy intensity improvements, which may be implemented as EAMs or scorecards when appropriate. In the near term, EAMs focused on energy intensity may continue at modest levels, while more effective techniques and methodologies are developed. As a general matter, near-term EAMs should be more focused on shared savings.

EAMs for energy efficiency programs will continue to be developed in individual rate cases, using benchmarked dollars-per-lifetime-MMBtu costs. EAMs will be developed so they do not add costs in addition to approved program budgets, but instead will be designed to share any savings achieved below authorized budgets. EAMs will be based on benchmarked dollars-per-lifetime-MMBtu costs. While program targets to be proposed in the utilities' March 2019 filing will be based on a first-year cumulative annual basis, EAMs will utilize a dollars-per-lifetime MMBtu basis to encourage longer lived savings and optimal reduction and to discourage an over-reliance on measures with shorter EULs.

Utilities will have an opportunity to enhance their earnings by working with innovative third parties to develop alternative solutions to achieve the results committed to in this Order at lower cost to ratepayers. Doing so can create additional value, and the opportunity for shared savings.

Savings can be shared through EAMs for specified outcomes or through other constructs designed for the specific opportunity and approved by the Commission. This Order describes the Commission's expectation that utilities will actively continue and expand their work with third parties to identify, develop, and implement innovative program solutions. Achieving such benefits from third parties may require utilities to enter into long term contracts, as these contracts would represent long-term financial liabilities. Utilities are encouraged to bring forward shared savings/benefit structures that would represent long-term financial assets. EAMs can be earned by achieving program targets at costs below budget levels or by proposing and achieving new program ideas at budgeted levels substantially lower than historic run rates for the concerned measures.[79] Moreover, while this Order has affirmed full recovery of prudent costs, utilities are encouraged to bring forward shared savings/benefits approaches to compensation as an alternative or complement to traditional cost recovery or rate-base approaches.

Savings resulting from NYSERDA programs may be counted toward utility EAMs under clearly defined conditions. These conditions should be proposed in the March 2019 utility filing after consultation with NYSERDA.

EAMs may consider NYSERDA outcomes where a defined collaborative effort is in place. The size of such EAMs may be scaled to the type of collaboration. The assignment of program targets to utilities and to NYSERDA serves the purpose of accountability; on the other hand, separate program targets

[79] Program-specific EAMs, if any, must be reconciled with portfolio-wide EAMs to avoid double counting. As an alternative, portfolio-wide EAMs could be adjusted to reflect the inclusion of innovative highly cost-effective programs.

should not undermine collaborative efforts toward achieving the most effective total results from efficiency, ratepayer, and market development standpoints. Where collaborative agreements are in place, program targets of NYSERDA and utilities may overlap, enabling utilities to earn EAMs where enhanced program outcomes are achieved at costs below utility budgets as a result of collaborative efforts.

Some current utility rate plans include EAM metrics that are tied to distinct market outcomes, such as heat pump adoption. Where accelerated budgets for 2019-2020 enable increased efforts in those specific program areas, corresponding increases to such EAM targets will be warranted. These changes will be considered, if necessary, in the 2019 order anticipated in this Order. Where new or revised utility programs during the course of existing rate plans require a Btu metric rather than a MWh metric, those targets should be converted.

MI argued that some portion of energy efficiency expenditures should be recovered through demand-based charges rather than volumetric charges. The Commission's practice has been to recover efficiency expenditures through volumetric rates, because energy efficiency targets are primarily stated in volumetric terms, and because power plant emissions are primarily a function of volumetric usage. MI correctly observes that the White Paper places a greater emphasis on using energy efficiency to reduce peak demand. For that reason, the Commission will entertain proposals to allocate and design rates to recover some portion of energy efficiency costs on demand. These proposals may be developed in rate proceedings, as each utility will vary in the portion of its programs that are oriented toward demand reduction.

G. Metrics

1. Background and Summary of Relevant Comments

A number of stakeholders argued that energy efficiency produces benefits greater than those captured in the current BCA Framework. Parties proposed that non-energy benefits such as health improvement, and energy benefits such as wholesale price reduction, should be counted when evaluating energy efficiency programs.

2. Discussion

At this time no revisions of the BCA Framework are warranted, nor are revisions needed to achieve efficiency goals. The Commission determined in the REV Framework Order that benefit-cost for efficiency should be determined on a portfolio basis rather than a program or measure basis.[80] In other words, if a utility's entire portfolio of programs yields an acceptable BCA result, then particular measures or programs are not necessarily precluded from a utility's portfolio merely because they do not pass a BCA on their own.[81] This approach gives program administrators maximum design flexibility while ensuring that overall societal benefits exceed societal costs.

The portfolio approach will continue to be used as utilities expand their energy efficiency initiatives pursuant to this order and subsequent orders. Based on estimates of achievable potential, which will be augmented by utility-specific potential studies, utilities will be able to put forward comprehensive portfolios to meet overall targets while meeting the BCA requirements. After that point, the critical metric becomes ratepayer costs, and the inclusion or exclusion of non-energy or system benefits does not affect this metric.

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[80] Case 14-M-0101, supra, REV Framework Order.

[81] As noted above, LMI programs may be separated into their own BCA calculations, and do not need to reach a score of 1.0.

H. Implementation Process

This order adopts a goal for 2025 and takes an iterative approach to implementing the goal. Accelerated activity can begin, where warranted, as soon as programs can be ramped up, while utility-specific longer-term portfolios can be developed in a timely manner with input from potential studies, NYSERDA, and interested stakeholders.

Targets and budgets for 2019-2020 are established here and presented in Appendix A. These targets represent the minimum for each utility, and they do not preclude higher targets being established through a rate proceeding or a utility petition. Utilities for which incremental budgets and targets are authorized in Appendix A will file updated ETIPs and SEEPs within sixty days of this Order.

Proposed targets and budgets for the years 2021-2025 will be filed jointly by the utilities not later than March 31, 2019; the Commission anticipates an order in the third quarter of 2019 to adopt targets and budgets for those years. If the utilities are unable to agree on a joint filing, separate filings should be made. Targets and budgets in the March 2019 filing may depart from the pro rata presumptive figures included in Appendix C, in order to optimize the mix of programs and the allocation of targets among utilities. In no event should the aggregate targets be less than 31 TBtu plus already authorized target levels, and in no event should the aggregate budgets be greater than the total for 2021-2025 described in Appendix E plus already authorized budgets for the baseline. The utility filing should combine incremental budget levels for 2021-2025 with existing authorized levels to present complete utility portfolios through 2025.

In preparing the joint filing, the utilities should consult with NYSERDA in order to establish the most effective

degree of cooperation among programs. Utilities should also consult with interested stakeholders to the extent practical and consistent with timely development of a proposal. Not less than ten days before filing, the utilities must conduct at least two technical conferences with stakeholders to present the terms of a draft proposal and receive input. The utilities shall include a summary of comments from the technical conferences in their filing.

Because heat pumps will be a large component of the 2021-2025 targets, implementation of accelerated heat pump programs should begin in 2020. The Commission anticipates that in its 2019 order, utilities will be required to file a statewide heat pump implementation plan in consultation with NYSERDA.

The utilities will cooperate with NYSERDA to develop a single platform for LMI efficiency program administration. The Commission anticipates that in its 2019 order, utilities will be required to file an LMI administration plan.

Staff will convene the utilities and NYSERDA in a Performance Management and Improvement process. The purpose of this process will be to develop, critique, and share efficiency program management practices including best practices from other jurisdictions, for the purposes of achieving cost reductions, improving program management practices, and enabling developers to participate in markets by enhancing the clarity, uniformity, predictability and regularity of program offerings. Specific program targets and budgets will not be the subject of this process.

In coordinating this effort, Staff will seek input from market participants and will ensure that communication among market participants and program administrators is occurring to achieve the purposes of the process. In the event

that Staff identifies a program improvement that an administrator does not accept, Staff may file a written recommendation and any affected program administrator must file a response, in the public record of this proceeding, within fourteen days.

Utilities will continue to file System Energy Efficiency Plans, including quarterly progress reports, in accordance with Staff guidance, as ordered in the March 2018 order in Case 15-M-0252 described above. Staff will also convene an annual technical conference in which utilities, in conjunction with NYSERDA, will present to stakeholders program performance, planned changes to programs, and outlook for achieving overall targets.

VII. STATE ENVIRONMENTAL QUALITY REVIEW ACT

On October 24, 2014, the Commission issued a Draft Generic Environmental Impact Statement relating to REV and the CEF for comment, which included specific consideration and analysis related to increased energy efficiency activity as part of REV and the CEF. Fifteen comments were received, and on February 6, 2015 the Commission adopted the Final Generic Environmental Impact Statement. In accordance with the State Environmental Quality Review Act, a Findings Statement prepared by the Commission as lead agency in this action is attached to this Order as Appendix H.

VIII. CONCLUSION

For the reasons stated above, the Commission adopts a jurisdictional energy efficiency target of 31 TBtu through 2025 and orders the utilities to achieve this target in the manner described in this Order.

The Commission orders:

1. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., KeySpan Gas East Corporation, The Brooklyn Union Gas Company, National Fuel Gas Distribution Corporation, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation (collectively, "the utilities") shall conduct energy efficiency programs consistent with the discussion in the body of this Order in 2019 and 2020.

2. The utilities, in consultation with NYSERDA, shall file, collectively or individually, proposals for energy efficiency targets and budgets on or before March 31, 2019, as described in the body of this Order.

3. Consolidated Edison Company of New York, Inc., KeySpan Gas East Corporation, The Brooklyn Union Gas Company, New York State Electric & Gas Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall conduct incremental energy efficiency activities in 2019 and 2020 consistent with the budgets and targets described in the body of this Order and its Appendices. Consolidated Edison Company of New York, Inc., KeySpan Gas East Corporation, The Brooklyn Union Gas Company, New York State Electric & Gas Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation shall file updated Efficiency Transition Implementation Plans and System Energy Efficiency Plans reflecting these incremental activities within 60 days of this Order.

4. Consolidated Edison Company of New York, Inc., KeySpan Gas East Corporation, The Brooklyn Union Gas Company, New York State Electric & Gas Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation

shall utilize funds as specified in Appendix B for incremental energy efficiency budgets authorized for 2019 and 2020. NYSERDA will complete payment of its respective amount, as detailed in Appendix B, within 60 days of this Order.

5. The utilities shall conduct a collaborative, convened by Staff, with providers of distributed energy resources to develop Green Button Connect terms and conditions, as described in the body of this Order, and shall file a proposal on or before February 29, 2019.

6. Each utility shall file a progress report on or before June 30, 2019 regarding readiness for benchmarking as described in the body of this Order.

7. The utilities shall cooperate with NYSERDA in developing and implementing asset data matching pilots as described in the body of this Order.

8. The utilities will participate in a Performance Management and Improvement process, convened by Staff, as described in the body of this Order.

9. In the Secretary's sole discretion, the deadlines set forth in this order may be extended. Any request for an extension must be in writing, must include a justification for the extension, and must be filed at least one day prior to the affected deadline.

10. This proceeding is continued.

By the Commission,

(SIGNED) KATHLEEN H. BURGESS
Secretary

Appendix A - Table 1

2019 & 2020 NE:NY Incremental Electric Budgets and Targets

	2019	2020	Total
Central Hudson			
Budget	$ -	$ -	$ -
Gross MWh Target	-	-	-
MMBtu-equivalent Target	-	-	-
Con Edison			
Budget	$ -	$ 59,611,120	$ 59,611,120
Gross MWh Target	-	197,000	197,000
MMBtu-equivalent Target	-	672,164	672,164
Niagara Mohawk			
Budget	$ -	$ -	$ -
Gross MWh Target	-	-	-
MMBtu-equivalent Target	-	-	-
NYSEG			
Budget	$ 5,144,277	$ 6,430,346	$11,574,622
Gross MWh Target	23,803	29,754	53,557
MMBtu-equivalent Target	81,217	101,521	182,737
O&R			
Budget	$ 1,823,157	$ 2,278,946	$ 4,102,103
Gross MWh Target	8,579	10,724	19,302
MMBtu-equivalent Target	29,271	36,589	65,859
RG&E			
Budget	$ 2,924,592	$ 3,655,740	$ 6,580,333
Gross MWh Target	14,123	17,654	31,776
MMBtu-equivalent Target	48,187	60,234	108,421
Total Electric Portfolios			
Budget	**$ 9,892,026**	**$ 71,976,152**	**$ 81,868,177**
Gross MWh Target	**46,505**	**255,131**	**301,636**
MMBtu-equivalent Target	**158,674**	**870,507**	**1,029,181**

Appendix A - Table 1.a

2019 & 2020 NE:NY Incremental Non-LMI Electric Budgets and Targets

	2019	2020	Total
Central Hudson			
Budget	$ -	$ -	$ -
Gross MWh Target	-	-	-
MMBtu-equivalent Target	-	-	-
Con Edison			
Budget	$ -	$ 47,688,896	$ 47,688,896
Gross MWh Target	-	176,320	176,320
MMBtu-equivalent Target	-	601,605	601,605
Niagara Mohawk			
Budget	$ -	$ -	$ -
Gross MWh Target	-	-	-
MMBtu-equivalent Target	-	-	-
NYSEG			
Budget	$ 4,115,421	$ 5,144,277	$ 9,259,698
Gross MWh Target	22,019	27,523	49,542
MMBtu-equivalent Target	75,127	93,909	169,037
O&R			
Budget	$ 1,458,525	$ 1,823,157	$ 3,281,682
Gross MWh Target	7,946	9,933	17,879
MMBtu-equivalent Target	27,113	33,891	61,004
RG&E			
Budget	$ 2,339,674	$ 2,924,592	$ 5,264,266
Gross MWh Target	13,108	16,385	29,494
MMBtu-equivalent Target	44,725	55,907	100,632
Total Electric Portfolios			
Budget	**$ 7,913,621**	**$ 57,580,921**	**$ 65,494,542**
Gross MWh Target	**43,073**	**230,162**	**273,235**
MMBtu-equivalent Target	**146,966**	**785,312**	**932,278**

Appendix A - Table 1.b

2019 & 2020 NE:NY Incremental LMI Electric Budgets and Targets

	2019	2020	Total
Central Hudson			
Budget	$ -	$ -	$ -
Gross MWh Target	-	-	-
MMBtu-equivalent Target	-	-	-
Con Edison			
Budget	$ -	$ 11,922,224	$ 11,922,224
Gross MWh Target	-	20,680	20,680
MMBtu-equivalent Target	-	70,559	70,559
Niagara Mohawk			
Budget	$ -	$ -	$ -
Gross MWh Target	-	-	-
MMBtu-equivalent Target	-	-	-
NYSEG			
Budget	$ 1,028,855	$ 1,286,069	$ 2,314,924
Gross MWh Target	1,785	2,231	4,015
MMBtu-equivalent Target	6,089	7,611	13,700
O&R			
Budget	$ 364,631	$ 455,789	$ 820,421
Gross MWh Target	632	791	1,423
MMBtu-equivalent Target	2,158	2,697	4,855
RG&E			
Budget	$ 584,918	$ 731,148	$ 1,316,067
Gross MWh Target	1,015	1,268	2,283
MMBtu-equivalent Target	3,462	4,327	7,789
Total Electric Portfolios			
Budget	**$ 1,978,405**	**$ 14,395,230**	**$ 16,373,635**
Gross MWh Target	**3,432**	**24,969**	**28,401**
MMBtu-equivalent Target	**11,709**	**85,195**	**96,904**

Appendix A - Table 2

2019 & 2020 NE:NY Incremental Gas Budgets and Targets

	2019	2020	Total
Central Hudson			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
Con Edison			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
KEDLI			
Budget	$ 1,215,829	$ 2,127,701	$ 3,343,530
Gross MMBtu Target	43,180	75,565	118,745
KEDNY			
Budget	$ 2,933,009	$ 5,132,766	$ 8,065,775
Gross MMBtu Target	89,576	156,758	246,334
NFG			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
Niagara Mohawk			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
NYSEG			
Budget	$ 491,169	$ 859,546	$ 1,350,715
Gross MMBtu Target	21,517	37,655	59,172
O&R			
Budget	$ 379,659	$ 664,402	$ 1,044,061
Gross MMBtu Target	9,936	17,389	27,325
RG&E			
Budget	$ 204,284	$ 245,141	$ 449,425
Gross MMBtu Target	10,000	12,000	22,000
Total Gas Portfolios			
Budget	**$ 5,223,950**	**$ 9,029,557**	**$ 14,253,507**
Gross MMBtu Target	**174,209**	**299,366**	**473,576**

Appendix A - Table 2.a

2019 & 2020 NE:NY Incremental Non-LMI Gas Budgets and Targets

	2019	2020	Total
Central Hudson			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
Con Edison			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
KEDLI			
Budget	$ 972,663	$ 1,702,161	$ 2,674,824
Gross MMBtu Target	40,929	71,625	112,554
KEDNY			
Budget	$ 2,346,407	$ 4,106,213	$ 6,452,620
Gross MMBtu Target	84,146	147,255	231,401
NFG			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
Niagara Mohawk			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
NYSEG			
Budget	$ 392,935	$ 687,637	$ 1,080,572
Gross MMBtu Target	20,608	36,063	56,671
O&R			
Budget	$ 303,727	$ 531,522	$ 835,249
Gross MMBtu Target	9,233	16,158	25,392
RG&E			
Budget	$ 163,427	$ 196,113	$ 359,540
Gross MMBtu Target	9,622	11,546	21,168
Total Gas Portfolios			
Budget	**$ 4,179,160**	**$ 7,223,645**	**$11,402,805**
Gross MMBtu Target	**164,537**	**282,648**	**447,185**

Appendix A - Table 2.b

2019 & 2020 NE:NY Incremental LMI Gas Budgets and Targets

	2019	2020	Total
Central Hudson			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
Con Edison			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
KEDLI			
Budget	$ 243,166	$ 425,540	$ 668,706
Gross MMBtu Target	2,251	3,939	6,191
KEDNY			
Budget	$ 586,602	$ 1,026,553	$ 1,613,155
Gross MMBtu Target	5,430	9,503	14,934
NFG			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
Niagara Mohawk			
Budget	$ -	$ -	$ -
Gross MMBtu Target	-	-	-
NYSEG			
Budget	$ 98,234	$ 171,909	$ 270,143
Gross MMBtu Target	909	1,591	2,501
O&R			
Budget	$ 75,932	$ 132,880	$ 208,812
Gross MMBtu Target	703	1,230	1,933
RG&E			
Budget	$ 40,857	$ 49,028	$ 89,885
Gross MMBtu Target	378	454	832
Total Gas Portfolios			
Budget	**$ 1,044,790**	**$ 1,805,911**	**$ 2,850,701**
Gross MMBtu Target	**9,672**	**16,718**	**26,390**

Appendix B - Source of Funds for 2019 & 2020 Budget Authorizations

	Funding Required			Sources of Funds		
Electric Portfolio	2019	2020	2019 - 2020 Total	Utility Uncommitted / Unspent EEPS Funds [1]	CEF BAYG Interest Earnings (as of 6/30/18) [2]	NYSERDA Uncommitted EEPS Funds [3]
Con Edison	$ -	$59,611,120	$59,611,120	$ 59,611,120	$ -	$ -
NYSEG	$5,144,277	$ 6,430,346	$11,574,622	$ 4,398,175	$ 4,357,168	$ 2,819,279
O&R	$1,823,157	$ 2,278,946	$ 4,102,103	$ 4,102,103	$ -	$ -
RG&E	$2,924,592	$ 3,655,740	$ 6,580,333	$ 1,859,785	$2,300,704	$ 2,419,844
Total	**$9,892,026**	**$71,976,152**	**$81,868,177**	**$ 69,971,183**	**$6,657,872**	**$ 5,239,123**
Gas Portfolio						
KEDLI	$1,215,829	$ 2,127,701	$ 3,343,530	$ 3,343,530	$ -	$ -
KEDNY	$2,933,009	$ 5,132,766	$ 8,065,775	$ 8,065,775	$ -	$ -
NYSEG	$ 491,169	$ 859,546	$ 1,350,715	$ 522,513	$ 41,481	$ 813,832
O&R	$ 379,659	$ 664,402	$ 1,044,061	$ -	$ 34,241	$ 978,688
RG&E	$ 204,284	$ 245,141	$ 449,425	$ 449,425	$ -	$ -
Total	**$5,223,950**	**$ 9,029,557**	**$14,253,507**	**$ 12,385,264**	**$ 75,722**	**$ 1,792,520**

[1] Utility Uncommitted/Unspent EEPS Funds through 12/31/2017 may exceed the amount reflected here, as reported by Utilities in Case 07-M-0548 on June 30, 2018. For NYSEG electric and RG&E electric, the Utility Uncommitted/Unspent EEPS Funds is inclusive of interest through May 31, 2018 ($3,812,142 and $1,859,785 in interest, respectively). For O&R gas, the Utility Uncommitted/Unspent EEPS Funds are under review and have not been finalized and are therefore reflected as zero. All interest, including interest being used for NYSEG and RG&E, is subject to Staff audit and reconciliation.

[2] For utilities in which the 2019-2020 Funding Required exceeds the Utility Uncommitted/Unspent EEPS Funds, CEF BAYG Interest shall be used.

[3] For utilities in which the 2019-2020 Funding Required exceeds their Utility Uncommitted/Unspent EEP Funds and CEF BAYG Interest, NYSERDA Uncommitted/Unspent EEPS funds shall be used.

Appendix C - Table 1
2021-2025 NE:NY Electric Budgets and Targets

	2021	2022	2023	2024	2025	Total
Central Hudson						
Budget	$ 948,377	$ 1,580,629	$ 2,212,881	$ 2,687,069	$ 3,429,965	$ 10,858,921
Gross MWh Target	6,000	10,000	14,000	17,000	21,700	68,700
MMBtu-equiv. Target	20,472	34,120	47,768	58,004	74,040	234,404
Con Edison						
Budget	$ 90,475,760	$114,985,916	$142,219,423	$168,847,740	$190,846,361	$ 707,375,201
Gross MWh Target	299,000	380,000	470,000	558,000	630,700	2,337,700
MMBtu-equiv. Target	1,020,188	1,296,560	1,603,640	1,903,896	2,151,948	7,976,232
Niagara Mohawk						
Budget	$ 8,284,634	$ 15,154,819	$ 26,268,353	$ 36,775,694	$ 46,111,063	$132,594,564
Gross MWh Target	41,000	75,000	130,000	182,000	228,200	656,200
MMBtu-equiv. Target	139,892	255,900	443,560	620,984	778,618	2,238,954
NYSEG						
Budget	$ 8,428,564	$ 13,831,489	$ 22,908,404	$ 33,282,021	$ 43,340,150	$121,790,627
Gross MWh Target	39,000	64,000	106,000	154,000	200,540	563,540
MMBtu-equiv. Target	133,068	218,368	361,672	525,448	684,243	1,922,799
O&R						
Budget	$ 3,187,783	$ 4,250,377	$ 5,950,528	$ 8,288,235	$ 10,509,057	$ 32,185,981
Gross MWh Target	15,000	20,000	28,000	39,000	49,450	151,450
MMBtu-equiv. Target	51,180	68,240	95,536	133,068	168,723	516,747
RG&E						
Budget	$ 4,555,827	$ 6,626,657	$ 9,939,986	$ 14,081,647	$ 18,637,473	$ 53,841,590
Gross MWh Target	22,000	32,000	48,000	68,000	90,000	260,000
MMBtu-equiv. Target	75,064	109,184	163,776	232,016	307,080	887,120
Total Electric						
Budget	**$115,880,946**	**$156,429,888**	**$209,499,574**	**$263,962,406**	**$312,874,070**	**$1,058,646,883**
Gross MWh Target	**422,000**	**581,000**	**796,000**	**1,018,000**	**1,220,590**	**4,037,590**
MMBtu-equiv. Target	**1,439,864**	**1,982,372**	**2,715,952**	**3,473,416**	**4,164,654**	**13,776,258**

Appendix C - Table 1.a

2021-2025 Non-LMI Electric Targets and Budgets

	2021	2022	2023	2024	2025	Total
Central Hudson						
Budget	$ 758,702	$ 1,264,503	$ 1,770,304	$ 2,149,655	$ 2,743,972	$ 8,687,137
MWh Target	5,671	9,452	13,232	16,068	20,510	64,933
MMBtu-equiv.	19,349	32,249	45,149	54,823	69,981	221,551
Con Edison						
Budget	$72,380,608	$ 91,988,733	$113,775,538	$135,078,192	$152,677,089	$ 565,900,161
MWh Target	267,613	340,110	420,663	499,425	564,494	2,092,305
MMBtu-equiv.	913,096	1,160,457	1,435,301	1,704,039	1,926,052	7,138,945
Niagara Mohawk						
Budget	$ 6,627,708	$ 12,123,855	$ 21,014,682	$ 29,420,555	$ 36,888,850	$ 106,075,651
MWh Target	38,126	69,743	120,887	169,242	212,204	610,202
MMBtu-equiv.	130,086	237,962	412,467	577,454	724,039	2,082,008
NYSEG						
Budget	$ 6,742,851	$ 11,065,191	$ 18,326,723	$ 26,625,616	$ 34,672,120	$ 97,432,501
MWh Target	36,076	59,202	98,053	142,454	185,505	521,290
MMBtu-equiv.	123,091	201,996	334,556	486,054	632,943	1,778,641
O&R						
Budget	$ 2,550,226	$ 3,400,302	$ 4,760,422	$ 6,630,588	$ 8,407,246	$ 25,748,785
MWh Target	13,894	18,526	25,936	36,125	45,804	140,284
MMBtu-equiv.	47,407	63,209	88,493	123,258	156,284	478,650
RG&E						
Budget	$ 3,644,661	$ 5,301,326	$ 7,951,989	$ 11,265,317	$ 14,909,979	$ 43,073,272
MWh Target	20,420	29,701	44,552	63,115	83,534	241,322
MMBtu-equiv.	69,671	101,340	152,010	215,348	285,020	823,390
Total Electric						
Budget	**$92,704,756**	**$125,143,910**	**$167,599,659**	**$211,169,925**	**$250,299,256**	**$ 846,917,506**
MWh Target	**381,800**	**526,733**	**723,323**	**926,429**	**1,112,051**	**3,670,336**
MMBtu-equiv.	**1,302,701**	**1,797,213**	**2,467,977**	**3,160,976**	**3,794,319**	**12,523,187**

Appendix C – Table 1.b

2021-2025 LMI Electric Targets and Budgets

	2021	2022	2023	2024	2025	Total
Central Hudson						
Budget	$ 189,675	$ 316,126	$ 442,576	$ 537,414	$ 685,993	$ 2,171,784
MWh Target	329	548	768	932	1,190	3,767
MMBtu-equiv.	1,123	1,871	2,619	3,181	4,060	12,853
Con Edison						
Budget	$ 18,095,152	$ 22,997,183	$ 28,443,885	$ 33,769,548	$ 38,169,272	$ 141,475,040
MWh Target	31,387	39,890	49,337	58,575	66,206	245,395
MMBtu-equiv.	107,092	136,103	168,339	199,857	225,896	837,287
Niagara Mohawk						
Budget	$ 1,656,927	$ 3,030,964	$ 5,253,671	$ 7,355,139	$ 9,222,213	$ 26,518,913
MWh Target	2,874	5,257	9,113	12,758	15,996	45,998
MMBtu-equiv.	9,806	17,938	31,093	43,530	54,580	156,946
NYSEG						
Budget	$ 1,685,713	$ 2,766,298	$ 4,581,681	$ 6,656,404	$ 8,668,030	$ 24,358,125
MWh Target	2,924	4,798	7,947	11,546	15,035	42,250
MMBtu-equiv.	9,977	16,372	27,116	39,394	51,300	144,158
O&R						
Budget	$ 637,557	$ 850,075	$ 1,190,106	$ 1,657,647	$ 2,101,811	$ 6,437,196
MWh Target	1,106	1,474	2,064	2,875	3,646	11,166
MMBtu-equiv.	3,773	5,031	7,043	9,810	12,439	38,097
RG&E						
Budget	$ 911,165	$ 1,325,331	$ 1,987,997	$ 2,816,329	$ 3,727,495	$ 10,768,318
MWh Target	1,580	2,299	3,448	4,885	6,466	18,678
MMBtu-equiv.	5,393	7,844	11,766	16,668	22,060	63,730
Total Electric						
Budget	**$ 23,176,189**	**$ 31,285,978**	**$ 41,899,915**	**$ 52,792,481**	**$ 62,574,814**	**$ 211,729,377**
MWh Target	**40,200**	**54,267**	**72,677**	**91,571**	**108,539**	**367,254**
MMBtu-equiv.	**137,163**	**185,159**	**247,975**	**312,440**	**370,335**	**1,253,071**

Appendix C - Table 2

2019 & 2020 NE:NY Gas Targets and Budgets

	2021	2022	2023	2024	2025	Total
Central Hudson						
Budget	$ 15,830	$ 47,490	$ 94,980	$ 158,300	$ 238,084	$ 554,685
Gross MMBtu Target	1,000	3,000	6,000	10,000	15,040	35,040
Con Edison						
Budget	$ 11,153,880	$ 11,740,926	$ 13,171,852	$ 15,630,108	$ 18,497,646	$70,194,413
Gross MMBtu Target	304,000	320,000	359,000	426,000	504,155	1,913,155
KEDLI						
Budget	$ 2,872,048	$ 3,801,240	$ 4,983,849	$ 6,757,761	$ 9,072,294	$27,487,192
Gross MMBtu Target	102,000	135,000	177,000	240,000	322,200	976,200
KEDNY						
Budget	$ 7,465,446	$ 9,561,010	$ 13,817,623	$ 19,122,019	$ 23,892,308	$73,858,406
Gross MMBtu Target	228,000	292,000	422,000	584,000	729,688	2,255,688
NFG						
Budget	$ 104,172	$ 260,431	$ 416,690	$ 729,207	$ 1,091,206	$ 2,601,705
Gross MMBtu Target	2,000	5,000	8,000	14,000	20,950	49,950
Niagara Mohawk						
Budget	$ -	$ -	$ -	$ -	$ -	$ -
Gross MMBtu Target	-	-	-	-	-	-
NYSEG						
Budget	$ 1,072,870	$ 1,369,621	$ 1,871,816	$ 2,579,453	$ 3,368,355	$10,262,114
Gross MMBtu Target	47,000	60,000	82,000	113,000	147,560	449,560
O&R						
Budget	$ 1,108,064	$ 1,681,201	$ 2,330,756	$ 3,018,520	$ 3,663,107	$11,801,648
Gross MMBtu Target	29,000	44,000	61,000	79,000	95,870	308,870
RG&E						
Budget	$ 347,283	$ 571,995	$ 878,421	$ 1,246,132	$ 1,642,423	$ 4,686,254
Gross MMBtu Target	17,000	28,000	43,000	61,000	80,399	229,399
Total Gas Portfolios						
Budget	**$ 24,139,594**	**$ 29,033,915**	**$ 37,565,986**	**$ 49,241,500**	**$ 61,465,422**	**$201,446,417**
Gross MMBtu Target	**730,000**	**887,000**	**1,158,000**	**1,527,000**	**1,915,862**	**6,217,862**

Appendix C - Table 2.a

2021-2025 Non-LMI Gas Targets and Budgets

	2021	2022	2023	2024	2025	Total
Central Hudson						
Budget	$ 12,664	$ 37,992	$ 75,984	$ 126,640	$ 190,467	$ 443,748
MMBtu Target	971	2,912	5,824	9,707	14,599	34,013
Con Edison						
Budget	$ 8,923,104	$ 9,392,741	$ 10,537,482	$ 12,504,087	$ 14,798,117	$ 56,155,530
MMBtu Target	283,348	298,262	334,612	397,061	469,906	1,783,189
KEDLI						
Budget	$ 2,297,639	$ 3,040,992	$ 3,987,079	$ 5,406,209	$ 7,257,835	$ 21,989,753
MMBtu Target	96,682	127,962	167,772	227,488	305,403	925,307
KEDNY						
Budget	$ 5,972,357	$ 7,648,808	$ 11,054,099	$ 15,297,615	$ 19,113,846	$ 59,086,725
MMBtu Target	214,178	274,298	396,417	548,595	685,451	2,118,938
NFG						
Budget	$ 83,338	$ 208,345	$ 333,352	$ 583,365	$ 872,965	$ 2,081,364
MMBtu Target	1,807	4,518	7,228	12,650	18,930	45,133
Niagara Mohawk						
Budget	$ -	$ -	$ -	$ -	$ -	$ -
MMBtu Target	-	-	-	-	-	-
NYSEG						
Budget	$ 858,296	$ 1,095,697	$ 1,497,452	$ 2,063,562	$ 2,694,684	$ 8,209,692
MMBtu Target	45,014	57,464	78,534	108,224	141,323	430,560
O&R						
Budget	$ 886,451	$ 1,344,961	$ 1,864,605	$ 2,414,816	$ 2,930,486	$ 9,441,318
MMBtu Target	26,948	40,887	56,685	73,411	89,088	287,019
RG&E						
Budget	$ 277,826	$ 457,596	$ 702,737	$ 996,906	$ 1,313,938	$ 3,749,003
MMBtu Target	16,357	26,941	41,374	58,693	77,358	220,722
Total Gas						
Budget	**$19,311,675**	**$ 23,227,132**	**$ 30,052,789**	**$ 39,393,200**	**$ 49,172,338**	**$161,157,133**
MMBtu Target	**85,305**	**833,243**	**1,088,446**	**1,435,829**	**1,802,058**	**5,844,882**

Appendix C - Table 2.b

2021-2025 LMI Gas Targets and Budgets

	2021	2022	2023	2024	2025	Total
Central Hudson						
Budget	$ 3,166	$ 9,498	$ 18,996	$ 31,660	$ 47,617	$ 110,937
MMBtu Target	29	88	176	293	441	1,027
Con Edison						
Budget	$2,230,776	$2,348,185	$2,634,370	$3,126,022	$ 3,699,529	$14,038,883
MMBtu Target	20,652	21,738	24,388	28,939	34,249	129,966
KEDLI						
Budget	$ 574,410	$ 760,248	$ 996,770	$1,351,552	$ 1,814,459	$ 5,497,438
MMBtu Target	5,318	7,038	9,228	12,512	16,797	50,893
KEDNY						
Budget	$1,493,089	$1,912,202	$2,763,525	$3,824,404	$ 4,778,462	$14,771,681
MMBtu Target	13,822	17,702	25,583	35,405	44,237	136,750
NFG						
Budget	$ 20,834	$ 52,086	$ 83,338	$ 145,841	$ 218,241	$ 520,341
MMBtu Target	193	482	772	1,350	2,020	4,817
Niagara Mohawk						
Budget	$ -	$ -	$ -	$ -	$ -	$ -
MMBtu Target	-	-	-	-	-	-
NYSEG						
Budget	$ 214,574	$ 273,924	$ 374,363	$ 515,891	$ 673,671	$ 2,052,423
MMBtu Target	1,986	2,536	3,466	4,776	6,237	19,000
O&R						
Budget	$ 221,613	$ 336,240	$ 466,151	$ 603,704	$ 732,621	$ 2,360,330
MMBtu Target	2,052	3,113	4,315	5,589	6,782	21,851
RG&E						
Budget	$ 69,457	$ 114,399	$ 175,684	$ 249,226	$ 328,485	$ 937,251
MMBtu Target	643	1,059	1,626	2,307	3,041	8,677
Total Gas						
Budget	**$4,827,919**	**$5,806,783**	**$7,513,197**	**$9,848,300**	**$12,293,084**	**$40,289,283**
MMBtu Target	**44,695**	**53,757**	**69,554**	**91,171**	**113,804**	**372,980**

Appendix D – Table 1
Calculation of 3% Target (GWh)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Incremental NE:NY Acq.	n/a	n/a	n/a	47	255	422	581	796	1,018	1,221
NYSERDA Acq. GWh Savings [1]	370	473	365	512	836	804	1,047	1,047	1,047	1,047
Current IOU Targets [2]	610	610	722	816	690	690	690	690	690	690
Total Incremental Savings	979	1,083	1,087	1,375	1,781	1,916	2,317	2,532	2,754	2,957
2025 Forecast [3]	153,557	154,664	155,669	157,341	159,103	159,700	160,436	161,143	162,085	162,527
Jurisdictional Load	114,093	114,915	115,662	116,905	118,213	118,657	119,204	119,729	120,429	120,758
Adjusted Jurisdictional Load [4]	109,185	106,059	106,787	107,728	107,414	106,106	104,528	102,734	100,924	98,568
EE as % of Jurisdictional Load	0.90%	1.02%	1.02%	1.28%	1.66%	1.81%	2.22%	2.47%	2.73%	3.00%

[1] NYSERDA's Clean Energy Fund (CEF) goals are established and reported on a commitment basis. In Q1 2018, for use in the New Efficiency: New York analysis, NYSERDA prepared a projection for how CEF direct and indirect savings would be acquired, as well as a projection for committed EEPS savings that are still to be acquired. NYSERDA recently updated its projection of EEPS savings to be acquired through 2020. NYSERDA will review and update its projection of acquired CEF savings in Q1 2019, and annually thereafter. At present, NYSERDA's projection of CEF indirect savings follows the timing shown in CEF Investment Plans filed with NY DPS, resulting in significant "lumpiness" as indirect savings are concentrated in 2020, 2024, and 2025 as shown in the table immediately below. In practice, NYSERDA will evaluate and report on acquired indirect savings from CEF activities on a periodic basis, which is anticipated to be more frequent but to nonetheless result in some degree of lumpiness in terms of reported CEF savings. For the purposes of modeling annual electricity savings from both NYSERDA and IOU activities as a percentage of IOU sales, the concentration of NYSERDA CEF indirect savings in 2020, 2024, and 2025 creates distortions. Staff therefore created an analytic assumption for use in modeling, as reflected above, which smooths CEF indirect savings over additional years.

[2] Includes Commission-authorized 2018-2020 ETIP targets, presumed ETIP targets for 2021-2025, and incremental rate case targets.

[3] Electricity forecast based on CES and 2015 NYISO Gold Book. Onsite fuel consumption forecast based on 2015 EIA AEO.

[4] Adjusted to reflect prior years' actual or projected energy efficiency achievements, and NYISO assumed Codes & Standards occurring throughout this period.

Appendix D - Table 2 [1]

Projection of Acquired NYSERDA Electric Savings (GWh)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
NYSERDA EEPS (rev. Q3 2018)	353	413	163	252	63	0	0	0	0	0
NYSERDA CEF: Direct Savings	14	49	182	260	483	514	514	514	514	514
NYSERDA CEF: Indirect Savings	3	11	20	0	580	0	0	0	580	1,550
Total Acquired Projection: NYSERDA EEPS + CEF Direct + CEF Indirect	370	473	365	512	1,126	514	514	514	1,094	2,064

[1] See table immediately above.

Appendix E - Table 1

New Efficiency: New York Budgets

	2019-2020	2021-2025	Total
Electric Budget	$ 81,868,177	$ 1,058,646,883	$ 1,140,515,060
Gas Budget	$ 14,253,507	$ 201,446,417	$ 215,699,923
Heat Pump Budget	n/a	$ 250,000,000	$ 250,000,000
Total Budget	**$ 96,121,684**	**$ 1,510,093,300**	**$ 1,606,214,984**

Appendix E - Table 2

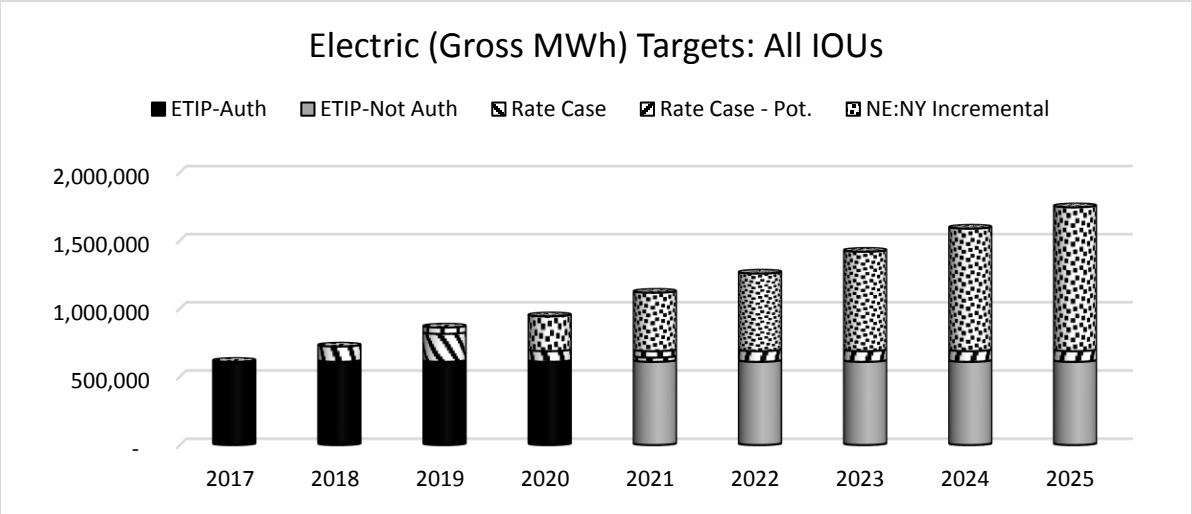
New Efficiency: New York Targets

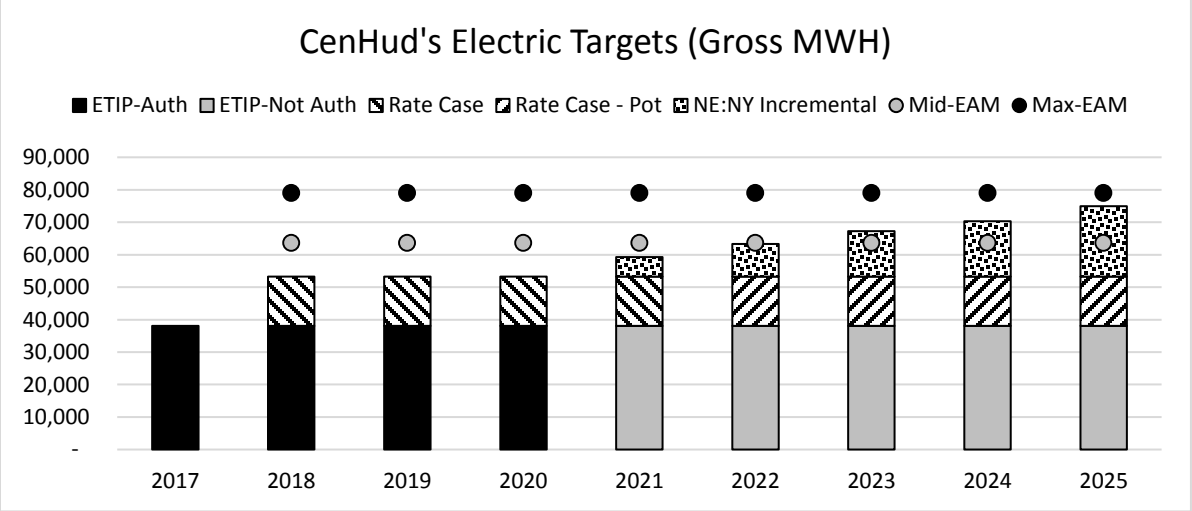
	2019-2020	2021-2025	Total
Electric Target			
Gross MWh	301,636	4,037,590	4,339,226
MMBtu-equivalent	1,029,181	13,776,258	14,805,439
Gas Target			
Gross MMBtu	473,576	6,217,862	6,691,438
Heat Pump Target			
Gross MMBtu	n/a	5,000,000	5,000,000
Total Target [1]			
Gross MMBtu	**1,502,757**	**24,994,120**	**26,496,877**

[1] Figure shown for total target does not include an additional 4.6 TBtu resulting from the following recent rate proceeding : Case 17-E-0459, supra, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan (issued June 14, 2018); Case 17-E-0238, supra, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans (issued March 15, 2018); Case 16-E-0060, supra, Order Approving Electric and Gas Rate Plans (issued January 25, 2017); Case 17-G-0606, supra, Order Approving in Part, with Modification, and Denying in Part Smart Solutions Program, (issued July 12, 2018). Accounting for these savings totals the 31 TBtu target for incremental utility EE targets adopted in this Order.

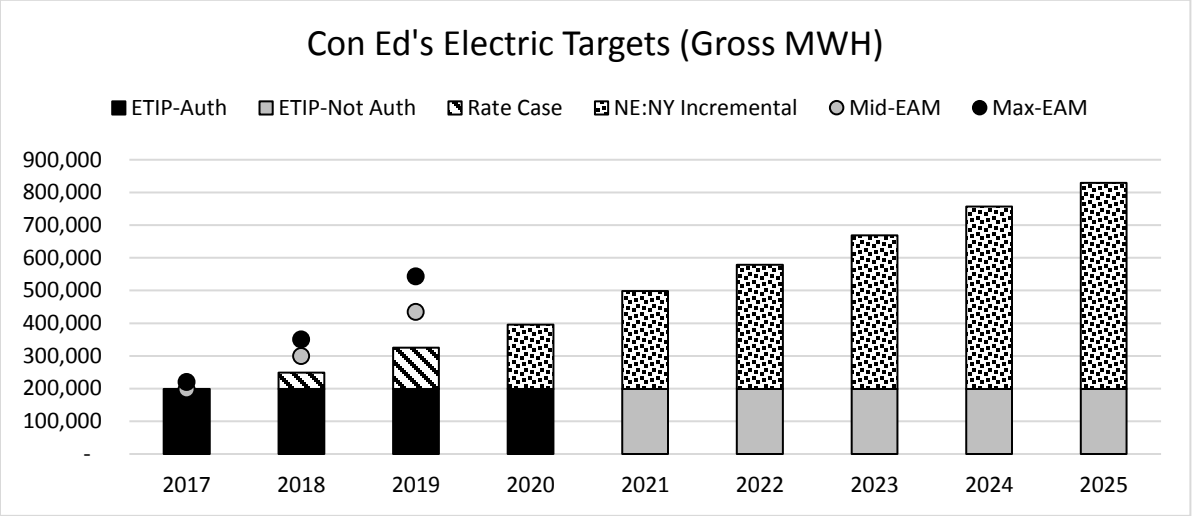
Appendix F - Utility Specific Targets (Authorized & Presumed) [1]

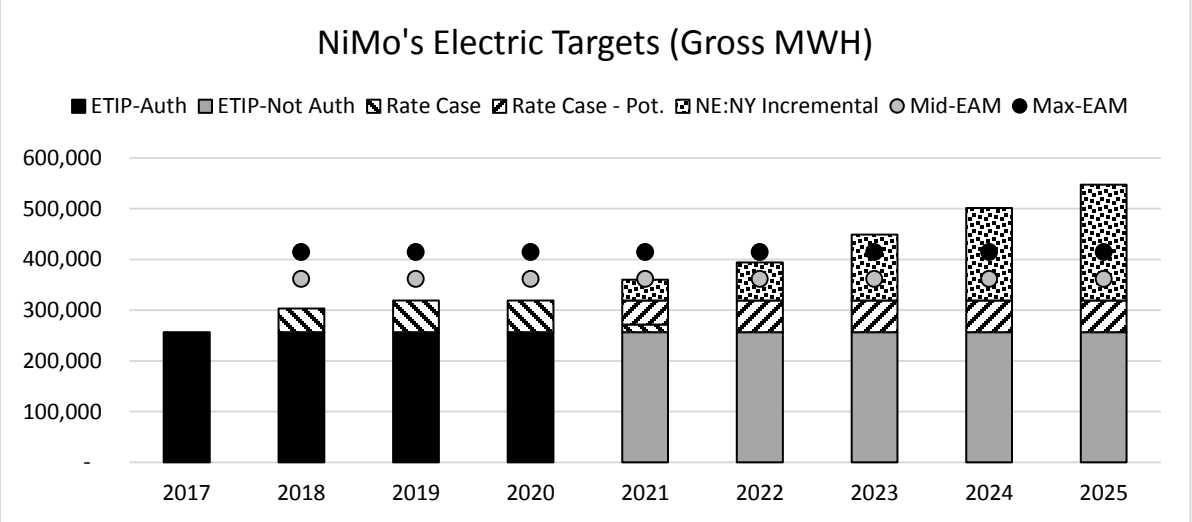
Electric Portfolios

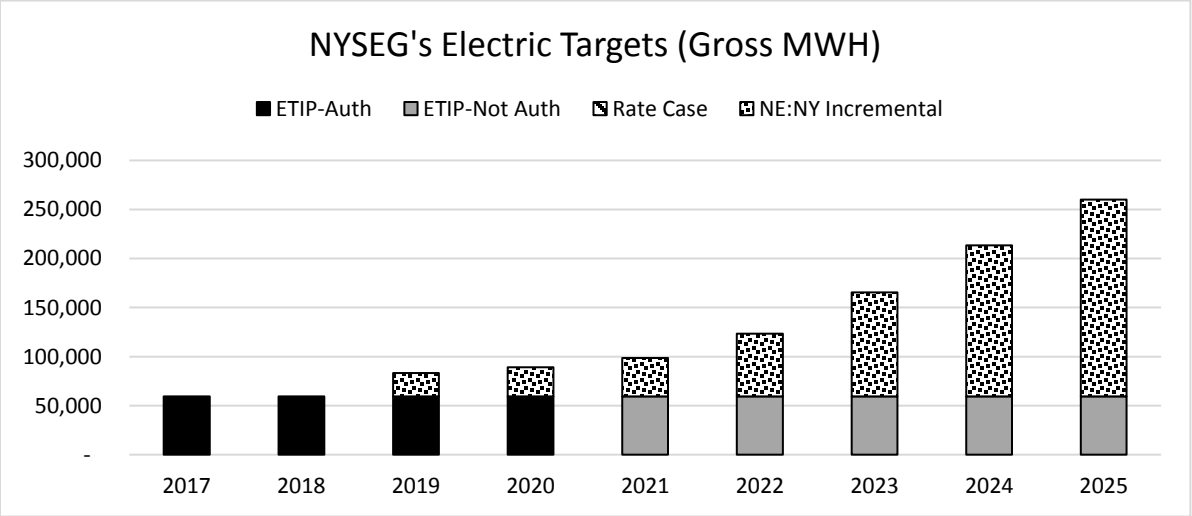


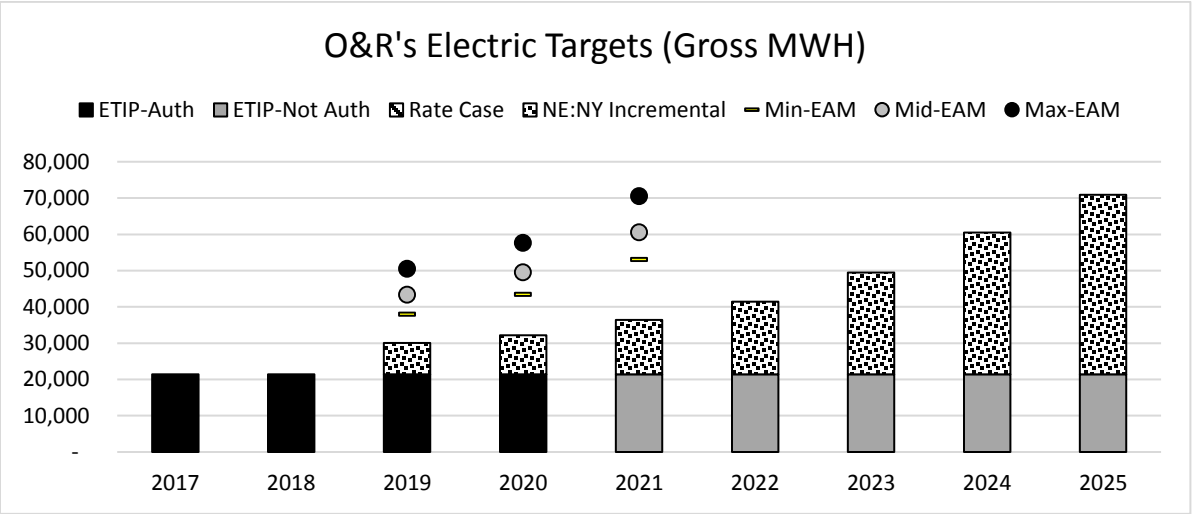


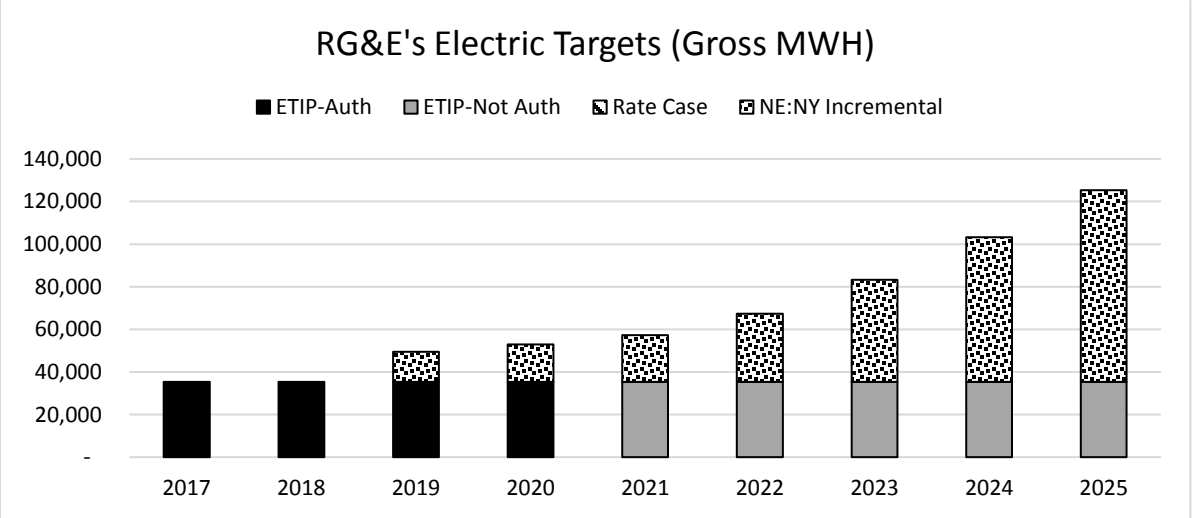
[1] Targets shown include Commission-authorized ETIP targets, presumed ETIP targets not yet authorized, rate case incremental targets currently in effect, potential rate case incremental targets presumed in perpetuity, and authorized and presumed NE:NY incremental targets. While the EAM indicators for other utilities reflect the final EAMs adopted in rate proceedings, the EAMs shown for O&R reflect those proposed in the Joint Proposal currently before the Commission.


Con Ed's Electric Targets (Gross MWH)
ETIP-Auth
ETIP-Not Auth
Rate Case
NE:NY Incremental
Mid-EAM
Max-EAM
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025

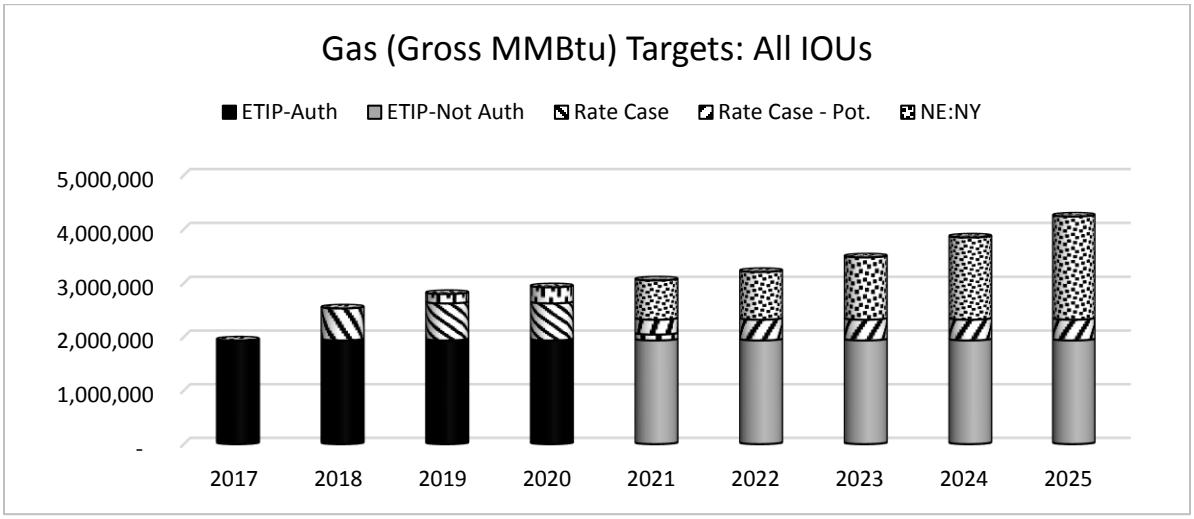

NiMo's Electric Targets (Gross MWH)
ETIP-Auth
ETIP-Not Auth
Rate Case
Rate Case - Pot.
NE:NY Incremental
Mid-EAM
Max-EAM
600,000
500,000
400,000
300,000
200,000
100,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025

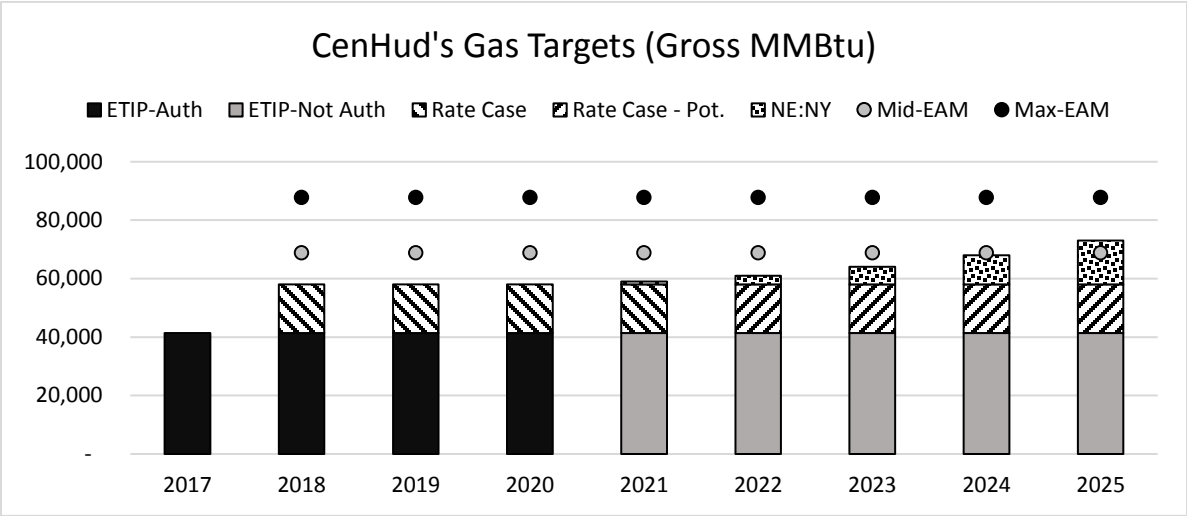

NYSEG's Electric Targets (Gross MWH)
ETIP-Auth
ETIP-Not Auth
Rate Case
NE:NY Incremental
300,000
250,000
200,000
150,000
100,000
50,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025

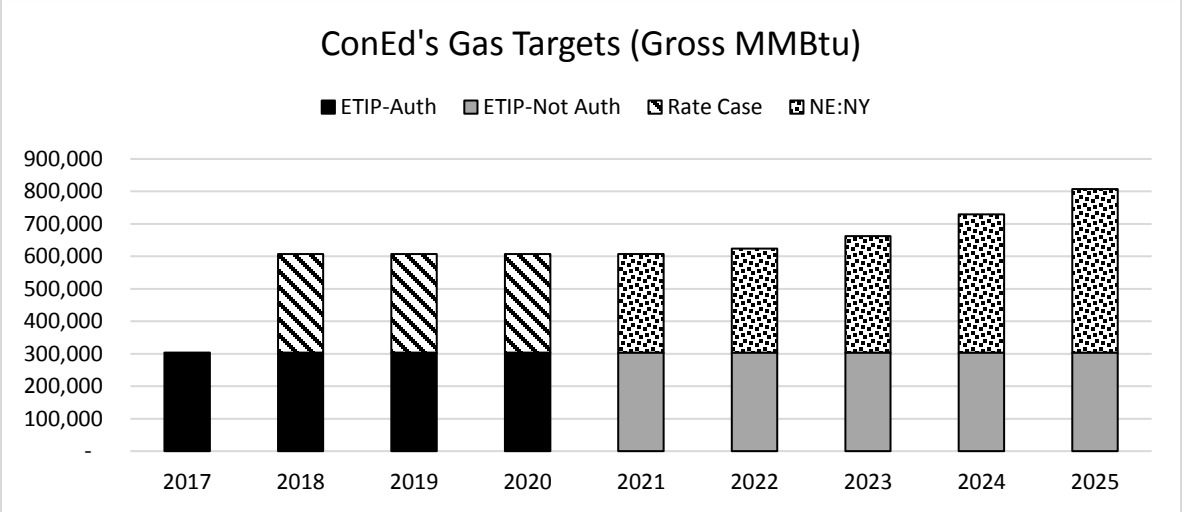




Gas Portfolios




CenHud's Gas Targets (Gross MMBtu)
ETIP-Auth
ETIP-Not Auth
Rate Case
Rate Case - Pot.
NE:NY
Mid-EAM
Max-EAM
100,000
80,000
60,000
40,000
20,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025


ConEd's Gas Targets (Gross MMBtu)
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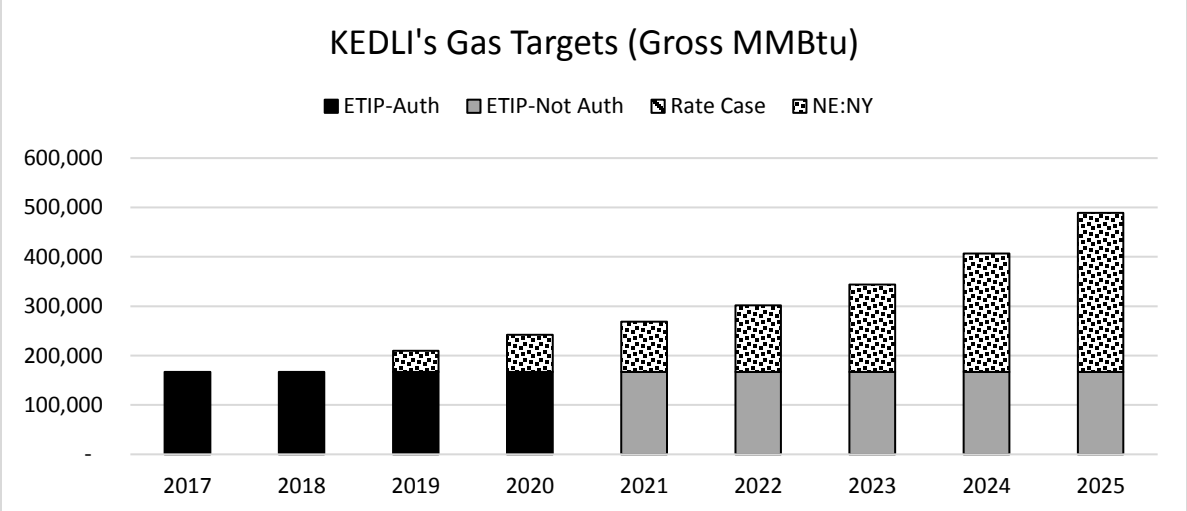
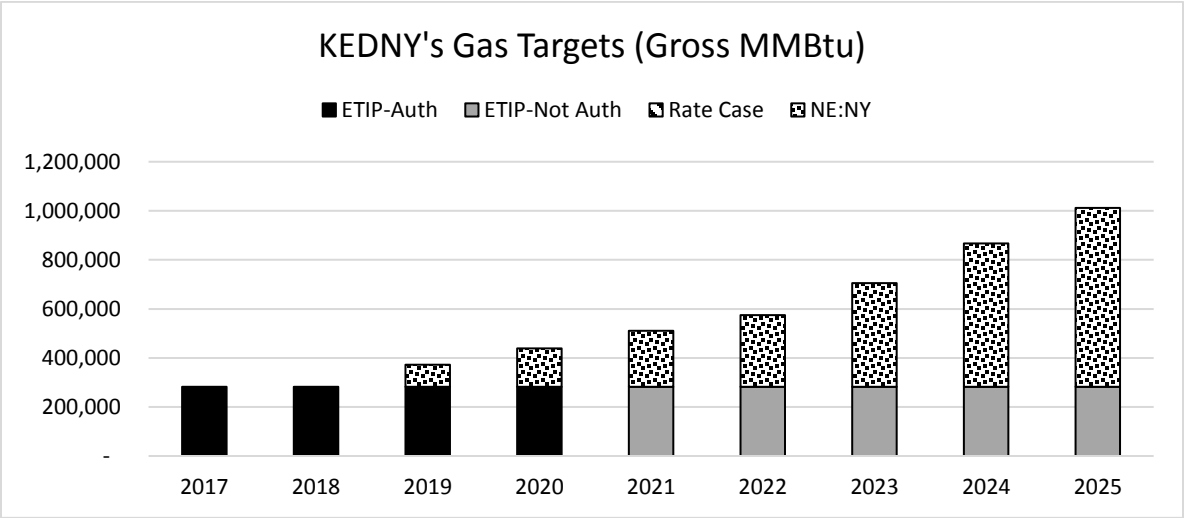
ETIP-Not Auth
Rate Case
NE:NY
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025


KEDLI's Gas Targets (Gross MMBtu)
ETIP-Auth
ETIP-Not Auth
Rate Case
NE:NY
600,000
500,000
400,000
300,000
200,000
100,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025


KEDNY's Gas Targets (Gross MMBtu)
ETIP-Auth
ETIP-Not Auth
Rate Case
NE:NY
1,200,000
1,000,000
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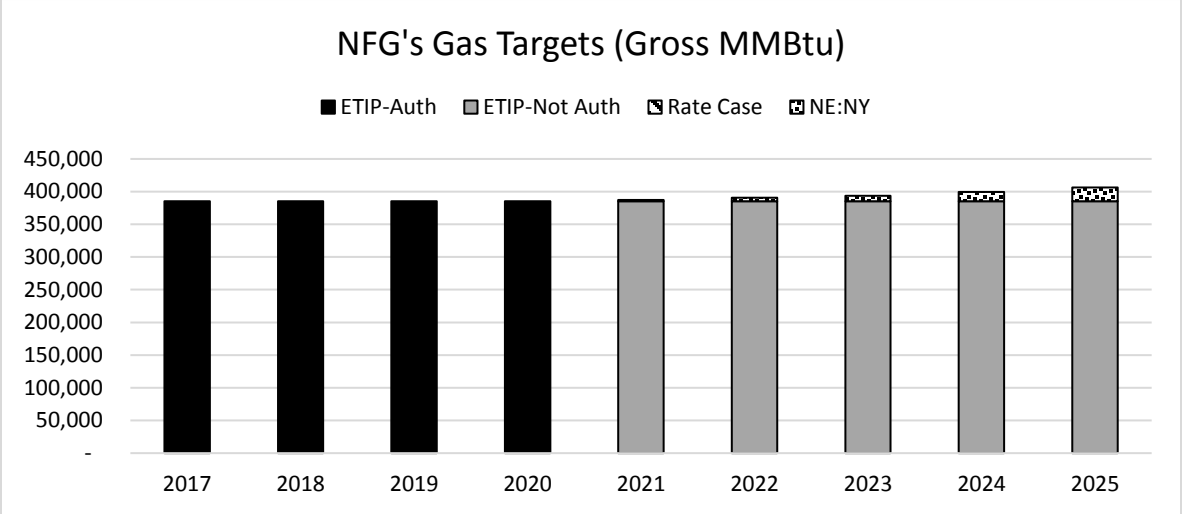
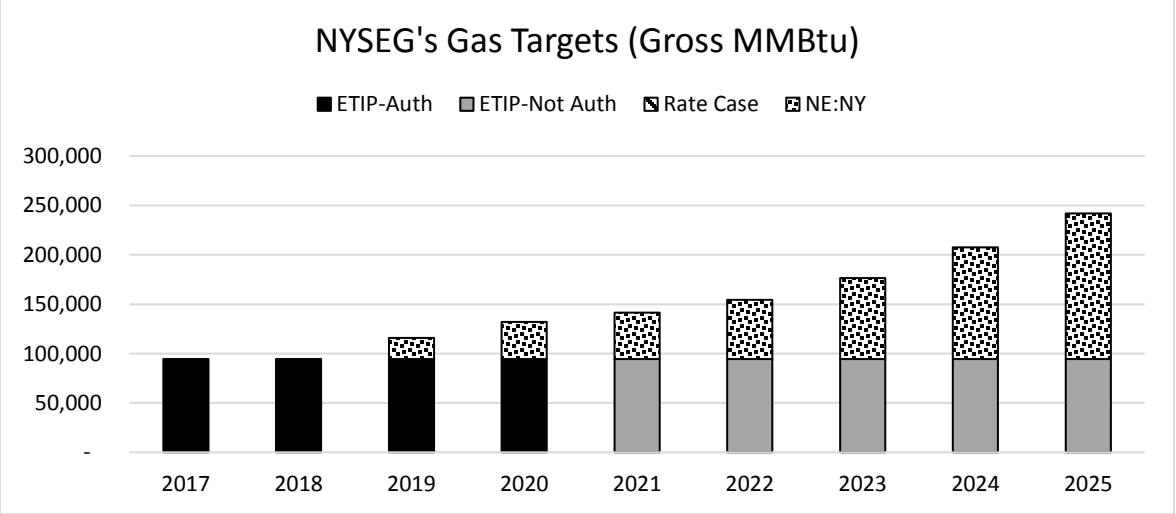
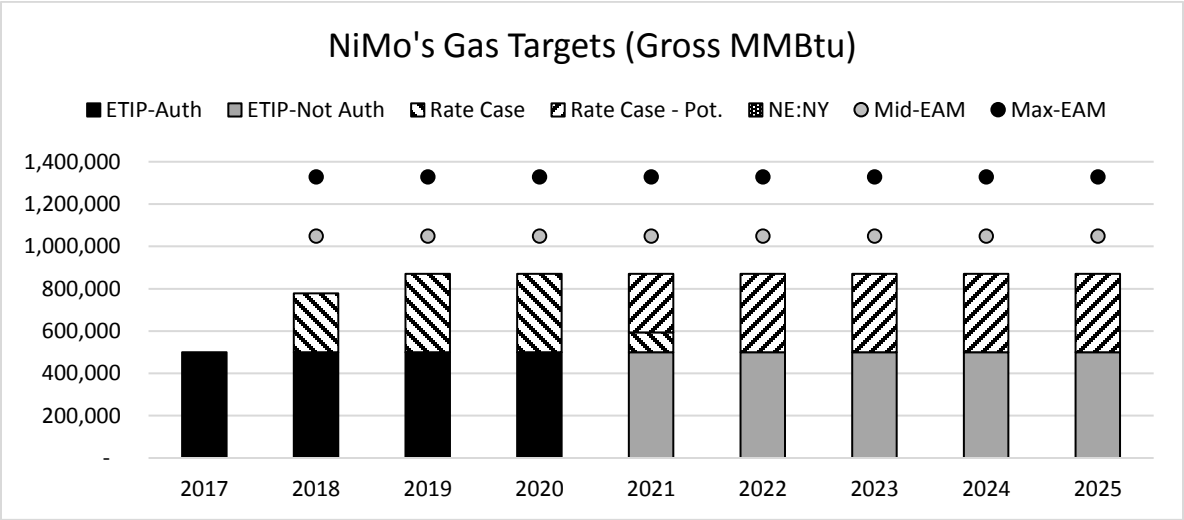
600,000
400,000
200,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025


NFG's Gas Targets (Gross MMBtu)
ETIP-Auth
ETIP-Not Auth
Rate Case
NE:NY
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025


NYSEG's Gas Targets (Gross MMBtu)
ETIP-Auth
ETIP-Not Auth
Rate Case
NE:NY
300,000
250,000
200,000
150,000
100,000
50,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025


NiMo's Gas Targets (Gross MMBtu)
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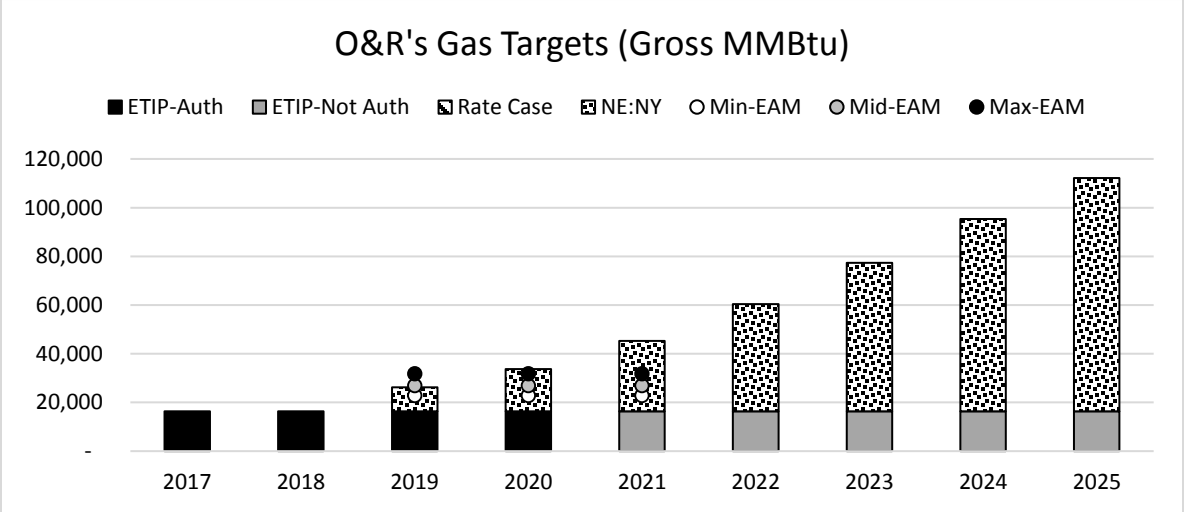
Rate Case
Rate Case - Pot.
NE:NY
Mid-EAM
Max-EAM
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025


O&R's Gas Targets (Gross MMBtu)
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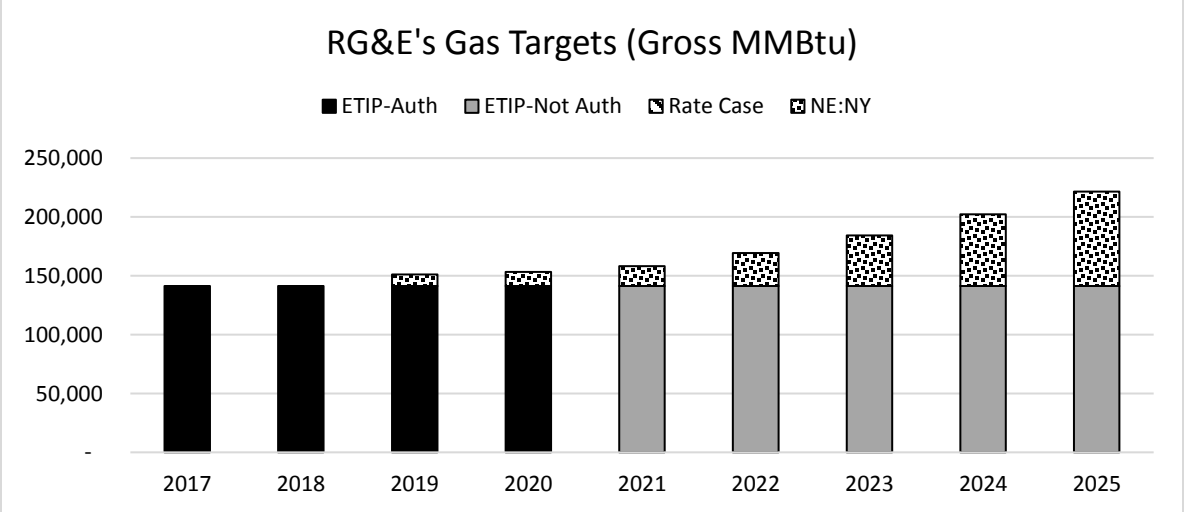
ETIP-Not Auth
Rate Case
NE:NY
Min-EAM
Mid-EAM
Max-EAM
120,000
100,000
80,000
60,000
40,000
20,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025


RG&E's Gas Targets (Gross MMBtu)
ETIP-Auth
ETIP-Not Auth
Rate Case
NE:NY
250,000
200,000
150,000
100,000
50,000
-
2017
2018
2019
2020
2021
2022
2023
2024
2025

APPENDIX G

SUMMARY OF COMMENTS

Acadia Center (Acadia)

Alliance for Clean Energy New York/Advanced Energy Economy Institute (ACE-NY/AEEI)

American Council for an Energy-Efficient Economy (ACEEE)

Association for Energy Affordability, Inc. (AEA)

Association for Energy Affordability, Inc. et al. (New Residential Building Industry Coalition)

Building Performance Contractors Association of New York State/Efficiency First NY

Centsible House

Citizens' Environmental Coalition (CEC)

City of New York (City or NYC)

Consolidated Edison, Inc./Orange and Rockland Utilities (Con Edison/O&R)

Energy Efficiency Advocates (EEA)

Energy Efficiency for All New York (EEFA)

Enervee

Geothermal Exchange Organization

Home Performance Coalition

Multiple Intervenors (MI)

Municipal Utilities

National Fuel Gas Distribution Corporation (NFG)

Natural Resources Defense Council et al. (NRDC)

New York State Energy Coalition, Inc.

New York Energy Democracy Alliance (NYEDA)

New York Geothermal Energy Organization (NYGEO)

New York State Department of State Utilities Intervention Unit (UIU)

New York State Electric & Gas Corporation/Rochester Gas and Electric Corporation (NYSEG/RG&E)

Northeast Energy Efficiency Partnerships

NY Utilities
NYC Environmental Justice Alliance et al.
Pace Energy and Climate Center (Pace)
Polyisocyanurate Insulation Manufacturers Association
Renewable Heat Now
The Nature Conservancy
Town of Woodstock
WE ACT for Environmental Justice (WE ACT)
Wyman, Robert
Public comments

Acadia Center

The Acadia Center (Acadia) endorses a more aggressive approach to energy efficiency targets to ensure New York State does not count "business as usual" efforts in the 2025 NE:NY goal, noting that the proposed targets aim for a relatively minor increase in new energy efficiency over previously planned efforts, as well as the relatively low levels of energy efficiency achieved in New York State compared with other leading states. Acadia recommends that NYSERDA and DPS revise 2025 energy efficiency targets to reflect attributable savings only by excluding non-program ("business as usual) EE savings (e.g., 15 TBtu of savings from normal building codes adoption, federal appliance standards updates, and other savings resulting from actions outside of state control. Acadia notes that these are included in baseline forecasts by ISO New England, which forecasts higher levels of EE savings in 2019 than New York State).

Acadia noted several deficiencies in NE:NY guidance on utility EE program funding and necessary annual increases to reach 3% target. It requests clear guidance to utilities by

establishing an implementation plan for the 2025 target that identifies new funding sources and interim savings targets. Acadia also proposes establishing interim annual savings targets by the end of 2018, with an incentivized or required increase to 2% annual electric savings in the early years of the 2019 – 2025 period to avoid backloading of savings in later years. Acadia advocates clear guidance to utilities on how programs will be funded, noting that while EAMs provide incentives to reduce costs and increase grid value, they are inadequate substitutes for Commission-authorized cost recovery. Acadia adds that establishing an implementation plan for the 2025 target that identifies funding and interim targets will allow utilities to procure necessary energy resources to meet customer load. Acadia also recommends the implementation of a backstop plan if utilities fall short of energy efficiency savings targets, noting that 31 TBtu of the 2025 NE:NY target lies outside of direct and indirect savings from the Clean Energy Fund (CEF). Acadia argues that any shortfalls produced by poorly performing programs should be compensated by the implementation of backstop plans to ensure the achievement of the overall savings target.

Acadia recommends New York reassess its heavy reliance on CEF efforts in its design of the new energy savings 2025 target. Acadia is concerned that the CEF may need to deliver approximately four times the energy efficiency savings achieved to date based on current predictions. Acadia also calls on NYSERDA and the NY Green Bank to achieve actual quarterly incremental implemented efficiency savings of 1 TBtu (per quarter) in their CEF portfolios, excluding savings that are counted in utility-run or other efficiency programs, with automatic implementation of backstop measures if these anticipated savings do not materialize. Acadia also expresses

doubts on the discount factors for CEF direct and indirect savings, and requests that NYSERDA and the NY Green Bank explain how CEF portfolios can be increased to achieve the remaining 52 TBtu in direct and indirect savings by 2025.

Acadia requests clarification on the inclusion of utility program in the 77 TBtu cumulative annual savings expected by 2025, which currently comprises 40 TBtu from ETIP/SEEP programs, 6 TBtu from demonstration projects (including NWAs and new efficiency programs, and 31 TBtu from increases in utility efficiency investments.

Finally, Acadia requests the establishment of a formal stakeholder advisory council comprising consumer, environmental, low-income, business, and environmental justice interest groups to provide input. Acadia contends that such a council could facilitate utility energy efficiency procurement by addressing imbalances in resources and information that give utilities a disproportionate advantage in influencing regulatory decisions, reducing time necessary for planning and implementation, bringing together diverse interests to ensure comprehensive coverage of relevant topics, providing recommendations on setting energy efficiency targets, and providing ongoing supervision and recommendations for improvement of energy efficiency programs.

Alliance for Clean Energy New York/Advanced Energy Economy Institute

The Alliance for Clean Energy New York (ACE-NY) and the Advanced Energy Economy Institute (AEEI) supplied comments on NE:NY jointly (ACE-NY/AEEI). They strongly support the 2025 NE:NY energy efficiency target and emphasize the importance of the electricity component in achieving this target, and

recommend relying on a variety of programs, policies, requirements, and incentives.

ACE-NY/AEEI express support for several NE:NY recommendations to encourage utility-leveraged actions in energy efficiency, including the inclusion of energy efficiency in non-wires and non-pipes projects, recognition of grid value in compensation, and encouraging third-party capital contributions. However, ACE-NY/AEEI request that the Commission define specific mechanisms to compel utilities to improve upon status quo energy efficiency portfolios, particularly with respect to value, scale, measure mix, cost reduction, innovation, and leverage.

ACE-NY/AEEI supports proposals to require utilities to assign value to energy efficiency. They offer numerous recommendations for the Commission to consider in this valuation process, arguing for territory-wide definitions, adherence to BCA handbooks protocols, consideration of locational effects, responsiveness to market conditions, utility needs, policy developments, and incorporation of increasingly sophisticated measurement and verification methods.

However, ACE-NY/AEEI note their disagreement with a statement in section 6.3 of the whitepaper that states "energy efficiency reduces the customer’s payment for fixed costs that do not vary with load as well as for usage-related costs, such that the value of the efficiency project to the customer typically exceeds its value to the utility system." ACE-NY/AEEI argue that this statement does not correspond with the original intention of the 2016 E3 study, which was to compare rate options. Further, ACE-NY/AEEI contend that this also fails to provide a fair comparison of non-embedded (i.e., variable short-/long-term) bill cost reductions and grid value, thereby sending the wrong price signal to the market and defining value in such

a manner as to prevent adequate investment in energy efficiency. ACE-NY/AEEI request special consideration of this subject, with public meetings or conferences prior to the issuance of more specific guidance in a Commission order.

ACE-NY/AEEI note that utility-leveraged energy efficiency investments constitute the bulk of accelerated actions described in NE:NY, but that this is also the least defined section of the whitepaper. In particular, NE:NY lacks specific mechanisms to compel utility action in these areas. ACE-NY/AEEI suggest the Commission could pursue a "no regrets" energy efficiency framework order by the end 2018 that specifies the extent to which each utility will be required to increase energy efficiency targets each year to reach the 3% by 2025 target. ACE-NY/AEEI state the proposed order should specify utility ability to have cost recovery for energy efficiency-related expenditures with framework for actions to design competitive EE procurements by Jan 2019. To expedite action, and the Commission can use Case 15-M-0252 ETIPs Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets for 2019-2020, as it requires the utilities to transition from surcharge-based programs to program cost recovery via the rate base.

ACE-NY/AEEI also remark on funding and implementation of accelerated utility-leverage energy efficiency, arguing for clear and established policies outlining utility recovery of prudently-incurred costs. ACE-NY/AEEI state the policy should be combined with a 30,000 GW·h target to each investor-owned utility, timelines for each utility increase energy efficiency achievements to reach targets, and direction on achievement. ACE-NY/AEEI are in favor of a flexible approach to planning and implanting utility energy efficiency portfolios, including a

variety of measures, appropriate consideration of energy efficiency valuation, procurement levels, and shared savings proposals.

ACE-NY/AEEI express an urgent need for immediate action, particularly target allocation, noting that six years is a small timeframe in which to accomplish a 3% annual reduction of energy consumption. ACE-NY/AEEI recommends implementation of annual utility energy efficiency savings targets and funding beginning in 2019. ACE-NY/AEEI recommend increasing the share of energy efficiency savings by investor-owned utilities to 92.5 TBtu (half of the 185 TBtu target), achieved either by allocating a proportional share to each utility, a formula reflecting energy efficiency achievement to-date, or a formula reflecting shares of energy efficiency savings by sector proportional to the composition of each service territory.

ACE-NY/AEEI also dispute analyses issued by NYSERDA and DPS that states that most customer energy efficiency efforts are sufficiently compensated by customer bill savings. ACE-NY/AEEI recommend establishing a new energy efficiency value framework that includes all benefits with net value defined as value subtracting program costs necessary to achieve energy efficiency savings. ACE-NY/AEEI encourage a review of the benefit-cost analysis (BCA) framework, with particular attention to the treatment of participant costs, application of symmetry in accounting for all costs and benefits, and reconsideration of currently-excluded wholesale price suppression effects. ACE-NY/AEEI argue that energy efficiency value should include the following benefit categories based on the National Standard Practice Manual: avoided energy costs, avoided generating capacity costs, avoided T&D upgrade costs, avoided T&D line losses, avoided ancillary services, wholesale price suppression

effects, avoided O&M, avoided net restoration costs, avoided environmental compliance costs, avoided RPS compliance costs, avoided credit and collection costs, and reduced risk.

ACE-NY/AEEI express support for time- and location-specific incentives, especially the "adder" and "kicker" concepts presented at the September 14, 2018 forum, and they recommend adopting methods to account for temporal and locational variations in the value of energy efficiency, with one valuation methodology for each service territory.

Lastly, ACE-NY/AEEI recommend developing a simple "shared savings" mechanism by setting clear guidelines for defining and distributing energy efficiency value between ratepayers and utilities. They recommend that energy efficiency value should comprise a base value level that recognizes universal value streams (e.g., carbon), locational adders, measure adders, and additional adders to meet important policy goals (e.g., 20% funding for LMI programs). ACE-NY/AEEI request that utilities be directed to define these values. ACE-NY/AEEI argues that a shared savings mechanism provides utilities with the necessary incentives to implement energy efficiency efforts as cost-effectively as possible, increase the scale of energy efficiency deployment, and encourage innovation by rewarding approaches that reduce cost or increase scale, all of which align with state policy goals.

American Council for an Energy-Efficient Economy

The American Council for an Energy-Efficient Economy (ACEEE) express support for NE:NY.

ACEEE recommends the establishment of interim energy efficiency goals for the assessment and potential correction of progress towards the 2025 target. ACEEE cites its own review of

successful energy efficiency program increases in other states in recommending increases to the full 3% per year of incremental electricity savings over five years, with Btu savings increasing over a similar or slightly longer period.

ACEEE also urges the legislation of state product and appliance standards by the New York State legislative bodies, with authority granted to the New York State Department of State or NYSERDA to set and enforce additional standards based on criteria defined by legislation. Furthermore, ACEEE recommends a statewide code in 2022 and recommends that NYSERDA develop a new stretch code to increase performance so that most new building are achieving net-zero energy performance by 2031. ACEEE favors statewide benchmark requirements for large commercial buildings enacted by the state legislature, based on recommendations by DPS and NYSERDA, perhaps preceded by one or more municipal pilot programs. A study by the Massachusetts Institute of Technology and the University of Pennsylvania cited by ACEEE indicates that this could achieve energy savings up to 14% in New York City. ACEEE also urged New York State to implement a gradual program of deep energy efficiency retrofits to most of its existing state-owned buildings, beginning with pilot projects. ACEEE states multifamily residential buildings also represent an opportunity for energy efficiency savings, and ACEEE recommends expansion of the NYSERDA Multifamily Performance Program to include other multifamily programs.

ACEEE also recommends expanding energy efficiency financing and market transformation. In particular, ACEEE recommends strategies relying on intelligent efficiency (i.e., sensors, controls, and “big data”) to identify building and process systems suitable for energy efficiency improvements.

ACEEE strongly recommends continuing rate base cost recovery for utility EE programs while also expanding earnings adjustment mechanisms (EAMs). ACEEE recommends the Commission issue guidance on the treatment of EAMs and rate base cost recovery. ACEEE also recommends more projects like Con Edison's Brooklyn-Queens Demand Management (BQDM) to maximize grid value.

ACEEE also encourages heat pump adoption, especially by targeting residential customer currently using non-regulated fossil fuels for heat. ACEEE suggests new residential construction offers opportunities for heat pump installations. ACEEE also favors excluding increased electrical consumption by heat pumps if top-down approaches are used based on actual electricity sales.

Finally, ACEEE is also an advocate for strong workforce development in energy efficiency industries.

Association for Energy Affordability

The Association for Energy Affordability, Inc. (AEA) notes its support for separate comments filed by Energy Efficiency for All New York, the Residential Building Efficiency Industry, the Environmental Parties Coalition, and the Alliance for Clean Energy New York/Advanced Economy Institute. It also identifies several priority areas for consideration, including a need for interim energy efficiency targets, the need for clear funding mechanisms for annual target increases, more guidance on energy efficiency value for accurate reporting of captured value by utilities, and the need to address the issues of unregulated fossil fuels and beneficial electrification.

AEA also makes several recommendations of its own. It encourages strong financing programs for energy efficiency in multifamily residential buildings, and calls for increased

funding dedicated to LMI programs according to recommendations of the CEAC Low Income Working Group. AEA recommends steep increases in utility procurement of energy efficiency, with appropriate cost recovery and incentives to create momentum and market transformation. AEA also notes its support for significant workforce development policies, including training and certification standards, opportunities for disadvantaged and local workers, and on-the-job training. Lastly, AEA calls for transparency in tracking and reporting of energy efficiency, and for coordination rather than competition between NYSERDA and investor-owned utilities.

Association for Energy Affordability et al. (New York Residential Building Industry Coalition)

The New York Residential Building Industry Coalition (NYRBIC) provides recommendations on targets and funding, including the adoption of a "no regrets" strategy to authorize increased ETIP spending, direction on the valuation of energy efficiency markets to support necessary investment in the residential sector, guidance on annual energy efficiency target increases, coordination of funding, and the continuation of established incentives and programs. On the subjects of fuel neutrality and beneficial electrification, NYRBIC stresses coordination between NYSERDA and utilities, the development of fuel-neutral approaches for customers using unregulated fossil fuels for heating, and support for strategic electrification. NYRBIC favors the use of open data protocols and source code, and transparent and accessible statewide progress reporting.

NYRBIC urges the State to establish a timeline for key actions to ensure expeditious implementation of energy efficiency strategies, including reforms of the Technical

Reference Manual and the BCA Framework to incorporate REV and NE:NY energy efficiency goals. Regarding utility procurement, NYRBIC favors the establishment of utility-specific targets and funding authorization, cost recovery mechanisms for returns on energy efficiency investments to properly align business actions with state energy goals, and allocation of at least 20% of new energy efficiency funds for the LMI market.

Building Performance Contractors' Association of New York State/Efficiency First New York

The Building Performance Contractors' Association (BPCA) and the New York chapter of Energy first expressed strong support for the NE:NY proposal and reforms, with a particular emphasis on workforce development and fostering market demand for energy efficiency.

To bolster the marketplace for residential and multifamily energy efficiency with policy certainty, BPCA advises offering energy assessments through utility marketplace venues and public information campaigns to encourage homeowner understanding of energy efficiency and home performance to increase market demand.

BPCA also recommends training and interim hiring subsidies to stimulate the energy efficiency industry workforce, including providing orientation and resources for secondary education guidance counselors. BPCA also calls on NYSERDA to reanimate the significant infrastructure that was created under the System Benefits Charge, the American Recovery and Reinvestment Act, and Green Jobs Green New York to train workers in the building performance trades and advises that this effort should be continued to maintain a sustainable market for job creation.

BPCA also notes significant potential of using market forces to increase residential energy efficiency efforts. BPCA suggests that data-driven quality assurance and the quantification of energy efficiency achieved are among the products and services currently offered by competitive market actors that can improve utility program performance. BPCA also urges NYSERDA to consider reforming its current pay-for-performance model, alleging that it currently benefits larger players, encourages market actors to focus on readily-available gains rather than more significant energy efficiency improvements, and fails to engage customers in energy consumption reductions. Lastly, BPCA recommends improvements to the cost-effectiveness assessment of ratepayer-funded energy efficiency efforts according to the recommendations of the National Efficiency Screening Project Resource Value Framework and the National Standard Practice Manual.

BPCA supports the adoption of a 2018 – 2019 timeline for utility energy efficiency programs, recommending aggressive action. BPCA also recommends a 3% energy savings target for individual utilities that would require each utility to develop an annual target necessary to contribute to the 2025 target.

Centsible House

Centsible House notes several deficiencies in NE:NY, particularly the lack of a clear timeline and pathway for necessary energy efficiency expansion and discussion of appropriate compensation for investments by energy efficiency customers. It requests that these issues be addressed by January 2019 at the latest. Centsible House also requests that New York release more information on the healthy home pilot and provide an emphasis on STEM for workforce development.

Centsible House also supports the Pay-for-Performance approach but expresses concerns about the valuation of home energy efficiency efforts and possible misalignment between energy efficiency investments and the savings and performance compensation timeline. To counter these effects, Centsible House recommends that the adoption of recurring compensation of energy efficiency value, as in the VDER program.

Centsible House expresses general support for LMI energy efficiency programs, and requests more information on the progress of the Healthy Home pilot, including essential metrics of successful implementation to guide the market. It also encourages the use of upfront monetary incentives to the residential and LMI markets.

Finally, Centsible House expresses concerns that the existing energy efficiency workforce is insufficient in number and skills to meet the 2025 energy efficiency goals and supports a workforce development program that emphasizes training in science, technology, engineering, and mathematics.

Citizens Environmental Coalition (non-party)

Citizens Environmental Coalition (CEC) recommends the adoption of the most aggressive energy efficiency and conservation program possible, including a binding, long-term energy efficiency resource standard as adopted in several leading energy efficiency states.

CEC requests an explanation of the implementation of revenue decoupling in New York, particularly when NE:NY has advanced several other forms of compensation for utility energy efficiency results. CEC also requests clarification of several of what it characterizes as incorrect or inconsistent calculations in NE:NY.

City of New York

The City of New York is strongly supportive of the significant emphasis on energy efficiency initiatives by the State of New York. However, it makes several suggestions for improvements to NE:NY to further advance the State energy efficiency goal. First, the City of New York recommends energy master planning be carried out on an agency-wide level, with master plans to examine the energy usage of all the agency's facilities, compared on an equal or equivalent basis but adjusted for differing types and levels of use, which is more consistent with the State goal based on use rather than cost. The City recommends modifying the recommendation for agencies to conduct master planning for bills of $300,000 or more, noting that energy prices vary by location and performing master planning on bill amount will not achieve greatest energy savings.

The City of New York also recommends the adoption of stretch codes in both new and existing buildings and advocates additional education and support for building professionals on these regulations by expanding NYSERDA Energy Code Training and Support Services. The City of New York suggests that NYSERDA and the Commission should provide funding for code enforcement officers and training.

The City of New York also advises care that energy efficiency policies do not inadvertently curtail the adoption of beneficial electrification measures, particularly as the target is set on an "all-fuels basis." The City of New York notes that it is not inherently opposed to this approach but recommends energy consumption and reductions be recorded by fuel type. The City of New York predicts an increase in electrical consumption

due to the use of electric vehicles (EVs) and heat pumps and recommends enhancing incentives for retrofitted beneficial electrification measures.

The City of New York also calls for a revision of the Commission's data access policy, alleging that current access data standards could constitute a barrier to greater energy efficiency deployment. It strongly urges the Commission to review its data access policies from an energy efficiency standpoint to ensure that stakeholders – including the City of New York and other municipalities – are able to access the data required for benchmarking, as well as targeting areas and buildings for energy efficiency improvements. Additionally, the City recommends that the Commission and NYSERDA partner with the City, municipalities, and other stakeholders to advance statewide and local efforts to track energy efficiency progress.

Finally, the City of New York states that certain statutory changes would aid and facilitate the achievement of the 2025 energy efficiency goal described by NE:NY. Specifically, the City recommends consideration of rent-stabilized housing unit for deep energy efficiency improvements, changes to the Major Capital Improvements (MCI) framework needed to reduce the burdens imposed on tenants and ensure that there is fair and equitable sharing between landlords and tenants of the costs and benefits of energy efficiency investments, and integration of design and construction considerations in the public project planning process. The City also recommends that the energy efficiency exemption for historic buildings should be modified, stating that while it respects and supports the preservation of historic structures, a complete and total exemption from compliance is unwarranted and unnecessary.

The City of New York – Mayor's Office of Recovery and Resiliency

The City of New York provides additional comments through the Mayor's Office of Recovery and Resiliency (MORR). It argues for considerations establishing an appropriate set of guidelines for a cost-effective and rational energy efficiency portfolio, with a stated preference for cost-effective energy efficiency portfolios, rather than a balance of cost-effective and market-responsive programs. A portfolio with a component of short-term measures will allow the achievement of savings targets prior to complete market transformation, which may occur well after the 2025 NE:NY target. MORR also recommends flexible and adaptive deadlines necessary due to the planning, procurement, and complexity required of many energy efficiency initiatives, especially when coordinating in urban areas with multifamily housing and extensive infrastructure.

Citing lagging statewide achievements, MORR suggests reversing the order of proceeding. It recommends targeted program and incentive development in long-term energy plans, citing the advantages of obligatory long-term energy plans prior to energy efficiency installations in large buildings. MORR also supports alternative incentive structures, advocating considerations of long-term, delayed, or installment incentive structures – in addition to conventional upfront payments – to defray costs and encourage customer participation energy efficiency programs. MORR notes this might be especially beneficial in encouraging heat pump installations. It is also in favor of increased partnership and collaborations, noting that a great number of entities involved in energy efficiency activities can lower acquisition costs.

The City recommends that energy efficiency targets for each utility should be set on a load share ratio basis and the

allocations should be adjusted for beneficial activities, citing a disparity between Con Ed customer contributions to energy efficiency programs and program spending in this service territory (which covers most of the City of New York). The City also argues for a geographically-equitable distribution of state targets and costs, with separate allocations for each fuel type, and consumption and reductions recorded by fuel type to curtail high-emitting fuel use and encourage beneficial electrification.

Finally, the City urges that earnings adjustment mechanisms should be directly linked to actions taken by regulated utilities. It urges reconsideration of outcome-based EAMs that potentially burden ratepayers with increased energy costs and recommends development of EAMs for partnerships between utilities and private entities for the development of new energy efficiency technologies. These EAMs could hypothetically be based on a percentage of bill reductions or a monetized value of energy savings achieved or based on a sharing of savings achieved over a set period of time. The City predicts an increase in third-party market interactions with the adoption of such EAMs.

Consolidated Edison Company of New York, Inc./Orange & Rockland Utilities, Inc.

Consolidated Edison Company of New York, Inc. and Orange & Rockland Utilities, Inc. (the Companies) express support for the ambitious energy efficiency goals of NE:NY, noting that energy efficiency is the most cost-effective means of achieving state environmental and energy policy goals. The Companies recommend continuation of the regulatory asset method of cost recovery for energy efficiency investments, which they argue mitigates current bill impacts and matches costs to the benefit period, as

well as provides utilities with economic incentives that align investments with other utility business investments. The Companies also note that the most just and reasonable cost recovery method is amortization in base rates over the average life of energy efficiency investments, providing an appropriate signal for utilities to pursue such investments. The Companies add that long-term incentives are more likely to support long-term clean energy policies and innovation.

Energy Efficiency Advocates

Energy Efficiency Advocates (EEA) support the ambitious energy efficiency policies of NE:NY, but note that it lacks a detailed timeline for annual energy efficiency increases through 2025 and funding mechanisms. They endorse the proposal to set clearly defined targets for each utility and recommend that, in aggregate, those targets achieve at least 86 TBtu of cumulative annual savings by 2025. But EEA recommends further clarity in target inclusion, utility-specific targets, annual savings targets, and strongly supports an annual utility energy efficiency target of 3% by 2025.

EEA urges the Commission to adopt guidelines on cost recovery and performance incentives, with general guidance on energy efficiency budgets and rate case proceedings that make energy efficiency investments as attractive as Transmission and Distribution investments. They also argue that EAMs should not substitute for clearly-defined cost recovery mechanisms.

EEA note that the Commission must overcome investment uncertainty by establishing a sustainable investment environment with available revenue. They also recommend a combined approach to expedite energy efficiency policies, merging private sector investment with utility-administered programs to avoid

underperformance due to potential market transformation delays. EEA are also strongly supportive of market transformation efforts to encourage clean heating and cooling technologies and recommend a reassessment of programs that encourage conversion from non-regulated fossil fuel heating to natural gas, rather than heat pumps. Heat pump adoption could be encouraged with ambitious targets and EAMs.

EEA support implementing building energy benchmarking for larger buildings, including whole building data and the creation of a centralized benchmarking database. EEA argue that capturing savings from strong building codes and appliance standards could serve as a backstop against backsliding at the federal level.

EEA also express strong support for dedicated LMI program funding and request greater clarity from the Commission on funding and coordination with NYSERDA in this sector. EEA advocates establishing funding mechanisms and financing solutions for multifamily energy efficiency measures using NY Green Bank funds and propose that LMI funding should exceed the proposed 20 percent allocation in NE:NY.

More generally, EEA recommends coordinated communication between energy efficiency stakeholders, state agencies, and utilities, preferably with a centralized third-party assessment entity and state support of local jurisdictions in adopting energy efficiency measures.

Energy Efficiency for All New York

Energy Efficiency for All New York (EEFA) focuses its comments on energy efficiency in low-income and multifamily housing. It makes recommendations on financing energy efficiency through NY Green Bank loans and improving program design with a fuel-neutral approach, support for beneficial electrification,

encouraging whole-building, master plan, and portfolio approaches to implementing energy efficiency measures, and consideration of increased incentives for buildings with large LMI populations. EEFA is also supportive of workforce development and training, calling for the integration of these actions in program development and implementation, with on-the-job training and hiring from the communities served.

EEFA also encourages interagency coordination between housing agencies and energy efficiency interests to support state policies in this sector, as well as the creation of a low-income interagency task force to address deep energy retrofits in LMI housing. EEFA recommends that New York look to other states that have successfully coordinated housing and energy programs in service of low-income residents.

Finally, EEFA proposes that New York should consider establishing a strong energy efficiency advisory group or management council to coordinate statewide efforts.

Enervee

Enervee expresses its support for increasing energy efficiency efforts by using data-driven utility marketplaces, expanding opportunities for the LMI sector with instant incentives, adoption of "stretch" codes to product and appliance standards, and the inclusion of motor fuel efficiency in the State's energy efficiency strategy.

Geothermal Exchange Organization

The Geothermal Exchange Organization supports the significant advances in statewide energy efficiency targets outlined in NE:NY and notes its agreement with comments filed by the New York Geothermal Organization (NY-GEO).

Home Performance Coalition

The Home Performance Coalition (HPC) focuses its comments on data standards and cost effectiveness testing. HPC recommends NYSERDA expand its use of HPXML data standards to LMI residential programs and supports its use by program partners to increase the value of data generated by home performance contactors. HPC also favors the continued streamlining of program reporting to ensure data collected by contractors is valid for savings calculations, particularly the standardization of measure validation design so that programs are more closely aligned. HPC recommends investments in data infrastructure to advance large-scale home energy labeling. Finally, HPC encourages further refinements to cost-effectiveness testing by reviewing guidance by the National Efficiency Screening Project (NESP), which may be useful in establishing BCA handbook standards.

Multiple Intervenors

Multiple Intervenors (MI) supports the intentions of the NE:NY but argues against several components of its proposed implementation. Firstly, MI view the cost recovery of energy efficiency programs as inequitable, by placing a disproportionate burden on large, high load-factor, non-residential customers. MI is also opposed to the inclusion of new utility incentives in the form of earnings adjustment mechanisms (EAMs) paid for by ratepayers. MI contends that NE:NY lacks justification for the proposed 2025 goals, including adequate consideration and analysis of customer costs, which are already a significant source of energy efficiency funding. MI alleges that these costs constitute obligatory financial commitments by captive customer classes for which the Commission

provides inadequate explanation and examination. MI requests further development, review, and stakeholder input relating to customer costs, taking into context all customer-funded energy efficiency programs.

Furthermore, MI contends that the application of discretionary costs on large-scale customers is harmful to economic development. MI notes that NE:NY omits discussion of these potential economic harms, including higher costs for all New York State energy customers due to administrative costs of energy efficiency programs. MI suggests the accumulation of customer-funded programs is unsustainable and may cause some commercial customers to cease New York State operations, resulting in the unintended consequence of even lower energy efficiency program contributions by these customers.

MI recommends market-based, nonsubsidized approaches to energy efficiency programs and maintains that NE:NY fails to adequately address cost allocation and cost recovery of energy efficiency programs. According to MI, large commercial customers pay more in costs and receive fewer benefits from utility energy efficiency programs due to inequitable volumetric cost allocation. MI suggests a more fair approach would be to allocate costs by participating customer sector, as well as addressing geographic equity between service territories. MI also argues that the fuel-neutral approach proposed by NE:NY is unfair to large commercial customers, with emissions reductions from all fuels funded by electricity and gas customers representing a subsidy for consumer of non-regulated fossil fuels.

Finally, MI finds the proposed reliance on more stringent building codes and appliance standards reasonable, resulting in a more equitable approach to increasing energy efficiency

achievement without increasing electricity and gas costs and rates.

Municipal Utilities

The Independent Energy Efficiency Program, Inc. (IEEP), Municipal Electric Utilities Association (MEUA), and New York Municipal Power Agency (NYMPA) (together, Municipal Utilities) express support for NE:NY, noting that programs recommended by the whitepaper integrate perfectly with current Municipal Utilities programs and ask that they be allowed to continue these programs in concert with new initiatives.

National Fuel Gas Distribution Corporation

National Fuel Gas Distribution Company expresses support for the State's energy efficiency goals but notes the omission of a statewide goal allocation to utilities and annual targets in NE:NY. NFG also anticipates possible discrepancies in energy efficiency performance between combination utilities and gas- or electricity-only companies, and between larger and smaller utilities. NFG requests that NYSERDA should increase its energy efficiency efforts along with the utilities.

NFG favors flexibility in cost recovery to meet the needs and circumstances of each utility and cited the ability of surcharge mechanisms to provide immediate changes, rather than waiting for rate case cycles. However, NFG believes EAMs increase unit costs, are exempt from BCA requirements, and offer utilities little control over outcomes. NFG cites the potential of "kickers" to complement program design, account for various discrepancies between service territories, and provide flexibility between energy efficiency approaches to natural gas and electricity.

NFG notes that unit costs for energy efficiency are likely to increase in the near future, rather than decrease, citing data sharing and analysis expense, "kickers", EAMs, and the increase in costly LMI programs. NFG also views inflation and increasing wages as inputs in increasing unit costs and requests that the policy objectives of decreasing costs be rejected or reevaluated by the Commission.

More generally, NFG states its support for NE:NY LMI initiatives (noting its own performance in this sector), inclusion of transportation initiatives in utility portfolios and in wider policy discussions, the completion of Case 16-M-0395 to allow NYPA customer to opt in to clean energy programs, increased data protections for customers, and participation by all customers in energy efficiency programs.

Natural Resources Defense Council et al.

Natural Resource Defense Council (NRDC) submits comments on behalf of Energy Efficiency Advocates. NRDC notes that it is critical that utilities are able to develop and implement effective energy efficiency programs in a timely manner, and requests clarity and guidance from the Commission on annual timelines and targets for achievement and the requirements for meeting these goals, and funding mechanisms for utility programs, including cost recovery and reasonable returns on utility investments.

New York Energy Democracy Alliance

New York Energy Democracy Alliance (NYEDA) supports and expresses its desire to participate in a six-part public engagement series targeted to LMI communities hosted by NYSERDA and DPS and gives full support to comments filed by members of

Governor Cuomo's Environmental Justice and Just Transition Working Group.

New York City Environmental Justice Alliance

The New York City Environmental Justice Alliance (NYCEJA) recommends that statewide energy efficiency targets address burdens and barriers to environmental and climate justice and the energy problems of low-income communities. Specifically, they request policies that result in fewer utility service terminations, fewer energy-related health problems, and living wage job opportunities for workers in disadvantaged communities. It also recommends several priority areas in support of LMI energy consumers, including the development of equity screening to target at least 40% of NYSERDA investments in disadvantaged communities, more inclusive financing programs for LMI customers, adoption of rent eviction protections, split incentives in multifamily housing, and the inclusion of non-energy benefits in benefit-cost analyses. NYCEJA is also in favor of other socially beneficial efforts like coupling energy efficiency measures with healthy home improvements, coordinated community-based program delivery to offer energy efficiency along with other social and community services, public accountability in the form of accessible data, and local job creation and procurement in energy efficiency programs.

New York Geothermal Organization

The New York Geothermal Organization (NY-GEO) focused its comments on the application of heat pump technologies, with a list of several recommendations. It argues for holding utilities harmless for added beneficial electrification load and for counting energy efficiency effects of beneficial electrification

toward the 2025 185 TBtu target. NY-GEO recommends the preparation and adoption of a glide path for energy and carbon reduction in the heating and cooling sector that includes distinct annual targets for ground source and air source heat pump penetration in New York State. NY-GEO emphasizes the importance of an effective glide path that can give customers and program administrators a realistic picture of heating sector contributions to "40 by 30"/"80 by 50" goal. NY-GEO expresses satisfaction with the October 3, 2018 heat pump forum, but states that more rigorous and well-defined work is required.

NY-GEO also calls for the integration of the likely impact of projected heat waves on demand for air conditioning and development of a plan to minimize the impact of increased AC demand on peak summer electricity demand and the health of LMI New Yorkers. Specifically, it questions what it perceives as the proceeding's lack of focus on assessing future effects of anticipated increases in air conditioning use as the climate warms, the subsequent necessity of disrupting economic barriers to cooling technology, and addressing system problems resulting from increases in peak demand. As an example for consideration, NY-GEO cites a potential future winter scenario in which peak electricity demand may be increased by inefficient heat pump use displacing fossil fuel heating.

NY-GEO requests reconsideration of timeframe and leakage rate for methane for important accuracy in measurement of New York State's contribution to climate change, arguing that the State should use the correct time frame for measuring global warming potential of methane, as well as an accurate estimate of the amount of methane that leaks in the process of delivering heat to a building. It calls for the Commission to establish a

public and accessible process for debating and resolving methane accounting questions.

NY-GEO also recommends the adoption of a rate structure for heat pump customers that eliminates the current subsidy they pay in the form of excessive volumetric delivery rates.

It states its approval of NYSERDA work presented at October 3, 2018 heat pump forum defining grid value of heat pumps, particularly in recognizing excessive charges to heat pump owners. However, it requests that the Commission provide a statement to utility rate case parties that temporary solutions to beneficial electrification customer overpayments must be developed in each case, to be replaced when a statewide solution is determined, and a clear statement of VDER's purpose relative to beneficial electrification issues, with a definite timetable for establishing beneficial electrification rates that cover grid benefits that are appropriate to credit through rates.

NY-GEO supports the formation and execution of a plan to integrate the initiatives adopted under 18-M-0084 in current rate cases, as well in adopted rate cases through a reopening mechanism. NY-GEO also calls for the identification and execution of the tasks necessary to institute residential PACE financing in New York State, including consumer protection guidelines for R-PACE financing. NY-GEO argues that PACE should be implemented at the widest possible level, ideally in all New York State counties.

NY-GEO is in support of developing worker training programs that include IGSHPA training, education for building professionals, and wage supplementation for on the job training. Furthermore, it recommends the adoption of substantial support subsequent to the current NYSERDA rebate program for addressing upfront costs for GSHP installations, including strong

incentives, third-party ownership, and ways to bring installations to the LMI market. NY-GEO states that it can provide any necessary information to NYSERDA or DPS to develop an effective successor to the ground source heat pump rebate program.

NY-GEO supports the development of a detailed glide path to a net zero carbon emission building code for New York State, as well as the development of a statewide online pre-screening tool so building owners can easily retrieve data on the geothermal potential of their properties. This should borrow the best aspects of the New York City's Local Law 6 and the NYPA/NYSERDA Geothermal Clean Energy Challenge summary report to be combined in a statewide, property-specific database.

NY-GEO also expresses support for the adoption of kWh as opposed to Btus as the unified Energy Efficiency unit of measurement to bring New York State in line with the rest of the world, as well as with a post-electrification future dominated by electrical energy use as opposed to fossil fuel burning.

Finally, NY-GEO favors the adoption of a process to prepare for decapitalization of the natural gas utility industry that minimizes the exposure of ratepayers; and the adoption of an incentive structure that balances the importance of locational and other granular factors with the importance of encouraging market penetration by virtue of being easy for property owners to understand. It urges the Commission to balance the importance of location and other factors that might make for a regionally variable program with the importance of providing a consistent, easily and widely understood incentive arrangement that can be easily understood and communicated on a statewide scale.

New York State Electric & Gas Corporation/Rochester Gas and Electric Corporation

New York State Electric & Gas Corporation (NYSEG) and Rochester Gas and Electric Corporation (RG&E) (together, the Companies) express general support for NE:NY and cites alignment of their energy efficiency efforts with state policies, as well as stating their intention to continue working with DPS, NYSERDA, and other New York State utilities in achieving these policy goals.

New York State Energy Coalition

New York State Energy Coalition endorses a fuel-neutral approach to energy efficiency policy in New York State, but suggests that the Commission acknowledges the offering of programs by non-regulated fossil fuel marketers to achieve greater energy efficiency among heating oil customers.

Northeast Energy Efficiency Partnership

Northeast Energy Efficiency Partnership (NEEP) cites energy efficiency successes in Rhode Island and Massachusetts in recommending two three-year statewide energy efficiency plans with interim targets to create market development, certainty, and flexibility. NEEP also suggests alignment with the NEEP Regional Cold Climate Air Source Heat Pumps (ASHP) Market Transformation Strategy, which offers technical specifications, collaboration, and best practices for the northeast region.

NEEP stressed the need to bring comprehensive, home and building energy rating and benchmarking to the forefront of energy conservation strategy by distinguishing between efficient and inefficient buildings in the marketplace. It recommends that building energy rating should form a part of utilities energy

efficiency programs and be made available to residential building markets, allowing homebuyers to make better, more informed decisions about the energy efficiency of their real estate purchases.

NEEP is also an advocate for the health benefits of energy efficiency and is encouraged by the use of Medicaid to fund healthy homes. It recommends considering the expansion of this program to all residential customers, not only LMI customers. NEEP also proposes that New York State develop and implement zero energy stretch codes, using best practices employed in Rhode Island and Washington, D.C. as a model for adopting the United States Department of Energy zero energy ready homes program as a residential stretch code. Finally, NEEP recommends aligning cost-effectiveness with public policy goals by using the National Standard Practice to ensure that testing can be assess relative to the scope and evolution of jurisdiction-specific policy goals. It cites a similar process used by Rhode Island in opening stakeholder processes to develop a cost-effectiveness test specific to state policies and goals.

New York Utilities

Central Hudson Gas & Electric, Corporation; Consolidated Edison Company of New York, Inc.; Keyspan Gas East Corp. d/b/a/ National Grid; New York State Electric & Gas Corporation; Niagara Mohawk Power Corporation; Orange and Rockland Utilities, Inc.; Rochester Gas and Electric Corporation; and The Brooklyn Union Gas Company d/b/a National Grid NY (NY Utilities) are supportive of NE:NY but express concern for increasing costs in achieving more aggressive energy efficiency targets, citing market saturation and baseline revisions. They note that achievement of greater energy efficiency targets statewide will

require sufficient funding and earnings opportunities for investor-owned utilities due to higher unit-costs as programs expand beyond lower cost measures. The NY Utilities stated support to continue cooperation with DPS and NYSERDA to apportion energy efficiency targets and stressed the importance of ongoing and completed potential studies in establishing ramp rates and targets. However, the NY Utilities note potential uncertainty of consistent energy efficiency penetration between utilities due to differences in service territory potentials. To counter these effects, the NY Utilities recommend energy efficiency portfolio flexibility to account for variations in service territory characteristics and conditions.

The NY Utilities reject the NE:NY forecast of program cost reductions through 2025, stating that annual costs are unreliable in forecasting and energy efficiency programs in New York State are constrained by rate case budgets and incentive caps. They also cite lighting baseline revisions, higher energy efficiency targets, market saturation, changes in code baselines, and the 20% funding for LMI customer requirements as additional factors in increasing unit costs.

The NY Utilities support the continued use of the Locational System Relief Value (LSRV) tariff and reject NE:NY recommendations to adopt a "kickers" approach. They contend that this concept is too technology-specific, potentially inflationary, and that it compensates resources focused on system peak coincidence.

Lastly, the NY Utilities state their support for regulatory flexibility in budgets, incentives, and use of funds for energy efficiency programs, citing a need to react to changing market conditions. They also support broad and aligned energy

efficiency incentives that will be immune to minor program revisions in the future.

Pace Energy and Climate Center

Pace Energy and Climate Center (Pace) notes its support for the 185 trillion British thermal unit (BTU) by 2025 target and actions by the PSC, NYSERDA, and utilities to meet that goal.

Pace argues for setting targets across utilities, with aggressive short-term utility acquisition targets to ensure an achievable trajectory towards 2025. Pace also recommends that each utility should have aggressive targets that are not backloaded, arguing that market transformation takes much longer than direct utility programs and the results are harder to measure and verify, emphasizing the importance of aggressive short-term targets to prevent backsliding. Pace also argues against earning adjustment mechanism (EAM) incentives for backloaded goals but allows that metrics in specific areas like beneficial electrification should continue to be provided by this method. Pace recommends that utilities should be able to recover costs for programs intended to meet targets, while incentive payments should be limited to achievement above each utilities new EE target.

Pace also recommends that the Commission should order utilities to implement a process and system for inter-utility and inter-zonal crediting for energy efficiency efforts to create specific market growth opportunities while reducing costs

Pace outlines several recommendations for LMI energy efficiency programs. It supports the allocation of 20% of new funding to LMI programs, and recommends that it be strengthened to a minimum requirement for each utility in addition to all public funds aggregate

Finally, Pace recommended several requirements for LMI utility programs. Pace argues that energy efficiency efforts should be valued, prioritized and incentivized based on household energy burden, with a locational system resource value valuation approach expanded to include value of energy efficiency in disadvantaged communities. The value of energy efficiency investments realized by customers should include heating fuel costs, grid value, avoided generation costs, transportation costs and health benefits. LSRV should be on a spectrum from average locational system value to NWA eligible conditions.

Polyisocyanurate Insulation Manufacturers Association

The Polyisocyanurate Insulation Manufacturers Association (PIMA) expressed support for the emphasis on buildings and building energy codes in policies that address environmental and economic problems of inefficient energy use. PIMA supports several NE:NY statements, including improvements to stretch codes and local government adoption through technical support, with a goal of mandatory stretch codes by 2022. PIMA also supports consideration of zero-net energy building requirements by 2028 or 2030 and argues for additional resources for building energy code training and enforcement.

Renewable Heat Now

Comments on behalf of Renewable Heat Now were submitted by Jessica Azulay, executive director for the Alliance for a Green Economy. Renewable Heat Now appreciates the increased consideration of heat pumps in achieving New York State climate goals represented in NE:NY.

Renewable Heat Now calls on New York State to offer rebates and incentives for heat pump installations, particularly favoring a performance-based $/kW "kicker" to improve market adoption of energy efficient HVAC measures. Renewable Heat Now also recommends additional incentives for low-income households to ensure equity and social benefits to all economic demographics. According to Renewable Heat now, the Commission should send clear signals to utilities that heat pumps and other energy efficient measures are high priorities that require rate case inclusion.

Renewable Heat Now also calls for a reversal of the ongoing expansion of utility gas programs and recommends the elimination of fossil-fuel heating in new construction by way of building codes by 2021. Renewable Heat Now also supports basing benchmarks and assessments of greenhouse gas reductions on the most recent and accurate greenhouse gas inventories, including lifecycle methane emissions in state guidance.

The Nature Conservancy

The Nature Conservancy notes its support for comments submitted by Energy Efficiency Advocates and offered suggestions of its own with a narrow focus on opportunities to improve NYSERDA's Small Business Financing Program. The Nature Conservancy recommends focusing efforts on financially-disadvantaged businesses, modifying loan underwriting criteria to support financially-disadvantaged businesses, and modifying loan payment process to support direct payments to contractors rather than consumers.

Town of Woodstock

The Town of Woodstock notes that the investments required for energy efficiency improvements are often not cost-effective for smaller municipalities in New York State. To overcome this barrier, the Town of Woodstock recommends reinstatement of 2015 regulations that allowed Central Hudson to replace failing streetlights with LEDs over a five-year period at no cost to the customer. The Town of Woodstock also recommends that municipalities be allowed to opt out of utility streetlighting replacement programs. Lastly, the Town of Woodstock is in favor of terminating the current NYSERDA streetlight program, arguing that municipal ownership, maintenance, and repair of streetlights is unfeasible for many smaller towns, cities, and villages. The Town of Woodstock argues that utilities should be responsible for replacing conventional streetlighting with LED luminaires.

Utilities Intervention Unit (New York State Department of State)

The New York State Department of State Utilities Intervention Unit (UIU) suggests that the Commission develop criteria for the definition of "beneficial" electrification technology in the context of heat pump adoption. The UIU also recommends the development of screening protocols for the assessment of electrification technology benefits to avoid incentivizing nonbeneficial technologies to consumers. Finally, the UIU recommends the development of consistent methods for identifying and recording beneficial electrification adoption rates and potential increases in monetary costs associated with their incorporation into the electrical system. UIU notes that this information will become increasing importantly as earnings

adjustment mechanisms are more frequently employed as a means of compensating utility business actions.

WE ACT for Environmental Justice

WE ACT for Environmental Justice (WE ACT) views the allocation of 20% of NE:NY funding to LMI as encouraging, but calls for a more proportionate share of funding for this customer segment, noting that approximately 48% of New York State residents are included in this category. WE ACT also supports efforts by the Green Bank that investigate investment security or credit enhancements for LMI energy efficiency projects and recommends community engagement efforts to LMI customers that overcome barriers to citizen participation.

WE ACT also urges that NYSERDA develop metrics that capture more completely the social benefits of energy efficiency programs, recommending a more complete set of environmental and societal indicators that go beyond the cost of carbon. These include metrics related to health, safety, and prosperity, and include non-energy benefits like reductions in asthma rates, weather-related illnesses, and customer bill costs.

We Act also commends the State's commitment to energy-related job training and placement and urges NYSERDA and the Governor's Office to prioritize funding for community-based organizations that serve disadvantaged communities of low-income households, women, and people of color.

Bob Wyman

Bob Wyman (Wyman) covers a variety of subjects in his comments on NE:NY. Firstly, he suggests replacing BTUs with more commonly understood units (i.e., watts and watt-hours) to

advance greater public understanding of quantities of energy mentioned in NE:NY and other discussions of state energy policy.

Wyman points out that reductions in fuel combustion are particularly important to planning for infrastructure development by gas utilities as poor planning resulting in unnecessary expansion of gas programs will be a future burden to both ratepayers and taxpayers. However, Wyman characterizes the potential impacts of state carbon reduction and energy efficiency goals lacking the necessary specificity to motivate fuel providers to prepare long-term plans that anticipate decreased demand for these products. Wyman recommends clarity on state expectations and extended goals to included guidance on anticipated declines in fossil fuel demands in the near term.

Wyman advocates for the standardization and requirement of environmentally-beneficial earnings adjustment mechanisms (EAMs), arguing that these are a reasonable and useful tool for motivating and rewarding utility support for the expansion of beneficial electrification. Wyman also suggests the development of electric resistance removal EAMs to eliminate the use of inefficient electric resistance measures to provide heat. Once eliminated, generation and distribution capacity could be dedicated to more beneficial and efficient HVAC measures such as heat pumps. Wyman argues that utilities should be encouraged to remove these energy-inefficient heating systems by replacing lost revenues associated with their use with new revenue from the adoption of beneficial electrification technologies.

Wyman argues that the third-party ownership (TPO) financing model largely responsible for the dramatic growth of the solar rooftop market should also be applied to the installation of geothermal heat pumps. This shared financing model would allow customers to more easily pay for and install these measures,

which generally require substantial upfront investments. Wyman also argues that TPO financing of heat pumps could possibly allow the State to reduce rebates and other state subsidies for these installations. Wyman argues that on-bill payments should be made available third-party owners for cost recovery.

Wyman supports policies to charge fair rates for beneficial electrification, to eliminate cost shifts to ensure heat pump adopters are not burdened with additional energy costs incurred by fossil fuel consumption. Wyman strongly objects to energy efficiency portfolio designs that allow the continued free-ridership of fossil fuel customers subsidized by energy payments by heat pump adopters. Wyman suggests that heat pump customers be allowed to voluntarily accept three-part, demand-based rates similar to those recently proposed by the Coalition for Sustainable Distributed Clean Energy in the VDER Rate Design Proceeding.

Wyman also supports NE:NY recommendation that utilities consider heat pumps "along with other energy efficiency technologies as eligible strategies in value-sharing models such as Non-Pipe/Non-Wires Alternatives." However, he criticizes the utilities in limiting their uses of these alternatives to address capacity problems, rather than expanding their use to address carbon emissions or increasing energy efficiency. Wyman suggests that NYSERDA or DPS provide clarifying definitions and guidance to inform future discussion of additional applications for these measures.

Wyman addressed the use of sufficient and accurate data by both energy efficiency professionals and customers in predict and compare residential energy consumption, carbon emissions, and societal costs generated by various approaches to energy consumption. To achieve these results, Wyman recommends

synthesizing residential benchmarks by combining utility data with property tax data. First, he proposes that the Utility Energy Registry (UER) should be expanded to provide detailed benchmark data for a wide variety of residential properties. Such benchmarks could be developed by combining utility data with demographic data, such as that provided in property tax records. Wyman also recommends deriving and aggregating relevant home energy information from NYS tax data sources to provide energy efficiency information to utilities and residential customers, using common physical traits (building age, architectural style, etc.) to extrapolate benchmark energy use data. Wyman also recommends regular reporting of hourly average and marginal emissions rates (MER) by NYISO for each of its load zones, as close to real-time as possible. This would allow customers to quantify potential benefits of energy efficiency alternatives. Finally, Wyman recommends that NYSERDA, with DEC and others, should develop detailed estimates of the technically achievable health and environmental impacts of the beneficial electrification of transportation and heating (using tools such as BenMap).

Wyman's discussion of access to data continues with recommendations on in-building access to meter data. Wyman argues that the Commission should encourage or require that utility-installed electric and gas meters allow direct, real-time, and continuous reading of their data by devices under the control of those customers whose use is measured by the meter. Additionally, he suggests that NYSERDA should require that monitoring data is made available to it, when feasible, by those who receive grants, rebates, or other support for energy efficiency or carbon reduction equipment.

Public Comments

Iris Marie Bloom notes her involvement with several nonprofit organizations as an advocate for environmental issues. She urges a doubling of the current Assisted Home Performance incentive and for allowing homeowners to use it more than once. She also recommends making this program available to small commercial and nonprofit customers. Lastly, she recommends the definition of performance incentives based on energy efficiency standards for customers, including building codes, BPI, net zero energy ready homes, and passive house design.

Katherine M. Burns cites the 2018 United Nations Intergovernmental Panel on Climate Change report in reminding policymakers of the urgency of addressing climate change within the next eleven years. She argues for full implementation and increases in statewide energy efficiency and conservation programs, and also argues for immediate availability of these programs to LMI customers.

Melissa Carlson supports energy codes for buildings and policies and standards that are beneficial and accessible to low-income customers, and accountable to community and state groups.

Richard P. Fennelly noted that poor maintenance of heating, ventilation, and air conditioning is a significant source of electrical energy waste in New York State. He estimates that clogged refrigeration condenser coils contribute about 280 kWh annually per unit in New York State. Proper maintenance of this equipment would not only increase energy efficiency but create a significant number of jobs.

David Kapell expresses satisfaction that New York State is addressing energy efficiency but desires a more ambitious approach, comparable to Massachusetts, Vermont, and Rhode

Island. He also recommends program availability to LMI income customers.

Linda Reik submitted comments with a specific focus on addressing the concerns of LMI ratepayers. She argues for forty percent of energy efficiency spending to go to LMI customers, accessibility of energy efficiency programs to LMI households regardless of FICO scores, bill payment history, or upfront capital, transparency, equitable, and accountable partnerships in energy efficiency implementation, and a holistic healthy homes approach that addresses health stresses of inadequate residential insulation. She also cautions against allow energy efficiency investments to drive further displacement of LMI customers and argues for compliance incentives for landlords and utilities.

Sue Hughes-Smith expresses support for new energy efficiency standards and contends that these should be equitable, transparent in implementation, accessible to LMI customers, and accountable to communities they serve.

James Underberg supports the NE:NY proposals to advance energy efficiency procurement through utility supply and distribution rates and to fund utility incentives through shared-savings. He argues that these proposals would align utility incentives with customer interests by rewarding them for saving ratepayer money though energy efficiency, rather than rewarding capital spending.

State Environmental Quality Review Act

FINDINGS STATEMENT

December 13, 2018

Prepared in accordance with Article 8 – State Environmental Quality Review Act (SEQRA) of the Environmental Conservation Law and 6 NYCRR Part 617, the New York State Public Service Commission (Commission), as Lead Agency, makes the following findings.

Name of Action:	Comprehensive Energy Efficiency Initiative (Case 15-M-0252) Order Adopting Accelerated Energy Efficiency Targets
SEQRA Classification:	Unlisted Action
Location:	New York State/Statewide
Date of Final Generic Environmental Impact Statement:	February 6, 2015
FGEIS available at:	http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=14-m-0101

I. Purpose and Description of Action

In the attached order, the Commission adopts overall targets for energy efficiency in New York State through 2025 and establishes policies associated with achievement of those targets. It also authorizes annual budgets and targets for utility-run energy efficiency programs for 2019-2020. This is a continuation of enhanced energy efficiency activities that started with the February 26, 2015 Order Adopting Regulatory Policy Framework and Implementation Plan (REV Framework Order) in the Reforming the Energy Vision (REV) proceeding, which directed the electric utilities to plan and implement energy

efficiency programs, and the June 19, 2015 Order Authorizing Utility-Administered Gas Energy Efficiency Portfolios for Implementation Beginning January 1, 2016, which directed the gas utilities to also plan and implement such programs. These activities continued with the January 22, 2016 Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets for 2016 – 2018 and the March 15, 2018 Order Authorizing Utility-Administered Energy Efficiency Portfolio Budgets and Targets for 2019 – 2020. As such, these programs are part of the overall REV policy.

II. Facts and Conclusions in the EIS Relied Upon to Support the Decision

In developing this findings statement, the Commission has reviewed and considered the "Final Generic Environmental Impact Statement in Case 14-M-0101 - Reforming the Energy Vision and Case 14-M-0094 - Clean Energy Fund" prepared for the Reforming the Energy Vision (REV) and Clean Energy Fund (CEF) proceedings and issued on February 6, 2015 (FGEIS). The following findings are based on the facts and conclusions set forth in the FGEIS.

A. Public Needs and Benefits

Chapter 1 of the FGEIS describes the need for and expected benefits of REV and the CEF as a whole. These programs will address challenges facing New York's energy system, including the need to reduce greenhouse gas emissions, dependence on natural gas for electricity generation, and market failures in the clean energy sector [FGEIS 1-12]. By supporting energy efficiency technologies and spurring private investments, energy efficiency programs, including utility energy efficiency programs, will create public benefits including reduction in carbon and other pollutant emissions, increased penetration of clean distributed generation, reduced fossil fuel dependence, and increased customer choice and opportunity [FGEIS 1-18].

B. Potential Impacts

Chapter 5 of the FGEIS describes the expected environmental impacts of the proposed REV and CEF as a whole. Areas of analysis relevant to energy efficiency programs include Demand Management, Distributed Energy Resources, Energy Efficiency, and Low-Carbon and Carbon-Free Energy Resources. Therefore, a primary impact of this action will be greenhouse gas reductions [FGEIS 5-21, 5-48]. As more fully described in the FGEIS, individual energy efficiency projects may have local impacts including construction impacts, land use, and the generation of hazardous materials during construction [FGEIS 5-5, 5-22].

C. Mitigation

Chapters 5 and 6 of the FGEIS identify mitigation measures that could address the potential adverse impacts of the proposed REV and CEF as a whole. As more fully described therein, existing and applicable federal, state, and local regulations will serve to mitigate a number of potential impacts [FGEIS 6-1]. In addition, particular project assessments regarding proposed distributed energy resource installations can consider local impacts [FGEIS 5-8]. In the REV proceeding, the Commission directed Staff to cooperate with the New York State Department of Environmental Conservation (DEC) to develop rules that avoid or mitigate the potential for harmful local emissions. To the extent that any specific utility energy efficiency program proposals present the potential for harmful local emissions, those rules will also apply and mitigate the impacts of those proposals [FGEIS 5-7, 5-8].

D. Cumulative Impacts and Climate Change

The FGEIS describes in detail the harmful environmental impacts of greenhouse gases such as carbon dioxide [FGEIS 3-14; 3-15]. The clean energy technologies and resources promoted by

REV and the CEF as a whole, and the energy efficiency programs in particular, create a long-term reduction in the use of energy generated from fossil fuels [FGEIS 4-5]. The environmental impact of a reduction in the use of fossil-fuel based energy generation on the human environment is generally positive, but will occur over a long time horizon [FGEIS 5-48].

III. Conclusion

The energy efficiency programs are anticipated to yield overall positive environmental impacts, primarily by reducing the State's use of, and dependence on, fossil fuels, among other benefits. In conjunction with other State and Federal policies and initiatives, particularly REV and the CEF, the energy efficiency programs are designed to reduce the adverse economic, social, and environmental impacts of fossil fuel energy resources by increasing the use of clean energy resources and technologies [FGEIS ES-10]. Ordinary construction-related impacts are expected [FGEIS 5-5, 5-22] but do not outweigh the overall positive environmental impact.

CERTIFICATION TO APPROVE:

Having considered the Draft and Final Generic Environmental Impact Statement, and having considered the preceding written facts and conclusions relied upon to meet the requirements of 6 NYCRR 617.11, this Statement of Findings certifies that:

1. The requirements of 6 NYCRR Part 617 have been met;
2. Consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as Practicable; and
3. Consistent with the applicable policies of Article 42 of the Executive Law, as implemented by 19 NYCRR 600.5, this action will achieve a balance between the protection of the environment and the need to accommodate social and economic considerations.

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