

# Clean Energy Fund Quarterly Performance Report through June 30, 2018

Final Report | August 2018

| Revised January 2019

## **NYSERDA's Promise to New Yorkers:**

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

### **Mission Statement:**

Advance innovative energy solutions in ways that improve New York's economy and environment.

### **Vision Statement:**

Serve as a catalyst – advancing energy innovation, technology, and investment; transforming New York's economy; and empowering people to choose clean and efficient energy as part of their everyday lives.



**Clean Energy Fund  
Quarterly Performance Report  
through June 30, 2018**

*Final Report*

Prepared by:

**New York State Energy Research and Development Authority**

Albany, NY

August 2018

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# 1 Overview

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The Clean Energy Fund (CEF) was designed to deliver on New York State's commitment to reduce ratepayer collections, drive economic development, and accelerate the use of clean energy and energy innovation.

The CEF supports Governor Andrew M. Cuomo's Reforming the Energy Vision (REV) strategy to make New York's energy system cleaner, more affordable and more resilient, and advances the State's clean energy goals as stated in the 2015 State Energy Plan. These goals include the reduction of greenhouse gas emissions 40% from 1990 levels, and actions to date have already resulted in the implementation of the Clean Energy Standard that requires 50% of the State's electricity to come from renewable energy sources by 2030.

The CEF offers solutions to:

- Reduce greenhouse gas emissions through increased efficiency and use of renewable energy
- Deliver \$39 billion in customer bill savings over the life of the CEF
- Accelerate growth of the State's clean energy economy
- Mobilize private investment, leveraging \$29 billion over the life of the CEF
- Provide more value to the customer while reducing ratepayer collections by \$1.5 billion by 2025

The CEF Order was issued on January 21, 2016.<sup>1</sup> This order required quarterly reporting for the Market Development and Innovation and Research Portfolios to explain the following:

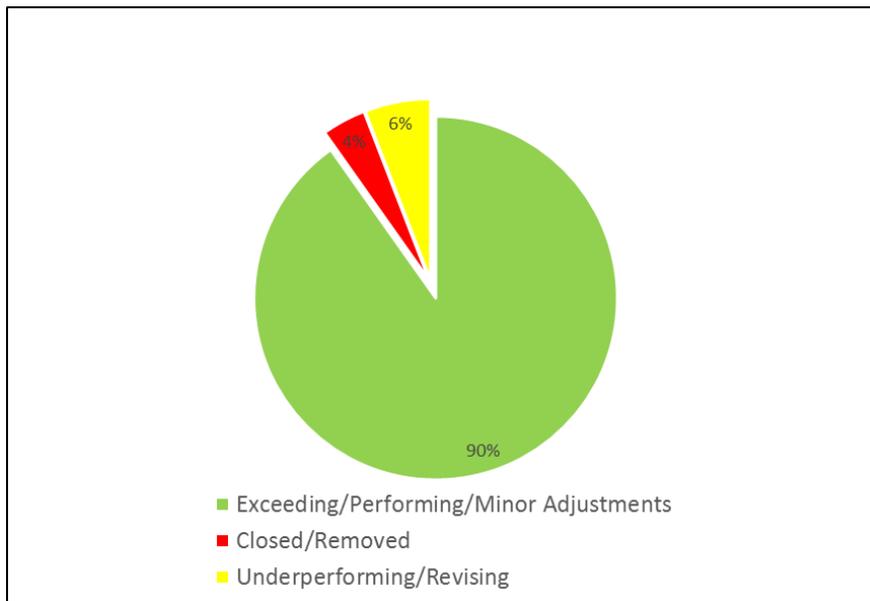
- Progress against initiative-specific milestones
- CEF goal metric schedules outlined in the Investment Plan Chapters
- Tracking of expenditures and commitments against their prospective budgets

This report represents quarterly and cumulative activity through June 30, 2018 and achievements of all programs approved prior to and during the reporting period. This includes the transition programs included in the Resource Acquisition Transition Chapter as well as new initiatives in the Market Development and Innovation and Research Chapters. See Appendix A for the Department of Public Service (DPS) case number/reference and effective date of these initiatives.

Through June 2018, 58 Market Development (MD) and Innovation and Research (I&R) initiatives were developed by NYSERDA and filed with the Public Service Commission; 50 of these initiatives have launched. In this portfolio, NYSERDA included the introduction of 38 new initiatives, pivoting the organization’s focus toward a market transformation model. In the early years of the CEF, these new initiatives will operate alongside 12 resource acquisition transition initiatives—a purposeful portfolio mix intended to introduce a greater proportion of market-enabling activities without disrupting existing market momentum that may be based on more traditional NYSERDA and utility approaches.

Figure 1 shows the majority (90%) of launched initiatives are progressing well and either exceeded expectations, maintained their original plans, or moved forward with minor changes. As information is gained, NYSERDA modified several of these largely successful initiatives to optimally align them with market needs. A smaller percentage of initiatives are undergoing more substantial adjustment (6%) or have been closed/removed due to lack of performance (4%). Closed initiatives generally experienced lower customer demand than expected, and NYSERDA is redirecting funds to better meet market needs.

**Figure 1. Early Status of CEF Portfolio Initiatives**



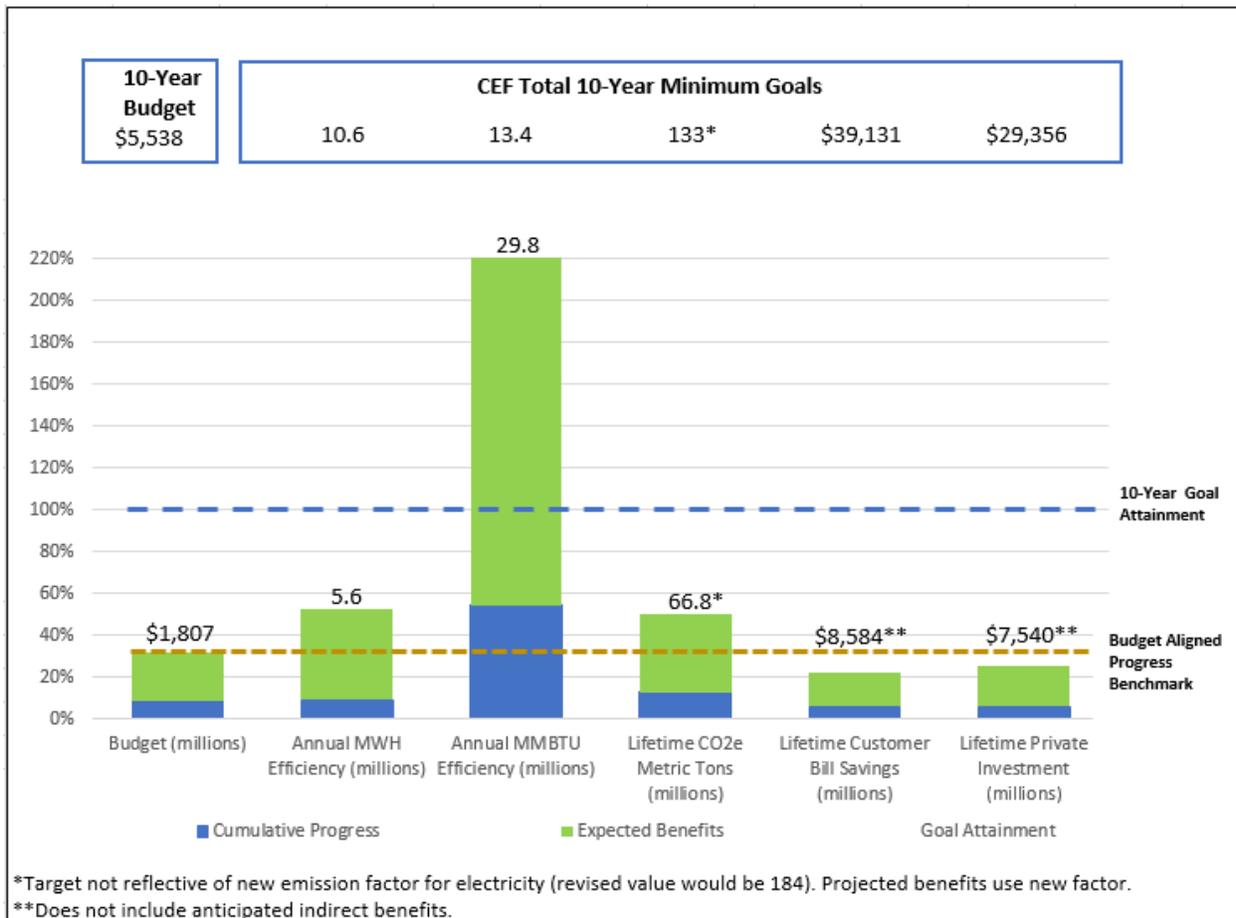
The MD and I&R portfolios are contributing toward realization of the total CEF 10-year minimum goals, which will also be supported by achievement in the NY-Sun and NY Green Bank portfolios.<sup>2</sup> The deployment of MD and I&R funds is well-aligned with progress at this time, as depicted in Figure 2,<sup>3</sup> where cumulative progress represents committed dollars and associated impact and expected benefits equals remaining “programmed” dollars and associated benefits.

Achievement of the energy efficiency MWh and MMBtu goals core to the MD portfolio and represent “no backsliding from EEPS” is on track. MMBtu expected benefits are already significantly greater than the minimum projected benefits.

Carbon dioxide equivalent (CO2e) emission reduction progress is on track to meet the overall goal for the CEF. The CEF’s fuel-neutral approach is a large driver of success on the CO2e metric.<sup>4</sup>

Performance of the customer (participant) bill savings<sup>5</sup> and lifetime private investment metrics is low at this time but is not yet inclusive of estimated indirect benefits expected to occur later in the 10-year time frame.

**Figure 2. CEF Market Development and Innovation and Research Projection Expected investment and benefits contribution toward 10-year minimum goals as of June 30, 2018 (millions)**



The 10-year budget and 10-year minimum goals reflect all four CEF portfolios: Market Development, Innovation and Research, NY-Sun, and NY Green Bank. Progress shown against each metric represents only the Market Development and Innovation and Research portfolios. The 88 million MWh renewable energy goal is not depicted here as it is mainly supported by NY-Sun.

A high-level summary of the progress of each initiative and offerings within the initiatives as applicable is shown in Tables 1-3. These tables display key dates, assessment of benefits metrics progress against current targets, and as warranted, an explanation of progress towards benefit metrics and/or program implementation milestones.

**Table 1. Summary of Initiative/Offering Status—Resource Acquisition Transition**

Initiative: Offering (Tables)	Key Dates	Status Notes
Commercial Resource Acquisition Transition and FlexTech Initiative (Table 9)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	The Commercial Implementation Program closed April 2017. There were eight approved projects and the planned benefits for this program component will not be met. A revision to the FlexTech Program launched in Q2 2018. It is expected that this revision will generate additional interest in the program leading to more projects and savings towards FlexTech planned benefits.
Industrial Resource Acquisition Transition Initiative (Table 10)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	The initiative is proceeding as planned.
Agriculture Resource Acquisition Transition Initiative (Table 11)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	The initiative is proceeding as planned.
Multifamily Market-Rate Resource Acquisition Transition Initiative (Table 12)	Approval Date: February 29, 2016 Launch Date: May 19, 2016 Refiling Approval Date: July 17, 2017	No longer accepting applications. The program received less applications but more units than anticipated, which explains why progress is greatly exceeding the participant planned value. However, the energy conservation measures implemented were low-cost and yielded less savings than initially projected; therefore, relative progress against other benefit metrics is lagging.
Single-Family Market-Rate Resource Acquisition Transition Initiative (Table 13)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	After withdrawal of consumer incentives and the increase in Green Jobs - Green New York financing interest rates in September 2016, fewer market rate projects are being submitted through the program. NYSERDA will determine to what extent audit participants are completing projects outside of the program.
Commercial New Construction Resource Acquisition Transition Initiative (Table 14)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	A substantial update to the program was issued on March 21, 2018, which offers technical support to applicants of all project sizes and further targets financial support to drive the design and construction of net zero energy, deep energy savings, and smart buildings.
Low-Rise New Construction Resource Acquisition Transition Initiative: Market-Rate (Table 15)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	Current participant metrics reflect significant participation of single-family homes. Higher potential savings are associated with single-family homes vs. multifamily projects, on a per dwelling unit (or participant) basis, affecting the savings metrics vs. the lower levels of participation.
Low-Rise New Construction Resource Acquisition Transition Initiative: Low- to Moderate-Income (Table 16)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	Seasonal variations in LMI project awards by New York State Home and Community Renewal typically result in early season lag in application submissions to NYSERDA. Additionally, NYSERDA is transitioning to an online solutions model, which altered the timing of when project funding has been committed. It is expected that participation rates and approvals should more accurately reflect program activity levels by end of Q3 2018 and better align with planned benefits.

**Table 1 continued**

Initiative: Offering (Tables)	Key Dates	Status Notes
Multifamily New Construction Resource Acquisition Transition Initiative: Market-Rate (Table 17)	Approval Date: February 29, 2016 Launch Date: August 8, 2016 Refiling Approval Date: July 17, 2017	Performance against metrics planned benefits is lagging currently, but program participation is expected to increase based on the reauthorization of the New York City Property Tax abatement. Market engagement indicates the modifications to program, which were approved in July 2017 and led to reissuance of the solicitation in November 2017, should also lead to increased participation and closer alignment with planned benefits by Q3 2018. Release of additional modifications to the program incentive structure are anticipated to be published by end of Q3 2018, with expected benefits in Q4.
Multifamily New Construction Resource Acquisition Transition Initiative: Low- to Moderate-Income (Table 18)	Approval Date: February 29, 2016 Launch Date: August 8, 2016 Refiling Approval Date: July 17, 2017	
Anaerobic Digesters Resource Acquisition Transition Initiative (Table 19)	Approval Date: February 29, 2016 Launch Date: July 8, 2016	A delay in launching 2017 and 2018 activities has caused the lag in performance. Progress is expected to better align with expectations once these activities launch and proposals are accepted.
Small Wind Resource Acquisition Transition Initiative (Table 20)	Approval Date: February 29, 2016 Launch Date: March 1, 2016	The program has not achieved some planned benefits due to smaller-sized projects and fewer developers than anticipated.
Solar Thermal Resource Acquisition Transition Initiative (Table 21)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	The initiative is proceeding as planned.
Combined Heat and Power (CHP) Resource Acquisition Transition Initiative (Table 22)	Approval Date: February 29, 2016 Launch Date: March 1, 2016	The initiative is proceeding as planned.

**Table 2. Summary of Initiative/Offering Progress—Market Development**

Initiative: Offering (Tables)	Key Dates	Metrics Progress vs. Planned Benefits <sup>a</sup>	Explanation of Progress
<b>Commercial Chapter</b>			
Real Estate Tenant Initiative (Tables 24-25)	Approval Date: May 23, 2016 Launch Date: July 19, 2016 Refiling Approval Date: July 17, 2017	Lagging	The Real Estate Tenant initiative made significant progress since program changes in Q3 2017. A total of 274 sites are in program as of end of Q2 2018. Since program changes were enacted, 90% of participants have joined and NYSERDA anticipates continued growth in program participation moving forward. The initiative is also making progress toward its multi-year implementation milestones.
Energy Management Initiative (Table 26-27)	Approval Date: May 23, 2016 Launch Date: June 20, 2016 Refiling Approval Date: July 17, 2017	Lagging	Energy Management initiative continues to see significant market uptake through the RTEM program. The RTEM program is lagging planned benefits on private investment, CO2 and MWh because project costs used to derive anticipated savings, are smaller than anticipated. RTEM program is lagging participation planned benefits, but contracting with selected providers is complete, and NYSERDA anticipates seeing program uptake in Q3 2018.
Reforming the Energy Vision (REV) Campus Challenge Initiative (Tables 28-29)	Approval Date: May 23, 2016 Launch Date: December 21, 2016 Refiling Approval Date: July 17, 2017	Lagging	The REV Campus Challenge initiative is exceeding its targeted membership goal (102 out of projected 93), but it is lagging its other planned benefits. NYSERDA is reviewing available data on REV Campus Challenge member activity to more accurately and completely account for energy savings. The initiative is making progress toward its multi-year implementation milestones.
K-12 Schools Initiative (Tables 30-31)	Approval Date: December 1, 2017 Launch Date: June 20, 2018	n/a	The initiative has made good progress against its current implementation milestones.
<b>Industrial Chapter</b>			
Continuous Energy Improvement Initiative: On-Site Energy Manager Initiative (Tables 32-33)	Approval Date: May 23, 2016 Launch Date: September 12, 2016 Refiling Approval Date: July 17, 2017	Mixed	Lag in completion of milestones due to delayed launch of the program. Longer than anticipated period to secure participants, but energy savings projections are exceeding expectations on the initial participants.
Continuous Energy Improvement Initiative: Strategic Energy Management Initiative (Tables 34-35)	Approval Date: May 23, 2016 Launch Date: November 22, 2016 Refiling Approval Date: July 17, 2017	On Track	Lag in completion of the milestone due to delayed launch of the program as well as longer than anticipated period to secure participant commitment.

**Table 2 continued**

Initiative: Offering (Tables)	Key Dates	Metrics Progress vs. Planned Benefits <sup>a</sup>	Explanation of Progress
Continuous Energy Improvement Initiative: Energy Management Information Systems Initiative (Tables 36-37)	Approval Date: June 23, 2017 Launch Date: November 14, 2017	n/a	The initiative has made good progress against its current implementation milestones. NYSERDA anticipates the first applications will occur in Q3 and Q4 2018 as vendors develop projects.
<b>Communities Chapter</b>			
Clean Energy Communities Initiative (Tables 38-39)	Approval Date: May 23, 2016 Launch Date: August 3, 2016 Refiling Approval Date: July 17, 2017	Exceeding	The initiative has made good progress against its current implementation milestones.
Community Energy Engagement Initiative (Tables 40-41)	Approval Date: March 27, 2017 Launch Date: October 10, 2017	Mixed	The initiative has made good progress against its current implementation milestones. The lag in private investment is primarily due to lower than anticipated cost-share from the 10, locally-based organizations' contracts.
<b>Large-Scale Renewables Chapter</b>			
Offshore Wind Master Plan Initiative (Tables 42-43)	Approval Date: May 23, 2016 Launch Date: September 15, 2016	n/a	The initiative completed all implementation milestones.
Offshore Wind Pre-Development Initiative (Tables 44-45)	Approval Date: May 23, 2016 Launch Date: December 12, 2016	n/a	The initiative has made good progress against its current implementation milestones.
<b>REV Technical Assistance Chapter</b>			
REV Connect Initiative (Tables 46-47)	Approval Date: May 23, 2016 Launch Date: August 9, 2016 Refiling Approval Date: July 17, 2017	Lagging	The initiative has made good progress against its current implementation milestones, but metrics progress is behind for the program's singular metric of private investment. Private investment is defined as financial support from utilities and private sector companies for REV Connect functions. As users of the REV Connect platform identify which functions create greatest value for their organization, this may prompt additional private investment to support high-value functions.

**Table 2 continued**

Initiative: Offering (Tables)	Key Dates	Metrics Progress vs. Planned Benefits <sup>a</sup>	Explanation of Progress
<b>Energy Storage Chapter</b>			
Reducing Barriers to Energy Storage Deployment Initiative (Tables 48-49)	Approval Date: August 17, 2016 Launch Date: November 7, 2016 Refiling Approval Date: July 17, 2017	Delayed	The initiative is making good progress against its implementation milestones; however, technical assistance contractors and value stacking pilot applications did not begin until mid-2017, but progress against milestones will be made up over time. Major milestone achieved with New York City's recent storage permitting guidelines.
<b>Clean Transportation Chapter</b>			
Electric Vehicles Initiative: EV Rebate (Tables 50-51)	Approval Date: August 17, 2016 Launch Date: March 21, 2017 Refiling Approval Date: July 17, 2017	Lagging	All current implementation milestones have been met. Lag in metrics progress is due to greater than anticipated EV purchases occurring in the market without leveraging the available rebate. NYSERDA estimates only 60% of EV sales have applied for the rebate since it was put in place.
<b>Agriculture Chapter</b>			
Greenhouse Lighting and Systems Engineering (GLASE) Initiative (Tables 52-53)	Approval Date: September 15, 2016 Launch Date: January 1, 2017	On Track	The initiative has made good progress against its current implementation milestones.
Advancing Agricultural Energy Technologies (Tables 54-55)	Approval Date: December 1, 2017 Anticipated Launch Date: Q3 2018	n/a	New Initiative. Anticipated to launch ahead of schedule in Q3 2018.
RetrofitNY Initiative (Tables 56-57)	Approval Date: August 31, 2016 Launch Date: April 4, 2017	Delayed	The initiative has made rapid progress in this last quarter against its current implementation milestones. The first potential pilot projects have been selected and design/construction industry teams have started designing deep energy retrofit solutions for these buildings.
REVitalize Initiative (Tables 58-59)	Approval Date: August 31, 2016 Launch Date: June 27, 2017	On Track	A delay in the launch of the solicitation caused a lag in performance against current implementation milestones.
Low-Income Forum on Energy Initiative (Tables 60-61)	Approval Date: August 31, 2016 Launch Date: August 31, 2017	Exceeding	The initiative has made good progress against its current implementation milestones.

**Table 2 continued**

Initiative: Offering (Tables)	Key Dates	Metrics Progress vs. Planned Benefits <sup>a</sup>	Explanation of Progress
<b>Low- to Moderate-Income Chapter</b>			
Healthy Homes Feasibility Study Initiative (Table 62)	Approval Date: August 31, 2016 Launch Date: January 20, 2017	n/a	Progress against implementation milestones is lagging as there was initial difficulty obtaining the data required for completion of the study. However, an alternate approach was used and progress against lagging implementation milestones will continue.
Low- to Moderate-Income Single-Family Initiative: Low-Income (Tables 63,65)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	On Track	The initiative has made good progress against its current implementation milestones.
Low- to Moderate-Income Single-Family Initiative: Moderate-Income (Tables -64-65)	Approval Date: February 29, 2016 Launch Date: March 1, 2016 Refiling Approval Date: July 17, 2017	On Track	The initiative has made good progress against its current implementation milestones.
Low- to Moderate-Income Multifamily Initiative (Tables 66-67)	Approval Date: February 29, 2016 Launch Date: May 19, 2016 Refiling Approval Date: July 17, 2017	Lagging	The initiative has made good progress against its current implementation milestones. Although numerous new projects entered the pipeline, progress against planned benefits is lagging as many of these new projects were smaller buildings, resulting in a lower number of participants (dwelling units) and lower amount of savings than expected. The program team is launching new communication and outreach efforts to continue to improve program intake.
Low-Income Community Solar Initiative (Table 68-69)	Approval Date: December 1, 2017 Launch Date: May 24, 2018	n/a	The initiative has made good progress against its current implementation milestones. The initiative launched in Q2 2018 and begin participant enrollment in Q3 2018.
<b>Workforce Development Chapter</b>			
Industry Partnerships Initiative (Tables 70-71)	Approval Date: September 15, 2016 Launch Date: January 13, 2017 Refiling Approval Date: July 17, 2017	Delayed	The initiative has made good progress against its multi-year implementation milestones. A delay in the launch of the solicitation caused a lag in metric performance against current planned benefits.
Clean Technology and Energy Efficiency Talent Pipeline Initiative (Tables 72-73)	Approval Date: June 22, 2018 Launch Date: Q3 2018	n/a	New initiative. Scheduled to launch in Q3 2018.

**Table 2 continued**

Initiative: Offering (Tables)	Key Dates	Metrics Progress vs. Planned Benefits <sup>a</sup>	Explanation of Progress
<b>Renewable Heating and Cooling Chapter</b>			
Heat Pumps and Solar Thermal Initiative (Tables 74-75)	Approval Date: May 16, 2017 Launch Date: May 30, 2017	Exceeding	Stakeholder feedback indicated alternative pilots should be considered prior to program rollout, causing a delay achieving certain current implementation milestones.
Renewable Heat NY Initiative (Tables 76-77)	Approval Date: May 16, 2017 Launch Date: May 9, 2017	Mixed	The initiative has made good progress against its implementation milestones; however, market uptake is slow.
<b>Clean Energy Products Chapter</b>			
Underutilized Products Support Initiative (Tables 78-79)	Approval Date: May 16, 2017 Launch Date: August 17, 2017	Lagging	The initiative has made good progress against its current implementation milestones; however, the Advanced Rooftop Unit program has been put on hold. Technology performance levels are not readily available in the supply chain at this point. Alternative structures and technologies to address commercial HVAC are being investigated. Trainings and case studies will be available for ASHP contractors in Q3-Q4 2018.
<b>Multi-Sector Solutions Chapter</b>			
EE Soft Cost Challenge Initiative (Tables 80-81)	Approval Date: July 19, 2017 Anticipated Launch Date: TBA	n/a	The initiative as outlined within the investment plan is currently on hold. NYSERDA is exploring opportunities to integrate soft cost reduction strategies within the single-family, multifamily, and commercial programs.
Technical Services Initiative (Tables 82-83)	Approval Date: October 3, 2017 Launch Date: November 9, 2017	Lagging	The initiative has made good progress against its current implementation milestones. The initiative is lagging performance; however, the program anticipates achieving current planned values as the second effort under technical services, the Energy Study Aggregation Program, launched at the end of Q2 2018.
Clean Energy Advanced Market Performance (AMP) Challenge Initiative (Tables 84-85)	Approval Date: December 1, 2017 Launch Date: May 14, 2018	n/a	Newly launched initiative. The initiative has made good progress against its current implementation milestones.
Clean Energy Siting and Soft Cost Reduction Initiative (Tables 86-87)	Approval Date: December 1, 2017 Launch Date: March 9, 2018	n/a	Newly launched initiative. The initiative has made good progress against its current implementation milestones.

Table 2 continued

Initiative: Offering (Tables)	Key Dates	Metrics Progress vs. Planned Benefits <sup>a</sup>	Explanation of Progress
<b>Codes Chapter</b>			
Code to Zero Initiative (Tables 88-89)	Approval Date: December 1, 2017 Anticipated Launch Date: Q4 2018	n/a	On schedule to launch Q4 2018.
<b>On-Site Power Chapter</b>			
Fuel Cells Initiative (Tables 90-91)	Approval Date: December 1, 2017 Launch Date: May 3, 2018	n/a	Newly launched initiative. The initiative has made good progress against its current implementation milestones.
<b>New Construction Chapter</b>			
New Construction Market Rate Initiative (Tables 92-93)	Approval Date: December 1, 2017 Launch Date: April 12, 2018 Revised Filing Date: April 12, 2018	n/a	Newly launched initiative. The initiative has made good progress against its current implementation milestones.
Low Income New Construction Initiative (Tables 94-95)	Approval Date: December 1, 2017 Launch Date: April 12, 2018 Revised Filing Date: April 12, 2018	n/a	Newly launched initiative. The initiative has made good progress against its current implementation milestones.
<b>Residential Chapter</b>			
Engaging New Markets Initiative (Tables 96-97)	Approval Date: December 1, 2017 Anticipated Launch Date: Q3 2018	n/a	On schedule to launch Q3 2018.

<sup>a</sup> Initiative progress indicator takes into account current cumulative progress of all relevant metrics vs. planned benefits. Exceeding means all metrics (with the allowed exception of two) are > 100% of progress vs. planned benefits. On Track means all metrics (with the allowed exception of two) are > 80% of progress vs. planned benefits. Lagging means all metrics (with the allowed exception of two) are < 80% of progress vs. planned benefits. Mixed means more than two metrics are < 50% and > 100% of progress vs. planned benefits. Where the same metric has both an annual and lifetime value, it is counted as one. Delayed means metrics performance is lagging vs. planned benefits due to a delayed launch of initiative and/or solicitation. N/A means initiative has not yet launched or been launched too recently (within two quarters) to measure metrics progress.

**Table 3. Summary of Initiative/Offering Progress—Innovation and Research**

Initiative: Offering (Tables)	Key Dates	Metrics Progress vs. Planned Benefits	Explanation of Progress
<b>Grid Modernization Chapter</b>			
Distributed Energy Resource (DER) Interconnection Initiative (Tables 98-99)	Approval Date: May 23, 2016 Launch Date: October 20, 2016	Mixed	The initiative has made good progress against its current implementation milestones but private investment is behind the current planned benefit.
High-Performing Grid Modernization Initiative (Tables 100-101)	Approval Date: May 23, 2016 Launch Date: September 16, 2016 Refiling Approval Date: July 17, 2017	Mixed	The initiative has made good progress against its current implementation milestones, but private investment is behind the current planned benefit.
Power Electronics Manufacturing Initiative (Tables 102-103)	Approval Date: July 19, 2017 Launch Date: October 13, 2017	Exceeding	A delay in contracting has caused a lag in the progress of achieving current implementation milestones.
<b>Innovation Capacity and Business Development Chapter</b>			
Cleantech Startup Growth Initiative (Tables 104-110)	Approval Date: May 23, 2016 Launch Date: October 12, 2016 Revised Approval Date: December 1, 2017	Mixed	The initiative has made good progress against its current implementation milestones but is lagging the participant planned value.
Manufacturing Corps Initiative (Tables 111-112)	Approval Date: February 13, 2017 Launch Date: June 29, 2017 Revised Approval Date: December 1, 2017	n/a	The initiative has made good progress against its current implementation milestones
Novel Business Models and Offerings Initiative (Tables 113-114)	Approval Date: December 1, 2017 Anticipated Launch Date: Q3 2018	n/a	Scheduled to launch Q3 2018.
<b>Building Innovation Chapter</b>			
NextGen HVAC Initiative (Tables 115-116)	Approval Date: August 17, 2016 Launch Date: June 28, 2017	On Track	A delay in contracting certain projects caused a lag in the progress of achieving current implementation milestones.

**Table 3 continued**

Initiative: Offering (Tables)	Key Dates	Metrics Progress vs. Planned Benefits <sup>a</sup>	Explanation of Progress
<b>Clean Transportation Chapter</b>			
Electric Vehicles Initiative: EV Innovation (Tables 117-118)	Approval Date: August 17, 2016 Launch Date: September 15, 2017	Delayed	The initiative has made good progress against its current implementation milestones. A delay in the launch of the program caused a lag in metric performance against current planned benefits.
Public Transportation and Electrified Rail Initiative (Tables 119-120)	Approval Date: October 3, 2017 Launch Date: February 22, 2018	n/a	Newly launched initiative. The initiative has made good progress against its current implementation milestones.
<b>Energy-Related Environmental Research Chapter</b>			
Energy Related Environmental Research Initiative (Tables 121-122)	Approval Date: February 13, 2017 Launch Date: February 15, 2017	Exceeding	The initiative has made good progress against its current implementation milestones.
<b>Renewables Optimization Chapter</b>			
Energy Storage Technology and Product Development Initiative (Tables 123-124)	Approval Date: March 27, 2017 Launch Date: June 21, 2017	Mixed	The initiative has made good progress against its current implementation milestones. A delay in contracting caused a lag in metric performance against participant planned benefits.

<sup>a</sup> Initiative progress indicator takes into account current cumulative progress of all relevant metrics vs. planned benefits. Exceeding means all metrics (with the allowed exception of two) are > 100% of progress vs. planned benefits. On Track means all metrics (with the allowed exception of two) are > 80% of progress vs. planned benefits. Lagging means all metrics (with the allowed exception of two) are < 80% of progress vs. planned benefits. Mixed means more than two metrics are < 50% and > 100% of progress vs. planned benefits. Where the same metric has both an annual and lifetime value, it is counted as one. Delayed means metrics performance is lagging vs. planned benefits due to a delayed launch of initiative and/or solicitation. N/A means initiative has not yet launched or launched too recently (within two quarters) to measure metrics progress.

Table 4 shows the CEF cumulative progress (committed benefits) to date against the 10-year minimum projected goals of the entire CEF, inclusive of all four portfolios. The CEF MD and I&R portfolios will contribute significantly to these minimum projected goals, as will the NY-Sun and NY Green Bank portfolios, for which progress is presented in separate filings.

This report reflects direct benefits from participation in NYSERDA's programs, as shown in the tables that follow. Many CEF initiatives also anticipate accruing indirect, longer-term market effects from follow-on market activity. These indirect impacts are grounded in a theory of change developed for each initiative, and NYSERDA will use market evaluation approaches to quantify the indirect impacts expected to accrue over time. Indirect benefits are not yet reflected because it will take time for these benefits to be realized. Planned benefits and achieved benefits include initiatives filed and approved through June 30, 2018. The column labeled Cumulative Current Planned Benefits through Q2 2018 represents 100% of the 2016 and 2017 annual planned benefits plus 50% of the 2018 annual planned benefits. Actual progress may not be equal each quarter of a calendar year.

**Table 4. CEF Minimum Projected Goals 2016–2025 and Progress to Date, Commitment Basis**

See Endnotes section for more information<sup>6</sup>

		Cumulative Annual Benefits		Lifetime Benefits	
		Cumulative Progress through June 30, 2018	Minimum Projected Goals 2016-2025	Cumulative Progress through June 30, 2018	Minimum Projected Goals 2016-2025
Energy Efficiency	MWh	987,621	10,600,000	13,997,011	*
	MMBtu	7,323,136	13,400,000	114,749,304	*
	MW	76	*	76	*
Renewable Energy	MWh	44,072	*	642,614	88,000,000
	MW	31	*	31	*
CO2 Emission Reductions <sup>a</sup> (metric tons)		1,160,808	*	17,224,575	133,000,000
Customer Bill Savings <sup>a,b</sup> (\$ million)		\$167.99	*	\$2,453.15	\$39,131
Private Investment <sup>a</sup> (\$ million)		\$1,821.14	*	\$1,821.14	\$29,356

<sup>a</sup> The Private Investment, Customer Bill Savings and CO<sub>2</sub> Emission Reduction targets includes estimated benefits from NY-Sun and NY Green Bank. This information will be reported on an annual basis.

<sup>b</sup> Bill savings represent savings for participants of NYSERDA programs.

\*

**Table 5. Market Development and Innovation and Research Portfolio Level Budgets and Spending**

See Endnotes section for more information<sup>7</sup>

Initiative	Total Budget <sup>a</sup>	Budget Approved as of June 30, 2018 <sup>b</sup>	% of Ordered Budget Funds Approved <sup>c</sup>	Expended Funds <sup>d</sup>	Open Encumbrances <sup>e</sup>	Contract Pre-Encumbrances <sup>f</sup>	Committed Funds <sup>g</sup>	% of Approved Budget Committed <sup>h</sup>	Budget Approved Remaining Balance <sup>i</sup>
<b>Market Development</b>									
Program Funds									
NYS Cost Recovery Fee	\$2,346,051,964	\$1,283,897,655	55%	\$155,704,824	\$117,746,517	\$88,416,995	\$361,868,336	28%	\$922,029,319
<b>Innovation &amp; Research</b>									
Program Funds									
NYS Cost Recovery Fee	\$619,090,948	\$327,487,569	53%	\$14,055,269	\$41,506,590	\$16,460,532	\$72,022,391	22%	\$255,465,178
<b>Administration</b>	\$268,934,758	\$144,530,786	54%	\$53,569,012	\$813,211	\$42,683	\$54,424,906	38%	\$90,105,880
<b>Evaluation</b>	\$127,606,798	\$50,718,825	40%	\$1,741,912	\$3,671,696	-	\$5,413,609	11%	\$45,305,216
<b>Total</b>	<b>\$3,361,684,468</b>	<b>\$1,806,634,835</b>	<b>54%</b>	<b>\$225,071,017</b>	<b>\$163,738,014</b>	<b>\$104,920,209</b>	<b>\$493,729,241</b>	<b>27%</b>	<b>\$1,312,905,593</b>

<sup>a</sup> Reflects reduction of CEF Ordered total funding authorization by about \$68.3 million (2%) for reduction in RGGI funding proposed for April 1, 2018 to June 30, 2021 proposed in RGGI Operating Plan approved January 2018.

<sup>b</sup> Funds approved by DPS as of June 30, 2018.

<sup>c</sup> Percentage of the approved budget.

<sup>d</sup> Invoices processed for payment by NYSERDA.

<sup>e</sup> Remaining funding obligated under a contract, purchase order, or incentive award.

<sup>f</sup> Planned funding for contracts awarded and under negotiation.

<sup>g</sup> Sum of Expended Funds, Open Encumbrances, and Contract Pre-Encumbrances.

<sup>h</sup> Percentage of the committed budget.

<sup>i</sup> Difference between Budget Approved Funds and Committed Funds.

**Table 6. Market Development and Innovation and Research Portfolio Committed Benefits Progress to Date—Annual**

See Endnotes section for more information <sup>8</sup>

Initiative	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/18-6/30/18	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Lifetime Planned Benefits Through Q2 2018	% of Cumulative Lifetime Planned Benefits Through Q2 2018	Total Cumulative Lifetime Planned Benefits through 2025	% of Total Cumulative Lifetime Planned Benefits through 2025
<b>Market Development</b>									
Energy Efficiency (MWh)	112,552	40,199	152,751	834,870	987,621	1,178,850	84%	3,278,000	30%
Energy Efficiency (MMBtu)	1,190,910	1,615,159	2,806,069	4,517,068	7,323,136	7,344,500	100%	21,070,000	35%
Energy Efficiency (MW)	1.7	0	2	74	76	*	-	*	-
Renewable Energy (MWh)	28,857	4,188	33,045	11,028	44,072	*	-	*	-
Renewable Energy (MW)	23	4	27	4	31	*	-	*	-
CO2e Reductions (metric tons)	135,625	428,718	564,343	596,465	1,160,808	*	-	*	-
Customer Bill Savings (\$ million)	\$35.48	\$6.84	\$42.32	\$125.67	\$167.99	*	-	*	-
Private Investment (\$ million)	\$331.61	\$165.15	\$496.75	\$926.58	\$1,423.33	*	-	*	-
<b>Innovation and Research</b>									
Energy Efficiency (MWh)	-	-	-	-	-	*	-	*	-
Energy Efficiency (MMBtu)	-	-	-	-	-	*	-	*	-
Energy Efficiency (MW)	-	-	-	-	-	*	-	*	-
Renewable Energy (MWh)	-	-	-	-	-	*	-	*	-
Renewable Energy (MW)	-	-	-	-	-	*	-	*	-
CO2e Reductions (metric tons)	-	-	-	-	-	*	-	*	-
Customer Bill Savings (\$ million)	-	-	-	-	-	*	-	*	-
Private Investment (\$ million)	136.31	41.67	177.98	\$219.83	\$397.81	*	-	*	-
<b>Total Energy Efficiency (MWh)</b>	<b>112,552</b>	<b>40,199</b>	<b>152,751</b>	<b>834,870</b>	<b>987,621</b>				
<b>Total Energy Efficiency (MMBtu)</b>	<b>1,190,910</b>	<b>1,615,159</b>	<b>2,806,069</b>	<b>4,517,068</b>	<b>7,323,136</b>				
<b>Total Energy Efficiency (MW)</b>	<b>1.7</b>	<b>0.1</b>	<b>2</b>	<b>74</b>	<b>76</b>				
<b>Total Renewable Energy (MWh)</b>	<b>28,857</b>	<b>4,188</b>	<b>33,045</b>	<b>11,028</b>	<b>44,072</b>				
<b>Total Renewable Energy (MW)</b>	<b>23</b>	<b>4</b>	<b>27</b>	<b>4</b>	<b>31</b>				
<b>Total CO2e Reductions (metric tons)</b>	<b>135,625</b>	<b>428,718</b>	<b>564,343</b>	<b>596,465</b>	<b>1,160,808</b>				
<b>Total Customer Bill Savings (\$ million)</b>	<b>\$35.48</b>	<b>\$6.84</b>	<b>\$42.32</b>	<b>\$125.67</b>	<b>\$167.99</b>				
<b>Total Private Investment (\$ million)</b>	<b>\$467.92</b>	<b>\$206.82</b>	<b>\$674.74</b>	<b>\$1,146.40</b>	<b>\$1,821.14</b>				

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 7. Market Development and Innovation and Research Portfolio Committed Benefits Progress to Date—Lifetime**

See Endnotes section for more information<sup>8</sup>

Initiative	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/18-6/30/18	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Annual Planned Benefits Through Q2 2018	% of Cumulative Annual Planned Benefits Through Q2 2018	Total Cumulative Annual Planned Benefits through 2025	% of Total Cumulative Annual Planned Benefits through 2025
<b>Market Development</b>									
Energy Efficiency (MWh)	1,736,707	611,283	2,347,989	11,649,022	13,997,011	*	-	*	-
Energy Efficiency (MMBtu)	21,491,931	24,663,617	46,155,547	68,593,756	114,749,304	*	-	*	-
Renewable Energy (MWh)	437,258	62,814	500,072	142,542	642,614	1,304,600	49%	3,633,000	18%
CO2e Reductions (metric tons)	2,282,971	6,459,874	8,742,846	8,481,729	17,224,575	15,859,000	109%	44,280,000	39%
Customer Bill Savings (\$ million)	\$571.00	\$103.48	\$674.48	\$1,778.67	\$2,453.15	\$2,936.20	84%	\$8,813.00	28%
Private Investment (\$ million)	\$331.61	\$165.15	\$496.75	\$926.58	\$1,423.33	\$1,812.50	79%	\$6,250.00	23%
<b>Innovation and Research</b>									
Energy Efficiency (MWh)	-	-	-	-	-	*	-	*	-
Energy Efficiency (MMBtu)	-	-	-	-	-	*	-	*	-
Renewable Energy (MWh)	-	-	-	-	-	*	-	*	-
CO2e Reductions (metric tons)	-	-	-	-	-	*	-	*	-
Customer Bill Savings (\$ million)	-	-	-	-	-	*	-	*	-
Private Investment (\$ million)	\$136.31	\$41.67	\$177.98	\$219.83	\$397.81	\$415.80	96%	\$1,387.00	29%
<b>Total Energy Efficiency (MWh)</b>	<b>1,736,707</b>	<b>611,283</b>	<b>2,347,989</b>	<b>11,649,022</b>	<b>13,997,011</b>	-	-	-	-
<b>Total Energy Efficiency (MMBtu)</b>	<b>21,491,931</b>	<b>24,663,617</b>	<b>46,155,547</b>	<b>68,593,756</b>	<b>114,749,304</b>	-	-	-	-
<b>Total Renewable Energy (MWh)</b>	<b>437,258</b>	<b>62,814</b>	<b>500,072</b>	<b>142,542</b>	<b>642,614</b>	-	-	-	-
<b>Total CO2e Reductions (metric tons)</b>	<b>2,282,971</b>	<b>6,459,874</b>	<b>8,742,846</b>	<b>8,481,729</b>	<b>17,224,575</b>	-	-	-	-
<b>Total Customer Bill Savings (\$ million)</b>	<b>\$571.00</b>	<b>\$103.48</b>	<b>\$674.48</b>	<b>\$1,778.67</b>	<b>\$2,453.15</b>	-	-	-	-
<b>Total Private Investment (\$ million)</b>	<b>\$467.92</b>	<b>\$206.82</b>	<b>\$674.74</b>	<b>\$1,146.40</b>	<b>\$1,821.14</b>	-	-	-	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

## 2 Resource Acquisition Transition Initiative Specific Results

**Table 8. Resource Acquisition Transition Initiative Level Budgets and Spending**

See Endnotes section for more information <sup>9</sup>

Initiative	Budget Approved as of June 30, 2018 <sup>a</sup>	Expended Funds <sup>b</sup>	Open Encumbrances <sup>c</sup>	Contract Pre-Encumbrances <sup>d</sup>	Committed Funds <sup>e</sup>	% of Approved Budget Committed <sup>f</sup>	Budget Approved Remaining Balance <sup>g</sup>
<b>Resource Acquisition Transition Chapter</b>							
Commercial	\$26,392,500	\$2,399,872	\$2,910,232	\$761,190	\$6,071,294	23%	\$20,321,206
Industrial	\$69,562,932	\$7,156,072	\$18,754,355	\$12,817,282	\$38,727,709	56%	\$30,835,223
Agriculture	\$3,600,000	\$2,964,006	\$613,493	\$22,500	\$3,600,000	100%	-
Multifamily Market Rate	\$156,628	\$147,589	\$8,984	\$55	\$156,628	100%	-
Single Family Market Rate	\$22,024,680	\$13,398,660	\$1,518,234	\$900,214	\$15,817,107	72%	\$6,207,573
Commercial New Construction	\$30,683,999	\$2,035,552	\$2,454,818	\$14,913,740	\$19,404,110	63%	\$11,279,889
Low Rise New Construction	\$13,324,000	\$2,437,474	\$4,014,316	\$731,500	\$7,183,289	54%	\$6,140,711
Multifamily New Construction	\$13,613,000	\$1,353,914	\$4,926,666	\$1,832,800	\$8,113,380	60%	\$5,499,620
Anaerobic Digesters	\$12,150,000	\$291,985	\$1,842,898	\$2,000,000	\$4,134,882	34%	\$8,015,118
Small Wind	\$6,090,000	\$1,692,268	\$512,476	-	\$2,204,744	36%	\$3,885,256
Solar Thermal	\$399,000	\$152,290	\$194,274	\$30,046	\$376,609	94%	\$22,391
Combined Heat & Power	\$48,550,000	\$5,947,681	\$19,505,293	\$11,624,131	\$37,077,105	76%	\$11,472,895
<b>TOTAL</b>	<b>\$246,546,739</b>	<b>\$39,977,362</b>	<b>\$57,256,037</b>	<b>\$45,633,457</b>	<b>\$142,866,858</b>	<b>58%</b>	<b>\$103,679,881</b>

<sup>a</sup> Funds approved by the DPS as of June 30, 2018.

<sup>b</sup> Invoices processed for payment by NYSERDA.

<sup>c</sup> Remaining funding obligated under a contract, purchase order or incentive award.

<sup>d</sup> Planned funding for contracts awarded and under negotiation.

<sup>e</sup> Sum of Expended Funds, Open Encumbrances, and Contract Pre-Encumbrances.

<sup>f</sup> Percentage of the committed budget.

<sup>g</sup> Difference between Budget Approved Funds and Committed Funds.

**Table 9. Commercial Resource Acquisition Transition and FlexTech Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	250	-	250	16,495	16,745	61,100	27%	109,600	15%
	MWh Lifetime	4,126	-	4,126	272,161	276,286	1,008,500	27%	1,809,000	15%
	MMBtu Annual	-	660	660	123,318	123,978	545,000	23%	980,000	13%
	MMBtu Lifetime	-	10,890	10,890	2,034,752	2,045,642	8,985,000	23%	16,170,000	13%
Renewable Energy	MW	0	-	0.4	0.2	0.6	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	132	35	167	15,235	15,401	63,460	24%	114,200	13%
Customer Bill Savings (millions)	Lifetime Tons	2,171	579	2,750	251,372	254,121	1,052,500	24%	1,891,000	13%
	Annual Dollars	\$0.04	\$0.00	\$0.04	\$2.91	\$2.95	\$13.72	22%	\$24.63	12%
Private Investment (millions)	Lifetime Dollars	\$0.66	\$0.05	\$0.71	\$48.02	\$48.73	\$226.80	21%	\$406.80	12%
	Dollars	\$0.24	\$0.05	\$0.29	\$17.81	\$18.10	\$55.80	32%	\$92.00	20%
Implementation Assistance	Participants	4	1	5	3	8	20	40%	20	40%
Technical Assistance		-	-	-	134	134	203	66%	320	42%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 10. Industrial Resource Acquisition Transition Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	18,169	21,226	39,395	211,649	251,044	289,400	87%	421,700	60%
	MWh Lifetime	272,536	318,391	590,927	3,174,733	3,765,660	4,350,000	87%	6,325,000	60%
	MMBtu Annual	55,091	1,413,730	1,468,821	2,006,320	3,475,141	2,870,000	121%	3,586,000	97%
	MMBtu Lifetime	826,370	21,205,950	22,032,320	30,094,797	52,127,117	43,000,000	121%	53,790,000	97%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	12,421	406,981	419,403	216,097	635,499	413,900	154%	521,400	122%
Customer Bill Savings (millions)	Lifetime Tons	186,318	6,104,720	6,291,038	3,241,450	9,532,488	6,210,000	154%	7,821,000	122%
	Annual Dollars	\$2.45	\$0.44	\$2.89	\$33.91	\$36.80	\$46.70	79%	\$64.12	57%
Private Investment (millions)	Lifetime Dollars	\$36.80	\$6.54	\$43.34	\$508.62	\$551.96	\$698.50	79%	\$961.80	57%
	Dollars	\$24.93	\$101.85	\$126.78	\$348.31	\$475.09	\$439.50	108%	\$761.10	62%
IPE	Participants	39	16	55	125	180	140	129%	218	83%
Technical Assistance		-	-	-	53	53	50	106%	80	66%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 11. Agriculture Resource Acquisition Transition Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

See Endnotes section for more information<sup>10</sup>

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	9,878	908	10,786	2,310	13,096	11,500	114%	14,000	94%
	MWh Lifetime	148,177	13,613	161,790	34,644	196,434	172,500	114%	210,000	94%
	MMBtu Annual	25,108	1,205	26,314	539	26,853	5,500	488%	7,000	384%
	MMBtu Lifetime	376,627	18,080	394,707	8,092	402,799	82,500	488%	105,000	384%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	945	46	991	-	991	*	-	*	-
	MWh Lifetime	14,175	695	14,870	-	14,870	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	7,054	581	7,634	1,244	8,878	6,500	137%	8,000	111%
	Lifetime Tons	105,803	8,710	114,513	18,659	133,172	97,500	137%	120,000	111%
Customer Bill Savings (millions)	Annual Dollars	\$1.88	\$0.17	\$2.05	\$0.34	\$2.39	\$1.72	139%	\$2.09	114%
	Lifetime Dollars	\$28.18	\$2.53	\$30.71	\$5.10	\$35.81	\$25.80	139%	\$31.35	114%
Private Investment (millions)	Dollars	\$11.82	\$0.83	\$12.65	-	\$12.65	\$10.15	125%	\$12.24	103%
Participants	Participants	586	73	659	88	747	634	118%	765	98%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 12. Multifamily Market-Rate Resource Acquisition Transition Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** May 19, 2016

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	29	29	41	70%	41	70%
	MWh Lifetime	-	-	-	428	428	617	69%	617	69%
	MMBtu Annual	36	-	36	4,188	4,224	9,871	43%	9,871	43%
	MMBtu Lifetime	546	-	546	62,820	63,366	148,100	43%	148,100	43%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	2	-	2	238	240	598	40%	598	40%
Customer Bill Savings (millions)	Lifetime Tons	29	-	29	3,565	3,594	8,967	40%	8,967	40%
	Annual Dollars	\$0.0002	-	\$0.0002	\$0.02	\$0.02	\$0.11	22%	\$0.11	22%
Private Investment (millions)	Lifetime Dollars	\$0.002	-	\$0.002	\$0.36	\$0.36	\$1.63	22%	\$1.63	22%
	Dollars	\$0.07	-	\$0.07	\$0.74	\$0.81	\$0.42	195%	\$0.42	195%
Participants	Participants	18	-	18	459	477	186	256%	186	256%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 13. Single-Family Market-Rate Resource Acquisition Transition Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

See Endnotes section for more information<sup>11</sup>

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	2,263	243	2,505	136	2,641	2,955	89%	3,504	75%
	MWh Lifetime	33,938	3,638	37,576	2,038	39,614	44,200	90%	52,550	75%
	MMBtu Annual	120,121	9,575	129,696	10,032	139,728	189,800	74%	230,700	61%
	MMBtu Lifetime	3,003,025	239,375	3,242,400	250,800	3,493,200	4,740,000	74%	5,766,000	61%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	8,555	700	9,255	685	9,940	13,050	76%	15,820	63%
	Lifetime Tons	201,972	16,225	218,197	16,407	234,604	306,000	77%	371,900	63%
Customer Bill Savings (millions)	Annual Dollars	\$2.18	\$0.16	\$2.34	\$0.18	\$2.52	\$3.36	75%	\$4.07	62%
	Lifetime Dollars	\$51.36	\$3.75	\$55.11	\$4.27	\$59.38	\$78.80	75%	\$95.71	62%
Private Investment (millions)	Dollars	\$39.73	\$4.32	\$44.06	\$3.03	\$47.09	\$62.80	75%	\$77.23	61%
Participants	Participants	5,502	636	6,138	418	6,556	7,596	86%	9,300	70%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 14. Commercial New Construction Resource Acquisition Transition Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

See Endnotes section for more information<sup>12,13</sup>

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	6,191	591	6,782	50,426	57,208	52,100	110%	66,200	86%
	MWh Lifetime	123,820	11,820	135,640	1,008,513	1,144,153	1,042,000	110%	1,324,000	86%
	MMBtu Annual	(9,657)	660	(8,997)	306,448	297,451	77,650	383%	105,100	283%
	MMBtu Lifetime	(193,140)	13,200	(179,940)	6,128,963	5,949,023	1,555,000	383%	2,105,000	283%
	MW	0.7	0.1	0.8	14	15	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	2,744	346	3,090	42,823	45,914	31,450	146%	40,300	114%
	Lifetime Tons	54,883	6,921	61,804	856,469	918,273	630,500	146%	808,000	114%
Customer Bill Savings (millions)	Annual Dollars	\$0.79	\$0.08	\$0.87	\$9.54	\$10.42	\$7.39	141%	\$9.41	111%
	Lifetime Dollars	\$15.80	\$1.68	\$17.48	\$190.89	\$208.37	\$147.80	141%	\$188.30	111%
Private Investment (millions)	Dollars	\$1.39	\$0.18	\$1.57	\$57.11	\$58.69	\$39.79	148%	\$42.07	139%
Participants	Participants	5	2	7	99	106	124	85%	147	72%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 15. Low-Rise New Construction Resource Acquisition Transition Initiative: Market-Rate Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	2,630	364	2,994	2,551	5,545	5,625	99%	7,010	79%
	MWh Lifetime	52,608	7,278	59,886	51,020	110,906	112,650	98%	140,300	79%
	MMBtu Annual	57,857	10,277	68,134	15,275	83,409	63,650	131%	78,900	106%
	MMBtu Lifetime	1,157,137	205,540	1,362,677	305,496	1,668,173	1,272,000	131%	1,577,000	106%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	4,483	738	5,221	2,155	7,376	6,335	116%	7,870	94%
	Lifetime Tons	89,655	14,756	104,411	43,101	147,512	126,700	116%	157,400	94%
Customer Bill Savings (millions)	Annual Dollars	\$0.82	\$0.12	\$0.94	\$0.51	\$1.44	\$1.50	96%	\$1.86	78%
	Lifetime Dollars	\$16.33	\$2.37	\$18.70	\$10.17	\$28.87	\$29.90	97%	\$37.20	78%
Private Investment (millions)	Dollars	\$4.09	\$0.98	\$5.07	\$3.31	\$8.38	\$14.06	60%	\$17.73	47%
Participants	Participants	822	232	1,054	552	1,606	2,321	69%	2,926	55%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 16. Low-Rise New Construction Resource Acquisition Transition Initiative: Low- to Moderate-Income Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	188	353	541	4,241	4,782	5,920	81%	7,770	62%
	MWh Lifetime	3,763	7,057	10,820	84,817	95,637	118,200	81%	155,200	62%
	MMBtu Annual	2,238	3,937	6,175	51,036	57,211	52,000	110%	66,900	86%
	MMBtu Lifetime	44,750	78,740	123,490	1,020,723	1,144,213	1,038,000	110%	1,336,000	86%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	226	395	621	4,945	5,566	5,865	95%	7,630	73%
	Lifetime Tons	4,527	7,899	12,426	98,891	111,317	117,300	95%	152,600	73%
Customer Bill Savings (millions)	Annual Dollars	\$0.07	\$0.08	\$0.16	\$1.06	\$1.21	\$1.43	85%	\$1.86	65%
	Lifetime Dollars	\$1.45	\$1.69	\$3.14	\$21.11	\$24.25	\$28.55	85%	\$37.25	65%
Private Investment (millions)	Dollars	\$0.67	\$1.29	\$1.96	\$11.49	\$13.44	\$20.08	67%	\$25.73	52%
Participants	Participants	172	293	465	2,815	3,280	4,216	78%	5,329	62%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 17. Multifamily New Construction Resource Acquisition Transition Initiative: Market-Rate Results**

**Approval Date:** February 29, 2016

**Launch Date:** August 8, 2016

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	-	-	-	1,341	1,341	3,901	34%	5,271	25%
	MWh Lifetime	-	-	-	26,822	26,822	78,150	34%	105,600	25%
	MMBtu Annual	-	-	-	9,061	9,061	20,590	44%	28,490	32%
	MMBtu Lifetime	-	-	-	181,216	181,216	411,500	44%	569,500	32%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	-	-	-	1,187	1,187	3,151	38%	4,291	28%
Customer Bill Savings (millions)	Lifetime Tons	-	-	-	23,747	23,747	62,900	38%	85,700	28%
	Annual Dollars	-	-	-	\$0.26	\$0.26	\$0.63	41%	\$0.86	30%
Private Investment (millions)	Lifetime Dollars	-	-	-	\$5.23	\$5.23	\$12.67	41%	\$17.19	30%
	Dollars	-	-	-	\$4.08	\$4.08	\$15.52	26%	\$20.82	20%
Participants	Participants	-	-	-	756	756	1,989	38%	2,689	28%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 18. Multifamily New Construction Resource Acquisition Transition Initiative: Low- to Moderate-Income Results**

**Approval Date:** February 29, 2016

**Launch Date:** August 8, 2016

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	10,435	10,435	12,775	82%	15,520	67%
	MWh Lifetime	-	-	-	208,700	208,700	255,200	82%	310,200	67%
	MMBtu Annual	-	-	-	46,240	46,240	65,300	71%	81,100	57%
	MMBtu Lifetime	-	-	-	924,800	924,800	1,306,000	71%	1,622,000	57%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	7,949	7,949	10,170	78%	12,450	64%
	Lifetime Tons	-	-	-	158,975	158,975	203,650	78%	249,300	64%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$1.95	\$1.95	\$2.06	95%	\$2.51	78%
	Lifetime Dollars	-	-	-	\$38.98	\$38.98	\$41.15	95%	\$50.20	78%
Private Investment (millions)	Dollars	-	-	-	\$34.87	\$34.87	\$51.85	67%	\$62.40	56%
Participants	Participants	-	-	-	5,365	5,365	6,457	83%	7,857	68%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 19. Anaerobic Digesters Resource Acquisition Transition Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** July 8, 2016

See Endnotes section for more information<sup>14</sup>

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	7,444	7,444	29,940	25%	37,440	20%
	MWh Lifetime	-	-	-	74,440	74,440	299,400	25%	374,400	20%
	MW	-	-	-	1	1	1	113%	1	113%
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	3,917	3,917	15,920	25%	19,920	20%
	Lifetime Tons	-	-	-	39,168	39,168	159,200	25%	199,200	20%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$1.08	\$1.08	\$3.99	27%	\$4.99	22%
	Lifetime Dollars	-	-	-	\$10.83	\$10.83	\$39.99	27%	\$49.99	22%
Private Investment (millions)	Dollars	-	-	-	\$8.00	\$8.00	\$79.00	10%	\$99.00	8%
Participants	Participants	-	-	-	2	2	8	25%	10	20%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 20. Small Wind Resource Acquisition Transition Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

See Endnotes section for more information<sup>15</sup>

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	880	-	880	518	1,398	4,000	35%	5,000	28%
	MWh Lifetime	17,609	-	17,609	10,352	27,961	66,000	42%	82,000	34%
	MW	0.4	-	0.4	0.3	1	2	47%	2	40%
CO2e Emission Reduction (metric tons)	Annual Tons	463	-	463	272	736	2,500	29%	3,000	25%
	Lifetime Tons	9,265	-	9,265	5,447	14,712	35,500	41%	44,000	33%
Customer Bill Savings (millions)	Annual Dollars	\$0.11	-	\$0.11	\$0.07	\$0.17	\$0.58	30%	\$0.72	24%
	Lifetime Dollars	\$2.17	-	\$2.17	\$1.30	\$3.48	\$11.60	30%	\$14.40	24%
Private Investment (millions)	Dollars	\$1.79	-	\$1.79	\$1.34	\$3.13	\$5.80	54%	\$7.20	43%
Participants	Participants	23	-	23	19	42	104	40%	129	33%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 21. Solar Thermal Resource Acquisition Transition Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2016)	% of Total Planned Benefits through Initiative Completion (2016)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	123	-	123	707	830	830	100%	830	100%
	MWh Lifetime	1,849	-	1,849	10,604	12,453	12,500	100%	12,500	100%
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	65	-	65	372	437	437	100%	437	100%
	Lifetime Tons	973	-	973	5,580	6,552	6,550	100%	6,550	100%
Customer Bill Savings (millions)	Annual Dollars	\$0.01	-	\$0.01	\$0.09	\$0.10	\$0.11	95%	\$0.11	95%
	Lifetime Dollars	\$0.22	-	\$0.22	\$1.35	\$1.57	\$1.66	95%	\$1.66	95%
Private Investment (millions)	Dollars	\$0.08	-	\$0.08	\$0.74	\$0.82	\$0.82	100%	\$0.82	100%
Participants	Participants	8	-	8	34	42	42	100%	42	100%
Eligible Installers		5	-	5	-	5	20	25%	20	25%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 22. Combined Heat and Power Resource Acquisition Transition Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

See Endnotes section for more information<sup>16,17,18,19</sup>

Resource Acquisition Transition Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	1,774	-	1,774	259,967	261,741	257,000	102%	287,000	91%
	MWh Lifetime	26,609	-	26,609	3,899,506	3,926,115	3,795,000	103%	4,230,000	93%
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	0.3	-	0.3	49	49	46	107%	51	96%
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	365	-	365	54,699	55,063	57,900	95%	64,800	85%
	Lifetime Tons	5,470	-	5,470	820,478	825,948	869,500	95%	973,000	85%
Customer Bill Savings (millions)	Annual Dollars	\$0.24	-	\$0.24	\$26.46	\$26.70	\$26.12	102%	\$29.19	91%
	Lifetime Dollars	\$3.60	-	\$3.60	\$396.86	\$400.46	\$391.70	102%	\$437.70	91%
Private Investment (millions)	Dollars	\$11.67	-	\$11.67	\$212.33	\$224.00	\$216.00	104%	\$230.00	97%
Participants		27	-	27	86	113	78	145%	86	131%
MT Marketplace	Participants	-	-	-	12	12	17	71%	24	71%
Technical Assistance		-	-	-	21	21	*	-	*	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

### 3 Market Development Initiative Specific Results

**Table 23. Market Development Initiative Budgets and Spending**

See Endnotes for more information<sup>20,21</sup>

Initiative	Budget Approved as of June 30, 2018 <sup>a</sup>	Expended Funds <sup>b</sup>	Open Encumbrances <sup>c</sup>	Contract Pre-Encumbrances <sup>d</sup>	Committed Funds <sup>e</sup>	% of Approved Budget Committed <sup>f</sup>	Budget Approved Remaining Balance <sup>g</sup>
<b>Market Characterization &amp; Design Chapter</b>	<b>\$21,150,000</b>	<b>\$3,608,588</b>	<b>\$1,208,117</b>	<b>\$294,000</b>	<b>\$5,110,705</b>	<b>24%</b>	<b>\$16,039,295</b>
<b>Commercial Chapter</b>							
Energy Management	\$59,805,000	\$1,820,425	\$8,000,914	\$1,061,305	\$10,882,644	18%	\$48,922,356
Real Estate Tenant	\$25,499,999	\$1,175,679	\$2,795,303	\$141,647	\$4,112,629	16%	\$21,387,370
REV Campus Challenge	\$21,650,002	\$434,771	\$2,255,596	\$3,233,664	\$5,924,031	27%	\$15,725,971
K-12	\$21,600,000	\$4,170	\$1,800,000	\$15,000	\$1,819,170	8%	\$19,780,830
<b>Commercial Chapter Total</b>	<b>\$128,555,001</b>	<b>\$3,435,044</b>	<b>\$14,851,812</b>	<b>\$4,451,616</b>	<b>\$22,738,473</b>	<b>18%</b>	<b>\$105,816,528</b>
<b>Industrial Chapter</b>							
Continuous Energy Improvement	\$17,539,000	\$1,964,329	\$2,804,018	\$149,067	\$4,917,414	28%	\$12,621,586
<b>Industrial Chapter Total</b>	<b>\$17,539,000</b>	<b>\$1,964,329</b>	<b>\$2,804,018</b>	<b>\$149,067</b>	<b>\$4,917,414</b>	<b>28%</b>	<b>\$12,621,586</b>
<b>Communities Chapter</b>							
Clean Energy Communities	\$14,218,527	\$921,223	\$3,476,643	\$4,430,503	\$8,828,369	62%	\$5,390,158
Community Energy Engagement	\$4,409,882	\$246,636	\$4,161,182	-	\$4,407,818	100%	\$2,064
<b>Communities Chapter Total</b>	<b>\$18,628,409</b>	<b>\$1,167,859</b>	<b>\$7,637,826</b>	<b>\$4,430,503</b>	<b>\$13,236,187</b>	<b>71%</b>	<b>\$5,392,222</b>
<b>Large-Scale Renewables Chapter</b>							
Offshore Wind Master Plan	\$5,000,000	\$1,492,452	\$134,306	-	\$1,626,758	33%	\$3,373,242
Offshore Wind Pre-Development Activities	\$10,000,000	\$5,251,476	\$510,450	\$246,992	\$6,008,919	60%	\$3,991,081
<b>Large-Scale Renewables Chapter Total</b>	<b>\$15,000,000</b>	<b>\$6,743,929</b>	<b>\$644,756</b>	<b>\$246,992</b>	<b>\$7,635,676</b>	<b>51%</b>	<b>\$7,364,324</b>
<b>REV Technical Assistance Chapter</b>							
REV Connect	\$2,500,000	\$1,959,736	\$506,694	-	\$2,466,430	99%	\$33,570
<b>REV Technical Assistance Chapter Total</b>	<b>\$2,500,000</b>	<b>\$1,959,736</b>	<b>\$506,694</b>	<b>-</b>	<b>\$2,466,430</b>	<b>99%</b>	<b>\$33,570</b>
<b>Energy Storage Chapter</b>							
Reducing Barriers to Distributed Deployment	\$24,450,000	\$1,456,769	\$2,561,281	\$4,757,528	\$8,775,579	36%	\$15,674,421
<b>Energy Storage Chapter Total</b>	<b>\$24,450,000</b>	<b>\$1,456,769</b>	<b>\$2,561,281</b>	<b>\$4,757,528</b>	<b>\$8,775,579</b>	<b>36%</b>	<b>\$15,674,421</b>
<b>Clean Transportation Chapter</b>							
Electric Vehicles	\$39,500,000	\$7,171,138	\$402,007	-	\$7,573,145	19%	\$31,926,855
<b>Clean Transportation Chapter Total</b>	<b>\$39,500,000</b>	<b>\$7,171,138</b>	<b>\$402,007</b>	<b>-</b>	<b>\$7,573,145</b>	<b>19%</b>	<b>\$31,926,855</b>
<b>Agriculture Chapter</b>							
2030 GLASE	\$5,000,000	\$330,648	\$4,669,352	-	\$5,000,000	100%	-
Advancing Agricultural Energy Technologies	\$3,760,000	-	-	-	-	-	\$3,760,000
<b>Agriculture Chapter Total</b>	<b>\$8,760,000</b>	<b>\$330,648</b>	<b>\$4,669,352</b>	<b>-</b>	<b>\$5,000,000</b>	<b>57%</b>	<b>\$3,760,000</b>

**Table 23 continued**

<b>Low- to Moderate-Income Chapter</b>							
Healthy Homes Feasibility Study	\$215,000	\$98,431	\$113,716	-	\$212,147	99%	\$2,853
LMI Multifamily	\$50,189,418	\$1,414,935	\$4,885,354	\$4,762,114	\$11,062,403	22%	\$39,127,015
LMI Single Family	\$229,261,861	\$74,779,615	\$3,331,278	\$17,355,693	\$95,466,586	42%	\$133,795,275
Low-Income Forum on Energy	\$1,300,000	\$105,399	\$175,391	-	\$280,790	22%	\$1,019,210
Retrofit NY	\$30,503,500	\$388,006	\$616,942	\$106,000	\$1,110,948	4%	\$29,392,553
REVitalize	\$725,000	\$74,281	\$235,515	-	\$309,797	43%	\$415,203
Low Income Community Solar	\$21,245,000	\$31,588	\$319,275	\$219,624	\$570,487	2.7%	\$20,674,513
<b>Low- to Moderate-Income Chapter Total</b>	<b>\$333,439,779</b>	<b>\$76,892,255</b>	<b>\$9,677,471</b>	<b>\$22,443,432</b>	<b>\$109,013,157</b>	<b>33%</b>	<b>\$224,426,622</b>
<b>Workforce Development and Training Chapter</b>							
Industry Partnerships	\$21,345,000	\$538,322	\$3,134,358	\$1,467,826	\$5,140,507	24%	\$16,204,493
Clean Technology and Energy Efficiency Talent Pipeline	\$47,000,000	-	-	-	-	0%	\$47,000,000
<b>Workforce Development and Training Chapter Total</b>	<b>\$68,345,000</b>	<b>\$538,322</b>	<b>\$3,134,358</b>	<b>\$1,467,826</b>	<b>\$5,140,507</b>	<b>8%</b>	<b>\$63,204,493</b>
<b>Renewable Heating and Cooling</b>							
Heat Pumps and Solar Thermal	\$33,211,843	\$3,135,393	\$7,062,411	\$3,213,002	\$13,410,805	40%	\$19,801,037
Renewable Heat NY	\$13,487,000	\$1,503,673	\$641,011	\$102,846	\$2,247,529	17%	\$11,239,471
<b>Renewable Heating and Cooling Total</b>	<b>\$46,698,843</b>	<b>\$4,639,066</b>	<b>\$7,703,422</b>	<b>\$3,315,848</b>	<b>\$15,658,335</b>	<b>34%</b>	<b>\$31,040,508</b>
<b>Clean Energy Products Chapter</b>							
Underutilized Product Support	\$28,896,000	\$2,866,288	\$607,660	\$10,001	\$3,483,949	12%	\$25,412,051
<b>Clean Energy Products Chapter Total</b>	<b>\$28,896,000</b>	<b>\$2,866,288</b>	<b>\$607,660</b>	<b>\$10,001</b>	<b>\$3,483,949</b>	<b>12%</b>	<b>\$25,412,051</b>
<b>Multi-Sector Solutions Chapter</b>							
Soft Cost Challenge	\$10,000,000	\$75,469	-	-	\$75,469	1%	\$9,924,531
Technical Services	\$21,898,040	\$6,736	\$539,722	\$426,143	\$972,601	4%	\$20,925,439
Clean Energy AMP Challenge	\$10,500,000	\$18,306	-	-	\$18,306	0%	\$10,481,694
Clean Energy Siting & Soft Cost Reduction	\$8,795,000	\$11,820	\$38,276	\$263,000	\$313,096	4%	\$8,481,904
<b>Multi-Sector Solutions Chapter Total</b>	<b>\$51,193,040</b>	<b>\$112,331</b>	<b>\$577,998</b>	<b>\$689,143</b>	<b>\$1,379,472</b>	<b>3%</b>	<b>\$49,813,568</b>
<b>Codes Chapter</b>							
Code to Zero	\$21,000,000	\$70,433	\$292,158	\$327,583	\$690,174	3.3%	\$20,309,826
<b>Codes Chapter Total</b>	<b>\$21,000,000</b>	<b>\$70,433</b>	<b>\$292,158</b>	<b>\$327,583</b>	<b>\$690,174</b>	<b>3.3%</b>	<b>\$20,309,826</b>
<b>On-Site Power Chapter</b>							
Fuel Cells	\$15,000,000	\$11,522	-	-	\$11,522	0.1%	\$14,988,478
<b>On-Site Power Chapter Total</b>	<b>\$15,000,000</b>	<b>\$11,522</b>	<b>-</b>	<b>-</b>	<b>\$11,522</b>	<b>0.1%</b>	<b>\$14,988,478</b>
<b>New Construction Chapter</b>							
New Construction	\$149,049,432	\$106,430	\$265,916	\$200,000	\$572,345	0.4%	\$148,477,087
<b>New Construction Chapter Total</b>	<b>\$149,049,432</b>	<b>\$106,430</b>	<b>\$265,916</b>	<b>\$200,000</b>	<b>\$572,345</b>	<b>0.4%</b>	<b>\$148,477,087</b>
<b>Residential Chapter</b>							
Engaging New Markets	\$15,988,015	\$35,179	\$2,945,634	-	\$2,980,813	19%	\$13,007,202
<b>Residential Chapter Total</b>	<b>\$15,988,015</b>	<b>\$35,179</b>	<b>\$2,945,634</b>	<b>-</b>	<b>\$2,980,813</b>	<b>19%</b>	<b>\$13,007,202</b>
<b>NYS Cost Recovery Fee</b>	<b>\$31,658,397</b>	<b>\$2,617,595</b>	<b>-</b>	<b>-</b>	<b>\$2,617,595</b>	<b>8%</b>	<b>\$29,040,802</b>
<b>Total Market Development</b>	<b>\$1,037,350,916</b>	<b>\$115,727,461</b>	<b>\$60,490,480</b>	<b>\$42,783,538</b>	<b>\$219,001,479</b>	<b>21%</b>	<b>\$818,349,437</b>

Table notes are on the next page.

- a Funds approved by the DPS as of June 30, 2018.
- b Invoices processed for payment by NYSERDA.
- c Remaining funding obligated under a contract, purchase order, or incentive award.
- d Planned funding for contracts awarded and under negotiation.
- e Sum of Expended Funds, Open Encumbrances, and Contract Pre-Encumbrances.
- f Percentage of the budget that has been committed.
- g Difference between Budget Approved Funds and Committed Funds.

**Table 24. Real Estate Tenant Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** July 19, 2016

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	-	-	-	17,662	17,662	25,271	70%	124,900	14%
	MWh Lifetime	-	-	-	141,293	141,293	202,468	70%	999,200	14%
	MMBtu Annual	-	-	-	18,688	18,688	26,678	70%	131,800	14%
	MMBtu Lifetime	-	-	-	149,508	149,508	213,020	70%	1,054,000	14%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	10,287	10,287	14,690	70%	72,700	14%
	Lifetime Tons	-	-	-	82,297	82,297	117,564	70%	581,600	14%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$2.68	\$2.68	\$3.51	77%	\$17.34	15%
	Lifetime Dollars	-	-	-	\$21.47	\$21.47	\$27.98	77%	\$138.70	15%
Private Investment (millions)	Dollars	-	-	-	\$0.66	\$0.66	\$2.46	27%	\$12.15	5%
Participants	Participants	-	-	-	274	274	235	117%	1,349	20%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 25. Key Milestones for Real Estate Tenant**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2016–2020	Tenants will incorporate energy efficiency measures from tenant-specific packages into their designs. Observed gains from the National Resource Defense Council (NRDC), were 25–40% of energy saved above the 2007 code; NYSERDA is projecting gains of 15–20% against the 2010 and 2012 code. The actual savings will be identified through measurement and verification (M&V).	NYSERDA launched program in July 2016. Initial market uptake was lower than anticipated. Program was revised in July 2017 and April 2018. Program revisions have resulted in greater market uptake. A total of 274 sites are currently enrolled in the program: 50 of those sites were added in the month of June alone. Initial projects have resulted in greater energy efficiency in tenant spaces and have "primed" the sector for more energy efficiency projects.
	2018–2024	Building specific packages demonstrate replicability of tenant-specific model to the whole building for development of building-specific packages.	Some energy consultants and building owners have begun to see the value of these generic packages and have started to make use of them. NYSERDA is seeing different use cases emerge and will continue to track this development to inform future program direction.
	2018–2024	Engagement with stakeholders involves all identified market actors.	Continued engagement with key stakeholders, through outreach and market research efforts, allows continual identification of areas of opportunity to engage tenants in energy efficiency and be responsive to the market. Brokers are a hard to reach audience and NYSERDA is strategizing on how to best engage them in the process. Large property management companies are another group that NYSERDA plans to engage to identify opportunities to support their participation in driving EE in commercial tenant spaces.
	2018–2024	Secure commitments from building owners and managers and brokers to provide building-specific packages to new tenants with leasing materials.	Currently, about one-third of the projects in the program are for building owners commissioning generic packages. Different use cases of these generic packages are emerging and are providing interesting insight into the motivations and intentions of building owners when it comes to engaging tenants. Some building owners have understood the value of generic packages to engage tenants, while others still need to better understand how to leverage the opportunity and realize the benefits of including this information in their leasing packages.
	2018–2024	New tenants use building-specific energy efficiency packages (actual participation identified from results reported by building owner).	As building owners understand the value of the generic package, more will want to include it in their tenant engagement activities and leasing process. These activities are still in their infancy as the program gathers momentum in the marketplace and building owners explore different ways to leverage the program to get tenants to implement energy efficiency.

Table 25 continued

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2018–2024	Projects demonstrate that building-specific packages can be used within the normal timeframe of the tenant fit-out process and do not slow down the process.	As more building owners commission generic packages for their tenants, NYSERDA will be able to assess how successful these packages are as engagement tools for tenants.
	2018–2024	NYSERDA confirms economic savings/value while presenting soft cost (i.e., productivity) opportunities as additional benefits to the market.	This analysis will go hand in hand with the validation activities outlined in the previous milestone.
	2018–2024	NYSERDA gathers data on tenant productivity, satisfaction, and wellness through surveys created with each tenant’s Corporate Social Responsibility and Human Resource teams.	To date, project completion dates, and the types of projects completed have not been conducive to this type of data collection and analysis.
	2018–2024	For buildings that offer tenant efficiency packages, 30% of new tenants use the package to implement energy efficiency measures that go above code.	Building owners are just beginning to understand the value of the generic package and are exploring different use cases within their organizations. Service providers are also beginning to see the value of this service and as more building owners sign up, the impact on tenants' behaviors will become more apparent.
	2020–2025	Market actors seek to develop tenant and/or building-specific packages for new participating buildings, initially with cost share.	
	2020–2025	Tenants and architects and engineers realize the value of energy modeling and packages in the design process (measured by participation in the intervention and training initiatives).	
	2020–2025	Building owners and managers, architects and engineers, and brokers incorporate package development into their existing business models.	
	2020–2025	Tenants inquire about and demand energy efficiency in prospective spaces.	
	2020–2025	Standardized packages developed for tenant office spaces if significant commonalities are identified among building-specific packages.	
	2020–2025	Building owners and managers attain lower operating costs and greater asset value.	

**Table 26. Energy Management Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** June 20, 2016

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2024)	% of Total Planned Benefits through Initiative Completion (2024)
Energy Efficiency	MWh Annual	-	-	-	67,325	67,325	111,550	60%	444,300	15%
	MWh Lifetime	-	-	-	538,599	538,599	895,600	60%	3,554,000	15%
	MMBtu Annual	-	-	-	48,251	48,251	49,200	98%	184,200	26%
	MMBtu Lifetime	-	-	-	386,011	386,011	393,300	98%	1,474,000	26%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	38,181	38,181	61,500	62%	243,400	16%
	Lifetime Tons	-	-	-	305,447	305,447	490,700	62%	1,948,000	16%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$11.75	\$11.75	\$15.14	78%	\$60.11	20%
	Lifetime Dollars	-	-	-	\$94.03	\$94.03	\$121.00	78%	\$480.90	20%
Private Investment (millions)	Dollars	-	-	-	\$12.66	\$12.66	\$39.59	32%	\$357.80	4%
Participants (Number of RTEM Buildings)	Participants	-	-	-	229	229	137	167%	822	28%
Participants (Number of REM Buildings)		-	-	-	-	-	68	-	640	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 27. Key Milestones for Energy Management**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2016	Secure RTEM Advisor and begin development of market standards.	RTEM Advisor is secure and actively participating in the vendor qualification process.
✓	2016	Create and grow a list of qualified RTEM vendors.	RTEM Request for Qualification (RFQ) was launched in mid-April 2016. There has been a steady in-flow of applications. The RTEM RFQ has received over 130 applications from vendors to date, with over 50 vendors approved. RFQ is open until April 2021, so the number of vendors will continue to grow.
✓	2016	Stimulate interest and market activity with an open enrollment incentive offering.	RTEM Program Opportunity Notice (PON) launched June 20, 2016. The program has a robust pipeline of projects and is experiencing positive market uptake. PON is open through June 30, 2021.
✓	2016	The program's criteria for qualification of vendors, hardware, and software is introduced to the market and used as a road map for new vendors with the goal of becoming the industry standard.	The application process to become a qualified vendor led to interactive conversations that allow firms to clearly identify areas of opportunity to expand their services and abilities. The program's criteria are causing these opportunities to be adopted sooner than would have occurred without the program.
	2017–2020	Incentives, Qualified Vendor Listing, and Independent RTEM advisor services help convert prospective customers into committed and installed RTEM projects.	More than 200 buildings are participating in approved RTEM projects with installation/services underway and a project pipeline of 60 additional projects. Projects can take a year to install and then proceed for 1-5 years during which time the program collects data on recommended and installed energy efficiency measures. NYSERDA should start reporting findings in 2020.
	2017–2020	NYSERDA market support and approach attract new RTEM vendors to the New York State market and increase business development investment of all RTEM vendors.	Due to the RTEM program, vendors are looking to initiate new business in NYS. Furthermore, due to the program structure, vendors looking to enter the NYS market can partner with vendors who already have business in NYS and can leverage existing relationships, thus expediting business development opportunities.

Table 27 continued

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2017–2020	Secure REM Advisor and begin development of market standards.	Contractors selected through REM RFP 3681 began market engagement in Q2 2018. This effort will inform the development of market standards.
	2017–2020	Create and grow a list of qualified REM vendors.	Through RFP 3681, NYSERDA selected a group of REM vendors to start the REM program. Contracting with vendors completed in Q2 2018, and vendors are now engaging the market.
	2017–2020	Stimulate interest and market activity with an open enrollment incentive offering for REM.	Contracting with the REM vendors selected through RFP 3681 completed in Q2 2018 and selected vendors are now engaging the market.
	2017–2020	EM Advisors support gaps in market confidence and identify market approaches to eliminating gaps.	Work on this will begin once RTEM projects begin to be installed and reporting savings.
	2017–2020	Peer-to-peer exchanges and EM Advisors transfer learnings across the projects supported by NYSERDA and enhance success.	During the early RTEM project installations, discussions of best practices, client communications, and lessons learned have been reported to the RTEM Advisor.
	2017–2020	RTEM Technical Guidance Document is drafted and tested.	NYSERDA created the initial installment of an “RTEM buying guide” targeted at end-use customers. The first seven chapters of this buying guide were workshopped with qualified RTEM vendors and industry experts, and the customer buying guide is now available on the RTEM program website.
	2017–2020	RTEM Technical Guidance Document is published.	
	2017–2020	NYSERDA in coordination with industry partners standardizes methodologies for calculating/analyzing costs and savings data.	Working with CUNY BPL (Building Performance Lab) to help RTEM vendors participate in focus groups to develop a MSoC (minimum standards of care). The MSoC will serve as a customer buying guide that will highlight the fundamental RTEM System/Service capabilities and benefits.

Table 27 continued

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2018–2021	NYSERDA direct supports are ratcheted downward as industry standardization is adopted and results of pilots/studies are shared, broadly increasing customer confidence in the benefits and returns of RTEM.	NYSERDA does not plan on ratcheting down direct supports in the near term but will continue to monitor program and market adoption.
	2018–2021	Methods for capturing the potential benefits of RTEM for operations and maintenance of buildings are standardized and widely available.	NYSERDA is collecting data on all projects participating in RTEM program and working with qualified vendors on the process of standardizing RTEM data.
	2018–2021	Aggregated data sets and applications of RTEM data are robust enough to enable quick and proper evaluation of energy savings projects, thus removing the need for detailed, building specific energy audits to identify potential energy savings, thereby reducing customer acquisition and project costs.	NYSERDA has begun to collect RTEM project data sets but does not yet currently have sufficient data to publish anonymized data sets.
	2018–2021	NYSERDA explores the utilization of its RTEM data set to advance efforts at demand reduction and peak-load shaping, as well as its use in predicting and optimizing investments in energy efficiency.	NYSERDA has begun to collect RTEM project data but does not yet have sufficient data to inform peak-load shaping efforts.
	2018–2021	Training platform for facility owners/operators is designed. Training platform is available and used by facility owners/operators.	NYSERDA is working with industry stakeholders and qualified vendors to make progress on building owner and operator training.
	2018–2021	Market penetration of REM insights increases as commercial customers gain awareness of and confidence in remote audit technology for energy efficiency projects and the usage becomes more widespread. Regularly engage with REM vendors to understand changing technology and market landscape.	NYSERDA is regularly engaging with REM vendors to understand changing technology and market insight.
	2022 and beyond	RTEM is the standard for quality energy metrics, efficient building operations, and accessing behind-the-meter data.	
	2022 and beyond	Qualified list and NYSEDA's continued support is rendered obsolete due to market standardization and acceptance.	
	2022 and beyond	RTEM is integrated into standard Building Management Systems (BMS) offerings and widely applied in buildings without BMS.	

**Table 28. Reforming the Energy Vision (REV) Campus Challenge Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** December 21, 2016

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Energy Efficiency	MWh Annual	-	-	-	17,065	17,065	34,800	49%	108,100	16%
	MWh Lifetime	-	-	-	255,977	255,977	520,500	49%	1,621,000	16%
	MMBtu Annual	-	-	-	105,121	105,121	216,000	49%	670,000	16%
	MMBtu Lifetime	-	-	-	1,576,819	1,576,819	3,225,000	49%	10,050,000	16%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	2,205	-	8,804	-
	MWh Lifetime	-	-	-	-	-	463,500	-	132,100	-
	MW	-	-	-	-	-	2	-	8	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	14,567	14,567	30,900	47%	97,030	15%
	Lifetime Tons	-	-	-	218,512	218,512	463,500	47%	1,455,000	15%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$2.96	\$2.96	\$5.81	51%	\$18.07	16%
	Lifetime Dollars	-	-	-	\$44.41	\$44.41	\$87.45	51%	\$271.10	16%
Private Investment (millions)	Dollars	-	-	-	\$1.15	\$1.15	\$20.00	6%	\$71.20	2%
Participants	Participants	98	4	102	-	102	93	110%	150	68%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 29. Key Milestones for REV Campus Challenge**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2016–2019	A total of 120 out of 250 institutions sign up to be REV Campus Challenge Members.	The REV Campus Challenge has 102 institutions signed up as of the end of Q2 2018.
	2016–2019	Members make progress and receive recognition as demonstrated by new and revised planning, new commitments to sustainability goals and clean energy projects started and completed.	REV Campus Challenge annual workshops were held in April and May 2018, with four members hosting and having the opportunity to discuss on-campus projects and have students present. NYSERDA plans to pursue partnership(s) with existing stakeholder award events as a means of creating new avenues of meaningful recognition.
	2020–2022	A total of 140 out of 250 institutions sign up to be REV Campus Challenge Members.	
	2020–2022	Members continue to make progress and receive recognition as demonstrated by new and revised planning, new commitments to sustainability goals and clean energy projects started and completed.	
	2020–2022	15% more NYS institutions participate in clean energy commitment opportunities, conferences/events, peer groups, etc., building a strong support network.	
	2020–2022	Annual/semiannual survey of member institutions provides feedback on clean energy progress and changes in overall campus, student, and community mindset.	
	2022–2025	Members continue to make progress and receive recognition as demonstrated by new and revised planning, new commitments to sustainability goals and clean energy projects started and completed.	
	2022–2025	25% more NYS institutions participate in clean energy commitment opportunities, conferences/events, peer groups, etc., building a strong support network.	
	2022–2025	Annual/semiannual survey of all institutions statewide provides feedback on clean energy progress and changes in overall campus, student, and community mindset.	

**Table 30. K-12 Schools Initiative Results**

**Approval Date:** December 1, 2017

**Launch Date:** June 20, 2018

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Energy Efficiency	MWh Annual	-	-	-	5,800	5,800	2,900	200%	90,480	6%
	MWh Lifetime	-	-	-	87,000	87,000	43,500	200%	1,357,000	6%
	MMBtu Annual	-	-	-	32,300	32,300	16,150	200%	500,000	6%
	MMBtu Lifetime	-	-	-	484,500	484,500	242,000	200%	7,500,000	6%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	4,903	4,903	2,445	201%	76,170	6%
	Lifetime Tons	-	-	-	73,542	73,542	36,700	200%	1,143,000	6%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$1.07	\$1.07	\$0.54	199%	\$16.69	6%
	Lifetime Dollars	-	-	-	\$16.09	\$16.09	\$8.05	200%	\$250.40	6%
Private Investment (millions)	Dollars	-	-	-	\$7.20	\$7.20	\$3.60	200%	\$86.40	8%
Participants	Participants	-	-	-	200	200	100	200%	2,800	7%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 31. Key Milestones for K-12 Schools**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Develop a list of K-12 clean energy resources and update the K-12 website. Use the website to disseminate resources across schools in NYS.	NYSERDA updated its K-12 landing page to include all currently relevant resources for schools. NYSERDA will continuously update and improve this as the initiative moves forward.
✓	2017	Promote the utilization of FlexTech and fund energy master planning and performance contracting assistance oversight for schools.	K-12 schools have received notice that FlexTech is available for assistance through the NYSERDA website update and emails from school associations.
✓	2018	Develop and launch a competitive solicitation to select an existing benchmarking tool for the benchmarking program.	RFP 3788 was launched on June 14, 2018.
	2018	Launch a clean energy benchmarking open enrollment program.	Open enrollment program will launch after selection of benchmarking tool with a goal of Q4 2018.
	2018	Begin examining efforts to minimize hard and soft costs associated with delivering technical analysis for schools such as energy master plan development.	The examination efforts to minimize hard and soft costs associated with delivering technical analysis for schools will begin in Q4 2018.
	2018	Launch a competitive solicitation to provide gap assistance.	The competitive solicitation to provide gap assistance is expected to launch in Q4 2018.
	2020	Assess participation and seek feedback on gap assistance funding program; identify any needed changes.	
	2020	Distribute first annual survey for schools to provide feedback on clean energy progress specific to energy use intensity and greenhouse gas emissions data, projects and recognition.	
	2021	Assess school progress in the launched initiatives and assist them in receiving recognition as demonstrated by new and revised clean energy planning and implementation projects	
	2021	Deploy clean energy case studies and guidance documents based on successful efforts.	
	2022	Launch second gap assistance funding program.	

**Table 32. Continuous Energy Improvement Initiative: On-Site Energy Manager Results**

**Approval Date:** May 23, 2016

**Launch Date:** September 12, 2016

See Endnotes section for more information<sup>22</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	4,110	-	4,110	30,775	34,885	22,500	155%	42,000	83%
	MWh Lifetime	61,650	-	61,650	461,625	523,275	337,500	155%	630,000	83%
	MMBtu Annual	24,670	-	24,670	491,850	516,520	262,500	197%	500,000	103%
	MMBtu Lifetime	370,050	-	370,050	7,377,750	7,747,800	3,945,000	196%	7,500,000	103%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	3,444	-	3,444	41,738	45,182	26,700	169%	50,400	90%
	Lifetime Tons	51,657	-	51,657	626,066	677,723	400,500	169%	755,000	90%
Customer Bill Savings (millions)	Annual Dollars	\$0.46	-	\$0.46	\$5.48	\$5.94	\$4.14	143%	\$7.80	76%
	Lifetime Dollars	\$6.84	-	\$6.84	\$82.26	\$89.10	\$61.95	144%	\$117.00	76%
Private Investment (millions)	Dollars	\$0.33	-	\$0.33	\$10.17	\$10.50	\$30.30	35%	\$55.80	19%
Participants	Participants	-	-	-	8	8	23	35%	40	20%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 33. Key Milestones for Continuous Energy Improvement: On-Site Energy Manager**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2016 and 2017	List of qualified energy-focused process consultants from which On-site Energy Management expertise can be sought and/or matched with industrial facilities.	Of the approximate 50 FlexTech consultants (FTCs), about half indicate aptitude in energy management. Since the first solicitation was released in September 2016, seven applications were received and approved that include four different FTCs. The second pilot was released with Commercial in November 2017 with changes to the offering based upon marketplace feedback intended to spur participation and get to the intended 30 total participants. A webinar was held in December 2017 with ~150 attendees, including consultants and customers. NYSERDA is in the process of contracting the first application to the second pilot and is aware of 15 potential new applications that will be followed up on. A list of the consultants who are part of both pilots will be shared with the marketplace.
✓	2016 and 2017	C-suite executive buy-in and engagement that provides momentum for energy planning and management activities at industrial sites.	C-suite executive buy-in and engagement is required to be confirmed as part of the application process. Nine total applications have been received with the requisite executive buy-in and engagement. Executive buy-in and engagement is continued via Energy Management Plan review and meetings.
	2016 and 2017	Industrial end-user commitment to energy goal creation and realization is key to successful On-site Energy Manager engagements.	Energy goals are created as part of the application process and are confirmed in the Energy Management Plans that are submitted in the first quarter of the engagements. Nine total applications have been received with energy goals stated and six Energy Management Plans have been submitted and approved with confirmed annual energy goals averaging 7% of site annual energy usage.
	2016 and 2017	Robust tracking and reporting of energy and nonenergy benefits of the On-site Energy Manager role.	Robust tracking and reporting of energy and nonenergy benefits occurs on a quarterly basis for the active industrial projects.

**Table 33 continued**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2017 and 2018	A credible business case that proves the benefits of on-site energy management in industrial facilities. Large sites will save at least 1,200 MWh and 15,000 MMBtu annually. Medium sites will save at least 500 MWh and 5,000 MMBtu annually.	Business cases that prove the benefits of on-site energy management will be shown in the final deliverables (final reports, case studies, and road maps). Engagements have different start/end dates and will begin to show completion of final deliverables that prove the business case in Q3 2018.
	2017 and 2018	Business case content for consultant marketing plans, which address this need in the industrial market.	As business cases are completed (Q3 through Q4 2018 for pilot 1), results will be summarized into a format conducive for use in marketing plans by consultants.
	2018	Long-term energy resource(s) dedicated to energy management, without NYSERDA support (e.g., manufacturer hires energy manager in-house; continues with On-Site Energy Manager consultant; or with a new consultant).	First pilot projects were reaching completion at end of Q2 2018; final deliverables are still being collected (through Q4 2018). Two of the initial firms are nearing their one-year on-site energy management engagement and are proceeding to make the on-site energy manager position permanent without additional financial support.
	2018	Transition of knowledge and tools from pilot On-site Energy Managers to long-term energy resource.	First pilot projects were reaching completion at end of Q2 2018. Final case studies and tools are not yet developed.
	2018	Successful dissemination of training, road maps, case studies, and vetted consultant lists creates both supply for On-site Energy Manager by qualified technical consultants and demand for the role at industrial sites.	Three of the six first pilot participants have begun peer to peer sharing through presentations, webinars, websites, and companywide best practice sharing.

**Table 34. Continuous Energy Improvement Initiative: Strategic Energy Management Results**

**Approval Date:** May 23, 2016

**Launch Date:** November 22, 2016

See Endnotes section for more information<sup>23</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	52,500	52,500	52,500	100%	52,500	100%
	MWh Lifetime	-	-	-	525,000	525,000	525,000	100%	525,000	100%
	MMBtu Annual	-	-	-	406,000	406,000	406,000	100%	406,000	100%
	MMBtu Lifetime	-	-	-	4,060,000	4,060,000	4,060,000	100%	4,060,000	100%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	48,710	48,710	50,600	96%	50,600	96%
	Lifetime Tons	-	-	-	487,100	487,100	506,000	96%	506,000	96%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$6.65	\$6.65	\$7.88	84%	\$7.88	84%
	Lifetime Dollars	-	-	-	\$66.47	\$66.47	\$78.80	84%	\$78.80	84%
Private Investment (millions)	Dollars	-	-	-	\$81.67	\$81.67	\$84.00	97%	\$84.00	97%
Participants	Participants	-	-	-	16	16	30	53%	40	40%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 35. Key Milestones for Continuous Energy Improvement: Strategic Energy Management**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2016 and 2017	<p>Facilities understand how energy intensity is embedded in their process and have integrated energy management into their organizational culture.</p> <p>Facilities possess knowledge of Strategic Energy Management (have an energy map, identified goals and metrics, and have developed a project register identifying projects and an action plan for project implementation) and have a system for monitoring, tracking, and making decisions based on their energy use.</p>	<p>The initial Strategic Energy Management solicitation (PON 3411) was released in November 2016. Eight participants were selected to participate in the first industrial cohort. The kick-off workshop for the cohort was held in September 2017. As of May 2018, all participants have an energy map, identified savings opportunities, are developing project registers and plans for project implementation, and are developing employee engagement activities at their facilities. The solicitation for the second industrial cohort was released in December 2017 and eight industrial customers comprise the second pilot which will start in Q3 2018. The first Strategic Energy Management solicitation for a Waste Water Cohort was released in Q2 2018.</p>
	2017 and beyond	<p>Facility executives value and adopt Strategic Energy Management due to organizational change and systematic energy management that enables them to identify attractive investments for their facility.</p> <p>Continuation of energy champion and team beyond the cohort (for participating facilities) or the adoption of an energy champion and/or team (for new facilities). Executive support to implement energy-related projects.</p>	<p>The end date for this milestone will be at the end of 2018 as this milestone takes place after the end of the first cohort. Progress will be reported at that time.</p>
	2018 and beyond	<p>Industrial facilities seek out developed information and standardized tools as well as contractor support to implement and adopt SEM.</p> <p>Tracked inquiries and dissemination of case studies, training, SEM resources, and vetted consultant list.</p>	<p>The materials are in development and information from the first cohort's successes is being collected. It is projected progress on this milestone will occur toward end of Q4 2018 and beginning of Q1 2019.</p>
	2018 and beyond	<p>SEM replaces the ad hoc energy project approach resulting in deeper and continuous energy savings and energy decision-making at industrial facilities. Critical staff can express how the energy measures they've implemented have affected their bottom line. Facilities realize 1-2% reductions in their energy consumption annually.</p> <p>For large industrial facilities, this equates to approximately 150–300 MWh, 1,100–2,500 MMBtu Natural Gas, 75–160 MMBtu Oil, and \$100,000 in energy savings per participant in the first year.</p>	<p>Progress on this milestone will occur toward end of Q4 2018 and beginning of Q1 2019.</p>

**Table 36. Continuous Energy Improvement Initiative: Energy Management Information System Results**

**Approval Date:** June 23, 2017

**Launch Date:** November 14, 2017

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	-	-	2,506	-	67,050	-
	MWh Lifetime	-	-	-	-	-	25,050	-	9,925,000	-
	MMBtu Annual	-	-	-	-	-	19,350	-	992,500	-
	MMBtu Lifetime	-	-	-	-	-	193,500	-	670,500	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	2,410	-	91,380	-
	Lifetime Tons	-	-	-	-	-	24,100	-	913,800	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	\$0.38	-	\$14.12	-
	Lifetime Dollars	-	-	-	-	-	\$3.76	-	\$141.21	-
Private Investment (millions)	Dollars	-	-	-	-	-	\$0.11	-	\$3.19	-
Participants	Participants	-	-	-	-	-	5	-	79	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 37. Key Milestones for Continuous Energy Improvement Initiative: Energy Management Information Systems**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Develop and release RFP for qualified EMIS vendors.	RPQ 3691 was launched on November 14, 2017.
✓	2017	Solicit and contract with EMIS assessment provider(s).	Technical reviewer contractors available for technical assessment of EMIS systems.
✓	2017	Develop solicitation for participants.	PON 3689 was launched on November 14, 2017.
✓	2017	Develop and disseminate a matrix or list of qualified EMIS vendors.	List of approved vendors to be supplied upon receipt and review of qualification applications.
	2019	Distribute list of qualified EMIS vendors.	
	2019	Initiate development and dissemination of EMIS case studies, webinars, and knowledge transfer sessions in a variety of media/forums.	
	2021	Refine and continue the dissemination of EMIS case studies, webinars, and knowledge transfer sessions in a variety of media/forums.	

**Table 38. Clean Energy Communities Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** August 3, 2016

See Endnotes section for more information<sup>24,25</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	56,096	14,835	70,931	7,702	78,633	45,500	173%	118,600	66%
	MWh Lifetime	841,434	222,530	1,063,964	115,536	1,179,500	682,500	173%	1,780,000	66%
	MMBtu Annual	193,834	13,842	207,677	17,773	225,450	256,000	88%	667,500	34%
	MMBtu Lifetime	2,907,515	207,636	3,115,150	266,602	3,381,752	3,835,000	88%	9,990,000	34%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	26,908	4,141	31,050	7	31,057	48,350	64%	126,000	25%
	MWh Lifetime	403,625	62,119	465,744	106	465,850	725,000	64%	1,889,000	25%
	MW	23	3.5	26	0	26	41	64%	107	25%
CO2e Emission Reduction (metric tons)	Annual Tons	54,753	10,836	65,589	5,140	70,728	63,950	111%	166,700	42%
	Lifetime Tons	821,288	162,542	983,830	77,096	1,060,926	960,000	111%	2,502,000	42%
Customer Bill Savings (millions)	Annual Dollars	\$12.83	\$2.71	\$15.54	\$1.27	\$16.81	\$14.87	113%	\$38.74	43%
	Lifetime Dollars	\$192.47	\$40.64	\$233.11	\$19.09	\$252.20	\$222.50	113%	\$580.30	43%
Private Investment (millions)	Dollars	\$51.64	\$5.16	\$56.80	-	\$56.80	\$30.95	184%	\$80.73	70%
Participants	Participants	127	-	127	49	176	80	220%	171	103%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 39. Key Milestones for Clean Energy Communities**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2016–2019	Eighty communities complete and demonstrate replicability of four out of 10 high-impact actions and submit successful grant applications to the Clean Energy Communities Program to complete innovative clean energy projects.	<p>Outreach contractors are actively engaging communities. Many local governments are working to complete high-impact actions. As of June 30, 2018, 200 communities completed at least four actions and are officially designated Clean Energy Communities. In total, 417 Communities completed 1,163 high-impact actions, 983 of which were completed after program launch ('new').</p> <p>Anticipated savings from the 983 'new' completed High-Impact Actions and the 136 grant projects that are either awarded or underway (when combined with savings reported in Regional Greenhouse Gas Initiative [RGGI] reporting), include:</p> <ul style="list-style-type: none"> <li>• 186,907 MWh Efficiency Savings</li> <li>• 161,571 MWh Renewable Generation</li> <li>• 177.27 MW Renewable Generation</li> <li>• 416,559 MMBtu Natural Gas Savings</li> <li>• 15,830 MMBtu Gasoline Savings</li> <li>• 103,790 MMBtu Distillate Fuel Savings</li> </ul>
✓	2016–2019	After realizing the benefits associated with completing high-impact actions, many communities go on to pursue the more rigorous Climate Smart Communities (CSC) Certification. The number of Certified CSCs doubles, from six currently certified to 12 certified.	There are now 18 Certified Climate Smart Communities, 11 of which achieved Certification after CEC program launch.
	2016–2019	NYSERDA conducted market research on impact of initial uptake of high-impact actions and has adjusted the Clean Energy Communities Program accordingly. NYSERDA will continuously compile feedback from communities on high-impact actions and associated tools and resources and adjust accordingly.	NYSERDA recently released minor revisions to the Clean Energy Communities program to better accommodate the needs of communities and to clarify program requirements. In addition, NYSERDA is in the process of developing an Investment Plan update to better serve communities that are interested in taking advanced action beyond the original program design.

**Table 40. Community Energy Engagement Initiative Results**

**Approval Date:** March 27, 2017

**Launch Date:** October 10, 2017

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2021)	% of Total Planned Benefits through Initiative Completion (2021)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	-	-	\$1.27	\$1.27	\$1.73	74%	\$1.73	74%
Participants	Participants	-	-	-	3,355	3,355	3,355	100%	3,355	100%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 41. Key Milestones Community Energy Engagement**

<b>Complete</b>	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2017	NYSERDA issues competitive “base-activities” solicitation.	Solicitation was released May 2, 2017.
✓	2017	Awards from base-activity solicitation are contracted.	Ten contracts were awarded, and all have been executed.
✓	2017	Commencement of local outreach and support to households and communities (with the focus on LMI).	All 10 organizations are under contract. The program kick-off meeting was held in May of 2018 and outreach is underway.
	2018	NYSERDA initiates awards proposals for regional-specific pilot projects.	NYSERDA anticipates that this activity will be developed in Q3 2018 and executed in Q4 2018.
	2018–2020	NYSERDA develops one or more case studies on regional-specific pilot projects and other support provided through the base activities.	Outreach kicked off in May of 2018. NYSERDA expects to begin developing case studies in late 2018 or early 2019.
	2019	Conduct surveys of customers assisted by local-based organizations (LBO) to assess performance.	

**Table 42. Offshore Wind Master Plan Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** September 15, 2016

Market Development Initiative Specific Results	Market Development Initiative	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Target through Initiative Completion (2019)	Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	-	-	-	-	*	-	*	-
Participants	Participants	-	-	-	-	-	*	-	*	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 43. Key Milestones for Offshore Wind Master Plan**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2016	Publish an Offshore Wind Master Plan Blueprint to facilitate discussion and stakeholder engagement in the summer of 2016.	Blueprint completed. Blueprint published on September 15, 2016.
✓	2016–2017	Engage stakeholders in multiple meetings in 2016 and 2017 to review Offshore Wind Master Plan Blueprint and receive input for the Offshore Wind Master Plan.	Six public meetings were held in July and August 2017 in Melville, Long Beach, Southampton, Rockaway Beach, Staten Island, and Brooklyn. Additionally, meetings were held with the fishing, maritime, environmental, labor, and offshore wind communities as well as elected officials and State and federal agencies.
✓	2016–2017	Publish the final Offshore Wind Master Plan, after completion of studies and no later than end of 2017.	The Offshore Wind Master Plan and all underlying studies were completed on schedule by December 31, 2017. The Master Plan and all studies were published on January 29, 2018.

**Table 44. Offshore Wind Pre-Development Activities Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** December 12, 2016

Market Development Initiative Specific Results	Market Development Initiative	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Target through Initiative Completion (2019)	Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Lifetime Tons	-	-	-	-	-	*	-	*	-
	Annual Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Lifetime Dollars	-	-	-	-	-	*	-	*	-
	Dollars	-	-	-	-	-	*	-	*	-
Participants	Participants	-	-	-	-	-	*	-	*	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 45. Key Milestones for Offshore Wind Pre-Development Activities**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	n/a	Reports resulting from predevelopment work validating New York State Offshore Wind resource and proposing potential additional wind energy areas for development.	<p>Planning has been completed for environmental and other studies and surveys.</p> <p>Solicitation issued for offshore wind technical assistance in December 2016.</p> <p>There were 20 environmental, social, regulatory, economic and infrastructural reports, including a report of New York State's Offshore Wind resources, completed by December 31, 2017 and published January 29, 2018. Drafts of all 20 reports were sent to external reviewers and input from reviewers informed final reports.</p> <p>New York State Area for Consideration for the Potential Locating of Offshore Wind Energy Areas completed with report given to the Bureau of Ocean Energy Management and public in October 2017.</p>
	n/a	Reports providing site-specific data needed to support detailed siting, design, and permitting of Offshore Wind project(s).	<p>Planning and stakeholder outreach started for procurement and deploying of a buoy for measuring site-specific wind, wave and other data. Contractor hired to assist in developing measurement campaign. Draft Metocean Plan published November 2016.</p> <p>Additional planning started in Q1 2017 for site-specific environmental, sea floor, and other studies and surveys. Multi-beam sonar and sediment profile imaging survey of sea floor undertaken in June through August 2017 with final report completed by December 31, 2017 and published January 29, 2018.</p> <p>Working on plan for deploying one or more buoys for measuring wind, wave, and other data in 2018.</p> <p>Contractors have been hired to build a supply chain database and a cost assessment of New York port infrastructure. Both studies will be completed in Q3/Q4 2018.</p>

**Table 46. REV Connect Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** August 9, 2016

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	\$0.07	-	\$0.07	-	\$0.07	\$0.38	18%	\$0.50	13%
Participants	Participants	-	-	-	-	-	*	-	*	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 47. Key Milestones for REV Connect**

<b>Complete</b>	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	Q3 2016	Execute contract with partner to operate REV Connect.	NYSERDA competitively selected and executed a contract with a contractor to operate REV Connect.
✓	Q2 2017	Create information resources and summarize best practices.	Information resources completed and posted to the nyrevconnect.com website include focal innovation opportunities that State utilities are interested in, a profile of each investor-owned utility in the State, summaries of key REV orders, and listings of active solicitations and non-wires alternative opportunities statewide. Resources are updated on an ongoing basis.
✓	Q2 2017	Develop project evaluation criteria and process.	The project evaluation criteria and process were tested with market participants in May 2017, completed in June 2017, and posted to the REV Connect website.
✓	Q3 2017	Launch initial REV Connect platform to allow submission of project ideas.	The REV Connect website launched on August 10, 2017.
n/a	Q4 2017	Draft Innovation Plan completed.	In July 2017, NYSERDA removed this task from the contractor's scope of work to shift resources into other project tasks. NYSERDA is undertaking the related planning.

**Table 48. Reducing Barriers to Deploying Distributed Energy Storage Initiative Results**

**Approval Date:** August 17, 2016

**Launch Date:** November 7, 2016 issued request for proposals seeking technical assistance contractors.  
April 19, 2017 issued value-stacking pilot competitive solicitation.

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	143	-	143	4,182	4,324	4,950	87%	13,800	31%
	MWh Lifetime	1,428	-	1,428	41,817	43,245	49,500	87%	138,000	31%
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
Renewable Energy	MW	0.3	-	0.3	7	8	9	87%	25	31%
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	75	-	75	2,200	2,275	2,605	87%	7,260	31%
Customer Bill Savings (millions)	Lifetime Tons	751	-	751	22,003	22,754	26,050	87%	72,600	31%
	Annual Dollars	\$0.02	-	\$0.02	\$0.56	\$0.58	\$0.70	83%	\$1.84	32%
Private Investment (millions)	Lifetime Dollars	\$0.24	-	\$0.24	\$5.56	\$5.80	\$6.60	88%	\$18.35	32%
	Dollars	-	-	-	\$7.84	\$7.84	\$14.30	55%	\$30.00	26%
Number of customers engaged (sites for developments)	Participants	1	17	18	6	24	53	45%	120	20%
Number of vendors engaged	Participants	-	2	2	29	31	23	135%	45	69%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 49. Key Milestones for Reducing Barriers to Deploying Distributed Energy Storage**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2016	Issue solicitation to competitively select technical consultants and organizations to assist with soft cost reduction strategies, quality assurance, and feasibility studies under value-stacking pilots.	Completed; contracts executed for four technical assistance contractors competitively selected.
✓	2017	Lead acid, lithium-ion, and flow batteries are independently tested with results aggregated into first responder training materials for authorities having jurisdiction.	Independent burn testing report was issued for chemistries seeking FDNY permit and first responder training materials being completed.
✓	2017	Technical consultants or organizations to assist with soft cost reduction strategies, quality assurance, and feasibility studies are selected.	Technical assistance contractors selected and contracted.
✓	2017	Launch a competitive program funding value-stacking pilots.	Solicitation developed with input from developers, customers, utilities, and NYISO. Launched in April 2017, NYSERDA is conducting outreach with prospective vendors and customers, and reviewing concept papers received.
✓	2017	Expand scope of battery testing lab for additional chemistries to be tested.	Additional testing requirements may be driven by Underwriters Lab 9540/9540A standard. As part of work with FDNY to develop interior siting requirements for advanced batteries, this will become clearer and will not require additional testing at this time.
✓	2017	Model permitting guides are developed.	Consolidated guidelines for permitting requirements for exterior advanced battery systems completed through facilitation with FDNY and NYC Department of Buildings and released. Agencies are advancing these guidelines as rules/bulletins. Work continuing interior siting requirements as well as any modifications that can be made to exterior guidelines.

**Table 49 Continued**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Public platform is launched including use cases, system performance results, and fact sheets.	DER Portal is live and energy storage system data on deployed projects is being uploaded. Energy storage microsite is launched and contains a variety of resources on storage that have been developed under the soft cost reduction work. Permitting and siting guidelines will be consolidated into broader NYSEERDA DER Guidebook and resources for local communities and permitting agencies.
	2017	Customers with deployed energy storage systems begin engaging for post-installation quality assurance to validate savings.	The technical assistance contractor selected is implementing M&V site plans with initial installations supported by NYSEERDA.
✓	2017	Safety testing is completed on additional emerging commercial chemistries.	UL 9540/9540A standard may provide sufficient testing requirements to alleviate the need for additional NYSEERDA testing on battery chemistries. This would create a prescriptive testing path for developers to follow when seeking approval for energy storage installations in NYC. Facilitated independent testing at company's expense for a new chemistry by UEP seeking permitting in NYC; specific plans for additional chemistries to be tested.
✓	2017	Market segmentation for NYSEERDA customer acquisition activities supported under this investment plan expands to non-interval metered customers.	Customer leads list developed with assistance technical assistance contractor in NYC and in Westchester including interval and demand metered customers. Expanding into Long Island next. Customers are prioritized based on criteria findings from technoeconomic analysis of interval customers, prior research on best fit load profiles, and practical considerations. The leads list is being used for direct customer outreach and will continue to be updated as customer information becomes available and criteria findings are refined.
	2017	Increasing numbers of customers seek information on storage solutions to mitigate their peak demand and electricity requirements, as determined through vendor interviews and the number of permits submitted to authorities having jurisdiction, surveyed at least annually.	Year-long outreach campaign underway. Technical assistance to initial customers has begun, information on energy storage business models is being released, webinar on behind the meter storage applications published, and potential customers are being discovered and engaged. Increasing numbers of customers are being added to the pipeline from direct engagement and are seeking information on storage solutions.

Table 49 continued

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2017	Increasing numbers of energy storage vendors are engaged in New York State, as surveyed at least annually.	Vendor outreach underway, including working group meetings, a webinar, development of fact sheets, a technology conference, etc. Feedback is continually being collected from vendors. NY-BEST (technical assistance contractor) began outreach program on September 1, 2017. Focusing on one-on-one guidance and training, with emphasis on the practical requirements to take advantage of current opportunities.
	2018	Safety testing is completed on additional emerging commercial chemistries.	As previously noted, additional testing may not require NYSERDA support if UL 9540/9540A requirements are sufficient.
	2018	Model permitting guides are updated.	Outdoor energy storage permitting guide for New York City published and being examined as city agencies develop regulations/bulletin.
	2018	Convincing use cases and best-fit customer characteristics and acquisition tools are publicized.	Working with a soft-cost technical assistance contractor on developing use cases based on deployed projects. A webinar and fact sheet on the behind the meter use case for energy storage are being distributed during active customer outreach and engagement activities. Case studies are under discussion.
	2018	Pilots convert prospective installations into installed energy storage projects that are used to provide customer benefit and address electric system needs.	Applications under value stacking PON increased with expanded outreach and are starting to build a pipeline of potential projects. Three projects have been awarded.
	2019	Independent validation assesses the ability of aggregated customer-sited storage systems to provide locational relief to the distribution utility or NYISO when called upon.	
	2019	During the pilot period, NYSERDA direct support for specific projects is reduced annually as installation cost decreases, revenue opportunities are better quantified, and results of pilots increase performance confidence.	

**Table 50. Electric Vehicles Initiative: EV Rebate Results**

**Approval Date:** August 17, 2016

**Launch Date:** March 21, 2017

See Endnotes section for more information<sup>26</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2020)	% of Total Planned Benefits through Initiative Completion (2020)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	243,785	68,379	312,164	-	312,164	530,000	59%	1,430,000	22%
	MMBtu Lifetime	2,437,849	683,792	3,121,641	-	3,121,641	5,300,000	59%	14,300,000	22%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	10,857	2,989	13,846	-	13,846	28,450	49%	76,730	18%
	Lifetime Tons	108,569	29,892	138,461	-	138,461	284,500	49%	767,300	18%
Customer Bill Savings (millions)	Annual Dollars	\$6.25	\$1.75	\$8.00	-	\$8.00	*	-	*	-
	Lifetime Dollars	\$62.51	\$17.48	\$79.99	-	\$79.99	*	-	*	-
Private Investment (millions)	Dollars	\$146.30	\$41.97	\$188.27	-	\$188.27	\$381.50	49%	\$1,027.00	18%
Participants	Participants	4,180	1,199	5,379	-	5,379	10,750	50%	29,250	18%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 51. Key Milestones for Electric Vehicles Initiative: EV Rebate**

Complete	Time Frame	Milestone	Explanation of Progress
✓	2017	EV Rebate Program Launch.	As of June 30, 2018, more than 520 car dealers signed up for the program and applications for nearly 8,000 rebates have been approved, totaling more than \$10 million (including both CEF and non-CEF funding).

**Table 52. 2030 Greenhouse Lighting and Systems Engineering (GLASE) Initiative Results**

**Approval Date:** September 15, 2016

**Launch Date:** January 1, 2017

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2022)	% of Total Planned Benefits through Initiative Completion (2022)
Energy Efficiency	MWh Annual	-	-	-	3,470	3,470	3,470	100%	3,470	100%
	MWh Lifetime	-	-	-	34,700	34,700	34,700	100%	34,700	100%
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	1,826	1,826	1,830	100%	1,830	100%
	Lifetime Tons	-	-	-	18,258	18,258	18,300	100%	18,300	100%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$0.29	\$0.29	\$0.29	101%	\$0.29	101%
	Lifetime Dollars	-	-	-	\$2.91	\$2.91	\$2.92	100%	\$2.92	100%
Private Investment (millions)	Dollars	-	-	-	\$9.46	\$9.46	\$9.46	100%	\$9.46	100%
Participants	Participants	-	-	-	8	8	5	160%	25	32%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 53. Key Milestones for Greenhouse Lighting and Systems Engineering (GLASE)**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2016	Contract with core Consortium members.	Contracts are fully executed.
✓	2016	Review and approve Scientific Advisory Panel structure.	Member selection is complete. Contractual arrangements are also completed between members and universities regarding how they are to be reimbursed for participation.
	2017	Review and approve Consortium business plan to attain financial self-sustainability in 2023.	The Executive Director of GLASE completed a draft business plan. Marketing plan matrix was completed in February 2018. Work continues the business plan.
	2018	Monitor small (6,000 square feet) pilot demonstration of a basic light and shade control system.	The Principal Investigator (PI) at Cornell assessed and interviewed potential sites for the pilot. The initially chosen candidate will no longer be in business at the end of 2018. The PI has located another site and is working on an agreement.
	2018	Publish case study of demonstration.	Case study dependent on small pilot demonstration. Progress continues the demonstration project.
	2019	Monitor small (6,000 square feet) pilot demonstration of CO2 supplementation integrated with the light and shade control system.	
	2019	Monitor large (20,000 square feet) pilot demonstration of a basic light and shade control system.	The PI at Cornell is in discussions with potential site for the large demonstration. Working on an agreement and site is close to signing.
	2019	Publish case study of demonstrations.	
	2020	Monitor small (6,000 square feet) pilot demonstration of efficient LED lights integrated with the CO2 supplementation and light and shade control system.	
	2020	Monitor large (20,000 square feet) pilot demonstration of CO2 supplementation integrated with the light and shade control system.	
	2020	Publish case study of demonstrations.	
	2021	Monitor large (20,000 square feet) pilot demonstration of efficient LED lights integrated with the CO2 supplementation and light and shade control system.	
	2021	Publish case study of demonstration.	
	2021	Formal training offered to service providers.	

**Table 54. Advancing Agricultural Energy Technologies Initiative Results**

**Approval Date:** December 1, 2017

**Anticipated Launch Date:** Q3 2018

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	-	-	-	-	1,642	-
	MWh Lifetime	-	-	-	-	-	-	-	24,630	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	-	-	864	-
	Lifetime Tons	-	-	-	-	-	-	-	12,960	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	-	-	\$0.24	-
	Lifetime Dollars	-	-	-	-	-	-	-	\$3.58	-
Private Investment (millions)	Dollars	-	-	-	-	-	-	-	\$0.75	-
Participants	Participants	-	-	-	-	-	-	-	20	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 55. Key Milestones for Advancing Agricultural Energy Technologies**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2018	Identify technologies to demonstrate.	Conducted voice of customer with multiple stakeholders, vendors, academia, and end-users to identify technologies to demonstrate.
	2018	Issue Solicitation to select teams of technology vendor and farms to demonstrate technologies.	NYSERDA anticipates that the solicitation will be issued in Q3 2018.
	2019	Contract with teams to demonstrate underused and emerging technologies.	
	2020	Publish and disseminate business case scenarios that support underused and emerging technology implementation.	
	2021	<p>Perform targeted outreach of successful business-case scenarios to farms suitable for implementing the demonstrated technology.</p> <p>Reliable market sources compile, develop, and maintain current information on advanced clean energy technologies for use by local information-exchange networks.</p> <p>Advanced technologies are installed by farms outside of demonstration projects.</p> <p>Agriculture vendors and suppliers use energy efficiency as a tool to sell their products.</p>	

**Table 56. RetrofitNY Initiative Results**

**Approval Date:** August 31, 2016

**Launch Date:** April 4, 2017

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Energy Efficiency	MWh Annual	-	-	-	-	-	135	-	187,100	-
	MWh Lifetime	-	-	-	-	-	2,700	-	3,742,000	-
	MMBtu Annual	-	-	-	-	-	2,420	-	3,356,000	-
	MMBtu Lifetime	-	-	-	-	-	48,400	-	67,130,000	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	210	-	290,200	-
	Lifetime Tons	-	-	-	-	-	4,185	-	5,804,000	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	\$0.04	-	\$56.16	-
	Lifetime Dollars	-	-	-	-	-	\$0.81	-	\$1,122	-
Private Investment (millions)	Dollars	-	-	-	-	-	-	-	\$1,411	-
Participants	Participants	-	-	-	-	-	255	-	100,000	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 57. Key Milestones for RetrofitNY**

<b>Complete</b>	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2016	Criteria to be met by technical solutions are defined.	The criteria have been finalized.
✓	2017	Sufficient potential demand for deep energy retrofits is aggregated.	Sufficient demand was aggregated. First round of design launched in February 2018.
✓	2017	Competitive solicitation for the first round of the design-build competition is released.	The solicitation was released on February 6, 2018. 22 applications were received the first month. Six projects have been competitively selected and contracts were awarded.
	2018	One or more solutions are built and tested through the design-build competition.	Six design/construction teams started designing retrofit solutions on six affordable housing buildings in early June 2018.
	2020	Solution(s) are adapted to additional building typologies.	
	2020	Financial products that are adapted to affordable housing entities' processes and are compatible with federal and State rules that apply to affordable housing are developed and made available.	
	2022	Retrofit solutions are integrated in the public housing authorities' and affordable housing regulators' preservation strategies.	
	2025	Retrofit solutions are cost effective and NYSERDA subsidies are no longer necessary.	
	2025	Building components and systems required for deep energy retrofits are readily available in the New York State market.	
	2025	Financing solutions exist for building owners to purchase these solutions with minimal upfront cost.	
	2025	Solutions are implemented on non-affordable housing buildings without subsidy.	

**Table 58. REVitalize Initiative Results**

**Approval Date:** August 31, 2016

**Launch Date:** June 27, 2017

See Endnotes section for more information<sup>27</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	2,352	2,352	2,375	99%	2,994	79%
	MWh Lifetime	-	-	-	47,040	47,040	47,550	99%	59,880	79%
	MW	-	-	-	2	2	2	121%	2	115%
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	1,238	1,238	1,251	99%	1,575	79%
	Lifetime Tons	-	-	-	24,751	24,751	25,000	99%	31,500	79%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$0.30	\$0.30	\$0.38	79%	\$0.47	64%
	Lifetime Dollars	-	-	-	\$5.98	\$5.98	\$7.51	80%	\$9.46	63%
Private Investment (millions)	Dollars	-	-	-	\$4.63	\$4.63	\$4.82	96%	\$5.88	79%
Participants	Participants	-	-	-	4	4	5	80%	5	80%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 59. Key Milestones for REVitalize**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Issue a competitive solicitation seeking proposals for a community energy planning effort that benefits low- to moderate-income (LMI) communities and residents.	Solicitation launched June 29, 2017. Proposals were due September 11, 2017.
✓	2017	Selection of five communities to receive financial and technical support, contract development, and contract execution by Q4 2017.	All four contracts are fully executed: <ul style="list-style-type: none"> <li>• Sustainable Binghamton</li> <li>• People United for Sustainable Housing (PUSH)</li> <li>• West Harlem Environmental Action, Inc. (WE ACT)</li> <li>• City of Utica</li> </ul>
✓	2017	Commencement of community planning activities, development of community plan, testing of the toolkit.	All REVitalize contracts held their kick off meeting with NYSERDA. Planning and development of their community scale clean energy project has begun.
✓	2017	Community-scale clean energy project development and implementation started.	Sustainable Binghamton, PUSH, and the City of Utica have begun their project development and planning. An initial kick-off meeting was held with each subcontractor, NYSERDA staff, subcontractors, community stakeholders, and other interested parties.
	2018	NYSERDA receives feedback from community groups and on the toolkit.	NYSERDA continues to work on creating the toolkits for testing.
	2019	Completion of five community energy projects.	
	2019	NYSERDA refines toolkit and conducts technology transfer to communicate effective models of finance and ownership, as well as the toolkit.	

**Table 60. Low-Income Forum on Energy Initiative Results**

**Approval Date:** August 31, 2016

**Launch Date:** August 31, 2016

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Participants	Participants	1,630	363	1,993	-	1,993	1,339	149%	7,629	26%

**Table 61. Key Milestones for Low-Income Forum on Energy**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Issue a competitive solicitation for program support.	The solicitation was issued with a due date of March 23, 2017. Agreement was executed on September 25, 2017.
✓	2017	Implement a series of regional meetings across the State in Q2 of 2017.	A series of seven LIFE 2017 regional meetings were held throughout May 2017. The meeting series included each of the following NYS regions: New York City, Long Island, Western New York, Southern Tier, North Country, Hudson Valley, and Capital Region. In total, there were 445 participants in attendance, representing 236 organizations.
✓	2018	Implement a statewide conference in Q2 of 2018.	A Statewide conference was successfully implemented on May 22-23, 2018.
	2019	Issue a competitive solicitation for program support or issue a contract extension for existing implementation services.	
	2019	Implement a series of regional meetings across the State in Q2 of 2019.	
	2020	Implement a statewide conference in Q2 of 2020.	
	2021	Implement a series of regional meetings across the State in Q2 of 2021.	
	2022	Issue a competitive solicitation for program support or issue a contract extension for existing implementation services.	
	2022	Implement a statewide conference in Q2 of 2022.	
	2023	Implement a series of regional meetings across the State in Q2 of 2023.	
	2024	Issue a competitive solicitation for program support or issue a contract extension for existing implementation services.	
	2024	Implement a statewide conference in Q2 of 2024.	

**Table 62. Key Milestones for Healthy Homes Feasibility Study**

**Approval Date:** August 31, 2016

**Launch Date:** January 20, 2017

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Complete feasibility study and decide on whether to continue with the pilot design and implementation phase.	Feasibility study completed.
✓	2017	Begin the pilot design phase, if NYSERDA and NYS agency partners decide to go forward.	Given affirmative results of the feasibility study and discussions with NYSDOH and NYSHCR, initial considerations for pilot design began in Q4 2017 and are continuing.
	2017	Pilot design is complete.	Completion of pilot design is expected by Q3 2018.
	2017	Commencement of pilot activities.	Pilot implementation is expected to begin in Q4 2018.
	2018	Preliminary determination of health benefits and healthcare cost savings.	Contingent upon pilot implementation.
	2021	Dissemination of pilot results, which may include peer-reviewed papers, presentations at conferences, and a white paper to share with potential long-term funders including Medicaid, HUD, Foundations, and others.	

**Table 63. Low- to Moderate-Income Single-Family Initiative: Low-Income Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

See Endnotes section for more information<sup>28</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2021)	% of Total Planned Benefits through Initiative Completion (2021)
Energy Efficiency	MWh Annual	8,132	1,336	9,468	2,105	11,573	12,805	90%	29,620	39%
	MWh Lifetime	121,982	20,046	142,027	31,575	173,602	192,000	90%	444,500	39%
	MMBtu Annual	215,262	41,443	256,705	56,984	313,689	327,000	96%	729,000	43%
	MMBtu Lifetime	5,381,539	1,036,078	6,417,617	1,424,596	7,842,213	8,185,000	96%	14,970,000	52%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	16,101	2,885	18,986	4,217	23,202	25,150	92%	56,750	41%
	Lifetime Tons	359,741	65,083	424,824	94,342	519,166	562,500	92%	1,078,000	48%
Customer Bill Savings (millions)	Annual Dollars	\$3.77	\$0.66	\$4.44	\$1.09	\$5.53	\$5.99	92%	\$13.55	41%
	Lifetime Dollars	\$83.61	\$14.70	\$98.31	\$23.92	\$122.23	\$129.50	94%	\$251.50	49%
Private Investment (millions)	Dollars	-	-	-	-	-	\$1.50	-	\$5.70	-
Participants	Participants	14,592	2,291	16,883	3,746	20,629	23,808	87%	53,948	38%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 64. Low- to Moderate-Income Single-Family Initiative: Moderate-Income Results**

**Approval Date:** February 29, 2016

**Launch Date:** March 1, 2016

See Endnotes section for more information<sup>29</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2021)	% of Total Planned Benefits through Initiative Completion (2021)
Energy Efficiency	MWh Annual	2,356	167	2,523	137	2,659	2,374	112%	4,236	63%
	MWh Lifetime	35,339	2,505	37,844	2,048	39,892	35,550	112%	63,520	63%
	MMBtu Annual	110,271	10,549	120,820	10,080	130,900	144,850	90%	282,300	46%
	MMBtu Lifetime	2,756,775	263,725	3,020,500	252,000	3,272,500	3,630,000	90%	5,986,000	55%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	7,608	649	8,258	663	8,921	9,440	94%	18,160	49%
Customer Bill Savings (millions)	Lifetime Tons	177,814	15,354	193,168	15,852	209,020	221,700	94%	368,400	57%
	Annual Dollars	\$1.52	\$0.12	\$1.64	\$0.15	\$1.80	\$2.14	84%	\$4.08	44%
Private Investment (millions)	Lifetime Dollars	\$35.39	\$2.81	\$38.19	\$3.65	\$41.84	\$49.65	84%	\$82.50	51%
	Dollars	\$20.09	\$2.16	\$22.25	\$1.97	\$24.23	\$22.52	108%	\$43.06	56%
Participants	Participants	4,326	554	4,880	420	5,300	5,528	96%	11,258	47%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 65. Key Milestones for Low- to Moderate-Income Single-Family**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Host regional contractor meetings to gather stakeholder input.	Four regional contractor’s meetings were held in July in Syracuse, Mt. Kisco, Batavia, and Latham with more than 250 attendees in total.
✓	2017	Competitive solicitation for technical implementation services.	The Technical Implementation Services RFP 3446 closed in late June 2017. Contract negotiations are completed, and the agreement was executed in Q1 2018.
✓	2017	Deploy new low-income referral tracking database.	The EmPower NY referral tracking database was initially deployed in August and file adjustments are being made for use by referral entities and implementation staff.
	2017	Update policies and procedures manual.	Materials have been updated to reflect recent implementation shifts toward shared services and a new technical services implementation contractor.  NYSERDA is also working on combining all forms and applications between Assisted Home Performance and EmPower NY for consistency. This is expected to be completed in 2018.
	2018	Host regional contractor meetings to gather stakeholder input.	Four regional meetings have been scheduled for late August 2018 to engage contractors, collect feedback and provide program redesign updates.

**Table 66. Low- to Moderate-Income Multifamily Initiative Results**

**Approval Date:** February 29, 2016

**Launch Date:** May 19, 2016

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2021)	% of Total Planned Benefits through Initiative Completion (2021)
Energy Efficiency	MWh Annual	-	-	-	9,857	9,857	9,830	100%	47,720	21%
	MWh Lifetime	-	-	-	147,848	147,848	147,600	100%	716,100	21%
	MMBtu Annual	-	-	-	79,436	79,436	134,100	59%	650,100	12%
	MMBtu Lifetime	-	-	-	1,191,545	1,191,545	2,012,000	59%	9,762,000	12%
	MW	-	-	-	4	4	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	9,409	9,409	12,990	72%	62,990	15%
	Lifetime Tons	-	-	-	141,137	141,137	194,900	72%	945,900	15%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$1.59	\$1.59	\$2.71	58%	\$13.15	12%
	Lifetime Dollars	-	-	-	\$23.78	\$23.78	\$40.60	59%	\$197.00	12%
Private Investment (millions)	Dollars	-	-	-	\$12.53	\$12.53	\$40.49	31%	\$175.54	7%
Number of Units Served	Participants	-	-	-	5,583	5,583	7,940	70%	39,464	14%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 67. Key Milestones for Low- to Moderate-Income Multifamily**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Increase incentive levels and decrease minimum threshold.	The program has been updated, and marketing activities have been launched.
✓	2017	Host annual provider summit understand market impacts and future needs.	The 2017 summit saw record attendance with more than 140 participants. NYSEERDA received positive feedback on the adjustment made to the program design earlier in 2017.
	2018–2021	Continue to evaluate market response to incentive levels and thresholds and adjust as needed.	Several new projects entered the pipeline. However, because many of these new projects were smaller buildings than expected, the number of participants (number of dwelling units) and the saving are lagging as compared to the projected intake and savings. NYSEERDA is launching new communication and outreach efforts to continue to improve program intake.

**Table 68. Low-Income Community Solar Initiative Results**

**Approval Date:** December 1, 2017

**Launch Date:** May 24, 2018

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Participants	Participants	-	-	-	-	-	1,500	-	10,000	-

**Table 69. Key Milestones for Low-Income Community Solar**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Issue solicitation for community solar projects to dedicate generation to low-income customers with a standard offer subscription.	RFP 3802 was released on May 24, 2018.
	2018	Execute agreements with community solar projects for capacity dedicated to low income subscriptions.	First round solicitation responses will be received, and agreements with selected community solar projects executed, in Q3 2018.
	2018	Initiate low-income customer outreach and enrollment.	Low-income customer outreach and enrollment will be initiated in Q3 2018.
	2018-2020	Issue additional solicitation(s) for community solar projects, if needed.	
	2018-2020	Execute additional agreements with community solar projects for low-income subscriptions, if needed.	
	2020	Finalize post-initiative transition strategy.	

**Table 70. Industry Partnerships Initiative Results**

**Approval Date:** September 15, 2016

**Launch Date:** January 13, 2017

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	51,278	51,278	70,250	73%	336,000	15%
	MWh Lifetime	-	-	-	410,228	410,228	561,500	73%	2,688,000	15%
	MMBtu Annual	-	-	-	348,480	348,480	464,500	75%	2,225,000	16%
	MMBtu Lifetime	-	-	-	2,787,842	2,787,842	3,715,000	75%	17,800,000	16%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	45,507	45,507	61,600	74%	294,800	15%
	Lifetime Tons	-	-	-	364,053	364,053	492,500	74%	2,359,000	15%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$8.74	\$8.74	\$11.90	73%	\$56.97	15%
	Lifetime Dollars	-	-	-	\$69.95	\$69.95	\$95.20	73%	\$455.80	15%
Private Investment (millions)	Dollars	-	-	-	\$5.59	\$5.59	\$6.09	92%	\$21.92	26%
Participants	Participants	-	-	-	17	17	14	121%	67	25%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 71. Key Milestones for Industry Partnerships**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2016	Convene industry partners for building operation and maintenance.	Building operations and maintenance partners were convened and one-on-one discussions with industry partners continued through 2017.
✓	2016	Identify employer champions, those who will help NYSERDA to lead the initiative, for building operations and maintenance.	Industry champions have been identified and are working with NYSERDA as well as with their peers to identify labor-related gaps and inform intervention strategies.
✓	2016	Identify common labor-related barriers and potential training interventions.	Barriers have been identified, such as the lack of hands-on or on-site training after classroom training or need for culture change within organizations to establish self-sustaining change. PON 3442 closed in July 2017 and resulted in 11 approved applications for funding, which are either executed or currently under contract negotiation. NYSERDA issued a second building O&M solicitation (PON 3715) in October 2017 with a 1/31/18 closing date. Seven proposals were received by the due date and the PON was extended, as planned, through the end of May 2018. The solicitation is open enrollment and accepts applications on a first come, first served basis.
	2017–2018	Data collected from demonstration sites to help demonstrate the business case for training.	Data collection is underway in all six business case demonstration projects. Final or interim reports, in some cases, should be completed by Q4 2018.
✓	2017–2018	Identify and implement up to six business demonstrations. Collect performance data from demonstration sites for case studies and sharing results.	Six business case demonstrations are underway: high schools owned by the Archdiocese of New York, BMS training with two Upstate high schools, the Association for Energy Affordability and several multifamily buildings in NYC, and 32BJ with multifamily properties in the Bronx.
✓	2017–2021	Issue a solicitation(s) to support the development of building operations and maintenance training initiatives that address skill gaps and facilitate career paths with multiple due dates as appropriate.	NYSERDA issued a second building O&M solicitation (PON 3715) in October 2017. The current solicitation is open enrollment and applications were accepted on a first come, first served basis through May 30, 2018.
✓	2018	Identify one additional area (by sectors, industry, or technology) to initiate industry partnership strategy to address workforce development and training needs to advance goals of CEF.	Offshore wind, HVAC, renewable heating and cooling, and other related energy efficiency areas have been identified as topics for industry partnerships to address talent pipeline and skill gaps issues.
	2018–2020	Develop and implement marketing plan to share results of business case demonstrations and building operations and maintenance project results. Share intervention templates with industry.	NYSERDA is developing a marketing plan to share the results of the projects and business cases demonstrations.

**Table 72. Clean Technology and Energy Efficiency Talent Pipeline Initiative Results**

**Approval Date:** June 22, 2018

**Anticipated Launch Date:** Q3 2018

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	-	-	-	-	\$0.02	-	\$68.64	-
Participants	Participants	-	-	-	-	-	15	-	25,173	-

**Table 73. Key Milestones for Clean Technology and Energy Efficiency Talent Pipeline**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2018	Issue clean energy training infrastructure and capacity building solicitation, Round 1.	The solicitation is under development.
	2018	Issue open enrollment OJT program.	The solicitation is under development.
	2018	Issue open enrollment internship program.	The program guidelines and other relevant documents are being developed in partnership with New York State Department of Labor.
	2020	Issue clean energy training infrastructure and capacity building solicitation, Round 2.	
	2020	Revise and reissue OJT and internship PONs.	
	2021	Issue clean energy training infrastructure and capacity building solicitation, Round 3, focused on OSW.	
	2021	Issue open enrollment OJT program focused on OSW.	

**Table 74. Heat Pumps and Solar Thermal Initiative Results**

**Approval Date:** May 16, 2017

**Launch Date:** May 30, 2017

See Endnotes section for more information<sup>30</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2021)	% of Total Planned Benefits through Initiative Completion (2021)
Energy Efficiency	MWh Annual	372	176	548	-	548	*	-	*	-
	MWh Lifetime	9,298	4,405	13,703	-	13,703	*	-	*	-
	MMBtu Annual	10,111	8,210	18,321	276,305	294,626	171,200	172%	841,600	35%
	MMBtu Lifetime	252,783	205,239	458,021	6,711,065	7,169,086	4,285,000	167%	21,040,000	34%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	553	341	894	10,270	11,165	7,730	144%	34,810	32%
Customer Bill Savings (millions)	Lifetime Tons	13,833	8,528	22,362	248,855	271,216	193,300	140%	870,300	31%
	Annual Dollars	\$0.20	\$0.1	\$0.3	\$1.62	\$1.94	\$1.30	149%	\$5.63	34%
Private Investment (millions)	Lifetime Dollars	\$5.04	\$2.76	\$7.80	\$37.54	\$45.34	\$32.80	138%	\$140.80	32%
	Dollars	\$2.75	\$1.91	\$4.65	\$62.71	\$67.36	\$12.40	543%	\$122.90	55%
Participants	Participants	123	71	194	27	221	601	37%	3,487	6%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 75. Key Milestones Heat Pumps and Solar Thermal**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2017	Solicit for and contract with technical support contractor for community campaigns	RFP 3751 was released on November 16, 2017. Four proposals were received, and one proposal was recommended for contract negotiations.
	2017	Launch GSHP contractor mentoring program.	Contract signed August 30, 2017.  GSHP market partners have signaled that this timing is premature and prefer a pilot in a geographical area that can be expanded statewide.
✓	2017	Release competitive solicitation to select community campaigns (repeat annually).	PON 3723 was released on 11/16/17.
✓	2017	Release open enrollment solicitation for GSHP incentive.	The Ground Source Heat Pump Rebate (PON 3620) was released on May 30, 2017.
✓	2017	Provide list of qualified GSHP designers, installers, and drillers to market.	As of December 31, 2017, 57 qualified GSHP designers, installers and drillers were listed on NYSERDA's website.
✓	2017	Contract with consultants to perform QA and design review for GSHP incentive projects.	Notices to proceed issued to four contractors on July 28, 2017.
	2018	Provide marketing toolkit and installer selection model solicitations to pilot community campaigns.	The marketing toolkit is under development using the Solarize marketing toolkit as a starting point.  Installer selection model RFP will be developed by the Technical Assistance contractor using the HeatSmart RFP as a starting point.
✓	2018	Launch community campaigns (repeat annually).	Round 1 selected proposals are currently undergoing contract negotiation.
✓	2018	Contract with consultants to perform screening assessments and schematic designs for college and university campuses and State and local buildings.	NYPA entered into contract with ICF to perform screening, draft best practices/lessons learned document, and design and engineering service scope of work documents.
	2018	Provide standardized contracts and best practices manual to market.	Development of the best practices and lessons learned guides, relating to the Geothermal Campus Challenge eligible facilities, are included in the contractor's (ICF) scope of work and are in process.
	2018	Complete assessment of M&V methodologies for system performance and share with market participants.	To be included as part of scope of work for consultants to be procured under NYPA to perform ASHRAE Level 2 audits and schematic designs.  NYSERDA is collaborating with NYPA on the document.

Table 75 continued

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2019	Disseminate RH&C case studies and design and installation best practices to the market.	
	2019	Develop aggregated procurement for colleges and universities and State and local buildings.	One contractor (ICF) will be used to perform screenings. A separate contractor may be procured to perform ASHRAE Level 2 audits, and schematic designs for program participants. Determination of whether aggregation strategies can be applied to eventual construction of projects is being explored.
	2024	Complete commissioning and M&V on large commercial, campus, and State and local building projects.	

Table 76. Renewable Heat NY Initiative Results

Approval Date: May 16, 2017

Launch Date: May 9, 2017

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2021)	% of Total Planned Benefits through Initiative Completion (2021)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	7,474	1,002	8,476	2,091	10,567	5,525	191%	17,640	60%
	MMBtu Lifetime	149,479	20,034	169,514	41,827	211,341	110,600	191%	352,900	60%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	477	8	486	209	695	407	171%	1,296	54%
	Lifetime Tons	9,549	165	9,714	4,181	13,895	8,125	171%	25,920	54%
Customer Bill Savings (millions)	Annual Dollars	\$0.17	\$0.01	\$0.18	\$0.07	\$0.25	\$0.10	249%	\$0.45	55%
	Lifetime Dollars	\$3.44	\$0.16	\$3.59	\$1.39	\$4.98	\$2.80	178%	\$9.03	55%
Private Investment (millions)	Dollars	\$1.17	\$0.18	\$1.35	\$0.20	\$1.55	\$4.20	37%	\$15.36	10%
Participants	Participants	322	79	401	8	409	583	70%	1,629	25%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 77. Key Milestones Renewable Heat NY**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2017	Modify incentives to reflect current market conditions and re-issue open enrollment solicitation.	Broad program modifications, including incentive modifications, are being developed based on additional stakeholder feedback. Planned completion in Q3 2018.
✓	2017	Contract with Alliance for Green Heat to provide funding to Wood Stove Design Challenge on an annual basis through 2019.	Planning for the 2018 Wood Stove Design Challenge by the Alliance for Green Heat is underway. This competition will focus on automated wood stoves and be held in Washington D.C. on November 9-14, 2018. Contracting completed April 2018.
✓	2017	Launch marketing campaign.	PON 3694 (Cooperative Advertisement and Promotions for HVAC Partners) has been amended to include Biomass heating technologies. Revision was released in April 2018.
	2018	Contract with research partners to provide studies on wood smoke and public health.	NYSERDA is pursuing discussions with relevant stakeholders to determine critical study topics and factors.
✓	2018	Launch community sponsored purchasing campaigns.	PON 3723 was released on 11/16/17.
	2018	Contract with manufacturers selected under competitive solicitation.	This will begin once the competitive solicitation has been released and proposals selected.
	2019	Issue competitive solicitation to seek proposals from advanced biomass heating equipment manufacturers on technology improvements.	A future round of PON 3519 Next Gen HVAC will solicit proposals for advanced biomass improvement.
	2019	Reissue workforce development program based on market feedback.	

**Table 78. Underutilized Product Support Initiative Results**

**Approval Date:** May 16, 2017

**Launch Date:** August 17, 2017

See Endnotes section for more information<sup>31</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2020)	% of Total Planned Benefits through Initiative Completion (2020)
Energy Efficiency	MWh Annual	-	-	-	-	-	10,200	-	89,790	-
	MWh Lifetime	-	-	-	-	-	132,900	-	1,167,000	-
	MMBtu Annual	134,708	31,689	166,398	-	166,398	94,400	176%	399,000	42%
	MMBtu Lifetime	2,020,626	475,338	2,495,964	-	2,495,964	1,412,000	177%	5,985,000	42%
Renewable Energy	MW	-	-	-	-	-	*	-	*	-
	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	MW	-	-	-	-	-	*	-	*	-
	Annual Tons	5,247	1,233	6,480	-	6,480	8,980	72%	62,610	10%
Customer Bill Savings (millions)	Lifetime Tons	78,703	18,499	97,202	-	97,202	124,300	78%	844,600	12%
	Annual Dollars	\$1.66	\$0.42	\$2.08	-	\$2.08	\$2.80	74%	\$17.96	12%
Private Investment (millions)	Lifetime Dollars	\$24.89	\$6.32	\$31.21	-	\$31.21	\$39.00	80%	\$245.50	13%
	Dollars	\$12.78	\$4.28	\$17.06	-	\$17.06	\$28.60	60%	\$161.30	11%
Advanced Rooftop Units	Participants	-	-	-	-	-	245	-	2,190	-
Air Source Heat Pumps		1,750	397	2,147	-	2,147	2,700	80%	11,430	19%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 79. Key Milestones Underutilized Product Support**

See Endnotes section for more information<sup>32</sup>

Complete ✓	Time Frame	Milestone	Explanation of Progress
n/a	2017	Launch open enrollment incentive program for Advanced Rooftop Units (ARTU).	<p>ARTU program has been put on hold pending additional research and market engagement. The initiative was intended to promote the stocking and sales of the most efficient and controllable RTUs on the market, but the intended technology performance levels are not readily available in the supply chain at this point. NYSERDA is looking at alternate structures and technologies to address commercial HVAC, including advanced controls retrofits and variable refrigerant flow systems.</p> <p>NYSERDA is reviewing results of a "Market and Technical Analysis of VRF Heat Pump Technology" and upon completion will explore options for promoting this technology. These efforts are planned for an early 2019 launch.</p> <p>This milestone will need to be revised.</p>
✓	2017	Release solicitation for shared awareness and education campaigns, as well as customer targeting and acquisition.	<p>The solicitation for co-op marketing was released in December 2017. The solicitation covers marketing, outreach, and training, and will initially focus on supporting efforts to promote cold climate ASHPs and GSHPs but can be expanded to offer programs for other technologies.</p>
n/a	2017	HVAC trainings assessed and compiled to facilitate increased contractor participation.	<p>This milestone is no longer handled within the Products initiative and subsequent activities will be associated with the Clean Heating and Cooling chapter.</p>
	2017	Case studies developed and deployed in the market, along with current resources from regional and national organizations.	<p>Initially, NYSERDA deployed best practice resources for contractors from the Northeast Energy Efficiency Partnership. Next will be the development of case studies to exhibit savings potential. Fifty NYSERDA-funded ASHP demonstration projects have been awarded, with 16 currently functioning and monitoring data. Compiling viable results from these projects for dissemination will push development time of case studies to Q1 2019.</p>

Table 79 continued

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Issue competitive solicitation for technical analysis related to product and appliance standards.	Solicitation for technical analysis of potential product standards was released in August 2017 and the work was completed in November 2017.
	2018	Efficiency and cost calculator released in the market.	Working to assess current market offerings across technologies. It is most likely that a tool will need to be updated or developed to meet needs. Any tool developed will be applicable across technologies to maximize impact for contractors.
	2018	Mapping tool for Air-Source Heat Pumps (ASHP) potential released in the market.	The customer targeting/mapping tool is in the contracting phase now. The goal of this work is to test methods for collecting and processing publicly available data that can be used to identify high-potential opportunities for efficiency retrofits in advance of end of life replacement.
✓	2018	Launch open enrollment incentive program for ASHPs.	ASHP program was launched in August.
	2018	Issue competitive solicitation to identify and test alternative business models.	NYSERDA will work to identify, test, and expand existing business models in the energy efficiency retrofit space, especially into the small and medium business market. Possible options include expanding energy service agreements, leasing of efficient equipment, and promoting efficiency-as-a-service.
	2018	Issue competitive solicitation for pilots to identify and deploy solutions for the integration of traditional and advanced systems, such as ASHPs.	NYSERDA plans to offer this as part of the second round of the Next Generation HVAC Technology Challenge (PON 3519).  Continuing conversations have taken place with manufacturers, northeast program administrators, and other stakeholders on this topic. There is a tremendous amount of interest in addressing this challenge, and a wide belief that current technology can be applied to this challenge. NYSERDA is working with NEEP to find other states/programs that might be interested in offering a joint or parallel solicitation.
	2019	Issue open solicitation to expand alternative business models based on results from competitive solicitation in 2018.	This open solicitation is dependent on the outcome of the Business Model Innovation solicitation in 2018.

**Table 80. Energy Efficiency Soft Cost Challenge Initiative Results**

**Approval Date:** July 19, 2017

**Anticipated Launch Date:** TBD

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Energy Efficiency	MWh Annual	-	-	-	-	-	4,430	-	17,720	-
	MWh Lifetime	-	-	-	-	-	44,300	-	177,200	-
	MMBtu Annual	-	-	-	-	-	147,500	-	590,600	-
	MMBtu Lifetime	-	-	-	-	-	1,475,000	-	5,906,000	-
	MW	-	-	-	-	-	-	-	-	-
Renewable Energy	MWh Annual	-	-	-	-	-	-	-	-	-
	MWh Lifetime	-	-	-	-	-	-	-	-	-
	MW	-	-	-	-	-	-	-	-	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	11,650	-	46,570	-
	Lifetime Tons	-	-	-	-	-	116,500	-	465,700	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	\$2.80	-	\$11.11	-
	Lifetime Dollars	-	-	-	-	-	\$27.80	-	\$111.10	-
Private Investment (millions)	Dollars	-	-	-	-	-	\$1.80	-	\$7.00	-
Participants	Participants	-	-	-	-	-	15	-	20	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 81. Key Milestones for Energy Efficiency Soft Cost Challenge**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2017	Issue competitive solicitation for first round of the challenge.	Solicitation on hold. The initiative as outlined within the investment plan is currently on hold. NYSERDA is exploring opportunities to integrate soft cost reduction strategies within the single-family, multifamily, and commercial programs.
	2017	Select an implementation consultant.	
	2017	Hold bidder's presentation to answer questions on the challenge.	
	2017	Select preliminary winners.	
	2018	Contract projects with 10 preliminary winners. Monitor and provide assistance and resources to preliminary winners.	
	2018	Hold business plan presentations to a panel of judges.	
	2018	Select up to five, grand prize winners.	
	2018	Contract projects with first round grand prize winners.	
	2018	Issue competitive solicitation for second round of the challenge.	
	2018	Hold bidder's presentation to answer questions on the challenge.	
	2018	Select preliminary winners.	
	2019	Contract projects with 10 preliminary winners. Monitor and provide assistance and resources to preliminary winners.	
	2019	Hold business plan presentations to a panel of judges.	
	2019	Select up to five, grand prize winners.	
	2019	Contract projects with second round grand prize winners.	

**Table 82. Technical Services Initiative Results**

**Approval Date:** October 3, 2017

**Launch Date:** November 9, 2017

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Energy Efficiency	MWh Annual	-	-	-	5,435	5,435	10,100	54%	87,310	6%
	MWh Lifetime	-	-	-	92,395	92,395	171,500	54%	1,484,000	6%
	MMBtu Annual	-	-	-	51,249	51,249	57,000	90%	471,300	11%
	MMBtu Lifetime	-	-	-	871,233	871,233	970,000	90%	8,012,000	11%
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	93	-	1,645	-
	MWh Lifetime	-	-	-	-	-	1,575	-	27,970	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	5,584	5,584	8,450	66%	72,280	8%
	Lifetime Tons	-	-	-	94,931	94,931	143,500	66%	1,229,000	8%
Customer Bill Savings (millions)	Annual Dollars	-	-	-	\$1.01	\$1.01	2	59%	15	7%
	Lifetime Dollars	-	-	-	\$17.10	\$17.10	29	59%	249	7%
Private Investment (millions)	Dollars	-	-	-	\$3.70	\$3.70	10	39%	91	4%
Participants	Participants	-	-	-	4	4	8	50%	1,445	0.3%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 83. Key Milestones for Technical Services**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Identify qualified energy-focused consultants to participate in pilots and serve customers engaging in pilots or cost-shared energy assessments.	Identified qualified energy-focused consultants to participate in pilots.
✓	2018	Issue solicitation for On-Site Energy Manager pilot.	Issued solicitation for On Site Energy Manager pilot on November 9, 2017.
✓	2018	Award funding to initial entities selected under On-Site Energy Manager pilot.	Two projects have been awarded.
✓	2018	Issue solicitation, New Aggregation Models pilot.	Energy Study Aggregation program launched June 29, 2018.
	2018	Contract with third-party to support best practices development including the farm management best practices guide.	Work to solicit technical content for an energy-related farm management best practice guide will begin in Q3 2018.
	2019	Award funding to initial entities selected under New Aggregation Models pilot.	
	2019	Disseminate best practices materials.	
✓	2019	Issue revised open enrollment Agriculture Energy Audit component of FlexTech.	PON 3846 Agriculture Energy Audit Program was released in June 2018. This was completed in advance of what was planned to provide continuity to the market.
	2019	Begin examining the results of pilot(s) to determine if additional rounds of the same pilot are needed in the market or if new pilots are needed. Subsequent milestones will be updated accordingly based on the result of this review.	
	2020	Issue revised open enrollment FlexTech Program.	
	2022	Issue third pilot solicitation. It is anticipated that the third pilot will be available through 2024.	

**Table 84. Clean Energy Advanced Market Performance (AMP) Challenge Initiative Results**

**Approval Date:** December 1, 2017

**Launch Date:** May 14, 2018

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2018)	% of Total Planned Benefits through Initiative Completion (2018)
Energy Efficiency	MWh Annual	-	-	-	-	-	12,950	-	25,900	-
	MWh Lifetime	-	-	-	-	-	194,500	-	389,000	-
	MMBtu Annual	-	-	-	-	-	76,000	-	152,000	-
	MMBtu Lifetime	-	-	-	-	-	1,140,000	-	2,280,000	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	2,345	-	4,690	-
	MWh Lifetime	-	-	-	-	-	35,200	-	70,400	-
	MW	-	-	-	-	-	2	-	4	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	12,350	-	24,700	-
	Lifetime Tons	-	-	-	-	-	185,000	-	370,000	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	2	-	3	-
	Lifetime Dollars	-	-	-	-	-	26	-	52	-
Private Investment (millions)	Dollars	-	-	-	-	-	27	-	55	-
Participants	Participants	-	-	-	-	-	1	-	2	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 85. Key Milestones for Clean Energy Advanced Market Performance (AMP) Challenge**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2018	Issue competitive solicitation.	RFP 3757 launched May 14, 2018 with proposals due in early Q3 2018.
	2018	Contract with selected participants.	Contracting will occur after proposals have been reviewed and awarded.
	2018	Finalize participants' Clean Energy Action Plans for 2019 during participants' capital planning cycles. Clean Energy Action Plan updates will be conducted on an annual basis with updates for 2020 and 2021 being made during capital planning cycles in 2019 and 2020, respectively.	Finalization of clean energy action plans will occur immediately after contracting.
	2020	Conduct M&V for implemented 2019 projects. M&V will be conducted on an ongoing basis through 2022. Assess program performance and participant satisfaction to test, measure, and adjust on an annual basis.	
	2022	Issue AMP Summary report detailing lessons learned to date and potential for replicability.	

**Table 86. Clean Energy Siting and Soft Cost Reduction Initiative Results**

**Approval Date:** December 1, 2017

**Launch Date:** March 9, 2018

See Endnotes section for more information<sup>33</sup>

Market Development Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2020)	% of Total Planned Benefits through Initiative Completion (2020)
Authorities Having Jurisdiction (AHJs)	Participants	111	30	141	-	141	20	705%	160	88%
Working Group Participants		113	-	113	-	113	10	1130%	60	188%

**Table 87. Key Milestones for Clean Energy Siting and Soft Cost Reduction**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2018	Establish a soft cost working group.	A soft cost working group has been established. This group of stakeholders have worked and provided feedback on chapters of the Solar Guidebook, as well as other potential venues for soft cost reductions.
✓	2018	Issue a solicitation to select a pool of contractors and organizations to develop, disseminate, and implement soft cost solutions.	NYSERDA issued a mini-bid in March 2018 to solicit contractors to assist the team on providing technical assistance to local government.
	2018	Contract with a pool of contractors and organizations.	A bid was issued in March 2018 to hire contractors to support the Clean Energy Siting. NYSERDA received proposals from firms to assist the team on providing technical assistance to local governments regarding all issues of Clean Energy Siting. Contracting is in process.
	2018	Complete trainings for technical assistance providers.	Proposals from technical assistance providers were received in March 2018. Training will occur after technical assistance providers have been selected. Creation of a new role at NYSERDA to oversee clean energy siting and soft cost reduction for all programs shifted the responsibility for training technical assistance provided to the Senior Advisor for Clean Energy Siting. Contractor selection and training has been placed on hold at this time.
	2018	Launch a statewide outreach and education campaign to publicize soft cost solutions and technical assistance services, including convening regional meetings for LSR stakeholders.	Statewide outreach and education campaign was launched on March 9, 2018. A new role has been created at NYSERDA to oversee siting and soft cost reduction across all NYSERDA programs. The statewide outreach and education campaign is now being led by the Senior Advisor for Clean Energy Siting.
	2018	Issue the incentive grant solicitation for AHJs taking significant steps to reduce solar soft costs.	This is currently in the planning stages with anticipation of launch later this year. The initial design is to provide authorities having jurisdiction with a grant when they adopt a Payment In-Lieu of Taxes agreement, the Solar Model Law, and the Unified Solar Permit.
	2018	Issue the Soft Cost Innovation solicitation.	
	2018	Contract with Soft Cost Innovation award recipients.	
	2019	Compile and publish a document of all case studies to highlight best soft cost reduction strategies and clean energy-friendly communities.	

**Table 88. Code to Zero Initiative Results**

**Approval Date:** December 1, 2017

**Anticipated Launch Date:** Q4 2018

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2022)	% of Total Planned Benefits through Initiative Completion (2022)
Energy Efficiency	MWh Annual	-	-	-	-	-	-	-	165,700	-
	MWh Lifetime	-	-	-	-	-	-	-	4,142,000	-
	MMBtu Annual	-	-	-	-	-	-	-	132,200	-
	MMBtu Lifetime	-	-	-	-	-	-	-	3,306,000	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	-	-	94,830	-
	Lifetime Tons	-	-	-	-	-	-	-	2,371,000	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	-	-	\$23.37	-
	Lifetime Dollars	-	-	-	-	-	-	-	\$584.30	-
Private Investment (millions)	Dollars	-	-	-	-	-	-	-	\$513.50	-
Trainings		-	-	-	-	-	1,000	-	7,750	-
Pilots	Participants	-	-	-	-	-	-	-	6	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 89. Key Milestones for Code to Zero**

Complete	Time Frame	Milestone	Explanation of Progress
✓	2017	Extend training and third-party plan review contracts.	Training and third-party plan review contracts have been extended.
✓	2017	Issue a procurement to provide third-party services through 2018.	A mini-bid was issued Q4 2017 among FlexTech and technical review consultants to secure third-party service providers through 2019. However, RGGI funding is being used for these services; funds are no longer coming from CEF as previously expected.

Table 89 continued

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2018	Issue NY Stretch-Energy stretching off IECC22 2018.	Public comment on draft closed April 3, 2018. Approximately 150 comments were received, and the team is in the process of reviewing. The NYSERDA Codes Team maintains regular contact with NYC and is still on schedule for producing the final code.
	2018	Issue Pilot #1 solicitation to pilot alternative enforcement structures.	NYSERDA began work on this milestone in Q2 2018.
	2018	Issue Pilot #2 solicitation for pilot communities to adopt NY Stretch-Energy (IECC2018).	NYSERDA began work on this milestone in Q2 2018
✓	2018	Issue solicitation for audience-specific training content and approaches.	RFQL 3711 was issued May 2, 2018. NYSERDA expects to use contractors selected from this solicitation to contribute to CEF-funded training development and delivery for at least some of the work associated with this milestone. Proposals were received and reviewed in June 2018.
	2018	Finalize plan to codify stretch-to-zero as baseline by 2030.	Part of New Buildings Institute contract "Policy Analysis and Development to Support NY Climate Objectives will start in Q3 2018.
	2019	Contract Pilot(s) #1 for alternative enforcement business structures.	
	2019	Contract Pilot(s) #2 for adoption of NY Stretch-Energy (IECC2018).	
	2019	Contracts for audience-specific training content and approaches.	
	2019	Issue Solicitation to develop NY Stretch-Energy stretching off IECC2021.	
	2019	Issue Pilot #3 solicitation for pilot communities to test Stretch to Zero code approaches.	
	2020	Contract for development of NY Stretch-Energy (IECC2021).	
	2020	Contract Pilot(s) #3 to test stretch-to-zero code approaches.	
	2021	Issue NY Stretch-Energy stretching off IECC 2021.	
	2021	Disseminate results of pilots for alternative enforcement business structures.	

**Table 90. Fuel Cells Initiative Results**

**Approval Date:** December 1, 2017

**Launch Date:** May 3, 2018

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	-	-	16,650	-	66,580	-
	MWh Lifetime	-	-	-	-	-	333,000	-	1,332,000	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	2	-	8	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	1,875	-	7,502	-
	Lifetime Tons	-	-	-	-	-	37,500	-	150,000	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	\$1.50	-	\$5.99	-
	Lifetime Dollars	-	-	-	-	-	\$29.95	-	\$119.80	-
Private Investment (millions)	Dollars	-	-	-	-	-	\$10.25	-	\$41.00	-
Participants	Participants	-	-	-	-	-	7	-	27	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 91. Key Milestones for Fuel Cells**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2018	Issue open enrollment solicitation.	The CEF Stationary Fuel Cell Program (PON 3841) was released May 3, 2018 and will be open through December 31, 2019. PON 3841 will support the installation of a large fuel cell module with a nameplate rating greater than 25 kW. A list of eligible equipment is available in Appendix E of PON 3841.
	2018	Contract with accepted open enrollment solicitation applicants as they apply through 2019.	Release of PON 3841 generated market interest, and market place actors are working to prepare project applications.
	2018	Confirm installation of equipment at site. This will start in 2018 and continue in 2019 based on timing of applications.	These activities will commence as projects are contracted.
	2019	Confirm first annual performance of fuel cell operation. This will start in 2019 and continue in 2020 based on timing of applications.	

**Table 92. New Construction Market Rate and Initiative Results**

**Approval Date:** December 1, 2017

**Launch Date:** April 12, 2018

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2020)	% of Total Planned Benefits through Initiative Completion (2020)
Energy Efficiency	MWh Annual	-	-	-	-	-	19,700	-	195,200	-
	MWh Lifetime	-	-	-	-	-	43,700	-	4,351,000	-
	MMBtu Annual	-	-	-	-	-	33,550	-	368,600	-
	MMBtu Lifetime	-	-	-	-	-	750,000	-	8,446,000	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	14,200	-	146,200	-
	Lifetime Tons	-	-	-	-	-	315,000	-	3,264,000	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	\$2.71	-	\$28.74	-
	Lifetime Dollars	-	-	-	-	-	\$63.50	-	\$643.30	-
Private Investment (millions)	Dollars	-	-	-	-	-	\$6.45	-	\$135.00	-
Market Rate Housing-Units Participants		-	-	-	-	-	250	-	8,300	-
Market Rate Commercial Buildings	Participants	-	-	-	-	-	26	-	270	-
Market Rate Training Participants		-	-	-	-	-	121	-	726	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 93. Low Income New Construction Initiative Results**

**Approval Date:** December 1, 2017

**Launch Date:** April 12, 2018

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2020)	% of Total Planned Benefits through Initiative Completion (2020)
Energy Efficiency	MWh Annual	-	-	-	-	-	1,050	-	19,280	-
	MWh Lifetime	-	-	-	-	-	26,300	-	482,000	-
	MMBtu Annual	-	-	-	-	-	4,410	-	103,700	-
	MMBtu Lifetime	-	-	-	-	-	110,000	-	2,592,000	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	790	-	15,750	-
	Lifetime Tons	-	-	-	-	-	19,800	-	393,700	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	\$0.19	-	\$3.60	-
	Lifetime Dollars	-	-	-	-	-	\$4.71	-	\$90.00	-
Private Investment (millions)	Dollars	-	-	-	-	-	\$6.20	-	\$78.86	-
LMI Housing Unit Participants	Participants	-	-	-	-	-	250	-	8,700	-
LMI Training Participants		-	-	-	-	-	98	-	582	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 94. Key Milestones for Market Rate and Low Income New Construction**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2018	Issue first competitive solicitation for Buildings of Excellence Competition.	The solicitation is expected to be released in Q3 2018. NYSERDA has completed several voice of customer (VOC) discussions and is continuing to discuss with stakeholders, building support for the upcoming solicitation.
	2018	Contract with awardees for Buildings of Excellence Competition.	Expect to have awardees identified by Q4 2018.
	2018	Issue solicitation to launch Simplified Design and Tools: Model Measure Packages activity.	Kickoff meeting scheduled for early Q3 2018, to scope activities, and set schedule for 2019 actions.
	2018	Contract with awardees for Simplified Design and Tools: Model Measure Packages activity.	Contracts will follow the release of the solicitation which is still in development at this time.
✓	2018	Issue Solicitation for Net Zero Energy Commercial/Industrial Competition.	The solicitation for the Net Zero Energy for Economic Development program was released as part of the Consolidated Funding Application on May 1, 2018.
	2018	Contract with awardees for Net Zero Energy Commercial/Industrial Competition.	Consolidated Funding Application closes July 27, 2018, scores for proposals are due to the Empire State Development Corporation by October 1, 2018. Award winners will be announced in late Q4 2018 and contracting will follow.
	2018	Issue competitive RFP for Simplified Design and Tools: Online Platform development.	NYSERDA will be finalizing the procurement plan in early Q3 2018, setting the scope of the project, and identifying the 2019 schedule. The project may utilize resources under an existing procurement or may need to procure new resources, as identified by the analysis.
	2018	Contract with awardees for Simplified Design and Tools: Online Platform development.	If analysis determines new resources are required, a solicitation to procure those resources will likely be released in Q3.
	2018	Issue mini-bid for technical reviewers through existing NYSERDA umbrella contracts to begin performance analysis to assess project performance.	A kickoff meeting is scheduled for early Q3 2018, which will be used to determine scope and schedule for 2019 activity.
	2018	Contract with technical reviewers for Performance Analysis to assess project performance.	Awards will be made to mini-bid technical reviewers based on scope and schedule of activities determined in Q3 2018.

Table 94 continued

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2018	Issue solicitation for Simplified Design and Tools: Integrated design practices advisor for first-time developers.	This program initiative is being rolled into the Portfolio Owner Support program, which will work with large developers or portfolio owners to define Net Zero, and to build, facilitate, and operate facilities to achieve net zero performance. VOCs have begun, and the RFP will be launched in early Q3 2018.
	2018	Contract with awardees for Simplified Design and Tools: Integrated design practices advisor for first-time developers.	Portfolio Owner Support RFP will be released in Q3 2018, and it is expected that contract awards will begin in Q4 2018.
	2019	Issue solicitation for Commercial Pilot Incentive Program.	
	2019	Contract with awardees for Commercial Pilot Incentive Program.	
	2019	Issue second competitive solicitation for Buildings of Excellence Competition.	
	2019	Contract with awardees for second round of Buildings of Excellence Competition.	
	2019	Issue second Solicitation for Net Zero Energy Commercial/Industrial Competition.	
	2019	Contract with awardees for second Net Zero Energy Commercial/Industrial Competition.	
	2020	Issue third competitive solicitation for Buildings of Excellence Competition.	
	2020	Contract with awardees for third round of Buildings of Excellence Competition	
	2020	Issue third Solicitation for Net Zero Energy Commercial/Industrial Competition.	
	2020	Contract with awardees for third Net Zero Energy Commercial/Industrial Competition.	
	2021	Issue fourth Solicitation for Net Zero Energy Commercial/Industrial Competition.	
	2021	Contract with awardees for fourth Net Zero Energy Commercial/Industrial Competition.	
	2022	Issue fifth Solicitation for Net Zero Energy Commercial/Industrial Competition.	

**Table 94 continued**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2022	Contract with awardees for fifth Net Zero Energy Commercial/Industrial Competition.	
	2019	Contract with awardees for third round of Buildings of Excellence Competition.	
	2020	Issue fourth competitive solicitation for Buildings of Excellence Competition.	
	2020	Contract with awardees for fourth round of Buildings of Excellence Competition.	

**Table 95. Engaging New Markets Initiative Results**

**Approval Date:** December 1, 2017

**Anticipated Launch Date:** Q3 2018

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2020)	% of Total Planned Benefits through Initiative Completion (2020)
Energy Efficiency	MWh Annual	-	-	-	-	-	13	-	1,194	-
	MWh Lifetime	-	-	-	-	-	188	-	17,920	-
	MMBtu Annual	-	-	-	-	-	940	-	89,580	-
	MMBtu Lifetime	-	-	-	-	-	23,450	-	2,239,000	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	62	-	5,930	-
	Lifetime Tons	-	-	-	-	-	1,485	-	142,000	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	\$0.15	-	\$1.48	-
	Lifetime Dollars	-	-	-	-	-	\$3.67	-	\$34.99	-
Private Investment (millions)	Dollars	-	-	-	-	-	\$0.38	-	\$28.17	-
Customer	Participants	-	-	-	-	-	246	-	11,344	-
Market Actor		-	-	-	-	-	13	-	258	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 96. Key Milestones for Engaging New Markets**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2018	Develop a package of energy efficiency related trainings for market actors prior to pilot implementation.	Development is underway and on track for completion in Q3 2018.
	2018	Deploy new content on NYSERDA website.	As of the end of Q2 2018, website strategy completed. New content to be deployed Q3 2018.
	2018	Launch first of targeted consumer education and awareness campaigns.	Initial discussions on targeting campaigns have occurred; planning to continue in Q3.
	2018	Implement initial pilot for contractors delivering home energy ratings as a sales tool.	Implementation planning is underway; solicitation and contract work also underway.
	2018	Implement initial pilot to imbed home energy ratings into real estate transactions.	Implementation planning is underway; solicitation and contract work also underway.
	2018	Implement initial pilot for leveraging relationships that upstream market actors have with contractors.	Early planning work has begun, and planning activities continue. It is anticipated this will not be completed until Q1 2019.
	2019	Implement initial pilot for providing energy efficiency information to consumers from home improvement retailers and their contractor network.	
	2020	Develop resources, such as templates or toolkits, for market actors to support the business case for incorporating energy efficiency into their business models.	
	2021	Data collection and analysis from all pilots completed and results distributed to additional market actors to support intervention adoption.	
	2021	Kits available for communities to use in imbedding home energy ratings in the home sales process.	

## 4 Innovation and Research Initiative Specific Results

**Table 97. Innovation and Research Initiative Budgets and Spending**

See Endnotes for more information<sup>34,35</sup>

Initiative	Budget Approved as of June 30, 2018 <sup>a</sup>	Expended Funds <sup>b</sup>	Open Encumbrances <sup>c</sup>	Contract Pre-Encumbrances <sup>d</sup>	Committed Funds <sup>e</sup>	% of Approved Budget Committed <sup>f</sup>	Budget Approved Remaining Balance <sup>g</sup>
<b>Market Characterization &amp; Design Chapter</b>	<b>\$250,000</b>	<b>\$653</b>	<b>-</b>	<b>-</b>	<b>\$653</b>	<b>0.3%</b>	<b>\$249,347</b>
<b>Grid Modernization Chapter</b>							
DER Interconnection	\$6,300,000	\$1,448,924	\$1,238,555	-	\$2,687,479	43%	\$3,612,521
High Performing Grid	\$110,500,000	\$2,755,225	\$6,723,925	\$1,978,675	\$11,457,825	10%	\$99,042,175
Next Generation Power Electronics	\$16,700,000	\$6,479,502	\$10,220,498	-	\$16,700,000	100%	-
<b>Grid Modernization Chapter Total</b>	<b>\$133,500,000</b>	<b>\$10,683,651</b>	<b>\$18,182,978</b>	<b>\$1,978,675</b>	<b>\$30,845,304</b>	<b>23%</b>	<b>\$102,654,696</b>
<b>Innovation Capacity and Business Development Chapter</b>							
CleanTech Startup Growth	\$49,200,000	\$1,501,132	\$9,340,130	\$5,262,164	\$16,103,426	33%	\$33,096,574
Manufacturing Corps	\$12,000,000	\$115,386	\$4,000,000	-	\$4,115,386	34%	\$7,884,614
Novel Business Models and Offerings	\$16,100,000	\$27,084	-	-	\$27,084	\$0	\$16,072,916
<b>Innovation Capacity and Business Development Chapter Total</b>	<b>\$77,300,000</b>	<b>\$1,643,602</b>	<b>\$13,340,130</b>	<b>\$5,262,164</b>	<b>\$20,245,896</b>	<b>26%</b>	<b>\$57,054,104</b>
<b>Building Innovation Chapter</b>							
NextGen HVAC	\$15,000,000	\$406,143	\$911,955	\$6,092,815	\$7,410,913	49%	\$7,589,087
<b>Building Innovation Chapter Total</b>	<b>\$15,000,000</b>	<b>\$406,143</b>	<b>\$911,955</b>	<b>\$6,092,815</b>	<b>\$7,410,913</b>	<b>49%</b>	<b>\$7,589,087</b>
<b>Clean Transportation Chapter</b>							
Electric Vehicles	\$11,850,000	\$406,598	\$354,034	\$50,000	\$810,632	7%	\$11,039,368
Public Transportation and Electrified Rail	\$18,500,000	\$25,436	\$317,465	\$336,000	\$678,900	4%	\$17,821,100
<b>Clean Transportation Chapter Total</b>	<b>\$30,350,000</b>	<b>\$432,033</b>	<b>\$671,499</b>	<b>\$386,000</b>	<b>\$1,489,532</b>	<b>5%</b>	<b>\$28,860,468</b>
<b>Energy-Related Environmental Research Chapter</b>							
Environmental Research	\$30,000,000	\$411,878	\$6,789,837	\$598,319	\$7,800,034	26%	\$22,199,966
<b>Energy-Related Environmental Research Chapter Total</b>	<b>\$30,000,000</b>	<b>\$411,878</b>	<b>\$6,789,837</b>	<b>\$598,319</b>	<b>\$7,800,034</b>	<b>26%</b>	<b>\$22,199,966</b>
<b>Renewables Optimization Chapter</b>			<b>\$13,579,674</b>				
Energy Storage Innovations	\$33,000,000	\$285,474	\$1,610,192	\$2,142,559	\$4,038,225	12%	\$28,961,775
<b>Renewables Optimization Chapter Total</b>	<b>\$33,000,000</b>	<b>\$285,474</b>	<b>\$1,610,192</b>	<b>\$2,142,559</b>	<b>\$4,038,225</b>	<b>12%</b>	<b>\$28,961,775</b>
<b>NYS Cost Recovery Fee</b>	<b>\$8,087,569</b>	<b>\$191,835</b>	<b>-</b>	<b>-</b>	<b>\$191,835</b>	<b>2%</b>	<b>\$7,895,734</b>
<b>Innovation Capacity and Bus. Dev. Chapter Total</b>	<b>\$327,487,569</b>	<b>\$14,055,269</b>	<b>\$41,506,590</b>	<b>\$16,460,532</b>	<b>\$72,022,391</b>	<b>22%</b>	<b>\$255,465,178</b>

Table notes are on the next page.

- a Funds approved by DPS as of June 30, 2018.
- b Invoices processed for payment by NYSERDA.
- c Remaining funding obligated under a contract, purchase order, or incentive award.
- d Planned funding for contracts awarded and under negotiation.
- e Sum of Expended Funds, Open Encumbrances, and Contract Pre-Encumbrances.
- f Percentage of the budget that has been committed.
- g Difference between Budget Approved Funds and Committed Funds.

**Table 98. Distributed Energy Resource Interconnection Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** October 20, 2016

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	\$0.11	\$0.13	\$0.25	\$3.44	\$3.68	\$5.83	63%	\$5.83	63%
Participants	Participants	-	-	-	9	9	11	82%	13	69%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 99. Key Milestones for Distributed Energy Resource Interconnection**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	Q3 2016	Contract with a consultant to conduct a comprehensive analysis of technology gaps and create a road map for advancement of the technology and tools necessary to support an advanced, integrated, high-performing grid in New York State.	Consulting contract established.
✓	Q3 2016	Contract with one or more research/consulting organizations to provide technical knowledge and support for DER interconnection improvements in New York State.	Contracts in place with three research/consulting organizations.
✓	Q3 2016	Launch a competitive program funding opportunity focused on innovation to reduce DER interconnection burdens in New York State.	Competitive funding program opportunity launched in October 2016.
✓	Q3 2016	Implement a model for collaboration between NYSERDA, NYPA, DPS, NY utilities, and grid tech companies to ensure the grid modernization road mapping work is compatible with and complimentary to the development of DSIPs consistent with PSC rules.	Collaboration model framework established via the NY Grid Modernization Advisory Committee.
✓	Q1 2017	Contract with awardees selected under the funding opportunity focused on innovation to reduce DER interconnection burdens in New York State.	Contracts have been established with proposals selected for award.
✓	Q2 2017	Grid Modernization Roadmap complete.	NY Grid Modernization Roadmap complete.

**Table 100. High-Performing Grid Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** September 16, 2016

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2022)	% of Total Planned Benefits through Initiative Completion (2022)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	\$1.17	\$0.71	\$1.88	\$41.95	\$43.83	\$95.50	46%	\$309.00	14%
Participants	Participants	-	-	-	37	37	20	185%	64	58%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 101. Key Milestones for High-Performing Grid**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Issue broad competitive solicitation #1, guided by utility Distributed System Implementation Plan (DSIP) baseline filings and completed stakeholder market research (e.g., demonstrations, product development, engineering analyses and studies) in technology, tools, and methods aimed at dynamic management of the electric grid.	Program Opportunity Notice 3397 released in October 2016 with a due date of January 11, 2017 (Round #1); June 28, 2017 (Round #2).
✓	2017	Enter into contracts for projects awarded under the broad competitive solicitation #1.	PON 3397 round 1 closed on January 11, 2017. Eleven proposals were contracted with awardees under Round #1 granted April 2017. PON 3397 Round 2 closed on June 28, 2017. Ten proposals were contracted under Round #2 grant September 2017. PON 3397 is now closed.
✓	2017	Identify near-term opportunities for applied research that are aligned with utility supplemental DSIPs and the NY Grid Modernization Roadmap.	Initial and Supplemental DSIP filings have been thoroughly reviewed. The NY Grid Modernization Roadmap was completed March 30, 2018.
	2017	Issue targeted competitive solicitation #2, guided by utility supplemental DSIPs and the NY Grid Modernization Roadmap.	Solicitation delayed allowing broad competitive solicitation #3 to be issued. Solicitation #2 anticipated to be released in Q3 2018.
	2017	Enter into contracts for projects awarded under the targeted competitive solicitation #2.	Solicitation delayed allowing broad competitive solicitation #3 to be issued. Solicitation #2 anticipated to be released in Q3 2018.
	2018	Identify technology gaps necessary to support community grid operation based on completed NY Prize Stage 2 evaluations.	NY Prize Stage 2 project teams are actively working to complete State 2 deliverables.
✓	2018	Issue broad competitive solicitation #3.	PON 3770 was released April 11, 2018.
	2018	Enter into contracts for projects awarded under the broad competitive solicitation #3.	PON 3770 is open and contracts will be established as proposals are awarded.
	2018	Issue targeted competitive solicitation #4.	Estimated to be released in mid-2019.
	2019	Enter into contracts for projects awarded under the targeted competitive solicitation #4.	
	2019	Issue broad competitive solicitation #5.	
	2019	Enter into contracts for projects awarded under the broad competitive solicitation #5.	
	2020	Issue targeted competitive solicitation #6.	

**Table 101 continued**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
	2020	Enter into contracts for projects awarded under the targeted competitive solicitation #6.	
	2020	Issue broad competitive solicitation #7.	
	2021	Enter into contracts for projects awarded under the broad competitive solicitation #7.	
	2021	Issue targeted competitive solicitation #8.	
	2021	Enter into contracts for projects awarded under the targeted competitive solicitation #8.	
	2021	Issue broad competitive solicitation #9.	
	2022	Enter into contracts for projects awarded under the broad competitive solicitation #9.	

**Table 102. Power Electronics Manufacturing Consortium Initiative Results**

**Approval Date:** July 19, 2017

**Launch Date:** October 13, 2017

	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	\$135.00	-	\$135.00	-	\$135.00	\$63.50	213%	\$80.00	169%
Participants	Participants	12	-	12	-	12	6	200%	12	100%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 103. Key Milestones for Power Electronics Manufacturing Consortium**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2017	Business plan completed and submitted to NYSERDA for review.	Business plan presented on May 23, 2018.
	2017	Consortium expanded to include at least four partner companies/customers.	Two consortium partners confirmed. Negotiations are in progress with additional partners.
✓	2018	Contract with SUNY Research Foundation for the PEMC.	Contract was signed October 13, 2017.
	2018	Production capacity fab infrastructure complete.	Fab Infrastructure is in place. Equipment qualification final acceptance is complete for all equipment. Tool owner training and qualification is in progress. Total Reflection X-ray Florescence and Foreign Material qualification is complete. Statistic Process Control development is near completion. Standard Operating Procedure development is in progress.
	2018	Three successive batches of SiC MOSFET wafers fabricated.	Completed three qualification lots with record composition yield of ~65% and delivered lots to General Electric for AEC-Q101 reliability testing.
	2018	Quality management system implemented.	Awarded contracts for Manufacturing Execution System and the Yield Management System.
	2018	ISO-9001 certification complete.	Expected in Q3 2018. Customer delivery required to complete.
	2018	AEC-Q101 qualification complete.	Completed three qualification lots with record composition yield of ~65% and delivered lots to General Electric for AEC-Q101 reliability testing.
	2018	Consortium expanded to include at least eight partner companies/customers.	Two consortium partners confirmed. Negotiations are in progress with additional partners.
	2019	Consortium expanded to include at least 12 partner companies/customers.	

**Table 104. Cleantech Startup Growth Initiative Results**

**Approval Date:** May 23, 2016

**Launch Date:** October 12, 2016

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	\$40.76	\$40.76	\$88.24	\$129.00	\$150.50	86%	\$442.90	29%
Participants	Participants	120	-	120	-	120	417	29%	4,307	3%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 105. Key Milestones for Cleantech Startup Growth Incubators**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2016	First competitive solicitation launched.	Solicitation was released October 12, 2016. Round 1 due date was December 1, 2016. Round 2 opened October 2, 2017 and closed November 29, 2017.
✓	2017	Awards from first solicitation are contracted.	Four awarded contracts were fully executed by August 31, 2017.
✓	2017	Second competitive solicitation launched.	Announced as part of Round 1. Round 2 opened October 2, 2017 and closed November 29, 2017.
✓	Starting 2017	Networking event held.	Networking events are held as part of the routine operation of the incubators. Networking events have been held as planned throughout 2017 and 2018.
✓	Starting 2017	Entrepreneur boot camp held.	Entrepreneurial-type boot camps/workshops are held throughout the operation of the incubators. Entrepreneur boot camps have been held as planned throughout 2017 and 2018.
	2018	Awards from second solicitation are contracted.	Round 2 closed November 29, 2017. Two contracts were awarded, and one contract was executed May 30, 2018. Contracting with the other awardee is still in process.

**Table 106. Key Milestones for Cleantech Startup Growth Ignition Grants**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2017	Formal voice of customer exercise is completed.	Voice of customer exercise was completed in Q3/Q4 2017. Companies working with Incubators awarded in Rounds 1 and 2 will be eligible for Ignition Grants.
✓	2017	Solicitation launched.	PON 3871 launched June 1, 2018.
✓	2017	Investment Committee established.	Investment committee has been established.
	Starting 2017	Investment Committee meetings held.	Investment Committee Meetings are scheduled to begin July 19, 2018 and reoccur every three weeks.
	Starting 2017	Ignition grant awards issued on ongoing basis.	The solicitation launched June 1, 2018 and awards are expected to be issued beginning October 2018.

**Table 107. Key Milestones for Cleantech Startup Growth Geographic Coverage**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2016	Competitive solicitation launched.	Solicitation was released October 12, 2016. Round 1 due date was December 1, 2016.
✓	2017	Awards from solicitation are contracted (~6 months following solicitation due date).	The one award from Round 1 was fully executed by August 31, 2017.
✓	2017	Inventory of entrepreneurial assets in Southern Tier completed.	An inventory of assets was completed during the initiation phase of 76West (RFQL 3101).
n/a	2017	Entrepreneurship training programs established.	NYSERDA will no longer be pursuing this milestone and will remove in a future investment plan revision.
✓	Starting 2017	Networking events held.	Ongoing networking events have already been held and more are planned for future dates. Networking events have been held as planned beginning in 2017.

**Table 108. Key Milestones for Cleantech Startup Growth Proof-of-Concept Centers (POCCs)**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2018	Competitive solicitation for POCCs launched.	PON 3875 was launched May 15, 2018.
	2018	Award(s) from solicitation for POCCs contracted.	Proposals due by July 26, 2018 and potential award(s) expected in Q3/Q4 2018.
	2019	Competitive solicitation for POCC support services launched.	
	2019	Award(s) from solicitation for POCC support services contracted.	

**Table 109. Key Milestones for Cleantech Startup Growth Entrepreneurs-In-Residence**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2018	Competitive solicitation launched.	Solicitation was launched February 28, 2018.
	2018	Award(s) from solicitation contracted.	Contract negotiation currently underway, contract execution expected in Q3 2018.
	2018	Company reviews initiated.	Company reviews will initiate once the new contract is fully executed and the program is formally launched.
	2018	Company engagements initiated.	Company engagements will initiate once the new contract is fully executed and the program is formally launched.
	2018	Office hours and expert presentations initiated.	Office hours and expert presentations will initiate once the new contract is fully executed, and the program is formally launched.
	Each year starting in 2018	Practice Pitch, SWAT Team, and other engagements initiated.	Practice Pitch, SWAT Team, and other engagements will initiate once the new contract is fully executed and the program is formally launched.

**Table 110. Key Milestones for Cleantech Startup Growth Investor, Corporate, and Customer Engagement**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
	2018	Competitive solicitations launched.	Solicitation(s) expected to launch in Q3/Q4 2018.
	2018	Awards from solicitations contracted.	Awards will be made after launch of the solicitation.

**Table 111. Novel Business Models and Offerings**

**Approval Date:** December 1, 2017

**Anticipated Launch Date:** Q2 2018

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2021)	% of Total Planned Benefits through Initiative Completion (2021)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	-	-	-	-	\$16.45	-	\$168.40	-
Participants	Participants	-	-	-	-	-	5	-	33	-

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 112. Key Milestones for Novel Business Models and Offerings**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2018	Release solicitation for new business models and offerings proposals for both scaling and validation support.	Solicitation expected to launch in Q3 2018.
	2018	Contract with first-round NBMO awardees.	Contracting will occur after release of the solicitation.
	2018	Contract with second-round NBMO awardees.	Contracting will occur after release of the solicitation.
	2019	Conduct preliminary program process assessment, examining the distribution of proposers, scope of proposed impact, and marketing and selection processes through first two rounds, and revise the solicitation as necessary.	
	2020	Re-release solicitation if necessary for the third round.	
	2020	Contract with third-round NBMO awardees.	
	2020	Perform program assessment to determine continuation.	
	2020	Contract with fourth-round NBMO awardees if the program is continued.	

**Table 113. Manufacturing Corps Initiative Results**

**Approval Date:** February 14, 2017

**Launch Date:** June 29, 2017

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2020)	% of Total Planned Benefits through Initiative Completion (2020)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	\$0.01	\$0.01	\$24.33	\$24.34	\$10.00	243%	\$60.00	41%
Participants	Participants	-	17	17	-	17	50	34%	450	4%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 114. Key Milestones for Manufacturing Corps**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2017	Competitive solicitation launched for pilot sites.	Solicitation was launched on June 29, 2017.
n/a	2017	Awards from RFQ are contracted.	This milestone will be removed in the next revision of the investment plan. This milestone has been consolidated into the larger M-Corps pilot program solicitation.
✓	2018	Awards from pilot site solicitation are contracted. Pilot program launched.	Pilot program awards made and contracted effective April 1, 2018. Pilot launched.
	2020	Pilot program ends. Metrics reviewed based on pilot program performance and adjustments identified to implement in statewide solicitation.	
	2020	Statewide competitive solicitation based on pilot program launched.	
	2020	Awards from statewide solicitation are contracted. Statewide program launched.	
	2023	NYSERDA investment in statewide program ends. Metrics reviewed based on statewide program performance.	

**Table 115. NextGen HVAC Initiative Results**

**Approval Date:** August 17, 2016

**Launch Date:** June 28, 2017

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2019)	% of Total Planned Benefits through Initiative Completion (2019)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	-	-	\$30.18	\$30.18	\$35.00	86%	\$75.00	40%
Participants	Participants	-	-	-	13	13	9	144%	25	52%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 116. Key Milestones for NextGen HVAC**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2016	Issue RFI to evaluate and establish technology challenge areas and targets.	RFI issued January 13, 2017. Informational Webinar held on Feb. 1, 2017 (60+ attendees). RFI submissions received on February 22, 2017.
✓	2016	Issue first technology challenge.	NextGen HVAC Technology Challenge (PON 3517) was issued on June 28, 2017 with four identified challenges: air-source heat pumps, advanced HVAC controls, compressorless cooling, and ground heat exchanger. Informational webinar held on July 24, 2017 with 99 unique attendees, including a viewing group organized by the Syracuse CoE.
	2017	Contract projects from first technology challenge.	All contracts will be executed by Q3 2018.
✓	2017	Review portfolio of activities, solicit market input, and reassess technology challenges areas and targets.	The assessment was undertaken with stakeholders and led to the identification of needs.
✓	2017	Issue second technology challenge.	The second challenge was issued on March 22, 2018.
	2018	Contract projects from second technology challenge.	Full proposals for second challenge due August 14, 2018. Projects from this Round expected to be under contract by the end of Q4 2018.
	2018	Review portfolio of activities, benefits to date, solicit market input and reassess technology challenges areas and targets.	A review will be conducted once awards have been made from the second technology challenge.
	2018	Issue third technology challenge.	The third technology challenge is expected in Q4 2018.
	2019	Contract projects from third technology challenge.	

**Table 117. Electric Vehicles Initiative: EV Innovation Results**

**Approval Date:** August 17, 2016

**Launch Date:** September 15, 2017

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2021)	% of Total Planned Benefits through Initiative Completion (2021)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	-	-	\$2.22	\$2.22	\$10.95	20%	\$31.70	7%
Participants	Participants	-	-	-	8	8	12	67%	33	24%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 118. Key Milestones for Electric Vehicles Initiative: EV Innovation**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Support the launch of new business offerings for charging station leasing.	NYSERDA recently finalized an MOU with NYPA to have them offer on-bill financing of EV charging stations to their Recharge NY customers (private sector companies). The MOU was signed in December 2017 and the joint program is underway.
✓	2017	Issue first competitive solicitation for the development and demonstration of EV-enabling technologies.	A new PON (3578), which includes opportunities for product development and demonstration, was issued in November 2017 with proposals due in two rounds starting in February 2018. Nine awards were made in July 2018.
	2017	Contract with projects awarded in first competitive solicitation for the development and demonstration of EV-enabling technologies.	Initial awards will be made in Q3 2018.
✓	2017	Initiate aggregation pilots for EVs and EV charging stations, which will begin engaging customers and facilitating initial bulk purchases.	The program with NYPA aggregates purchases of EV charging stations with NYPA's public and private sector customers. NYSERDA is also developing a program for EV charging stations that will be released in 2018. For vehicle aggregation, the DEC continues to lead aggregate purchases of EVs for public fleets. NYSERDA's contractor Sustainable Hudson Valley worked on an aggregate purchase for individuals in 2017, which facilitated more than 150 aggregated vehicle purchases.
	2018	Complete bench-scale prototypes of economically viable technologies that enable smart charging.	Due to a delay in the launch of the solicitation, this milestone is expected to be achieved in 2019.
	2018	Issue second competitive solicitation for the development and demonstration of EV-enabling technologies.	Second round of PON 3578 is due in August 2018
	2018	Contract with projects awarded in second competitive solicitation for the development and demonstration of EV-enabling technologies.	Projects will be contracted once awards from the second round of PON 3578 have been made.
	2018	Contract with projects awarded in third competitive solicitation for the development and demonstration of EV-enabling technologies.	The third solicitation is not expected to launch until 2019.

Table 118 continued

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2018	Fast-charging station network expanded to 30 locations statewide along major interstate corridors.	In June 2018, the NYPA announced a major DCFC investment of \$40 million to install 200 DCFC stations and NYSERDA will monitor their implementation.
✓	2018	Completion of first collaborative consumer awareness activities.	<p>Consumer awareness activities underway. Initial collaborative partnerships underway in the Hudson Valley (through Sustainable Hudson Valley—completed), Syracuse (through Clean Cities—completed), Rochester (through Energetics and the Electrification Coalition—underway), and Tompkins County (through Energetics and the Electrification Coalition—underway).</p> <p>Plan developed for multi-state collaborative consumer awareness campaign with NESCAUM and automakers, completed in April 2017. In Q4 2017 the states and automakers raised funds and agreed to move forward with the campaign, which kicked off in March 2018. Also discussing how VW can spend its consumer outreach and education funds in NYS in support of NYSERDA projects (or other projects).</p>
	2019	Issue third competitive solicitation for the development and demonstration of EV-enabling technologies.	

**Table 119. Public Transportation and Electrified Rail Initiative Results**

**Approval Date:** October 3, 2017

**Launch Date:** February 22, 2018

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2022)	% of Total Planned Benefits through Initiative Completion (2022)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	-	-	\$2.24	\$2.24	\$4.00	56%	\$42.00	5%
Participants	Participants	-	-	-	3	3	5	60%	33	9%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 120. Key Milestones for Public Transportation and Electrified Rail**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2017	Issue first competitive solicitation for the development and demonstration of public transportation technologies.	The first solicitation will be released in July 2018.
	2018	Contract with projects awarded in first competitive solicitation for the development and demonstration of public transportation technologies.	This will begin after projects are awarded under first solicitation.
	2018	Issue second competitive solicitation for the development and demonstration of public transportation technologies.	The second solicitation should be released in 2019.
	2018	Initiate project to identify ways to update transit agency procurement processes so that they explicitly value energy savings from efficient transit technologies.	This project is expected to launch in late 2018 or early 2019.
	2019	Contract with projects awarded in second competitive solicitation for the development and demonstration of public transportation technologies.	
	2019	Issue third competitive solicitation for the development and demonstration of public transportation technologies.	
	2020	Contract with projects awarded in third competitive solicitation for the development and demonstration of public transportation technologies.	
	2020	Issue fourth competitive solicitation for the development and demonstration of public transportation technologies.	
	2021	Contract with projects awarded in fourth competitive solicitation for the development and demonstration of public transportation technologies.	

**Table 121. Energy Related Environmental Research**

**Approval Date:** February 14, 2017

**Launch Date:** February 15, 2017

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2021)	% of Total Planned Benefits through Initiative Completion (2021)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	-	-	-	\$4.25	\$4.25	\$3.70	115%	\$7.50	57%
Participants	Participants	16	5	21	40	61	49	124%	100	61%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 122. Key Milestones for Energy Related Environmental Research**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2017	Solicitations issued for research projects consistent with the research plan.	Two solicitations were issued in 2017 Q3. Contracting of new agreements, contract modifications, and research planning is ongoing, including the development of agreements for long-term monitoring projects.
	2017	Projects contracted from solicitations.	Contracting from the first solicitation (of two) issued in Q3 2017 is complete. Contracting from the second is anticipated to be complete in July 2018.
✓	2017	Outreach, technology transfer, and briefings to share research findings.	Outreach supported with other funding sources complete. Dissemination of research findings are ongoing via workshops, briefings and similar.
	2018	Solicitations issued for research projects consistent with the research plan.	Two solicitations are being developed, one for Q3 2018 and another for Q4 2018.
	2018	Projects contracted from solicitations.	Contracting to follow release of the two planned 2018 solicitations.
	2018	Outreach, technology transfer, and briefings to share research findings.	Outreach supported with this and other funding sources continues. Dissemination of research findings is ongoing via workshops, briefings and similar.
	2019	Solicitations issued for research projects consistent with the research plan.	
	2019	Projects contracted from solicitations.	
	2019	Outreach, technology transfer, and briefings to share research findings.	
	2020	Solicitations issued for research projects consistent with the research plan.	
	2020	Projects contracted from solicitations.	
	2020	Outreach, technology transfer, and briefings to share research findings.	
	2021	Solicitations issued for research projects consistent with the research plan.	
	2021	Projects contracted from solicitations.	
	2021	Outreach, technology transfer, and briefings to share research findings.	

**Table 123. Energy Storage Technology and Product Development Initiative Results**

**Approval Date:** March 27, 2017

**Launch Date:** June 21, 2017

Innovation and Research Initiative	Units	Completed Projects through March 31, 2018 with Adjustments	Completed Projects through 4/1/2018-6/30/2018	Total Completed Projects through June 30, 2018	Current Pipeline Through June 30, 2018 (Committed but not complete)	Grand Total Completed Projects + Pipeline	Cumulative Current Planned Benefits Through Q2 2018	% of Cumulative Current Planned Benefits Through Q2 2018	Total Planned Benefits through Initiative Completion (2025)	% of Total Planned Benefits through Initiative Completion (2025)
Energy Efficiency	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MMBtu Annual	-	-	-	-	-	*	-	*	-
	MMBtu Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
Renewable Energy	MWh Annual	-	-	-	-	-	*	-	*	-
	MWh Lifetime	-	-	-	-	-	*	-	*	-
	MW	-	-	-	-	-	*	-	*	-
CO2e Emission Reduction (metric tons)	Annual Tons	-	-	-	-	-	*	-	*	-
	Lifetime Tons	-	-	-	-	-	*	-	*	-
Customer Bill Savings (millions)	Annual Dollars	-	-	-	-	-	*	-	*	-
	Lifetime Dollars	-	-	-	-	-	*	-	*	-
Private Investment (millions)	Dollars	\$0.03	\$0.06	\$0.09	\$22.97	\$23.06	\$20.30	114%	\$165.00	14%
Participants	Participants	-	-	-	11	11	17	65%	118	9%

\* Metric to be tracked and reported, though specific planned benefit was not ordered.

**Table 124. Key Milestones for Energy Storage Technology and Product Development**

<b>Complete</b> ✓	<b>Time Frame</b>	<b>Milestone</b>	<b>Explanation of Progress</b>
✓	2017	Issue first competitive solicitation.	PON 3585 Energy Storage Technology and Product Development was issued on June 21, 2017.
✓	2017	Contract projects from first competitive solicitation.	Contracts from first competitive solicitation have been executed.
✓	2017	Review portfolio of activities, solicit market input, and reassess technology challenge areas and targets.	PON 3585 - Energy Storage Technology and Product Development round 1 and round 2 results to date have informed the design of the third and fourth competitive solicitations (rounds) for this plan.
✓	2017	Issue second competitive solicitation.	PON 3585 - Energy Storage Technology and Product Development round 2 concept papers have been received and reviewed by scoring committee. Fourteen concept paper submitters were invited to submit proposals. Proposals have been reviewed and eight proposals have been recommended for funding.
	2018	Contract projects from second competitive solicitation.	Eight proposals have been recommended for funding.
	2018	Review portfolio of activities, solicit market input, and reassess technology challenge areas and targets.	Learning from first four rounds will be used to inform next solicitation targeted for late 2018 or early 2019.
	2018	Issue third competitive solicitation.	Twelve round 3 concept papers were received on February 8, 2018. Concept papers have been reviewed and six were invited to submit proposals.
	2019	Contract projects from third competitive solicitation.	
	2019	Review portfolio of activities, solicit market input, and reassess technology challenge areas and targets.	
	2019	Issue fourth competitive solicitation.	Twenty-nine round 4 concept papers were received on April 12, 2018.

## Appendix A: Table of Investment Plan Approvals

	Case Number/Reference	Effective Date
Commercial Resource Acquisition Transition and Flextech Industrial Resource Acquisition Transition Agriculture Resource Acquisition Transition Multifamily Market-Rate Resource Acquisition Transition Multifamily LMI Resource Acquisition Transition Single-Family Market-Rate Resource Acquisition Transition Single-Family LMI Resource Acquisition Transition Commercial New Construction Resource Acquisition Transition Low-Rise New Construction Market-Rate Resource Acquisition Transition Low-Rise New Construction LMI Resource Acquisition Transition Multifamily New Construction Market-Rate Resource Acquisition Transition Multifamily New Construction LMI Resource Acquisition Transition Anaerobic Digesters Resource Acquisition Transition Fuel Cells Resource Acquisition Transition Small Wind Resource Acquisition Transition Solar Thermal Resource Acquisition Transition Combined Heat and Power Resource Acquisition Transition	Case 14-M-0094 -Resource Acquisition Approval Letter	February 29, 2016
Real Estate Tenant Real Time Energy Management Reforming the Energy Vision Campus Challenge Continuous Energy Improvement Clean Energy Communities Offshore Wind Master Plan Offshore Wind Pre-Development Activities REV Connect Distributed Energy Resource Interconnection Cleantech Startup Growth	Case 14-M-0094 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	May 23, 2016

**Table A-1 continued**

	<b>Case Number/Reference</b>	<b>Effective Date</b>
High-Performing Grid Reducing Barriers to Energy Storage Deployment Electric Vehicles Rebate NextGen HVAC Electric Vehicle Innovation	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	August 17, 2016
Retrofit NY REVitalize Low-Income Forum on Energy Healthy Homes Feasibility Study	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	August 31, 2016
Greenhouse Lighting and Systems Engineering Industry Partnerships	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	September 15, 2016
Manufacturing Corps Energy Related Environmental Research	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	February 13, 2017
Community Energy Engagement Energy Storage Technology and Product Development	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	March 27, 2017
Underutilized Products Support Renewable Heat NY Heat Pumps and Solar Thermal	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	May 16, 2017
Energy Efficiency Soft Cost Challenge Power Electronics Manufacturing Consortium	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	July 19, 2017
Technical Services Public Transportation and Electrified Rail	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	October 3, 2017
Code to Zero New Construction Fuel Cells Engaging New Markets Clean Energy Advanced Market Performance (AMP) Challenge Clean Energy Siting and Soft Cost Reduction Advancing Agricultural Energy Technologies K-12 Schools Novel Business Models and Offerings	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	December 1, 2017

**Table A-1 continued**

	<b>Case Number/Reference</b>	Effective Date
Low-Income Community Solar	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	December 6, 2017
Clean Technology and Energy Efficiency Talent Pipeline	Matter 16-00681 - DPS Approval of NYSERDA's CEF Investment Plan Chapters	June 22, 2018

# Endnotes

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- <sup>1</sup> Case 14-M-0094 – *Proceeding on Motion of the Commission to Consider a Clean Energy Fund*, Ordering Authorizing the Clean Energy Fund Framework. Issued and effective January 21, 2016.
- <sup>2</sup> NY-Sun and NY Green Bank investments and benefits are reported in separate quarterly reports available on NYSERDA’s website.
- <sup>3</sup> The 88 million MWh renewable energy goal is not shown in Figure 2 as it is mainly supported by NY-Sun.
- <sup>4</sup> NYSERDA’s electricity emission reduction factor of 1,160 pounds CO<sub>2</sub>e/MWh is derived using the marginal emission-rate analysis for CO<sub>2</sub> from “Appendix: The Benefits and Costs of Net Energy Metering in New York” Figure 28 and applying a line loss factor of 7.2%. <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=49636&MNO=15-E-0703>
- <sup>5</sup> Customer Bill Savings are calculated as direct energy bill savings realized by customers participating in NYSERDA’s programs.
- <sup>6</sup> Beginning with Q4 2016, NYSERDA updated emission factors for natural gas, #2 oil, #6 oil, kerosene, propane, wood, and steam to be consistent with emission factors used in the updated NYS Greenhouse Gas Inventory ([nyserd.ny.gov/About/Publications/EA-Reports-and-Studies/Energy-Statistics](http://nyserd.ny.gov/About/Publications/EA-Reports-and-Studies/Energy-Statistics)). These factors are derived from EPA’s February 2016 State Inventory Tool release (<https://www.epa.gov/statelocalclimate/state-inventory-and-projection-tool>). Steam emission factors have been updated to be consistent with New York City’s updated Greenhouse Gas Inventory. ([http://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/ NYC\\_GHG\\_Inventory\\_2014.pdf](http://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/ NYC_GHG_Inventory_2014.pdf)).
- <sup>7</sup> NYSERDA pre-encumbered an additional \$29.9 million to solicitations with upcoming due dates that are not shown in Table 3. When including these funds, NYSERDA committed 29% of the total approved total budget to date. Committed benefits presented in this report do not include benefits associated with awards made as a result of these solicitations.
- <sup>8</sup> Completed projects through March 31, 2018 contains adjustments from programs due to lagged data and QA/QC.
- <sup>9</sup> NYSERDA committed an additional \$3,192,483 to solicitations with upcoming due dates not shown in Table 6. When including these funds, NYSERDA committed 59% of the approved budget to date for the Resource Acquisition Transition Chapter. Committed benefits presented in this report do not include benefits associated with awards made as a result of these solicitations.
- <sup>10</sup> Consistent with the filed investment plan, the committed and completed projects savings and private investment are based upon a 47% adoption rate. This adoption rate will be evaluated and is subject to change as more data is gathered.
- <sup>11</sup> Cumulative Current Target through Q4 2017 and Total Target through Initiative Completion (2019) include discounts based on historical performance; however, current benefits have not been discounted. Future impact evaluations will inform the level of realized savings.
- <sup>12</sup> The pipeline savings projection for Commercial New Construction is based on current approved applications and does not include any discount for expected future attrition. The Resource Acquisition Transition Chapter annual savings targets assumed an attrition rate of approximately 50%, based on historic program data. Actual attrition will be reflected in the reported values as it occurs.
- <sup>13</sup> Private investment is only reported for pipeline projects at the encumbered stage or later.
- <sup>14</sup> NYSERDA makes no claim to the environmental attributes or any NYGATS certificates that may be associated with these projects.
- <sup>15</sup> NYSERDA makes no claim to the environmental attributes or any NYGATS certificates that may be associated with these projects.
- <sup>16</sup> Cumulative Current Target (2016) and Total Target through Initiative Completion (2018) contain metrics from the Market Transformation of Marketplace table in the Resource Acquisition Chapter, which could be considered indirect benefit targets. Indirect benefits are not reflected because it will take time for the benefits to be realized.
- <sup>17</sup> Committed benefits include three large projects in the early stages of NYSERDA review (with a combined capacity of 27.7 MW) to which refinements will be made in future reports, as needed.

- 18 CHP targets and reporting methods associated with fuel used to run the CHP systems are being examined and may be adjusted in future reports.
- 19 Energy Efficiency values represent MWh savings from the use of CHP systems; natural gas required to run CHP systems is 1,564,857 MMBtu cumulative annual and 23,472,856 MMBtu lifetime. Expected emission reductions and customer bill savings are net, including both MWh that add to the benefits and additional natural gas required to run CHP systems that subtract from the benefits.
- 20 NYSERDA committed an additional \$7,626,219 to solicitations with upcoming due dates not included in Table 23. When including these funds, NYSERDA committed 22% of the approved budget to date for the Market Development Chapter. Committed benefits presented in this report does not include benefits associated with awards made because of these solicitations.
- 21 The Market Characterization and Design Chapter line item includes funds to support overarching, non-initiative-specific evaluation studies.
- 22 Program received preliminary project specific estimates for a small subset of projects that is significantly higher than the project specific estimates applied to develop these targets.
- 23 Program received preliminary project specific estimates for a small subset of projects that are significantly higher than the project specific estimates applied to develop these targets.
- 24 Due to the split-funded nature of this program, NYSERDA is also tracking and reporting savings associated with completed High-Impact Actions in the Regional Greenhouse Gas Initiative (RGGI) report according to the percentage of RGGI funding currently committed for the Clean Energy Communities Program.
- 25 NYSERDA makes no claim to the environmental attributes or any NYGATS certificates that may be associated with these projects.
- 26 Energy Efficiency values represent MMBtu savings from the use of electric vehicles; the electricity required to charge the vehicle is 16,204 MWh cumulative annual and 162,039 MWh lifetime. Expected Emission reductions and customer bill savings are net, including both MMBtu that add to the benefits and the electricity required to charge the electric vehicles that subtract from the benefits.
- 27 NYSERDA makes no claim to the environmental attributes or any NYGATS certificates that may be associated with these projects.
- 28 Cumulative Current Target through Q2 2018 and Total Target through Initiative Completion (2019) included discounts based on historical performance; however, current benefits have not been discounted. Future impact evaluations will inform the level of realized savings.
- 29 Cumulative Current Target through Q2 2018 and Total Target through Initiative Completion (2019) included discounts based on historical performance; however, current benefits have not been discounted. Future impact evaluations will inform the level of realized savings.
- 30 Energy Efficiency values represent MMBtu savings from the use of renewable heating and cooling technologies; electricity required to utilize the RH&C technology is 12,474 MWh annual and 299,264 lifetime. Expected emission reductions and customer bill savings are net, including both MMBtu's that add to the benefits and additional electricity required to run the system that subtract from the benefits.
- 31 Energy Efficiency values represent MMBTU savings from ASHPs; the electricity required to utilize the RH&C technology is 11,052 MWh annual and 165,775 lifetime. Expected emission reductions and customer bill savings are net, including both the MMBtu's that add to the benefits and addition MWh's required to run the system that subtract from the benefits.
- 32 The launch dates for the ASHP and ARTU are not in alignment with what was presented in the investment plan. NYSERDA will correct these launch dates in a future filing based on guidance from the Department of Public Service.
- 33 Program activities commenced prior to launch of the initiative.
- 34 NYSERDA committed an additional \$19,088,640 to solicitations with upcoming due dates not included in the table. When including these funds, NYSERDA committed 28% of the approved budget to date for the Innovation and Research Chapter. Committed benefits presented in this report do not include benefits associated with awards made as a result of these solicitations.
- 35 The Market Characterization and Design Chapter line item includes funds to support overarching, non-initiative-specific evaluation studies.



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