

# CEF Annual Performance Report

## Final Report through December 31, 2025

Final Report | March 2026



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

## **NYSERDA's Mission:**

NYSERDA catalyzes New York's clean energy transition.

### **Our Vision:**

Clean energy that supports a healthier and thriving future for all New Yorkers.

### **Our Promise to New Yorkers:**

NYSERDA serves New York State as a trusted and credible resource for energy information, policies, and programs, through objective analysis and planning, innovative solutions, and impactful investments that are valued by New York residents and businesses.

# NYSERDA Record of Revision

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Document Title
CEF Annual Performance Report Final Report through December 31, 2025

Revision Date	Description of Changes	Revision on Page(s)
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# **CEF Annual Performance Report**

*Final Report through December 31, 2025*

Prepared by

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

Albany, NY

March 2026

## About This Report

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The Clean Energy Fund (CEF) supports New York State's advancement of clean energy and climate goals along with a more affordable and resilient energy system. Energy efficiency is a cornerstone of the State's strategy to promote clean energy solutions for consumers while addressing climate change. The New Efficiency New York recommendations, as advanced in the white paper issued by the Department of Public Service (DPS) and New York State Energy Research and Development Authority (NYSERDA or the Authority) on April 26, 2018, and as adopted by the Commission in its December 13, 2019 order, establishes a new 2025 energy efficiency target of 185 trillion British thermal units (TBtu) of cumulative annual site energy savings.<sup>1</sup> The Climate Leadership and Community Protection Act (Climate Act), signed July 2019 and effective January 1, 2020, adopted this energy efficiency target and puts the State on a path to complete carbon neutrality across all sectors of the economy, including power generation, transportation, buildings, industry, and agriculture. In April 2022, the PSC approved an expansion to the NY-Sun program to further support efforts meeting the State's clean electricity goals. The Climate Act mandates the following:

- 85% reduction in GHG emissions by 2050
- 100% zero-emission electricity by 2040
- 70% renewable energy by 2030
- 9,000 MW of offshore wind by 2035
- 3,000 MW of energy storage by 2030<sup>2,3</sup>
- 6,000 MW of solar by 2025 and 10,500 MW of solar by 2030<sup>4</sup>
- 22 million tons of carbon reduction through energy efficiency and electrification
- Minimum 35% of the benefits of clean energy investments are directed to disadvantaged communities.

Through the CEF and its other portfolios, NYSERDA works to foster the transformation of markets, pushing them to accurately value clean energy, energy efficiency, and resiliency, while encouraging competition and innovation that delivers value to consumers.

Progress and performance of the CEF is represented within this report for each of the four CEF portfolios: Market Development (MD), Innovation and Research (IR), NY-Sun, and NY Green Bank.

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# Executive Summary

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NYSERDA's Clean Energy Fund (CEF) was designed to support New York State's clean energy agenda by working with market participants to develop clean energy market opportunities at scale and advance progress toward the State's nation-leading clean energy goals. The CEF continues to evolve, serving as a major vehicle to achieve the State's clean energy goals outlined in the Climate Leadership and Community Protection Act (Climate Act).

The CEF is comprised of four portfolios: Market Development (MD), Innovation & Research (I&R), NY Green Bank, and NY-Sun. These portfolios work collectively toward meeting New York State's ambitious energy, environmental, and economic goals and are expected to contribute significantly toward the broader New York State Energy Plan. The CEF delivers solutions that promote the following:

- Reduced barriers to the deployment and adoption of energy efficiency.
- Significantly reduced energy-related carbon emissions.
- Billions of dollars in customer bill savings achieved over the life of the CEF.
- Accelerated growth of the State's clean energy economy.
- Mobilized investment, leveraging billions of dollars over the life of the CEF.

Ten years into the CEF and based on the progress through the end of 2025 as well as the level of achievement anticipated to occur in future years, NYSERDA continues to show strong progress toward meeting the minimum CEF Ordered Targets over the life of the fund for all key metrics except electricity savings. A closer analysis of progress and performance to date convey the following:

- The pace of funding activity (total spending plus remaining contract commitments) captures 92% of authorized funding, demonstrating that NYSERDA is mobilizing resources to benefit ratepayers of New York State with nearly \$1.5 billion in annual bill savings acquired as a result of these investments.
- NYSERDA is making meaningful progress toward meeting the Commission's target in the September 2021 Order to deliver 40% of the benefits of CEF investments to disadvantaged communities, impacting disadvantaged communities in a wide variety of programmatic ways across the Market Development, Innovation & Research, NY-Sun, and NY Green Bank portfolios. For years 2020–2025, \$2 billion (53%) of the nearly \$3.8 billion in CEF place-based investments were invested in DACs and Low Income households.
- NY-Sun achieved the 6GW 2025 target for installed distributed solar one year ahead of schedule in 2024; currently completed projects and pipeline (statewide) have exceeded 10.6 gigawatt (GW) of

capacity in total, putting New York State in excellent position to achieve the 10.5 GW installed target by 2030<sup>5</sup>.

- Collectively, NYSERDA CEF programming has delivered \$22 billion in acquired leveraged funding, surpassing the \$20 billion 2025 CEF Order Target, stimulating significant market activity and yielding over \$4 of investment for every \$1 spent through 2025
- NY Green Bank (NYGB) committed more than \$214.7 million in 2025 reaching life-to-date commitments of more than \$2.6 billion. NYGB will continue recycling its capital into new investments during the year and propelling a multitude of projects forward with funding uniquely suited to catalyze clean energy project
- Despite delayed near-term energy efficiency savings derived primarily from the Market Development portfolio (primarily a lag in electricity savings), the collective CEF portfolios delivered 8.2 million metric tons CO<sub>2</sub>e or 91% of the 2025 CEF Order Expectation for emission reductions, in large part due to strong progress of renewable contributions to the portfolio.
- NYSERDA forecasts that the delivery of near-term energy savings will continue to be impacted by challenges facing the clean energy market in recent years, specifically challenges with supply chain, skilled labor availability, and rising construction costs, all of which are delaying or slowing projects.
- Though somewhat slower than planned, evidence of expected market transformation is coming about from completed evaluation studies showing indirect benefits progress exceeding those forecasted plans for the periods studied, with 8.5 TBtu total energy savings already reported against the full 2025 cumulative forecast of approximately 15 TBtu, and more studies underway that will characterize additional impact across years 2022-2025.

# 1 Progress Summary

## 1.1 Overall CEF Performance

Figures 1 and 2 present a comprehensive picture of progress against the CEF authorized budget and associated benefit targets reflecting all four CEF Portfolios (MD, IR, NY-Sun, and NY Green Bank). Progress shown against each key performance metric represents results through December 31, 2025, and nets out overlap across portfolios where it is known to occur. Market Development and Innovation & Research plans depicted throughout this report reflect the November 21, 2025 Compiled Investment Plan (CIP) while NY-Sun plans reflect the July 16, 2025 Operating Plan.

Figure 1 captures the status of CEF funding while Figure 2 depicts progress of the combined portfolios against the latest CEF ordered benefit targets. Figures 1 and 2 should be viewed together to properly relate investments to results. In each of these visuals, combining what has been expended/acquired with encumbered/committed results demonstrates NYSERDA’s total progress toward CEF targets, while adding in the remaining expected (planned) values serves to illustrate the full potential in NYSERDA’s programmed portfolios. Funding for both Market Development and Innovation & Research portfolios could be contracted through December 31, 2025, and as of the filing of this report has now concluded.

**Figure 1. Clean Energy Fund Portfolio Expected Investment Versus Targets**

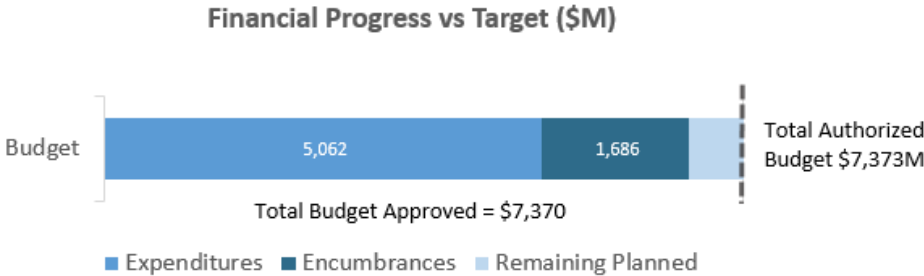


Figure 1 Supporting Data		Total Authorized Budget	Budget Approved Current Total	Budget Approved % of Authorized	Expended Funds Current Total	Expended Funds % of Authorized	Encumbered Funds Current Total	Encumbered Funds % of Authorized	Remaining Planned Total Balance	Remaining Planned % of Authorized	Funding Not Yet Approved
Market Development (MD)	Program Funds	\$ 2,399.7 M	\$ 2,370.9 M	100%	\$ 1,691.5 M	71%	\$ 664.7 M	28%	\$ 14.6 M	1%	\$ 0.9 M
	NYS Cost Recovery Fee		\$ 28.0 M		\$ 19.8 M		\$ 0.0 M		\$ 8.2 M		
Innovation & Research (IR)	Program Funds	\$ 631.7 M	\$ 623.0 M	100%	\$ 387.6 M	62%	\$ 222.2 M	35%	\$ 13.2 M	3%	\$ 1.9 M
	NYS Cost Recovery Fee		\$ 6.8 M		\$ 4.0 M		\$ 0.0 M		\$ 2.8 M		
MD and IR combined	Administration	\$ 274.4 M	\$ 274.4 M	100%	\$ 245.4 M	89%	\$ 0.0 M	0%	\$ 29.0 M	11%	\$ 0.0 M
	Evaluation	\$ 124.2 M	\$ 124.2 M	100%	\$ 58.5 M	47%	\$ 48.0 M	39%	\$ 17.7 M	14%	\$ 0.0 M
	<b>MD and IR Total</b>	<b>\$ 3,430.0 M</b>	<b>\$ 3,427.2 M</b>	<b>100%</b>	<b>\$ 2,406.8 M</b>	<b>70%</b>	<b>\$ 934.9 M</b>	<b>27%</b>	<b>\$ 85.5 M</b>	<b>2%</b>	<b>\$ 2.8 M</b>
NY-Sun	Program Funds	\$ 2,904.8 M	\$ 2,904.8 M	100%	\$ 1,658.0 M	57%	\$ 773.1 M	27%	\$ 473.7 M	16%	\$ 0.0 M
	NYS Cost Recovery Fee	\$ 28.8 M	\$ 28.8 M	100%	\$ 15.1 M	53%	\$ 0.0 M	0%	\$ 13.7 M	47%	\$ 0.0 M
	Administration	\$ 58.8 M	\$ 58.8 M	100%	\$ 32.1 M	55%	\$ 0.1 M	0%	\$ 26.6 M	45%	\$ 0.0 M
	Evaluation	\$ 3.5 M	\$ 3.5 M	100%	\$ 1.8 M	52%	\$ 0.2 M	6%	\$ 1.5 M	42%	\$ 0.0 M
	<b>NY-Sun Total</b>	<b>\$ 2,995.8 M</b>	<b>\$ 2,995.8 M</b>	<b>100%</b>	<b>\$ 1,707.0 M</b>	<b>57%</b>	<b>\$ 773.4 M</b>	<b>26%</b>	<b>\$ 515.5 M</b>	<b>17%</b>	<b>\$ 0.0 M</b>
NY Green Bank	<b>Total</b>	<b>\$ 947.1 M</b>	<b>\$ 947.1 M</b>	<b>100%</b>	<b>\$ 947.1 M</b>	<b>100%</b>	<b>\$ 0.0 M</b>	<b>-</b>	<b>\$ 0.0 M</b>	<b>-</b>	<b>-</b>
<b>CEF Total</b>		<b>\$ 7,372.9 M</b>	<b>\$ 7,370.2 M</b>	<b>100%</b>	<b>\$ 5,060.9 M</b>	<b>69%</b>	<b>\$ 1,708.3 M</b>	<b>23%</b>	<b>\$ 600.9 M</b>	<b>8%</b>	<b>\$ 2.8 M</b>

- Authorized Funding per Order: Approving Clean Energy Fund Modifications, issued and effective September 9, 2021, and inclusive of the approved 10 GW Distributed Solar Roadmap in April 2022, and later revision to NY-Sun funding and distributed solar Target issued April, 2025.
- NY-Sun totals shown here exclude \$407 million in non-CEF NYSERDA funded solar project expenditures (see Table 13).

The summary of benefit progress reflects evaluated totals, incorporating verified gross acquired savings where evaluations have been completed, and reflects gross savings values elsewhere. Through Q4 2025, measurement and verification activities have resulted in an adjustment to direct gross total energy savings by approximately -2.0 TBtu. Indirect benefits from market transformation are included in acquired totals where they have been quantified through evaluation, now adding approximately 8.5 TBtu total energy savings. Conservative estimates of indirect benefits are also included in the remaining plans generally reflecting 50 percent of the anticipated achievement as is consistent with other plan filings that account for uncertainty in timing and potential overlap across the portfolio that has yet to be fully evaluated.

**Figure 2. Clean Energy Fund Portfolio Expected Benefits versus Targets**

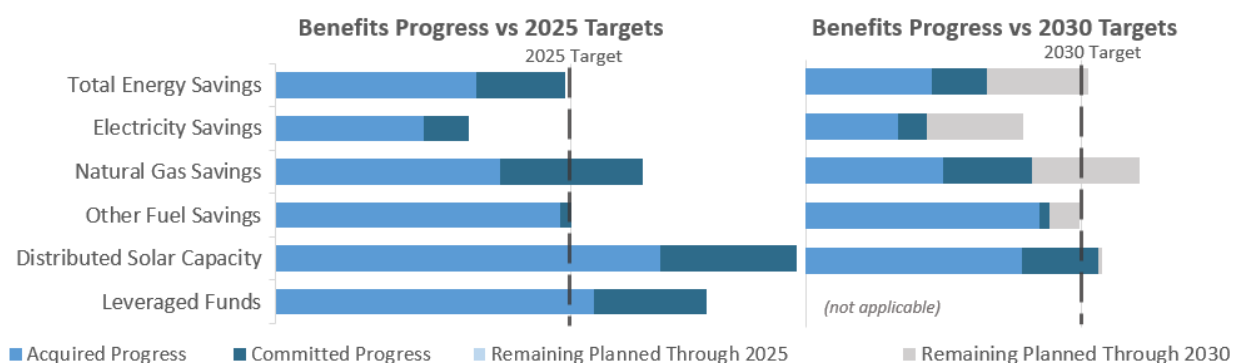


Figure 2 Supporting Data	Acquired Progress	Committed Progress	Remaining Planned Through 2025	Total Expected Through 2025	2025 Order Target	Remaining Planned Through 2030	Total Expected Through 2030	2030 Order Target
Total Energy Savings (MMBtu equivalent, millions)	35.7	16.0	-	46.5	53.0	28.9	80.9	79.0
Electricity Savings (MWh, millions)	3.3	1.0	-	4.4	6.7	3.5	7.9	10.0
Natural Gas Savings (MMBtu, millions)	18.9	12.2	-	25.8	25.0	14.9	46.1	38.0
Other Fuels Savings (MMBtu, millions)	14.4	0.6	-	14.3	15.0	1.9	16.9	17.0
Distributed Solar Capacity (Renewable MW)	7,841	2,773	-	10,614	6,000	163	10,777	10,500
Leveraged Funds (\$ millions)	\$21,578	\$7,687	-	\$29,266	\$20,000	-	\$29,266	n/a

Benefits Metrics Progress as Percent of Totals	Acquired + Committed (values summed from above)	Acquired + Committed as a Percentage of Total Expected Through 2025	Acquired + Committed as a Percentage of 2025 Order Target	Acquired + Committed as a Percentage of Total Expected Through 2030	Acquired + Committed as a Percentage of 2030 Order Target
Total Energy Savings (MMBtu equivalent, millions)	52.0	112%	98%	64%	66%
Electricity Savings (MWh, millions)	4.4	100%	66%	56%	44%
Natural Gas Savings (MMBtu, millions)	31.2	121%	125%	68%	82%
Other Fuels Savings (MMBtu, millions)	15.1	106%	100%	89%	89%
Distributed Solar Capacity (Renewable MW)	10,614	100%	177%	98%	106%
Leveraged Funds (\$ millions)	\$29,266	100%	146%	100%	n/a

- Energy savings values are annual; Total Energy Savings measures the combined Electricity and Fuel savings net of usage; therefore, values will not sum to the total of individual electric and fuel savings values.
- CEF initiatives not dedicated to building energy efficiency (Electric Vehicles - Rebate, Combined Heat and Power, and Fuel Cells) have been excluded from progress and plans toward the first four energy saving targets shown above.

- Overlap where it is known or perceived to exist between portfolios has been removed from progress reported. Contributions of individual CEF portfolios without any overlap accounting can be seen in section 2 of the report.
- Distributed Solar Capacity includes 1,782 MW of non-NYSERDA installations taken from the Statewide Solar Projects dashboard, which is populated with data from utility interconnection inventories. This data set includes all distributed solar interconnected in NYS, including hundreds of MWs which did not receive NYSEERDA funding. Committed project data is maintained by NYSEERDA independently of interconnection data. Since the two data sets define project completion date differently, some projects reported as committed may also be included as acquired under the “Non-NYSERDA Statewide Installations” (interconnection balance) figure. As the pipeline of NYSEERDA commitments are drawn down over time (projects are considered acquired in both data sources), this overlap will be systematically eliminated.
- Distributed Solar 2030 Order Target updated to reflect April 2025 DPS Order.
- Leveraged Funds progress here includes non-CEF NYSEERDA funded solar projects of \$2,072 million acquired and \$124 million committed, consistent with overall reporting toward CEF distributed solar targets which include all solar statewide.
- Leveraged Funds Total Expected benefit values do not currently include any anticipated indirect impacts.
- Neither Distributed Solar or Leveraged Funds Total Expected Through 2025 and 2030 values include forward-looking estimates from NY Sun or NY Green Bank portfolios at this time.
- Benefits metrics that have not been given 2030 Targets in the Order are shown as “not applicable.”

As Figures 1 and 2 illustrate, NYSEERDA has made significant progress positioning the collective portfolios to achieve the CEF Order Targets on both 2025 and 2030 timelines. An explanation of progress and the current portfolio mix is as follows:

- Now at the conclusion of the ten-year CEF commitment timeline, every metric except for electricity savings is near or above a linear measure of progress when comparing the total committed benefits through the current quarter, and this progress will be bolstered as more evaluation studies enable reporting of indirect impacts from the CEF.
- Near-term projections for Total Energy Savings (MMBtu equivalent) through 2025 continue to show the effects of recent years’ clean energy and broader market challenges (supply chain disruptions, skilled labor availability, increased construction costs) however NYSEERDA maintains confidence in the ability of the CEF portfolio to deliver the overall impact outlined by CEF 2030 Targets through the combination of direct benefits related to projects and indirect market impacts influenced by programs broadly.
- Projects delivering electricity savings remain behind the pace of fuel savings as illustrated by the Figure 2 visual, but the strong foundation of fuel-related projects, of which significant savings are already acquired in the portfolio, is boosting the near-term 2025 view and firming up the overall potential for 2030 achievement.
- Renewable energy capacity MW surpassed the 6 GW 2025 target in Q3 2024 and the portfolio is well positioned to achieve the expanded 2030 target of 10.5 GW.
- When energy savings and renewable generation progress to date are combined to derive emission reductions (Table 1 that follows), NYSEERDA’s CEF portfolios are positioned to deliver on the 2025 tracking metric outlined in the Order, in large part due to the strong progress of renewables to date.
- Leveraged funding acquired and committed progress is outpacing other metrics due to strong NY-Sun and Innovation & Research returns and showed significant gains in 2024 as a result of first-time reporting of follow-on funding for a large number of innovation projects combined with a significant investment by a company involved in the Long Duration Energy Storage initiative.

Additionally, NYSERDA is required to track and report other reference metrics outlined in Appendix C of the CEF Order and monitors other meaningful impacts as well. Carbon emissions reductions and bill saving metrics are presented in Table 1 below for the combined CEF portfolios. Outdoor air quality improvements from fuel savings include reductions in particulate matter (PM 2.5), nitrogen oxides (NOx), sulfur dioxide (SO<sub>2</sub>), ammonia (NH<sub>3</sub>), and volatile organic compounds (VOC).

**Table 1: Other Anticipated Benefits through 2025 and 2030**

Annual Benefits Metrics ** Direct + Indirect Benefits ** Overlap Accounted	Acquired Progress	Committed Progress	Total Progress as of Current Reporting Period	2025 Order Expectation (Anticipated Benefit)	2030 Order Expectation (Anticipated Benefit)
Participant Bill Savings (\$ millions)	\$1,459	\$676	\$2,135	n/a	n/a
Emissions Reductions (CO <sub>2</sub> e Metric Tons, millions)	8.2	3.0	11.2	9.0	14.0
PM 2.5 (lbs, millions)	2,800	6	2,805	n/a	n/a
NOx (lbs, millions)	832,646	1,529	834,175	n/a	n/a
SO <sub>2</sub> (lbs, millions)	3,583	11	3,593	n/a	n/a
NH <sub>3</sub> (lbs, millions)	3,252	68	3,319	n/a	n/a
VOC (lbs, millions)	32,534	78	32,612	n/a	n/a

- As with other tables presented earlier, overlap where it is known or perceived to exist between portfolios has been removed from progress reported to ensure results are not overstated.
- Air pollutant emissions factors were applied to direct and indirect annual energy savings and usage by sector (commercial, industrial, residential, transportation) and fuel groups (distillate oil, natural gas, propane, and other fuels).
- For Steam and Other fuel group energy savings, natural gas factors were used, the closest conservative approximation available across sectors.
- For Steam and Other fuel group energy usage, distillate oil factors were used, for a conservative approximation that was widely available across sectors.
- Commercial, Industrial and Residential factor sources include USA EPA, and other technical reports.<sup>6, 7, 8</sup>
- Transportation factors were developed using EPA’s Motor Vehicle Emissions Simulator (MOVES).

Avoided co-pollutants contribute to improved health outcomes in communities across the State, including reductions in premature mortality cases, non-fatal heart attacks, and emergency room visits for asthma. Dollarized health co-benefits are estimated using marginal health values derived from New York Community-Scale Health and Air Pollution Policy Analysis (NY-CHAPPA) modeling completed for the 2025 New York State Energy Plan (SEP) as described in the Health Impacts Analysis Chapter.<sup>9,10</sup> NY-CHAPPA estimates changes in fine particulate matter (PM<sub>2.5</sub>) concentrations and ensuing health benefits from changes in air pollutant emissions from fuel combustion. NY-CHAPPA estimates health benefits impacts by census tract enabling geographic evaluation of benefits as well. The model and scenarios used in the SEP analysis are publicly available and the NY-CHAPPA modeling framework is described in Arunachalam et al. (2025).<sup>11</sup> NYSERDA has elected to add these supplemental metrics to the reporting on its own, with methods consistent to Statewide DAC Investment and Benefits Reporting Guidance to better quantify the full range of benefits coming from the CEF portfolios. NYSERDA recognizes that as DPS updates reporting guidance, these metrics may or may not be included in the required set of metrics in the same manner.

**Table 2: Dollarized Health Co-Benefits Savings**

Annual Benefits Metrics ** Direct Benefits Only **	Cumulative Estimated Savings through 2025 (\$M)
Total Dollarized Health Benefits	\$770.0
Dollarized Health Benefits - Electricity (2022-2025)	\$16.7
Dollarized Health Benefits - Fuels (2020-2025)	\$753.3

- To estimate marginal health values, the estimated monetized health benefits by region, sector, and fuel for the model year were divided by the change in fuel consumption that resulted in those health benefits. Electricity sector benefits are calculated based on the benefits per gigawatt-hour of avoided consumption of electricity, taking into account the flows of electricity between regions in New York. The resulting value is the estimated public health benefit per unit of reduced consumption of fuel.
- Marginal values are provided for the following sector/fuel combinations: residential and commercial natural gas, distillate, wood, and electricity; industrial natural gas, distillate, coal, wood, and electricity; on-road light duty diesel, light duty gasoline, and electricity. Marginal health values are provided as low and high values based on different approaches for estimating premature mortality.
- Marginal health values (high values) for 2025 for each sector and fuel combination were applied to geocoded evaluated energy savings in the corresponding NY-CHAPPA model region. Sector reflects primary sector in NYSERDA’s CEF Disadvantaged Communities (DAC) filing. Where energy savings values could not be mapped to a region, Statewide factors were used, where available. Commercial Gasoline and Kerosene were approximated with Commercial Distillate factors. Propane was approximated with Natural Gas and Residual Oil was approximated with Distillate Oil factors.
- Marginal health values are not available for years prior to 2025, so 2025 model values were applied to 2020-2025 data, except for electricity consumption values which were not applied to data before 2022 due to significant structural changes in the electric sector.
- Estimates of public health benefits reported here only include benefits from reduced concentrations of PM<sub>2.5</sub> in outdoor air and do not include other potential benefits of reduced air pollutant emissions from energy savings reported here. Health benefits were estimated based on projections of future energy sector changes and there are uncertainties and limitations of the model used and in the application of these values backwards in time.

**Serving Disadvantaged Communities**

The September 2021 CEF Order set a target for NYSERDA to achieve 40 percent of the benefits of investment across the entire CEF portfolio in disadvantaged communities (DACs). With the signing of the 2019 Climate Act, NYSERDA began to adapt programs and increase focus on DAC investments across the CEF portfolio, investing in capacity building and engagement within frontline and underserved communities through initiatives such as the Regional Clean Energy Hubs (Hubs); prioritizing the funding of projects benefitting disadvantaged communities through initiatives such as EmPower+, NY-Sun, Climate Justice Fellowship, Clean Green Schools, and Clean Mobility Program; and increasing investment in affordable housing. Through proximity and regular engagement with residents of disadvantaged communities and market actors serving these communities, NYSERDA continues to evolve sector strategies to optimize resources and maximize benefits to disadvantaged communities. Three of the primary forums by which NYSERDA is currently engaging communities are as follows:

1. Regional Clean Energy Hubs – contracts have been awarded to 12 community-based organizations to connect New Yorkers to the clean energy economy and access clean energy services and opportunities.
2. The Disadvantaged Communities Consultant Pool – NYSERDA has pre-qualified community-based organizations (CBOs) to compensate them for their time, feedback and expertise to work with NYSERDA on a variety of initiatives including program co-design, clean energy planning and policy analysis, and public engagement and capacity building.
3. Energy Equity Collaborative – a partnership between community-based organizations that serve and represent historically marginalized communities and otherwise disadvantaged communities to ensure the experiences and needs of these communities are front and center in clean energy planning and program development.

### Spotlight on Regional Clean Energy Hubs

NYSERDA’s Regional Clean Energy Hubs play a vital role in connecting community members to clean energy and affordability opportunities and the Hubs achieved three key milestones in 2025, including:

1. Implementation of twelve (12) Community Campaigns and thirteen (13) Local Pilot Projects. These campaigns/pilots work to address the opportunities and barriers identified in the Hub’s Regional Assessment and Barriers Analysis (RABA).
2. Conducting targeted outreach towards DACs by hosting or participating in 1,128 community events (e.g., farmers markets, town halls, food pantries, energy literacy workshops, etc.) and developing targeted marketing materials relevant to served communities, expanding access to and awareness of both NYSERDA and non-NYSERDA program offerings.
3. Provide program and loan application assistance to 5,768 customers by working with partner organizations to refer customers and coordinate NYSERDA and Non-NYSERDA programs and resources.

Connecting customers to NYSERDA and non-NYSERDA programs is an integral part of the service provided by the Hubs, which are operated by people from the regions they serve. To successfully provide program referrals statewide, Hub leaders must build trust through understanding the unique needs of community members. Regional engagement progressed in 2025 as described in Table 3 below. One of the primary goals NYSERDA has with each Hub is to strengthen coordination and connectivity to utility clean energy program offerings, and some of that effort is featured in Table 3 as well, with specific referral figures related to both the NYS Clean Heat Program and Utility Bill Assistance Program detailed by region.

(Table 3 next page)

**Table 3: Regional Clean Energy Hub Activity by Region (Jan. - Dec. 2025)**

Region (REDC)	Total Program Referrals	Utility Program Connections	
		NYS Clean Heat	Bill Assistance
Southern Tier	1,665	80	15
Central New York	1,114	45	35
Mid-Hudson	1,571	147	4
North Country	335	11	2
Finger Lakes	474	20	8
Mohawk Valley	445	3	-
Capital Region	562	3	11
New York City	3,228	55	229
Western New York	563	2	1
Long Island	635	-	15
<b>Total</b>	<b>10,592</b>	<b>366</b>	<b>320</b>

NYSERDA Disadvantaged Community Investments

NYSERDA’s CEF portfolio is also impacting disadvantaged communities in a wide variety of ways across the Market Development, Innovation & Research, NY-Sun, and NY Green Bank portfolios. A summary of accounting for NYSERDA’s place-based disadvantaged community investments from 2020-2025 can be found in Table 4 below and reflects data that will be featured in NYSERDA’s April 10, 2026 CEF DAC scorecard filing with the Commission. This represents NYSERDA’s current progress in the CEF toward meeting the 40 percent DAC target.

**Table 4: NYSERDA CEF Disadvantaged Communities Investment (2020 – 2025)**

Portfolio (Years 2020-2025)	DAC/Low-Income Funding (\$M)	Total Place-based Funding (\$M)	DAC/Low Income %
Total	\$1,980.4	\$3,740.0	53%

- NYSERDA’s Innovation & Research portfolio contains limited place-based funding in the form of pilots and demos which were first scoped for place-based impact in 2024 and included in subsequent DAC assessments of these investments.
- Community solar projects in NY-Sun are being reported as benefiting disadvantaged communities according to their proportion of DAC/low-income subscribers, rather than their project location. Project-specific subscriber data (both geospatial and income qualification data) is being used to calculate the proportion of DAC/low-income subscribers for each project that is part of the Inclusive Community Solar Adder (ICSA) Program. Expanded Solar for All (ESFA) projects are considered entirely benefiting disadvantaged communities since their subscribers are 100% low-income. For the remainder of community solar projects, NYSERDA is applying a 55.6% factor representing participation by disadvantaged communities and geographically dispersed low-income households. This number is being applied retroactively to all projects since 2020 where actual data is lacking. This factor is based on a large sample analysis of community solar subscribers from 2020–2022 and will be periodically updated as NYSERDA gains access to additional post-2022 subscriber data. Details can be found in the 2024 technical report.<sup>12</sup>
- NYGB funding excludes Utility-scale investments, as well as a CDG Storage, pending DPS response to NYSERDA’s Storage Roadmap.

## 1.2 Market Development and Innovation & Research

NYSERDA surpassed \$2.0 billion in cumulative Market Development and Innovation & Research programmatic expenditures in 2025, approximately two-thirds of the authorized funding for these two CEF sub-portfolios. Combined, they are responsible for nearly half of the \$22 billion in acquired leveraged funding realized through 2025, helping NYSERDA exceed the \$20 billion Order Target through 2025. At the ten-year CEF timeline, NYSERDA committed 98% of the total authorized funding and 98% of the 2025 CEF Target for total energy savings when including total commitments and both direct and measured indirect savings through 2025. Though energy savings acquired have fallen short to Order Targets through 2025, programs continue to demonstrate good progress; additional time is needed to realize near-term Targets and long-range projections for the full 2030 expected impact remain strong.

I&R acquired leveraged funding increased to \$5.5 billion through year-end 2025, exceeding the portfolio forecast by \$500 million while already achieving 80% of the current 2030 forecast, and establishing very strong clean energy investment in the State to further bolster the outcomes from ratepayer funding NYSERDA is administering in the CEF. Table 5 below summarizes the cumulative progress to date of other key I&R performance indicators, noting that progress of the collective portfolio of Initiatives across the nine Focus Areas has far exceeded expectations outlined in those plans of the metrics collected from participating companies through 2025. More detail on these metrics as they relate to CEF Initiatives can be found in Appendix A.

**Table 5: Summary of Innovation & Research Standardized Output & Outcome Progress Metrics**

Focus Area (T= Target, A= Actual)	Committed Projects		Organizations Engaged		Products Commercialized		Product Revenue (\$M)		Replications		Publications	
	T	A	T	A	T	A	T	A	T	A	T	A
Buildings Innovation	112	119	19	161	25	13	\$5	\$31	576	1323		
Clean Transportation Innovation	109	154	304	208		7 *		\$4 *	15	613 *	8	11
Climate Resilience Innovation	1	3	7	18								
Energy & Env. Research		139 *									150	301
Gas Innovation	19	25	3	41	1	0			3	1		
Grid Modernization	12	181	183	193		13 *		\$26 *		6774 *		
Negative Emissions Technologies	18	16	1038	1262	6	2			5	0		
Renewables Optimization	99	132	77	153	5	13	\$20	\$1	6	2		
Technology to Market		113 *	726	1871	160	256 *		\$4 *				
<b>Grand Total</b>	<b>370</b>	<b>882</b>	<b>2357</b>	<b>3907</b>	<b>197</b>	<b>304</b>	<b>\$25</b>	<b>\$65</b>	<b>605</b>	<b>8713</b>	<b>158</b>	<b>312</b>

- Actuals with \* represent enhanced metrics collection, data gathered from Company participants above and beyond the required output & outcome indicators shown in the Compiled Investment Plan Focus Area plans (Appendix A).

Appendix A of this report contains a comprehensive and detailed breakdown of progress for each Focus Area and initiative comprising NYSERDA's MD and I&R portfolios. These summaries include performance metrics, milestone updates, output and outcome indicator updates, and concise narratives

speaking to the status of the initiative. NYSERDA's is continually monitoring performance across all initiatives to optimize portfolio progress over the life of the CEF, accelerating progress on funding commitments and subsequent expenditures wherever possible.

Over the past two years, NYSERDA has actively managed a diverse body of CEF Initiatives within the MD and I&R portfolios while developing and preparing for the launch of successor portfolios that will continue the work of clean energy market transformation core to CEF objectives. Successful execution of twenty distinct MD and I&R Focus Area plans containing ninety unique Initiatives across NYSERDA's Compiled Investment Plans have not only generated significant energy savings and leveraged funding through 2025 but also established key learning vital to the development of these future generation energy-efficiency/building electrification and innovation portfolios.

In the *Order Directing Energy Efficiency and Building Electrification Proposals* issued July 20, 2023 the Commission outlined core roles NYSERDA should play in the clean energy market in 2026 and beyond, working complementary to utilities Statewide. On May 15, 2025, the Public Service Commission issued Orders Authorizing Non-Low to Moderate-Income and Low- to Moderate-Income Energy Efficiency and Building Electrification Portfolio's for 2026-2030. Additionally, on October 17, 2025, the Public Service Commission issued an Order Authorizing the 2026-2030 Innovation and Research Portfolio. The Orders, covering operations spanning 2026-2030 include modifications, improvements, and enhancements informed by past performance and lessons learned from the CEF portfolio and considers emerging needs identified through external research and market analysis.

### **1.3 NY-Sun**

NY-Sun represents the most mature of the four CEF portfolios. Over ten years into the initiative, the program is performing well, having surpassed the original 2023 goal for 3 GW of distributed solar in March 2021. NYSERDA's achievement of 6 GW of distributed solar represents the first Climate Act target to be accomplished, and it occurred over a year before the 2025 target date. On April 24, 2025, the Public Service Commission issued an *Order Approving NY-Sun Program Modifications*.<sup>13</sup> The Order increased NY-Sun's 10 GW goal by an incremental 500 MW, specifying that the additional capacity must be dedicated to community solar projects using the Statewide-Solar For All model. The program is well on track to achieve the goal of 10.5 GW by 2030 with completed projects and pipeline (statewide) exceeding 10.4 gigawatt (GW) of capacity in total.

Through year end 2025, NY Sun has over \$2.7 billion in programmatic CEF funding committed with nearly 7.8 GW of capacity installed statewide, 6.1 GW of which received NYSERDA incentives. This year marked another strong one for distributed solar deployment in New York, with 1,226 MW installed statewide (1,045 MW with NYSERDA funding) in 2025. Annual and cumulative completion data are available on NYSERDA's solar dashboard web pages.<sup>14</sup>

According to Wood Mackenzie's most recent US Solar Market Insights report, New York State ranked first in the country for community solar installed in 2025, as well as first for all-time community solar installations, with over 37% of American community solar installed last year in New York. Furthermore, according to the latest NYSERDA Clean Energy Industry Report, the New York solar industry now employs 16,152 employees.<sup>15</sup>

## **1.4 NY Green Bank**

NY Green Bank (NYGB) began commercial operations in summer 2014. During the first two years of the CEF, NYGB achieved two key milestones. First, it generated positive annual net income a full year earlier than planned. Second, during the third calendar quarter of 2017, NYGB earned cumulative revenue on its investments greater than its cumulative expenses and losses. Since these milestones NYGB has continued to deploy capital into clean energy projects and sustainable infrastructure. As of December 31, 2025, NYGB has committed over \$2.6 billion to projects, with \$2.9 billion in funding deployed and nearly \$2.2 billion of the deployed principal now repaid and made available for recycling into subsequent transactions.

NYGB's investments are anticipated to support the delivery of up to 4.0 million MMBtu-e (MMBtu equivalent) total annual energy savings and distributed solar capacity of at least 1,487 MW to New Yorkers. Through year-end 2025, NYGB's counterparties have completed systems that provide 133,747 MMBtu-e in annual energy savings and installed 966 MW of distributed solar capacity. These benefits will further increase as NYGB's counterparties continue to draw down on capital commitments to fund new project installations, and NYGB continues to close new transactions in 2026 and beyond.

The Commission's *Order Initiating the New Efficiency: New York Interim Review and Clean Energy Fund Review*, issued September 15, 2022, identified the process for reviewing the NYGB portfolio. NYGB filed its *Petition Regarding the Performance of NY Green Bank and Authorization of Modifications* on October 31, 2024<sup>16</sup>. The Petition provided a summary of performance, operational considerations and goals for NYGB for the 2026-2030 period. The Commission reviewed the Petition and

considered specific requests outlined therein, including any necessary modifications to improve performance and alignment of NYGB with State policy evolution since its inception in 2014. Since the end of the reporting period, the Commission's *Order Modifying New York Green Bank* was issued on January 23, 2026.<sup>17</sup> In this Order, the Commission reaffirmed that NYGB will continue to be a key component in advancing the Commission's clean energy objectives and the State's clean energy transition. Key elements of this Order include the authorization of NYGB's continued use of ratepayer funds, enhancement of NYGB's minimum investment criteria, and establishment of sector-specific investment targets for 2026-2031.

## 2 Metrics Reporting

Cumulative progress and expected benefits from all four portfolios, alongside CEF Order Targets, are shown combined in Table 6. Order Targets for 2025 and 2030 timeframes are from the Order Approving Clean Energy Fund Modifications, issued and effective September 9, 2021. NYSERDA removes known overlap among its CEF portfolios in this roll-up table while individual portfolio tables remain whole; therefore, the sum of individual portfolio tables presented later will not match the totals in Table 6. NYSERDA also removes initiatives not dedicated to energy efficiency from reporting against the energy-efficiency targets. Subsequent Tables 7–11 provide a view of progress for each portfolio and their relevant metrics individually.

**Table 6: CEF Combined Portfolios Year-End Progress and Projected Benefits**

CEF (All Portfolios) Annual Benefit Metrics ** Direct + Indirect Progress ** Overlap Accounted	Evaluated Totals (verified gross where evaluated; gross where not)						
	Cumulative Acquired Benefits Through 2025	Committed Benefits as of Q4 2025 (Committed but not acquired)	Total Progress Through 2025 (Total Acquired + Committed)	Total Expected Benefits Through 2025	2025 Order Target	Total Expected Benefits Through 2030	2030 Order Target
Total Energy Savings (MMBtu-e)	35,651,557	15,982,181	51,633,738	46,494,425	53,000,000	80,940,596	79,000,000
Electricity Savings (MWh)	3,295,022	1,028,731	4,323,753	4,380,017	6,700,000	7,912,115	10,000,000
Natural Gas Fuel Savings (MMBtu)	18,873,376	12,200,024	31,073,400	25,838,153	25,000,000	46,110,829	38,000,000
Other Fuel Savings (MMBtu)	14,416,660	584,636	15,001,296	14,252,738	15,000,000	16,919,997	17,000,000
Distributed Solar Capacity (MW)	7,841	2,773	10,614	-	6,000	-	10,500
Leveraged Funds (\$ millions)	\$21,578	\$7,687	\$29,266	\$29,266	\$20,000	\$29,266	n/a

- Figures include both direct and indirect benefits; indirect progress is reported only for initiatives in which studies have concluded; indirect plans as represented in the “Total Expected” columns include a conservative estimate of total indirect benefits expected from market transformation to avoid overlap in these values and to account for uncertainty associated with the forecasting and measurement of indirect benefits over time.
- Overlap where it is known or perceived to exist between portfolios has been removed from progress reported.
- Progress reported here is a blend of verified gross and gross savings. Where evaluation studies have been completed and yield realization rates, verified gross acquired savings are reported. Where studies are not yet complete, those initiatives and/or time periods will continue reporting gross savings.
- Verified savings as a percent of total reported direct savings varies by metric and includes electricity (58% verified), natural gas (58%), and other fuels (11%). The measurement and verification work to verify savings is done on a periodic basis, most commonly covering at least 1-2 years of program activity, and at different times for different programs, which will cause the percent verified to fluctuate over time. This work can only begin once adequate post-installation operation has occurred. Additionally, methods and data availability vary significantly between electricity, natural gas, and other fuels, which is one of the underlying causes of varying percentages of savings verified. Indirect savings are not included in these percent figures.
- Total Energy Savings measures the combined electricity and fuel savings net of usage; therefore, may not sum to the total of individual electric and fuel savings values.
- CEF initiatives not dedicated to building energy efficiency (Electric Vehicles - Rebate, Combined Heat and Power, and Fuel Cells) have been excluded from progress and plans toward the first four energy saving targets shown above.
- Distributed Solar Capacity includes 1,782 MW of non-NYSERDA solar capacity from statewide interconnection data.
- Leveraged funds expected benefits does not currently include anticipated indirect impacts.
- Benefits metrics that have not been given 2030 Targets in the Order are shown as “not applicable.”
- Total Expected Benefits values do not include future expected impacts from NY-Sun and NY Green Bank portfolios.

- NYSERDA makes no claim to the environmental attributes or any New York Generation Attribute Tracking System (NYGATS) certificates that may be associated with these projects.

**Table 7: Market Development Year-End Progress and Projected Direct Benefits**

Market Development Annual Benefits Metrics ** Direct Only **	Evaluated Totals (verified gross where evaluated; gross where not)					
	Cumulative Acquired Benefits Through 2025	Cumulative Planned Benefits Through 2025	Committed Benefits as of Q4 2025 (Committed but not acquired)	Total Progress Through 2025 (Total Acquired + Committed)	Total Expected Benefits Through 2025	Total Expected Benefits Through 2030
Total Energy Savings (MMBtu equivalent)	27,540,682	31,528,775	15,982,181	43,522,863	31,528,775	46,195,158
Electricity Savings (MWh)	2,225,379	2,694,875	1,028,731	3,254,110	2,694,875	3,551,330
Total Fuel Savings (MMBtu)	28,421,767	30,396,621	12,784,660	41,206,428	30,396,621	42,531,821
Natural Gas Fuel Savings (MMBtu)	15,061,384	17,876,508	12,200,024	27,261,408	17,876,508	28,786,854
Other Fuel Savings (MMBtu)	13,360,384	12,520,112	584,636	13,945,020	12,520,112	13,744,967
Distributed Solar Capacity (Renewable MW)	7	6	0	7	6	6
Total Leveraged Funds (\$M)	\$4,010	\$4,411	\$1,781	\$5,792	\$4,411	\$5,820

- Progress reported here is a blend of verified gross and gross savings. Where studies have been completed and yield realization rates, verified gross acquired savings are reported. Where studies are not complete, those initiatives and/or time periods will continue reporting gross savings. Verified savings as a percent of total reported direct savings varies by metric and includes electricity (58% verified), natural gas (58%), and other fuels (11%).
- Market Development initiatives not dedicated to building energy efficiency have been excluded from progress toward energy saving targets above, including Electric Vehicles—Rebate, Combined Heat and Power, and Fuel Cells. These initiatives account for MMBtu-equivalents net savings of approximately -254,915 MMBtu-equivalents.
- NYSERDA makes no claim to the environmental attributes or any New York Generation Attribute Tracking System (NYGATS) certificates that may be associated with these projects.

Indirect benefits are defined as long-term market effects from follow-on market activity not directly funded by NYSERDA. Progress is reported as market impacts are verified through the completion of market evaluation studies which will occur gradually and grow over time, depending upon the period of each study, which varies by initiative. Market evaluation studies continued to assess indirect impacts in 2025, with indirect benefits now nearing 8.5 million MMBtu of Total Energy Savings. Additional detail on those studies can be found in appendix C of this report.

**Table 8: Market Development Year-End Progress and Projected Indirect Benefits**

Market Development Annual Benefit Metrics ** Indirect Benefits Only **	Evaluated Totals (from completed studies)			Total Indirect Benefits Evaluated as % of Total Expected Through 2030
	Cumulative Acquired Benefits Reported Through 2025	Total Indirect Benefits Expected Through 2025	Total Indirect Benefits Expected Through 2030	
Total Energy Savings (MMBtu equivalent)	8,498,413	14,965,650	34,745,438	24%
Electricity Savings (MWh)	1,138,170	1,685,141	4,360,785	26%
Total Fuel Savings (MMBtu)	5,024,849	9,694,270	20,499,005	25%
Natural Gas Fuel Savings (MMBtu)	3,919,620	7,961,645	17,323,975	23%
Other Fuel Savings (MMBtu)	1,105,230	1,732,625	3,175,030	35%
Renewable Energy Capacity (MW)	459	369	516	89%

- Indirect benefits are reported for the initiatives and specific time periods where studies have concluded.
- Indirect impacts will be added over time as additional studies conclude, regularly growing these evaluated totals.

- Indirect plans as represented in the “Total Expected” columns include conservative estimates of total expected indirect benefits from market transformation (often discounted by 50%) to avoid overlap in these values and to account for uncertainty associated with the forecasting and measurement of indirect benefits over time.
- Indirect leveraged funding will be captured with future assessments.
- MD initiatives not dedicated to building energy efficiency have been excluded (as it pertains to indirect savings, Electric Vehicles - Rebate is excluded).

Innovation & Research initiatives measure progress more granularly through tracking of several key output and outcome indicators as summarized in Table 5 above, however the primary CEF Order Target metric that initiatives in this portfolio contribute to is leveraged funding. The impact of the I&R portfolio through 2025 is shown below.

**Table 9: Innovation and Research Year-end Progress and Projected Benefits**

Innovation and Research Annual Benefits Metrics	Gross Totals					
	Cumulative Acquired Benefits Through 2025	Cumulative Plan Through 2025	Committed Benefits as of Q4 2025 (Committed but not acquired)	Total Progress Through 2025 (Total Acquired + Committed)	Total Expected Benefits Through 2025	Total Expected Benefits Through 2030
Total Leveraged Funds (\$M)	\$5,550	\$4,946	\$2,335	\$7,886	\$4,946	\$6,893

Progress of the NY-Sun portfolio is shown in Table 10. Cumulative progress represents benefits from all projects completed or in the pipeline. Unlike the other portfolios of the CEF, NY-Sun does not have a progressive build format; therefore, Total Expected Benefits as of December 31, 2025 equals Cumulative Progress through December 31, 2025.

**Table 10: NY-Sun Year-End Benefits Progress**

NY-Sun Annual Benefit Metrics	Evaluated Totals (verified gross where evaluated)		
	Cumulative Acquired Benefits Thru 2025	Committed Benefits as of Q4 2025	Total Progress Thru 2025 (Acquired + Committed)
Total Distributed Solar Capacity (Renewable MW)	7,841	2,773	10,614
NYSERDA CEF Installations	5,420	2,730	8,149
NYSERDA (non-CEF) Installations	639	43	683
non-NYSERDA Statewide Installations	1,782	-	1,782
Total Leveraged Funds (\$ million, CEF only)	9,490	3,446	12,937

- Distributed Solar Capacity MW reported as acquired are taken from the Statewide Solar Projects dashboard, which is populated with data from utility interconnection inventories. This dataset includes all distributed solar interconnected in NYS, including hundreds of MWs which did not receive NYSEERDA funding. Committed project data is maintained by NYSEERDA independently of interconnection data. Since the two datasets define project completion date differently, some projects reported as committed may also be included as acquired under the “Non-NYSEERDA Statewide Installations” (interconnection balance) figure. As the pipeline of NYSEERDA commitments are drawn down over time and these projects are considered acquired in both data sources, this overlap will be eliminated.
- Acquired benefits are installed projects while committed are considered pipeline (contracted but not yet completed as well as applications approved, but not yet contracted).
- Leveraged funds reflect the sum of all solar project costs reported to NYSEERDA by participating contractors, minus the total NYSEERDA incentives paid on these projects.

- NYSERDA makes no claim to the environmental attributes or any New York Generation Attribute Tracking System (NYGATS) certificates that may be associated with these projects.

Progress of the NY Green Bank portfolio is shown in Table 11. Cumulative progress through December 31, 2025 represents benefits from clean energy measures deployed in New York State.

**Table 11: NY Green Bank Year-End Benefits Progress**

NY Green Bank Annual Benefit Metrics	Evaluated Totals (verified gross where evaluated)		
	Cumulative Acquired Benefits Thru 2025	Committed Benefits as of Q4 2025	Overall Investments Thru 2025 (Acquired + Committed)
Total Energy Savings (MMBtu equivalent)	133,747	2,094,781	2,228,528
Electricity Savings (MWh)	31,734	9,466	41,200
Total Fuel Savings (MMBtu)	25,469	2,479,112	2,504,581
Natural Gas Fuel Savings (MMBtu)	25,469	2,479,112	2,504,581
Other Fuel Savings (MMBtu)	-	-	-
Distributed Solar Capacity (Renewable MW)	966	768	1,734
Total Project Costs (\$ million)	2,379	5,885	8,265

- Cumulative Progress is the Actual Clean Energy system deployed in NYS, reported by NYGB's clients, as a result of NYGB's participation in financing these projects in the State.
- Overall Investments as of December 31, 2025 represents the sum of the low end of the range for all First-Year estimated energy savings, energy generation, and GHG emissions reductions (as also reported in NYGB Quarterly Metrics Reports) to be achieved by the end of the availability period for each transaction, aggregated across all NYGB investments.
- Total Energy Savings measures the combined electricity and fuel savings net of usage; therefore, may not sum to the total of individual electric and fuel savings values. New York Green Bank projects not dedicated to building energy efficiency are excluded from these savings. This includes Combined Heat and Power, Fuel Cell projects which would account for approximately -286,000 MMBtu-equivalents of net savings.
- Distributed Solar Capacity progress shown here excludes any utility-scale projects supported by NY Green Bank
- Cumulative Progress and Overall Investments are the same measure as reflected in the corresponding Cumulative Annual Benefits calculations, but for each NYGB investment, the relevant annual measure is multiplied by the expected measure life and summed to total cumulative progress or overall investments.
- Through December 2025, 100% of the direct energy savings reported for NY Green Bank are Gross Savings
- The NYGB Metrics, Reporting and Evaluation Plan<sup>18</sup> (and this table) define Total Project Costs to include fair market value (FMV) data for a subset of NYGB's investments. FMV is an estimated market valuation of fully installed energy projects provided by NYGB's counterparties and is often required for federal income tax purposes, by institutional investors and for certain grant program purposes unconnected with NYGB. As projects progress and the cost of installed equipment and labor are known and reported to NYGB by its counterparties, NYGB will seek to adjust reported values and replace FMV in its aggregated data sets and periodic reporting with those actual costs.
- NYSERDA makes no claim to the environmental attributes or any New York Generation Attribute Tracking System (NYGATS) certificates that may be associated with these projects.

### 3 Financial Reporting

Portfolio-level financial progress updates for each of the four CEF portfolios follows.

**Table 12: Market Development, Innovation and Research Portfolio-Level Funding and Financial Metrics**

Budget Progress (\$M)	Total Authorized Budget	Total Approved As of Dec. 31 2025	Expended Funds	% of Approved Budget Expended	Committed Funds As of Dec. 31 2025	Total Progress (Expended + Committed)	% of Approved Budget Expended + Committed	Budget Approved Remaining Balance
<b>Market Development (MD)</b>	<b>\$2,399.7</b>	<b>\$2,398.9</b>	<b>\$1,711.3</b>	<b>71%</b>	<b>\$664.7</b>	<b>\$2,376.0</b>	<b>99%</b>	<b>\$22.9</b>
Program Funds	\$2,399.7	\$2,370.9	\$1,691.5	71%	\$664.7	\$2,356.2	99%	\$14.7
NYS Cost Recovery Fee		\$28.0	\$19.8	71%	n/a	\$19.8	71%	\$8.2
<b>Innovation &amp; Research (IR)</b>	<b>\$631.7</b>	<b>\$629.8</b>	<b>\$391.6</b>	<b>62%</b>	<b>\$222.2</b>	<b>\$613.8</b>	<b>97%</b>	<b>\$16.0</b>
Program Funds	\$631.7	\$623.0	\$387.6	62%	\$222.2	\$609.8	98%	\$13.2
NYS Cost Recovery Fee		\$6.8	\$4.0	59%	n/a	\$4.0	59%	\$2.8
<b>Administration</b>	<b>\$274.4</b>	<b>\$274.4</b>	<b>\$245.4</b>	<b>89%</b>	<b>-</b>	<b>\$245.4</b>	<b>89%</b>	<b>\$29.0</b>
<b>Evaluation</b>	<b>\$124.2</b>	<b>\$124.2</b>	<b>\$58.5</b>	<b>47%</b>	<b>\$48.0</b>	<b>\$106.5</b>	<b>86%</b>	<b>\$17.7</b>
<b>Total MD &amp; IR</b>	<b>\$3,430.0</b>	<b>\$3,427.3</b>	<b>\$2,406.8</b>	<b>70%</b>	<b>\$934.9</b>	<b>\$3,341.7</b>	<b>98%</b>	<b>\$85.6</b>

- The data contained in this table is inclusive of all initiatives approved under these two CEF portfolios, with plans representing the Compiled Investment Plans currently filed and approved as of December 31, 2025.

**Table 13: NY-Sun Portfolio-Level Funding and Financial Metrics**

Budget Progress (\$M)	Total Authorized Budget	Expended Funds	% of Authorized Budget Expended	Committed Funds As of Dec. 31 2025	Total Progress (Expended + Committed)	% of Authorized Budget Expended + Committed	Budget Authorized Remaining Balance
<b>NY-Sun</b>	<b>\$2,933.6</b>	<b>\$1,673.1</b>	<b>57%</b>	<b>\$773.1</b>	<b>\$2,446.2</b>	<b>83%</b>	<b>\$487.4</b>
Program Funds	\$2,904.8	\$1,658.0	57%	\$773.1	\$2,431.1	84%	\$473.7
NYS Cost Recovery Fee	\$28.8	\$15.1	52%	n/a	\$15.1	52%	\$13.7
<b>Administration</b>	<b>\$58.8</b>	<b>\$32.1</b>	<b>55%</b>	<b>\$0.1</b>	<b>\$32.2</b>	<b>55%</b>	<b>\$26.6</b>
<b>Evaluation</b>	<b>\$3.5</b>	<b>\$1.8</b>	<b>51%</b>	<b>\$0.2</b>	<b>\$2.0</b>	<b>57%</b>	<b>\$1.5</b>
<b>Total NY-Sun</b>	<b>\$2,995.9</b>	<b>\$1,707.0</b>	<b>57%</b>	<b>\$773.4</b>	<b>\$2,480.4</b>	<b>83%</b>	<b>\$515.5</b>

- Progress data contained in this table is limited to only NY-Sun contract commitments.
- NYSERDA supported solar installations not funded through the CEF total \$407 million in expenditures and are reported elsewhere (quarterly report).

Funding and financial status of NY Green Bank is provided in the collection of tables that follow.

NY Green Bank is presented separately from the other CEF portfolios to accurately represent NY Green Bank's unique characteristics (e.g., funds invested by NY Green Bank are ultimately returned and recycled, and revenues are generated to continue to support self-sufficiency and reinvestment).

**Table 14: NY Green Bank Portfolio-Level Funding and Financial Metrics (group)**

**Net Position vs. Budgeted Funds**

Program Costs & Revenue (\$M)	Total Authorized Budget	Deployed Funds <sup>a</sup> (drawn)	Committed Funds (undrawn)	Current Portfolio <sup>b</sup>	Net Income Earned on Investments	2014 DOE Grant	Available Capital <sup>c</sup>	Net Position <sup>d</sup>
NY Green Bank	\$947.1	\$757.2	\$203.7	\$960.9	\$205.1	\$0.5	\$191.8	\$1,152.7

**Cumulative Principal Deployed and Repaid**

Cumulative Principal Deployment	Cumulative Principal Repaid
\$2,913.2	\$2,151.8

**Investment to Date**

CEF 10-Year Investment Goal	Overall Investments to Date	Remaining (\$)	Remaining (%)
\$1,900.0	\$2,697.7	Achieved on Dec 19, 2022	

**Administrative Costs**

Administrative Costs	Budgeted	Expensed	Remaining <sup>e</sup>
Operating Expenses (Program Administration) <sup>f</sup>	\$12.8	\$12.8	\$0.0
Program Evaluation	\$4.0	\$1.3	\$2.7
New York State Cost Recovery Fee	\$0.5	\$0.5	\$0.0
<b>OTHER COSTS TOTAL</b>	<b>\$17.2</b>	<b>\$14.5</b>	<b>\$2.7</b>

- Deployed Funds include capitalized interest and fees; as such the value does not reflect the difference between Cumulative Principal Deployed and Cumulative Principal Repaid.
- Sum of Deployed Funds and Committed Capital.
- Available Capital reflects the amount of NYGB's initial \$1.0 billion capitalization confirmed in the CEF Order that is not currently Deployed or Committed, less \$52.9 million of reallocated RGGI funds. As NYGB investments mature and are redeployed into new projects, Available Capital gives a snapshot in time of the funds available for clean energy investment.
- Net Position is equal to the sum of Budgeted Funds, Net Income Earned on Investments and 2014 DOE Grant.
- Remaining Balance shows the net of expenses against Budgeted Funds consistent with the CEF Order. As NYGB is required to be self-sufficient, revenue is expected to fund operating expenses.
- NYGB Operating Expenses reflect reporting of the budget and actual expenses from "start-up" administrative funding approved through Public Service Commission Order. Operating expenses in excess of the originally approved amount are being funded from NYGB revenues and are not reported in this table, but are reflected in its annual financial statement.

# Report Endnotes

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- 1 NYS Department of Public Service Commission Files  
<http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?Mattercaseno=18-M-0084> .
- 2 Governor Hochul proposes expansion of distributed solar target (10 GW by 2030) and energy storage target (6 GW by 2030), both of which can be referenced in the 2022 State of the State Book  
<https://www.governor.ny.gov/sites/default/files/2022-01/2022StateoftheStateBook.pdf>
- 3 New York’s 6GW Energy Roadmap: Policy Options for Continued Growth in Energy Case 18-E- 030:  
<https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=18-E-0130&CaseSearch=Search>
- 4 DPS and NYSERDA jointly filed the Distributed Solar Roadmap on December 17, 2021, which proposed a pathway to a statewide goal of 10 GW of distributed solar by 2030. This goal is in alignment with Governor Kathy Hochul's previously announced target.
- 5 Order Approving NY-Sun Program Modifications, issued and effective April 24, 2025. [LINK]
- 6 US EPA. 2004. Emission Inventory Improvement Program. Estimating Ammonia Emissions from Anthropogenic Sources, Draft Final Report. Prepared by E.H. Pechan and Associates, Inc.; III-1
- 7 US EPA. 1996. Compilation of Air Pollutant Emission Factors, 5th Edition, AP-42, Volume I: Stationary Point and Area Sources.
- 8 McDonald, R. 2009. Evaluation of Gas, Oil, and Wood Pellet Fueled Residential Heating System Emission Characteristics. Brookhaven National Laboratory.
- 9 *Scoping Plan, Appendix G: Integration Analysis Technical Supplement* (New York Climate Action Council, 2022), <https://climate.ny.gov/resources/scoping-plan/>
- 10 New York State 2025 Energy Plan, Chapter 6.2. Health Impacts Analysis <https://energyplan.ny.gov/-/media/Project/EnergyPlan/files/2025-Energy-Plan/2025-NY-State-Energy-Plan.pdf>
- 11 S. Arunachalam et al. “A Census Tract-Level Modeling Framework for Estimation of Health Co-Benefits of Decarbonization in New York State.” ChemRxiv. Preprint. doi:10.26434/chemrxiv-2025-8sbv82025; <https://treehug-app.its.unc.edu/chappa/>
- 12 <https://www.nyserdera.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/NYSERDA/Community-Solar-DAC.pdf>
- 13 Order Approving NY-Sun Program Modifications, issued and effective April 24, 2025. [LINK]
- 14 Statewide completion data are available at <https://www.nyserdera.ny.gov/All-Programs/NY-Sun/Solar-Data-Maps/Statewide-Projects>. NYSEDA-supported completion data are available at <https://www.nyserdera.ny.gov/All-Programs/NY-Sun/Solar-Data-Maps/NYSERDA-Supported-Solar-Projects>.
- 15 NYSEDA New York Clean Energy Jobs Report 2024.
- 16 Petition Regarding the Performance of NY Green Bank and Authorization for Modifications, filed October 31, 2024. : <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={20A2E392-0000- C131-A5D0-530DA9D2AEEE}>
- 17 Order Modifying New York Green Bank, issued and effective January 23, 2026.  
<https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={1011EC9B-0000-CA29-BC1E-3F09B337DE8C}&DocTitle=Order%20Modifying%20New%20York%20Green%20Bank>
- 18 NYSEDA’s NY Green Bank Metrics, Reporting and Evaluation Report through December 31, 2025 was filed in the Department of Public Service’s Document Matter Management System under case 13-M-0412 on February 27, 2026 and can also be found at: <https://greenbank.ny.gov/Resources/Public-Filings>

## **Appendix A. Performance and Milestone Summaries**

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The CEF Annual Report, and specifically the individual initiative performance summaries contained within this appendix, highlight the link between the performance of an initiative and the plan for continuation, modification, or termination of those initiatives. The performance of each Market Development (MD) and Innovation and Research (I&R) initiative is carefully assessed, along with other information, to adjust future plans, including future budget and benefit estimates defined in each CEF investment plan.

The progress and performance summaries that follow are organized into their respective Innovation & Research or Market Development portfolios, consistent with other plan filings and reporting. Resource Acquisition Transition initiatives were launched at the onset of the CEF in 2016 and do not contain milestones, outputs, and outcomes as subsequent CEF initiatives do, only standard budget and benefits metrics. CEF initiatives that are part of the Statewide Joint LMI Implementation Plan co-administered with Utilities are reported in the Annual Joint Plan Report filed April 1 each year. Performance metrics of both groups are contained within this appendix for reference.

Performance to date represents a cumulative look back at the period from program launch through December 31, 2025. Therefore, all planned values represent those contained in NYSERDA's approved investment plans as of December 31, 2025. Where applicable, updates are provided for milestones as well as output/outcome indicator metrics through 2025. Benefits metrics represent direct impacts only, with indirect benefits noted in narratives where studies have been conducted to report them.

For a complete version of all activity tables including the associated table notes, please visit [www.nyserda.ny.gov](http://www.nyserda.ny.gov) and the Clean Energy Fund section, referencing the November 21, 2025 Compiled Investment Plan filing.

This appendix can be navigated quickly from the directory of initiatives that follows. The directory is organized by portfolio and provides clear link to the CEF Focus Areas that are served by each initiative. Use the links to jump to each relevant report section.

Market Development Initiatives

	Clean Heating & Cooling	Codes and Standards, & Other Multisector Initiatives	Commercial/ Industrial/ Agriculture	Communities	Low to Moderate Income	Multifamily Residential	New Construction	Renewables/ Distributed Energy Resources (DER)	Single Family Residential	Transportation	Workforce Development	Status
Advancing Agricultural Energy Technologies			X									Inactive
Building Operations and Maintenance Partnerships											X	Active
Clean Energy Communities				X								Active
Clean Energy Siting and Soft Cost Reduction								X				Active
Clean Green Campuses			X									Active
Codes and Standards for Carbon Neutral Buildings		X										Active
Community Energy Engagement				X								Inactive
Consumer Awareness								X				Inactive
Electric Vehicles - Rebate										X		Inactive
Energy Management Practices			X									Active
Energy Management Technology			X			X						Active
EV Charging & Engagement										X		Active
Greenhouse Lighting and Systems Engineering			X									Active
Heat Pumps Phase 1 (2017)	X											Inactive
Heat Pumps Phase 2 (2020)	X				X			X				Active
Information Products and Brokering		X										Active
Market Challenges			X			X						Active
Multifamily Low-Carbon Pathways						X						Active
New Construction - Market Rate							X					Active
Offshore Wind Master Plan								X				Inactive
Offshore Wind Pre-Development Activities								X				Inactive

ORES Support								X				Active
P-12 Schools			X									Active
Pay for Performance			X						X			Inactive
Product and Appliance Standards		X										Active
Real Estate Tenant			X									Inactive
Reducing Barriers to Distributed Deployment								X				Active
Renewable Heat NY - Clean and Efficient Biomass Heating	X											Inactive
Residential									X			Active
NYGridConnect		X										Inactive
Solar Plus Energy Storage								X				Inactive
Talent Pipeline											X	Active
Technical Services			X			X						Active

## Market Development Initiatives

Clean Heating & Cooling  
 Codes and Standards, & Other Multisector Initiatives  
 Commercial/ Industrial/ Agriculture  
 Communities  
 Low to Moderate Income  
 Multifamily Residential  
 New Construction  
 Renewables/ Distributed Energy Resources (DER)  
 Single Family Residential  
 Transportation  
 Workforce Development

Status

### Low-to-Moderate Income Initiatives

NYSERDA jointly files the *LMI Statewide Portfolio Annual Report* with the Utilities on April 1 of each year. This report contains detailed information on the progress of all LMI-related initiatives and can be found in the Department of Public Service’s Document Matter Master (DMM) system under case 14-M-0094.

Healthy Homes Feasibility Study					X							Inactive
LMI Multifamily					X							Active
LMI Outreach & Engagement					X							Active
LMI Pilots					X							Inactive
New Construction - LMI					X							Active
NYS Healthy Homes Value Based Payment Pilot					X							Inactive
Regional Clean Energy Hubs					X							Active
RetrofitNY - LMI					X							Inactive
REVitalize					X							Inactive
Single Family - Low Income					X							Active
Single Family - Moderate Income					X							Active
Solar for All					X							Inactive

### Resource Acquisition Transition Initiatives (all Inactive)

Agriculture Transition			X									Inactive
Anaerobic Digesters Transition								X				Inactive
Combined Heat & Power Transition								X				Inactive
Commercial New Construction Transition							X					Inactive
Commercial Transition			X									Inactive

Fuel Cells								X				Inactive
Industrial Transition			X									Inactive
Low Rise New Construction Transition - LMI					X							Inactive
Low Rise New Construction Transition - Market Rate							X					Inactive
Multifamily Market Rate Transition						X						Inactive
Multifamily New Construction Transition - LMI					X							Inactive
Multifamily New Construction Transition - Market Rate							X					Inactive
Single Family Market Rate Transition									X			Inactive
Small Wind Transition								X				Inactive
Solar Thermal Transition	X											Inactive

Alphabetical Directory

Innovation Focus Area Served

Innovation & Research Initiatives

	<i>Buildings Innovation</i>	<i>Clean Transportation Innovation</i>	<i>Climate Resilience Innovation</i>	<i>Energy Focused Environmental Research</i>	<i>Gas Innovation</i>	<i>Grid Modernization</i>	<i>Negative Emissions Technologies</i>	<i>Renewables Optimization</i>	<i>Technology to Market</i>	<b>Status</b>
CarbonTech Development							X		X	Active
Catalytic Capital for Climatetech									X	Active
Climatetech Commercialization Support	X								X	Active
Climatetech Expertise & Talent									X	Active
Electric Vehicle Innovation		X								Active
Energy Storage Technology and Product Development								X		Active
Energy-Related Environmental Research			X							Active
Future Grid Performance Challenge						X				Active
Grid ClimateTech Ready Capital			X			X				Active
High Performing Electric Grid						X				Active
Hydrogen Innovation			X		X					Active
Long Duration Energy Storage					X					Active
Manufacturing Corps									X	Active
National Offshore Wind Research & Development Consortium								X		Active
Natural Carbon Solutions							X			Active
NextGen Buildings	X									Active
Novel Business Models and Offerings									X	Active
Power Electronics Manufacturing Consortium						X				Inactive
Public Transportation and Mobility		X								Active
Utility Thermal Network Technical Support					X					Active

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Dollars Committed							Start		End						
Dollars Expended							Start				End				

Summary of Performance and Future Plans

In 2023 NYSERDA launched the \$10M Empire Technology Prize (ETP). The first round of ETP awarded 7 contracts which were executed in 2024. Final awards were made in September 2025. 2026-2028 will be used to match awardees with pilot demonstration sites. Progress will be monitored from 2026-2028. Leveraged funds will follow-on in the period of 2026-2029.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☒ Climatetech Commercialization Support</b>			
Budget Expenditures (\$)	6,850,000	9,884,319	144%
Leveraged Funds (\$)	62,160,000	0	0%

## Activities Summary

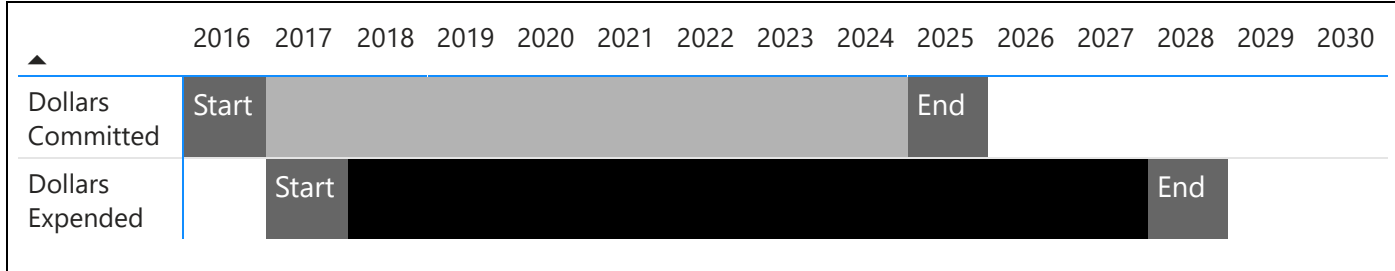
Activity	Activity #
NYSERDA will work with third-party venture development organization to design and run the "Empire Technology Prize" focused on decarbonizing buildings in New York State.	1

### ***Milestone Summary***

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue award to an Empire Technology Prize program administrator.	2022	The program administrator for the Empire Technology Prize program was awarded on 3/15/2022.	Complete	2022	1

**Outputs and Outcomes Summary**

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Agreements executed					26		1
Output: Customers engaged by the program	-	20	-	-	27	-	1
Output: Participants funded by the program	-	10	-	-	9	-	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>NextGen Buildings</b>			
Budget Expenditures (\$)	25,817,664	27,199,730	105%
Leveraged Funds (\$)	37,779,908	32,134,100	85%

Summary of Performance and Future Plans

In 2025, NYSERDA issued Program Opportunity Notice 5982 “Enabling Innovative Clean Energy Building Solutions” offering up to \$5M in available funding to complete development and demonstration of near commercial ready solutions in the technology areas of: building envelope retrofits, clean heating and cooling, intelligent grid-interactive building controls, low-GWP refrigerant applications and leak detection and thermal Storage. Eligible technologies need to have received past or current government or foundation funding that advanced and readied the solution for demonstration. The aim of the solicitation was to leverage past investments by others and fund the remaining needed activities to commercialize the solution. With added funding, eight promising projects were funded totaling \$7.4M. Projects are expected to be contracted/started by the 2nd quarter 2026.

## Activities Summary

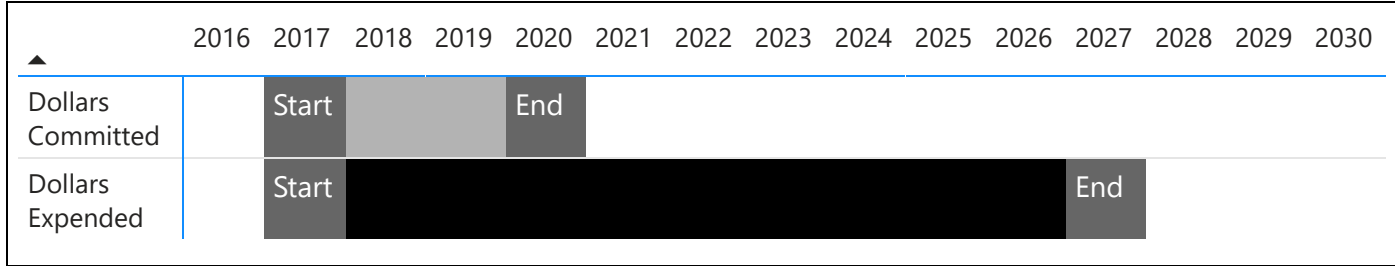
Activity	Activity #
<ul style="list-style-type: none"> <li>• Determine Technology Performance and Cost Needs. NYSERDA will seek market intelligence on the specific performance and cost thresholds for various technologies that are likely to drive adoption. Once these targets are well understood, focused competitive “innovation challenges” solicitations will be released targeting these thresholds. The solicitations will look to support technology development, technology validation, and tech-to-market activities.</li> <li>• HVAC Technology Development. Solicitations will target the innovation community to develop solutions that will provide the desired performance. Multiple innovators may be sought to address a specific technology barrier, increasing the likelihood of a viable/investable solution. Where appropriate, utility involvement will be included.</li> <li>• Technology Validation Effort. Demonstration/validation efforts will be conducted to test the developed, and other available, innovations in the intended relevant operational environment. For this tactic, NYSERDA will directly engage large real estate management organizations and other key stakeholders to serve as test beds.</li> <li>• Tech-to-Market Support. Tech-to-market support will be provided to technology developers to help drive the commercialization of new innovations. This support will be tailored specifically to help early-stage companies navigate the typical channels to market for buildings technologies; for instance, introductions through planned and structured events with key decision makers (HVAC contractors, architecture and engineering firms, energy service companies, consultants, and building owners/operators).</li> </ul> <p>Outputs and outcomes include activities with international companies attracted to offered product and to doing business in NYS.</p>	1
<ul style="list-style-type: none"> <li>• Assessment of Envelope Retrofit and Thermal Storage Solutions. NYSERDA will perform an assessment of emerging and innovative envelope retrofit and thermal storage solutions for the common building types in NYS. Information from this assessment will be used to define the economic and technical potential for energy efficiency and GHG reductions, and to inform the innovation challenges to be issued.</li> <li>• Envelope Retrofit and Thermal Storage Technology Development. Innovation Challenges will target the innovation community to develop solutions that will provide the desired performance or targets. Multiple innovators may be sought to address a specific technology barrier, increasing the likelihood of a viable/investable solution. Where appropriate, utility involvement will be included.</li> <li>• Technology Validation Effort. Demonstration/validation efforts will be conducted to test the developed, and other available, innovations in the intended relevant operational environment. For this effort, NYSERDA will directly engage large real estate management organizations and other key stakeholders to serve as test beds. Priority will be given to demonstrations with applicability to disadvantaged communities.</li> <li>• Tech-to-Market Support. Tech-to-market support will be provided to technology developers to help drive the commercialization of new innovations.</li> </ul> <p>Outputs and outcomes include activities with international companies attracted to offered product and to doing business in NYS.</p>	2
<p>Activity:</p> <ul style="list-style-type: none"> <li>• Intelligent Building Technology Development and Demonstrations. Innovation Challenges will target the innovation community to develop solutions that will provide the desired performance or targets. Multiple innovators may be sought to address a specific technology barrier, increasing the likelihood of a viable/investable solution. Where appropriate, utility involvement will be included.</li> <li>• Technology Validation Effort. Demonstration/validation efforts will be conducted to test the developed, and other available, innovations in the intended relevant operational environment. For this effort, NYSERDA will directly engage large real estate management organizations and other key stakeholders to serve as test beds. Priority will be given to demonstrations with applicability to disadvantaged communities.</li> <li>• Tech-to-Market Support. Tech-to-market support will be provided to technology developers to help drive the commercialization of new innovations.</li> </ul>	3

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue annual awards from each round of Innovation Challenge - Round 6	2022	12 awards were issued in December 2022.	Complete	2022	1
Issue annual awards from each round of Innovation Challenge - Round 7,8	2023	All Round 2 awards were contracted in 2023. Round 3 was released May 2024 focusing on Intelligent Buildings and Thermal Storage - no other categories were included due to budgets fully committed, projects were awarded in Dec 2024 awarding 7 projects (4 Intelligent Buildings and 3 Thermal Storage).	Complete	2024	1
Issue annual awards from each round of Innovation Challenge - Round 9	2024	Program Opportunity Notice 5982 was issued in March of 2025, with 9 awards made in Q4 2025 across all NextGen Activities. Contracts are currently under negotiation.	Complete	2025	1
Envelope Retrofit Technical and Economic Potential Assessment Study (value proposition, scalability, market size, energy benefits, GHG reduction) has been completed	2022	Instead of a Study, the team found and utilized available research, technical and economic studies to inform the program.	Complete	2023	2
Issue annual awards from each round of Innovation Challenge - Round 1	2022	Round 6 of the NextGen Buildings Innovation Challenge under NextGen HVAC & New York Clean Heat NYSEDA made 5 awards focused on cost compression of ground source heat pump systems.	Complete	2023	2
Issue annual awards from each round of Innovation Challenge - Round 2,3	2023	Round 7 of the NextGen Building Innovation Challenge was announced in July 2023. Challenges issued focused on building envelope improvements, advancement in thermal storage, cost compression of ground source heat pump systems, and enabling intelligent grid interactive buildings (this is the second round building envelope and thermal storage were included in Next Gen PON). Awards were made in Nov 2023, to be contracted by Q2 2024. All contracts were for Round 7 have been signed. Round 8 (this is round 3 of thermal storage) was released May 2024 focusing on Intelligent Buildings and Thermal Storage - no other categories were included due to budgets fully committed, projects were awarded in Dec 2024 awarding 7 projects (4 Intelligent Buildings and 3 Thermal Storage).	Complete	2024	2
Issue annual awards from each round of Innovation Challenge - Round 4	2024	Program Opportunity Notice 5982 was issued in March of 2025, with 9 awards made in Q4 2025 across all NextGen Activities. Contracts are currently under negotiation.	Complete	2025	2
Thermal Storage Technical and Economic Potential Assessment Study (value proposition, scalability, market size, energy benefits, GHG reduction) has been completed	2022	NYSEDA found and utilized available research, technical and economic studies to inform the program.	Complete	2023	2
Issue annual awards from each round of Innovation Challenge - Round 1,2	2023	All contracts were for Round 1 have been signed. Round 2 was released May 2024 focusing on Intelligent Buildings and Thermal Storage - no other categories were included due to budgets fully committed, projects were awarded in Dec 2024 awarding 7 projects (4 Intelligent Buildings and 3 Thermal Storage).	Complete	2024	3
Issue annual awards from each round of Innovation Challenge - Round 3	2024	Program Opportunity Notice 5982 was issued in March of 2025, with 9 awards made in Q4 2025 across all NextGen Activities. Contracts are currently under negotiation.	Complete	2025	3

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Products commercialized	5	7	9	12	11	15	1
Outcome: Replications from demonstration projects	180	225	300	375	1323	450	1
Outcome: Revenue (\$M) resulting from products developed and demonstrations deployed	\$2.5M	\$7M	\$22M	\$67M	\$27.4M	\$202M	1
Output: Participants funded by the program	53	59	65	69	85	-	1
Output: Projects completed (studies/demonstrations/product development)	7	15	22	40	59	52	1
Output: Projects started (studies/demonstrations/product development)	53	59	65	69	86	-	1
Outcome: Products commercialized	-	-	2	4	1	8	2
Outcome: Replications from demonstration projects	-	-	10	40	0	120	2
Outcome: Revenue (\$M) resulting from products developed and demonstrations deployed	-	-	\$10M	\$40M	0	\$120M	2
Output: Participants funded by the program	-	7	21	28	24	-	2
Output: Projects completed (studies/demonstrations/product development)	-	-	2	7	4	16	2
Output: Projects started (studies/demonstrations/product development)	-	7	21	28	17	-	2
Outcome: Products commercialized	-	-	-	1	1	2	3
Outcome: Replications from demonstration projects	-	-	-	1	0	6	3
Outcome: Revenue (\$M) resulting from products developed and demonstrations deployed	-	-	-	\$1	\$3.2M	\$5	3
Output: Participants funded by the program	-	-	10	18	16	19	3
Output: Projects completed (studies/demonstrations/product development)	-	-	-	3	2	8	3
Output: Projects started (studies/demonstrations/product development)	-	1	9	15	16	-	3



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Heat Pumps Phase 1 (2017)</b>			
Budget Expenditures (\$)	56,102,697	55,824,020	100%
Electricity Savings, Annual (MWh)	2,562	2,562	100%
Leveraged Funds (\$)	161,922,083	161,922,083	100%
Natural Gas Savings, Annual (MMBtu)	236,086	236,086	100%
Other Fuel Savings, Annual (MMBtu)	135,540	135,540	100%
Total Energy Savings, Annual (MMBtu eq.)	300,633	300,633	100%

Summary of Performance and Future Plans

No new applications have been accepted into the Air Source Heat Pump (ASHP) and Ground Source Heat Pump (GSHP) Incentive Programs after they were formally transitioned to the Utilities in Q2 2020 under the NYS Clean Heat program. All remaining GSHP projects that remained with NYSERDA have either been canceled or had their final incentive payment made. The Geothermal Clean Energy Challenge program, a joint program with the New York Power Authority that focused on large campus GSHP screenings and installations, was closed. None of the prospective projects moved to installation and project funds have been disencumbered. Program insights were carried over to Phase 2 initiatives, such as the Community Heat Pump Systems solicitation. Clean Heating and Cooling Campaign contracts will ramp down between now and 2025 as campaign work evolves and transitions to the Clean Energy Hubs. The balance of Heat Pumps Phase 1 funds has been re-forecasted into more active initiatives within Heat Pumps Phase 2.

## **Activities Summary**

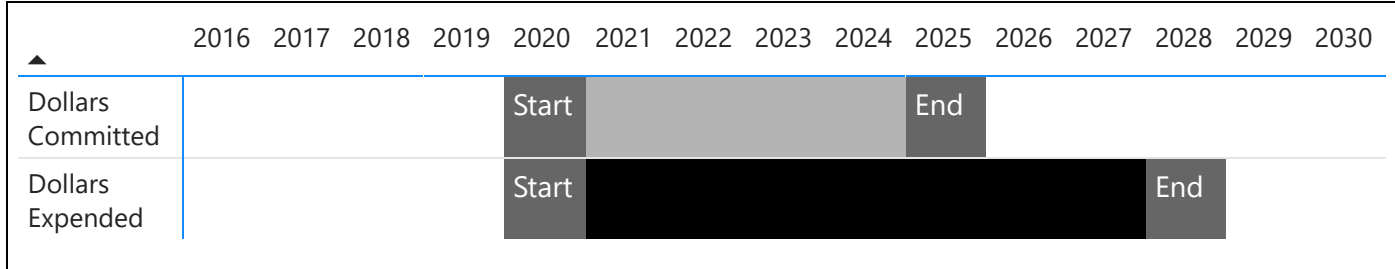
Activity

Activity #  
▲

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: # of communities continuing campaigns without NYSERDA direct financial support	-	8	-	-	N/A	-	N/A
Outcome: # of International Ground Source Heat Pump Association (IGSHP) - certified designers, installers and drillers active in NYS	-	110	-	-	107	-	N/A
Outcome: Cost (\$ per ton) in installed systems in community campaigns and for college and university campuses is reduced	-	20% decrease	-	-	N/A	-	N/A
Outcome: Increased awareness of RH&C technologies in communities with campaigns	-	20%	-	-	N/A	-	N/A
Output: # of case studies demonstrating successful cost reduction strategies and/or customer value	-	20	-	-	9	-	N/A
Output: # of community campaign enrollees	-	2,900	-	-	10,075	-	N/A
Output: # of community campaigns	-	72	-	-	105	-	N/A
Output: # of completed projects through the GSHP incentive program	-	1,100	-	-	1,468	-	N/A
Output: # of installers and drillers qualified by community campaigns and GSHP incentive program	-	50	-	-	119	-	N/A
Output: # of large commercial/institutional facility and campus installations completed	-	36	-	-	0	-	N/A
Output: # of large commercial/institutional facility and campus schematic designs completed	-	72	-	-	4	-	N/A
Output: # of large commercial/institutional facility and campus screening studies completed	-	75	-	-	91	-	N/A
Output: # of program-qualified GSHP consultants and designers	-	15	-	-	84	-	N/A
Output: # of projects completed by community campaign participants	-	3,660	-	-	2,834	-	N/A

**Total**



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Heat Pumps Phase 2 (2020)</b>			
Budget Expenditures (\$)	43,477,697	43,957,034	101%
Electricity Savings, Annual (MWh)		0	
Leveraged Funds (\$)		0	
Natural Gas Savings, Annual (MMBtu)		0	
Other Fuel Savings, Annual (MMBtu)		0	
Total Energy Savings, Annual (MMBtu eq.)		0	

Summary of Performance and Future Plans

Heat Pump Phase 2 is one of several CEF initiatives supporting the NYS Clean Heat Market Development plan. The Cooperative Advertising and Training Program for Clean Energy Partners, Program Opportunity Notice (“PON”) 4482, closed at the end of 2024. Through the end of 2024, 165 total participants advertising heat pumps received cost-sharing reimbursements and over 935 heat pump contractors had been trained with the support of program funding from NYSERDA. The Community Heat Pump Systems program (PON 4614) was a pilot program to support feasibility, design, and construction of thermal energy networks from 2021 through 2023. The Large-Scale Thermal program (PON 5614), the successor to PON 4614, supported design of heating, cooling, and hot water solutions for large buildings and groups of buildings using low carbon solutions, including thermal energy networks from 2024 through 2025. PON 4614 and PON 5614 awarded approximately 100 projects throughout NYS, with more than 40% in DACs. NYSERDA also reports indirect impacts related to the collective efforts of the NYS Clean Heat Market Development efforts through this initiative, with those measured savings totaling nearly 1.2 Tbtu energy savings for years 2020 - 2023.

## Activities Summary

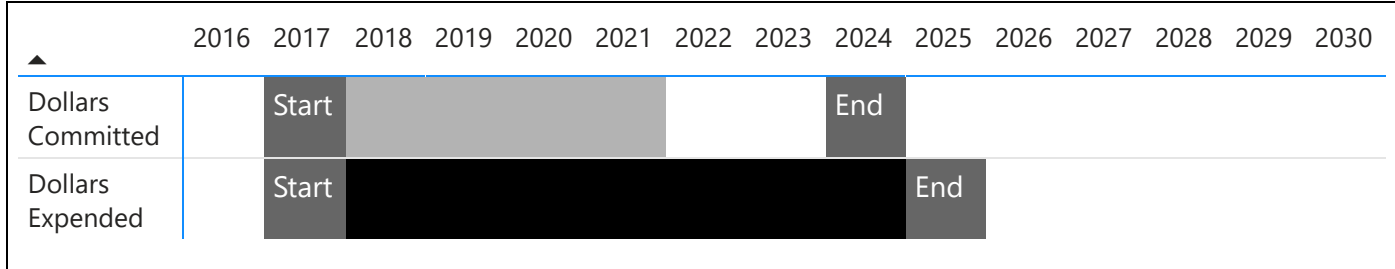
Activity	Activity #
<p>Build consumer demand and market confidence and reduce customer acquisition costs related to Heat Pumps. Provide consumer education, community engagement, and timely decision-quality information to the marketplace, to build market confidence resulting in consumer demand for heat pumps and related technologies.</p> <ul style="list-style-type: none"> <li>• NYSERDA and utility co-branded marketing, awareness and education campaigns will increase New Yorkers' awareness of heat pumps as an option for heating and cooling homes and businesses, improve consumer perceptions, and increase demand and reduce customer acquisition costs for heat pump installations and energy efficiency projects.</li> <li>• Contractor Cooperative (Co-op) Advertising offers clean heating and cooling industry partners (manufacturers and contractors) marketing funds and materials. Planned enhancements include templated ads, opt-in opportunities, and re-targeting.</li> <li>• Pursue Community HeatSmart Campaigns via Regional Clean Energy Hubs (Low-to-Moderate Income initiative) with the objective to provide support to communities and local groups to stimulate adoption of heat pump technologies along with building envelope solutions, while leveraging local labor and facilitating soft cost reduction; and increase participation of households within disadvantaged communities.</li> <li>• Develop user-friendly resources to aide in consumer decision-making and contractors in adopting good industry practices.</li> <li>• Support and publish technical studies and conduct market research and analysis to address critical market challenge. Assess potential impacts as markets shift and new challenges emerge, and support the evolution of the NYS Clean Heat framework</li> </ul>	1
<p>Drive performance improvements, reduce cost, and deliver new economic solutions through technology innovation and demonstrations. Investments will de-risk building electrification solutions that can deliver better performance, cost reduction, and new economic solutions for a wider range of building types.</p> <ul style="list-style-type: none"> <li>• The Community Heat Pump Systems initiative will test and demonstrate potentially scalable models for clean thermal district systems that leverage economy-of-scale at new and redevelopment sites (e.g., campuses, downtown corridors). The competitive program expresses a preference for projects serving DAC/LMI stakeholders.</li> <li>• Provide technical assistance funding for initial scoping, pre-development, and environmental impact studies.</li> <li>• Provide technical assistance to cost-share detailed design work that will develop cost estimates and a financial plan for the proposed system.</li> <li>• Provide installation incentives for construction of competitively selected clean thermal district demonstration projects</li> <li>• Use multibuilding aggregation to load smooth across different building demands to deliver a more cost-effective solution than a single building solution.</li> <li>• Support the development and demonstration of related business models that can drive performance improvements, reduce costs and deliver new economic solutions through technology innovation and demonstrations.</li> <li>• Conduct an annual statewide continuous tracking study for New Yorkers to measure trends in energy attitudes, familiarity and intent, and adoption of clean energy technologies and services.</li> <li>• Leverage various research techniques to hone investment opportunities for electrification, identifying and applying actionable insights to interventions to increase their likelihood of success in the market.</li> </ul> <p>In addition to collaborating with technology innovation efforts, develop a cost reduction strategy to address key drivers of cost compression including scale and supply chain innovation, heat pump system designer and contractor education, investigating regulatory roadblocks and perceived technology risks of electrification.</p>	2
<p>Develop a long-term building electrification roadmap to guide the transformation of how New Yorkers heat and cool their buildings. The roadmap provides a policy and program framework that can be advanced in New York State to enable energy efficient and cost-effective building electrification for consumers, consistent with the state's low-carbon future. The roadmap analysis will characterize both the current state and a 10-year vision for building electrification solutions across the small residential, multifamily, and commercial and institutional market segments. The roadmap will:</p> <ul style="list-style-type: none"> <li>• Advance the technical and business model solutions and the policy supports necessary to transform how New York consumers heat and cool buildings and guide policy and program interventions, including the refinement of NYS Clean Heat initiatives.</li> <li>• Support a comprehensive analysis of technology and market readiness for efficient electric heat pump solutions by building type and model scenarios for achievable market uptake, energy savings, and greenhouse gas emissions reductions.</li> <li>• Engage industry experts and stakeholders to ensure relevant, informed, and market- and customer-oriented work.</li> </ul>	3

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Development of revised QA/QC protocols to support the NYS Clean Heat Pump incentive program.	2021	The revised QA/QC contractor enrollment requirements will improve the quality of the ASHP installations. The protocols became a requirement in the New York State Clean Heat program in Jan 2022.	Complete	2021	1
Finalize and release the Heat Pump Pattern Book through a public web-based interface	2021	Phase 1 on the Heat Pump Pattern Book in the form of .pdf documents has been published on NYSERDA's and NYS Clean Heat's consumer facing websites. An interactive web-based interface is under development.	Complete	2021	1
Release new Phase 2 solicitation for future Community Campaigns.	2022	Funding for future Community Campaigns was included in the Clean Energy Hubs solicitation.	Complete	2022	1
Support 18,900 installations of energy-efficient electrified space and water heating technologies through NYS Clean Heat.	2022	There have been 40,900 installations through year end 2022	Complete	2022	1
Award contracts to experts to support scoping, design and construction of district systems.	2021	A solicitation (PON 4614) was issued on February 4, 2021, with multiple due dates (rounds). Three rounds of awardees were selected in 2021, with 35 awardees receiving nearly \$5.7 million of funding.	Complete	2021	2
Publish the Building Electrification Roadmap	2023	Analysis conducted in support of a Building Electrification Roadmap was incorporated into the New York State Climate Action Council deliberations, the economy-wide Integration Analysis, and New York's Scoping Plan (December 2022). In light of the publication of the Scoping Plan and New York's Carbon Neutral Buildings Roadmap, as well as ongoing collaboration among NYS agencies, utilities, other states, and stakeholders to develop priority actions to support building electrification, NYSERDA deprioritized release of this specific Roadmap.	Cancelled		3

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Increase in awareness of CH&C technologies	-	15%	-	-	82%	50%	1
Output: Coop advertising campaign costs offset, in dollars	\$3,150,000	\$5,850,000	\$8,250,000	\$9,500,000	\$18,995,708	-	1
Output: Customer acquisition costs offset, in dollars	\$600,000	\$1,000,000	\$1,600,000	\$2,250,000	\$13,091,179	\$3,000,000	1
Output: Number of energy-efficient electrified space and water heating technologies installed through NYS Clean Heat	18,200	32,500	55,900	88,400	97,568	130,000	1
Output: Number of leads generated for contractors	140,000	250,000	430,000	680,000	934,161	1,000,000	1
Outcome: Replication of Clean Thermal District System projects beyond NYSERDA supported projects	-	-	-	1	6	2	2
Output: Number of Thermal Energy Network construction projects supported by NYSERDA	-	-	2	4	4	4	2
Output: Number of Thermal Energy Network design projects supported by NYSERDA	-	-	5	10	21	15	2

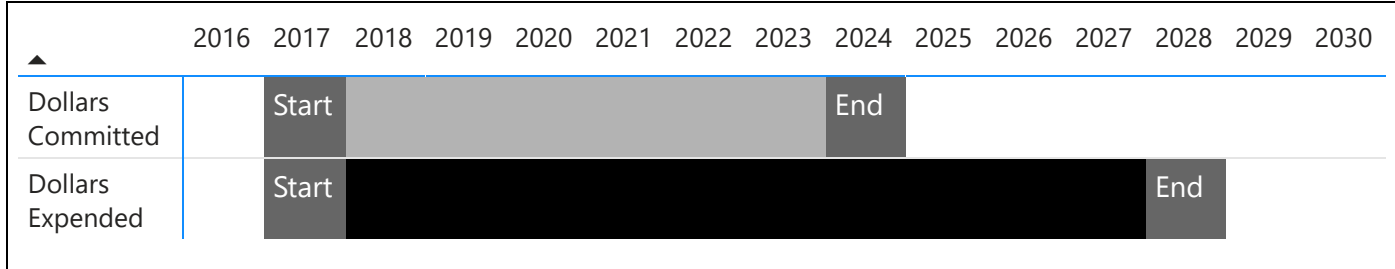


Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Renewable Heat NY - Clean and Efficient Biomass</b>			
Budget Expenditures (\$)	13,410,575	13,377,370	100%
Leveraged Funds (\$)	13,866,810	13,866,704	100%
Other Fuel Savings, Annual (MMBtu)	68,927	68,927	100%
Total Energy Savings, Annual (MMBtu eq.)	68,927	68,927	100%

Summary of Performance and Future Plans

The Renewable Heat New York (RHNY) program stopped accepting new applications on 8/20/2021 after funds were fully allocated and all residential pellet stove and wood boiler projects are complete. The majority of RHNY applications received were for wood pellet stove incentives, 40% of which served residential low-to-moderate (LMI) customers. Pellet stoves were added as an eligible measure to the Empower+ program to continue offering incentives for low-to-moderate income (LMI) customers. There were 3 commercial projects supported that completed installation in 2023. NYSERDA released the Interim Report on the Integrated-Duty Cycle (IDC) test method for woodstoves, and the Environmental Protection Agency (EPA) has accepted the method as a broadly applicable alternative test method. EPA announced that they intend to adopt the IDC test protocols, which will elevate technologies to higher efficiencies and lower emissions nationally. NYSERDA has conducted paired appliance testing of wood heating technology as part of the acceptance testing needed for EPA to adopt the Integrated-Duty Cycle test methods and participated in an EPA Round Table to finalize IDC test details. NYSERDA is also engaged with National Residential Wood Heat Task Force for technology transfer of lessons learned. An energy, economics, and emissions assessment of the RHNY program is being conducted.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Solar Thermal Transition</b>			
Budget Expenditures (\$)	287,513	287,513	100%
Leveraged Funds (\$)	82,288	82,288	100%



Summary of Performance and Future Plans

Previously funded research and development (R&D) projects continued to make progress in 2025. School bus fleet electrification planning studies have proceeded and most are now complete. NYSERDA continued work on a policy study to assess the market for medium- and heavy-duty vehicles that will inform future DPS work. NYSERDA entered into contracts for R&D projects focused on vehicle-grid interaction and medium- and heavy-duty vehicles. Expenditures will accelerate in 2026 as more R&D projects get underway. Leveraged funding is expected to pick up in the coming years as revenue from products and investments are realized.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Electric Vehicle Innovation</b>			
Budget Expenditures (\$)	20,762,520	15,001,036	72%
Leveraged Funds (\$)	37,732,326	5,152,615	14%

## Activities Summary

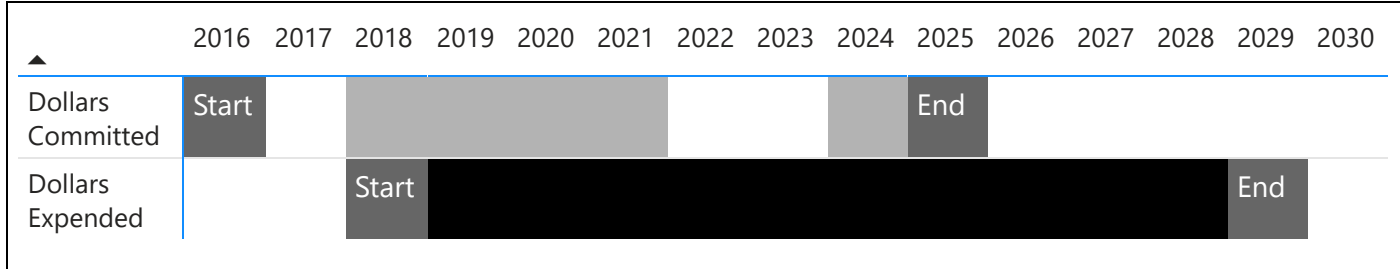
Activity	Activity #
<p>Solicit and Support New Technology and Business Model Demonstration Projects:</p> <ul style="list-style-type: none"> <li>• Fund one project selected through the Electric Truck and Bus Challenge, which targets projects that will address the operational barriers to medium- and heavy-duty EV deployment, especially regarding the costs associated with charging.</li> <li>• Fund demonstrations of emerging medium- and heavy-duty EV technologies in new market segments, including for non-road vehicles (such as trailer refrigeration units and construction equipment) and FCEVs. Demonstrations will focus on both the vehicle and charging technologies and innovative approaches to charging (such as managed charging and vehicle-to-grid charging).</li> <li>• Rigorously collect data from demonstrations and use it to help design future programs and facilitate replication of successful demonstrations.</li> </ul> <p>Participants engaged include auto manufacturers, charging station manufacturers, fleet operators, technology developers, academic researchers, utilities, disadvantaged communities and their representatives, and the financial sector.</p>	1
<p>Educate and Support Fleet Operators' Transportation Electrification Efforts:</p> <ul style="list-style-type: none"> <li>• Gather information from industry on innovative business models for charging, purchasing, and financing medium- and heavy-duty EVs. Work with experts to evaluate responses.</li> <li>• Based on information gathered from industry and data collected through demonstration projects, develop best practice guides, case studies, and "how to" materials for fleet operators that introduce the options and offer guidance on how to start electrifying fleets.</li> <li>• Offer technical assistance to medium- and heavy-duty fleets based on the findings described in the best practice guides, with a focus on school bus operators.</li> </ul> <p>Participants include auto manufacturers, charging station manufacturers, operators, and installers, financial institutions, fleet operators, consultants, and other state agencies</p>	2
<p>Support State and Local EV Policy Development and Implementation:</p> <ul style="list-style-type: none"> <li>• Develop an EV market development plan for New York State that describes EV policies and programs needed to meet the State's aggressive EV adoption goals.</li> <li>• Develop a plan for school bus electrification that identifies how to remove barriers to school bus electrification</li> <li>• Collaborate with DPS and utilities to design and demonstrate technologies and policies that encourage off-peak charging and/or managed charging.</li> <li>• Collaborate with DPS to identify and implement options for rate design and programs that address business model challenges associated with EV charging, specifically related to demand charges for higher speed charging and the integration of EVs and DERs.</li> <li>• Work with utilities and DPS to quantify the benefits utilities and ratepayers may derive from medium- and heavy-duty EV adoption.</li> <li>• Work with municipalities and other stakeholders to encourage the adoption of EV-friendly permitting, zoning, and building codes.</li> </ul> <p>Participants include utilities, other State and federal agencies and other states, municipalities, consultants, and NGOs and advocates.</p>	3

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Identify successful strategies for managing charging profiles and reducing the cost of grid upgrades associated with electric trucks and buses.	2024	Vehicle-grid interaction research and demonstration projects started later than expected but are currently underway. once completed, their learnings will be used to identify successful strategies.	Delayed		1
Issue award for Electric Truck and Bus Challenge.	2022	Awards for the Electric Truck and Bus Challenge were announced in November 2022.	Complete	2022	1
Publish best practice guides for fleet operators	2023	NYSERDA published its Electric School Bus Guidebook in September 2023.	Complete	2023	2
Complete EV market development plan	2023	NYSERDA is nearing completion of a legislatively directed report regarding EV infrastructure needed to meet NYS's EV goals, which will be published in 2026.	Delayed		3
Complete school bus electrification roadmap	2022	NYSERDA published its Electric School Bus Roadmap in September 2023	Complete	2023	3

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Replications from demonstration projects	2	6	6	8	0	15	1
Output: Participants funded by the program	20	23	26	-	88	-	1
Output: Projects completed (studies/demonstrations/product development)	20	25	30	45	61	60	1
Output: Projects started (studies/demonstrations/product development)	35	40	45	73	88	85	1
Outcome: NYS school bus operators purchasing electric buses	5	15	50	150	93	300	2
Outcome: Publications issued (articles, case studies, guides, etc.)	0	1	4	6	11	8	2
Outcome: Research or other studies completed	5	8	11	-	46	-	3



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Public Transportation and Mobility</b>			
Budget Expenditures (\$)	11,621,052	11,720,932	101%
Leveraged Funds (\$)	118,174,717	106,952,674	91%

**Summary of Performance and Future Plans**

Previously funded transit R&D projects have mostly been completed. In 2025 NYSERDA completed planning grant projects selected under the first round of the Clean Mobility Program, an initiative to support demonstration projects to expand transit and clean mobility options at the community level, led by the target communities. NYSERDA executed contracts with 3 demonstration projects from the first solicitation and issued a second demonstration-only solicitation open to the entities that completed the above-mentioned planning projects and other proposers that had completed independent transportation planning studies. NYSERDA made awards for demonstration projects at the end of 2025 and will contract with these projects and begin work in 2026.

## Activities Summary

Activity	Activity #
<p>Support Needs Assessments by Communities and Transit Operators:</p> <ul style="list-style-type: none"> <li>• Fund planning work by transit operators and communities (including community-based organizations (CBOs), municipalities, employers, and planning organizations) to identify community-driven priority transportation needs, such as making mobility options faster and more equitable, accessible, and sustainable.</li> <li>• Support communities in identifying private sector partners that can provide the identified services through information-sharing and facilitated relationship-building.</li> <li>• Provide informational resources (e.g., best practice documents, checklists, contacts) to communities undertaking planning projects</li> </ul> <p>Participants engaged with this activity include municipalities, community groups, NYS public transit agencies, MPOs, and employers.</p>	1
<p>Solicit and Support New Clean Mobility Demonstration Opportunities:</p> <ul style="list-style-type: none"> <li>• Fund demonstration projects of collaborative community-based mobility solutions that expand clean transportation opportunities through multi-stakeholder partnerships and increase access to jobs, education, and important services. Projects should be based on community engagement and collaborative planning. These demonstration projects will test new and underutilized technologies and strategies that help NYS transit operators, local governments, employers and community members implement clean mobility options. Examples include new demonstration-ready electrified first and last-mile services across various modes including bike, scooter, micro-transit, and other shared mobility options that are technologically mature and impactful.</li> <li>• Support business model planning aimed at improving the sustainability and self-sufficiency of the above-described demonstration projects.</li> <li>• Develop case studies and best practice materials to facilitate replication of successful demonstrations, including how to leverage existing clean transportation strategic plans, other funding sources, and data-sharing practices.</li> <li>• Fund additional research and policy work to identify solutions to barriers identified in the needs assessments and demonstrations to facilitate the adoption of promising solutions.</li> </ul> <p>Participants engaged with this activity include municipalities, NYS public transit operators, employers, community-based organizations, mobility product vendors, third-party solution providers, transportation and urban planners and researchers, federal, State, local, and regional transportation agencies, and utilities.</p>	2

**Milestones Summary**

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Complete needs assessment project with transit operators.	2024	The planning grants funding the development of the need assessment projects were awarded in November 2024. All of the needs assessment projects were completed by end of 2025.	Complete	2025	1
Issue awards from solicitation.	2022	NYSERDA issued awards from PON 5109 in Q4 2022.	Complete	2022	1
Complete advisory project with transit operator.	2022	NYSERDA completed advisory projects with Metropolitan Transit Authority and five other transit operators on topics related to bus electrification in 2022.	Complete	2022	2
Issue awards from solicitation.	2024	Program launched in 2024 and the first round of program awards (for planning and demonstration projects) were made in November 2024. A second round (using primarily non-CEF funding) will be awarded in 2025.	Complete	2024	2

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Research or other studies completed			-	10	29	20	1
Output: Projects completed (studies/demonstrations/product development)					29	5	1
Output: Projects started (studies/demonstrations/product development)			-	8	32	16	1
Outcome: Increase in number of residents who gained a new clean mobility option from completed demonstrations					N/A		2
Outcome: Private and nonprofit investment in completed demonstration projects					N/A		2
Output: Information sharing and advisory projects completed			-	-	10	-	2
Output: Participants funded by the program			-	2	27	4	2
Output: Projects completed (studies/demonstrations/product development)			-	-	27	-	2
Output: Projects started (studies/demonstrations/product development)			-	5	34	8	2

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Dollars Committed										Start					
Dollars Expended										Start			End		

Summary of Performance and Future Plans

NYSERDA was authorized to reallocate the \$18 million designated for this program under the CEF I&R Portfolio to the 2020-2030 I&R Portfolio <sup>1</sup> due to the Grid of the Future Study results still pending. A Program Opportunity Notice based on those results is expected to be released in 2027.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Grid ClimateTech Ready Capital</b>			
Budget Expenditures (\$)		0	
Leveraged Funds (\$)		0	0

<sup>1</sup> Case 25-M-0421, Order Authorizing the 2026–2030 Innovation And Research Portfolio, issued and effective October 17, 2025.

## Activities Summary

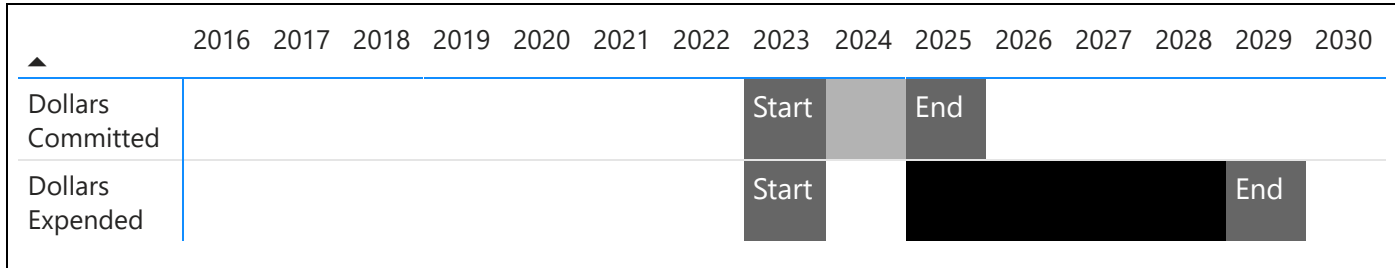
Activity	Activity #
Launch program solicitations targeting solution providers (DER project developers, large-scale renewable resource project developers, medium-to-large original equipment manufacturers, startup companies introducing innovative products and services, and grid edge and grid flexibility technology companies) in partnership with collaborators (investor-owned utilities, New York Independent System Operator, DOE National Labs, standards setting committees, universities, climate equity or environmental experts, and disadvantaged community groups).	1

**Milestones Summary**

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Launch competitive solicitation	2024	NYSERDA was authorized to reallocate the \$18 million designated for this program under the CEF current I&R Portfolio to the 2026–2030 I&R Portfolio due to results of the Grid of the Future Study results still pending.	Delayed		1
Launch competitive solicitation	2025	NYSERDA was authorized to reallocate the \$18 million designated for this program under the CEF current I&R Portfolio to the 2026–2030 I&R Portfolio due to results of the Grid of the Future Study results still pending.	Delayed		1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Output: Projects completed (studies/demonstrations/product development)			-	-	0	-	1
Output: Projects started (studies/demonstrations/product development)			-	-	0	1	1
Output: Participants funded by the program			1	2	0	4	1



Summary of Performance and Future Plans

At the end of 2025, a total of 18 participants were funded by the program to support innovation in hydrogen storage or grid firming. Two projects started in 2025, based on awards made from PON 5500 round 2. Expenditures are lagging plan due to a delay in one of the proposals which is expected to be resolved in 2026, with leveraged funding to follow.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Hydrogen Innovation</b>			
Budget Expenditures (\$)	1,392,029	344,171	25%
Leveraged Funds (\$)	650,000	0	0%

## Activities Summary

Activity	Activity #
<p>Issue competitive solicitation for R&amp;D projects using hydrogen technologies to provide resilience solutions for grid stability and emergency responses, including but not limited to:</p> <ul style="list-style-type: none"><li>• Hydrogen storage technology such as salt caverns, underwater, limited footprint at urban locations.</li><li>• Demonstrations of hydrogen-based systems to provide black start provision, electricity and heat supply to microgrids and grid firming.</li></ul>	1

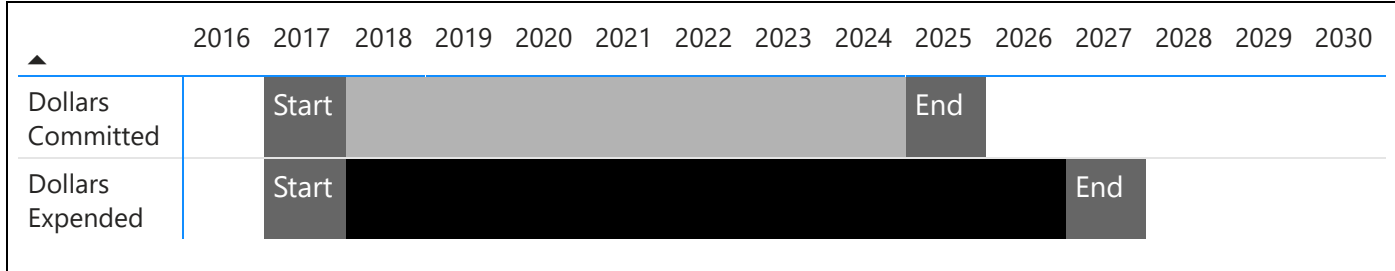
### **Milestones Summary**

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue awards from hydrogen solicitation for R and D projects on hydrogen resiliency solutions	2023	Two projects were awarded under PON 5500 Round 2 in November 2024.	Complete	2024	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: New patents issued	-	-	-	-	0	-	1
Outcome: Replications from demonstration projects	-	-	-	-	0	-	1
Output: Participants funded by the program	-	-	2	-	18	3	1
Output: Projects completed (studies/demonstrations/product development)	-	-	-	-	-	-	1
Output: Projects started (studies/demonstrations/product development)	-	-	3	-	3	-	1

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Market Characterization &amp; Design Innovation &amp;</b>			
Budget Expenditures (\$)	1,601,546	1,569,670	98%



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Codes and Standards for Carbon Neutral Buildings</b>			
Budget Expenditures (\$)	30,782,311	28,516,305	93%
Electricity Savings, Annual (MWh)		0	
Leveraged Funds (\$)		0	
Natural Gas Savings, Annual (MMBtu)		0	
Total Energy Savings, Annual (MMBtu eq.)		0	

Summary of Performance and Future Plans

Core work for code advancement and training continues to move forward. New York adopted one of the most efficient energy codes in the country last year, which included the nation's first zero emissions new construction requirements. While the all-electric requirements were paused pending litigation, the new energy code took effect at the end of 2025. NYSERDA received three Department of Energy awards totaling \$28M to further scale the core and pilot work, but \$25M of those grants are on hold. NYSERDA contracted to expand access to online permitting software for local municipalities, building on a successful pilot that showed increased code compliance. Initiative plan and progress is driven by indirect benefits and, through the initial study completed, evaluated indirect benefits exceeded plan, totaling 2 TBtu total energy savings from 2017 - 2024.

## Activities Summary

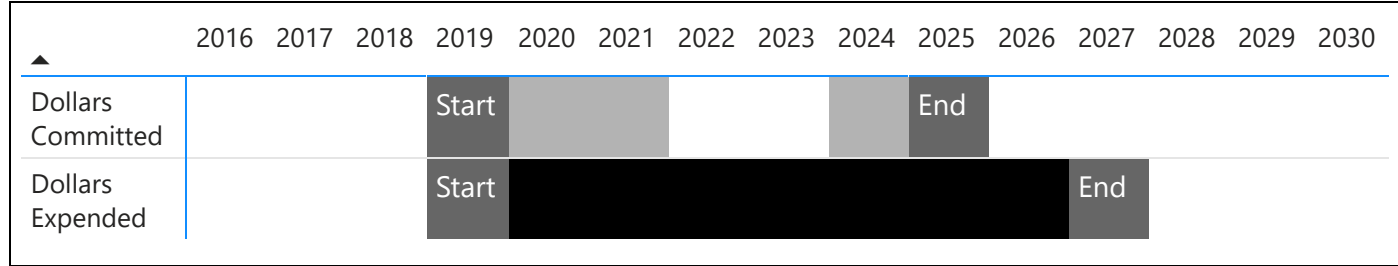
Activity	Activity #
Develop, deploy, and support training, tools and resources to increase code and policy compliance and support authorities having jurisdiction with their enforcement duties.	1
Develop stretch energy codes and uniform codes revisions to promote efficiency, flexibility and decarbonization. Develop and advance other policies and regulations to promote similar outcomes.	2
Use pilots to test, refine, and scale new approaches to code and policy development, advancement, enactment, compliance and enforcement.	3
Support the adoption and enactment of State and local policies to promote efficiency, flexibility and decarbonization in buildings.	4

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue awards for training solicitations.	2021	Two rounds of training have been contracted since the new code was launched in 2020.	Complete	2021	1
Issue awards for training solicitations.	2024	The Energy Conservation Construction Code of New York State(ECCCNYS)-2025 was adopted in Q3 2025 and took effect 12/31/2025. Training contracts for training on the previous code were awarded in Q1 2025, as planned, and limited training delivered into Q4 2025. Two solicitations for new training: one for residential builders, remodelers and contractors, and another for all other audiences. Selections were made in Q4 2025. First training on the new energy code will begin to be delivered in Q1 2026.	Complete	2025	1
Submit updated or advanced provisions to the regulatory process.	2023	Proposals for Energy Code and Uniform Code were updated and shared with the Department of State for the code rulemaking, but the rulemaking will not commence until 2024.	Complete	2023	2
Issue awards for pilots.	2022	16 communities were awarded contracts to participate in pilots.	Complete	2022	3
Issue awards for pilots.	2023	11 unique communities were issued awards across two pilots. There are 20 total pilots underway.	Complete	2023	3
Issue awards for pilots.	2024	The issuance of the solicitation was delayed as a result of NYSERDA's efforts to receive additional funds through an application to Department of Energy's Resilient and Efficient Codes Implementation grant program.	Delayed		3
Issue awards for pilots.	2025	NYSERDA issued a solicitation and selected for award an online code compliance software vendor, Online Solutions. Contracting took longer than expected and a contract was executed in Q1 2026. NYSERDA is currently drafting a Program Opportunity Notice through which local governments will be incentivized to adopt the use of Online Solution's software to improve their building department's code enforcement services. The PON is expected to be issued by early Q2.	Delayed		3
Policies or codes adopted at the state or local level with support from NYSERDA.	2021	The Codes & Standards Act of 2022 was passed and signed into law in July 2022. In addition, 43 communities have adopted NYStretch 202 as their base energy code.	Complete	2022	4
Policies or codes adopted at the state or local level with support from NYSERDA.	2022	The Codes & Standards Act of 2022 was passed and signed into law in July 2022. In addition, 43 communities have adopted NYStretch 202 as their base energy code.	Complete	2022	4
Policies or codes adopted at the state or local level with support from NYSERDA.	2023	NYS adopted the All-Electric Buildings Act in 2023.	Complete	2023	4
Policies or codes adopted at the state or local level with support from NYSERDA.	2024	NYSERDA's board approved a new Part 510 of Title 21 of the Official Compilations of Codes, Rules and Regulations of the State of New York on April 29, 2024. This rule establishes a methodology that the NYS Code Council must follow for determining the cost effectiveness of proposed updates or amendments to the state Energy Code.	Complete	2024	4
Policies or codes adopted at the state or local level with support from NYSERDA.	2025	NYSERDA led development of an advanced energy code, intended to work cost-effectively in tandem with all electric requirements that were set to take effect on 12/31/2025. The State Building Code Council voted to adopt a version of the advanced code that integrated NYStretch 2020 requirements and other strengthening amendments to the IECC-2024. NYSERDA also supported the cost-effectiveness analysis of the State energy code, which was adopted by the State Building Code Council on 7/25/2025 and took effect on 12/31/2025.	Complete	2025	4

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Codes and policies are adopted and enacted faster than they would without NYSERDA’s intervention, as reported by industry experts	Yes	Yes	Yes	Yes	Yes	Yes	4
Outcome: Increased percentage of buildings in compliance in areas of trainings/resource deployment compared to Business as Usual under current code	5%	5%	5%	5%	7% to 22% increase depending on sector and construction activity since 2015.	5%	1
Output: Number of communities adopting pilot approaches	-	5	15	25	18	35	3
Output: Number of policies or codes adopted at the state or local level	20	25	26	27	45	28	4
Output: Number of regulations or policies developed or updated to promote efficiency, flexibility, and decarbonization	-	2	2	2	4	4	2
Output: Training attendance, number of seats filled	4,000	8,000	12,000	16,000	104,815	20,000	1



Summary of Performance and Future Plans

The pace of budget expenditures are slightly behind due to delays caused by vendor turnover. Activities are focused on tools and resources that support building decarbonization-focused program teams in tailoring program offerings.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Information Products and Brokering</b>			
Budget Expenditures (\$)	3,281,162	2,708,425	83%
Leveraged Funds (\$)	0	0	

### Activities Summary

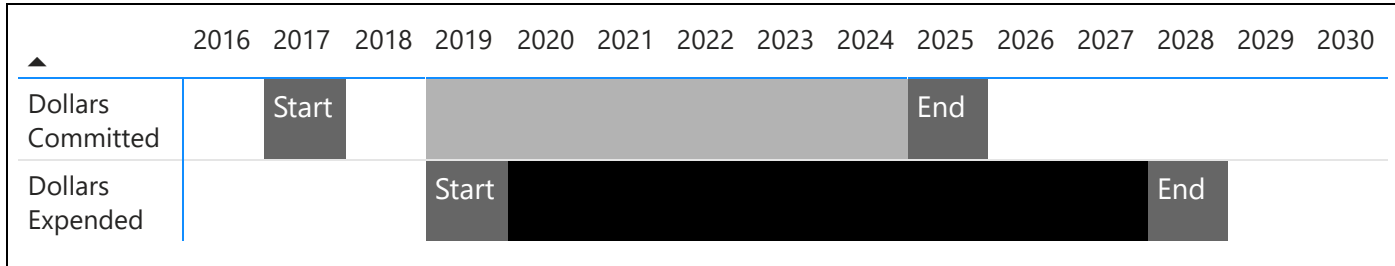
Activity	Activity #
<ul style="list-style-type: none"><li>• Develop and deploy web-based, data-driven tools to deliver increased value for building decarbonization solutions.</li><li>• Develop and deploy customer targeting tools for use by vendors to strengthen their ability to identify, cultivate, and acquire new customers.</li><li>• Develop and deploy value proposition calculators that support both customers and vendors in their efforts to articulate the value of building decarbonization investments.</li><li>• Support pilots for asset data matching and DER data platform feasibility.</li><li>• Co-host hackathons that bring together web-based tool development firms and data analytics providers to develop web-based tools that address barriers to customer adoption of building decarbonization.</li><li>• Develop data platforms and data assets that support customer adoption of building decarbonization solutions.</li></ul>	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Host data hackathon that leverages building asset data to identify decarbonization strategies for a variety of building and customer types.	2021	NYSERDA supported a data hackathon in 2021 focused on tenant energy consumption data, in partnership with real estate orgs and BEx.	Complete	2021	1
Host data hackathon that leverages building asset data to identify decarbonization strategies for a variety of building and customer types.	2022	NYSERDA supported two data hackathons in 2022; one focused on building decarbonization solutions and the other focused on leveraging RTEM data to identify energy management opportunities.	Complete	2022	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Web-based tool and platform developers and solution providers serving NY energy markets without support from NYSERDA	-	-	12	20	N/A	-	1
Output: Number of awards issued from hackathons	6	9	-	-	24	-	1
Output: Number of customer targeting tools developed for vendors	2	-	-	-	2	-	1
Output: Number of participants in data hackathons	175	300	-	-	430	-	1
Output: Number of value proposition calculators developed for customers and vendors	-	-	1	-	2	-	1



Summary of Performance and Future Plans

NYSERDA continues to support the 21 appliance standards adopted by New York State in June 2023. Education, awareness, and compliance activities continued and were expanded this year, and the market has been responsive to the engagement with more than 40,000 new products registered in the SASD state appliance standards compliance database. Work on future state standards continues. NY coordinated 7 states to respond to 21 proposed federal appliance standards rollbacks that would significantly increase costs for families and businesses. This initiative plan consists of only indirect benefits, which will be reported in the future as measured by evaluation studies.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Product and Appliance Standards</b>			
Budget Expenditures (\$)	11,449,094	11,721,527	102%
Electricity Savings, Annual (MWh)		0	
Natural Gas Savings, Annual (MMBtu)		0	
Other Fuel Savings, Annual (MMBtu)		0	
Total Energy Savings, Annual (MMBtu eq.)		0	

### Activities Summary

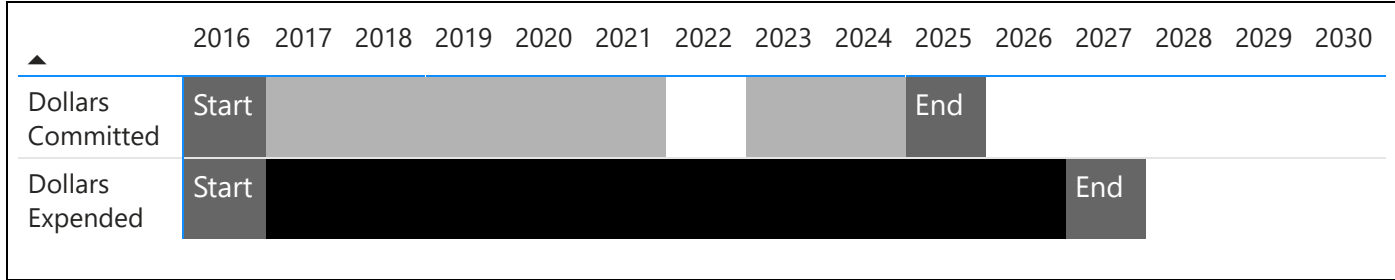
Activity	Activity #
<ul style="list-style-type: none"> <li>• Provide technical, market, and stakeholder analysis and support for potential State and federal appliance and product standards, voluntary product standards, and international standards.</li> <li>• Work closely with other regulatory authorities and stakeholders at the state, national, and international levels to share findings, collaborate on strategies, and ensure compliance.</li> <li>• Develop and validate technical requirements and testing protocols for proposed standards.</li> <li>• Partner with market actors, trade associations, stakeholders, testing bodies, technical experts and other regulatory authorities to determine the feasibility of standards.</li> <li>• Leverage and build on research and actions from other states and stakeholders to inform these standards.</li> </ul>	1
<p>Regulatory and Compliance. Use the regulatory process to advance and promulgate standards. Develop and drive education and engagement to increase compliance. Deploy tools to increase and validate compliance. Support enforcement authorities to improve compliance.</p>	2
<p>Market Readiness. Work with market actors to prepare the market for future codes and standards. Collect information on technology advancement, market availability, and product stocking to support standards. Provide financial support to increase the stocking and sales of key items. Partner nationally and internationally to advance underutilized products and prepare them for the market.</p>	3

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Once legislation is in effect, propose state-level appliance standards.	2022	NYSERDA proposed 21 state level appliance standards and promulgated regulations for them before the end of 2022. Those appliance standards go into effect in June 2023.	Complete	2022	1
Once legislation is in effect, propose state-level appliance standards.	2023	Legislation has been passed and 21 standards were adopted in late 2022 and went into effect on June 26, 2023	Complete	2023	1
Once legislation is in effect, propose state-level appliance standards.	2024	Monitoring compliance of the 20 of the 21 standards (air purifier standard was preempted by the federal government) that took effect in June 2023, while also evaluating and considering several new state-level standards to be adopted in 2027.	Complete	2024	1
Once legislation is in effect, propose state-level appliance standards.	2025	Continued compliance monitoring on 20 appliance standards adopted by New York State in 2023. Compliance activities were expanded again this year to focus on increasing education and awareness of the standards with manufacturers, retailers and distributors, with the objective of increasing the number of compliant appliances certified to the State Appliance Standards Database (SASD). The market has been responsive to the engagement with nearly 96,0000 compliant products and appliances certified to the SASD as of the end of 2025. Work on determining compliance rates of covered products and development of future state standards continues. Collaboration with industry groups and other state and federal agencies helped make significant advances in federal appliance standards this year, which will result in billions of dollars in energy savings for New Yorkers over the product lifetimes.	Complete	2025	1
Issue solicitation to support compliance with product standards.	2022	Issued solicitation and contracted for appliance standards compliance.	Complete	2022	2
Launch market readiness offering in conjunction with other states/entities.	2023	NYSERDA launched the ENERGY STAR Retail Products Platform (ESRPP) w/ 3 retailers, joining with several other states and utilities.	Complete	2023	3

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Output: Number of standards in effect in NYS	-	-	10	15	20	20	1
Outcome: Number of compliant products found on the market in New York State during monitoring activities	-	-			6890	4,050	2
Output: Number of products covered by compliance regime	-		10	15	20	20	2
Output: Sales of covered products in retail partners	-	-	TBD	TBD	15,631	14,176	3



**Summary of Performance and Future Plans**

In 2025 the new consultant took on a rescope statement of work to largely focus on our GEMINI efforts with the AGILE Lab and run of utility roadshows. The focus will be to align efforts on the digital twin project (AGILE Lab) with the coordinated grid planning process (CGPP) and Grid of the Future proceeding needs. Selection of use cases, prioritization and the governance and management of the data required to complete each use case will be a task under the new program.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>NYGridCONNECT</b>			
Budget Expenditures (\$)	9,129,296	9,174,247	100%
Leveraged Funds (\$)	18,483,203	9,771,221	53%

### Activities Summary

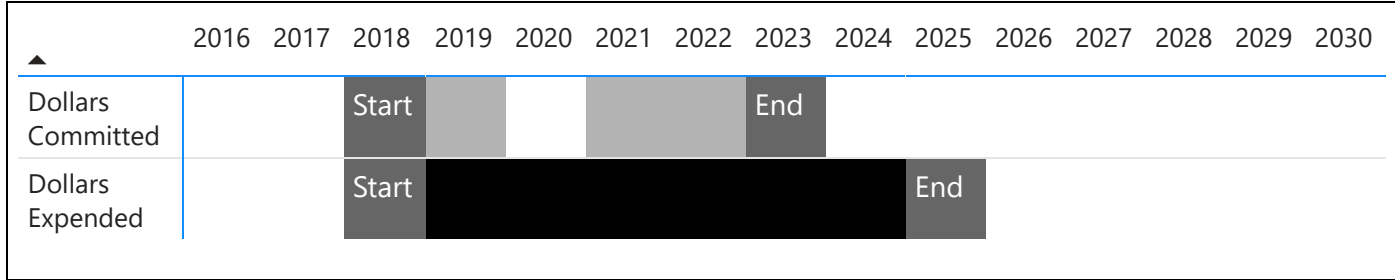
Activity	Activity #
Advance innovation at New York State utilities by engaging utility company contacts and industry experts in strategic planning workshops/sessions, working with utility company contacts to identify areas of need or interest, publicizing these need statements to market partners to obtain proposed solutions, and facilitating ongoing engagement between utilities and promising solution providers up to and including launching new pilots.	1
Provide funding to support market tests that require additional testing before moving into the market or into utility partnership, subsequent to proposal deemed as successful via broader NYSERDA-issued solicitation.	2

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Develop innovation plan for activity beyond 2022	2022	A plan was developed for a centralized framework approach for a future evolution for REV Connect.	Complete	2022	1
Host innovation sprints to publicize utility needs and identify market partners in areas of interest to the state and to utilities.	2021	Hosted Grid Edge Flexibility sprint in Feb 2021 and received record number of submissions.	Complete	2021	1
Host workshops with utility company contacts and industry experts on interest areas to inform a possible future sprint.	2021	Workshops were hosted on Accelerating the Gas Transition in Sept 2021 that included utility contacts and industry experts to identify areas where a future sprint could address the "future of gas."	Complete	2021	1
Initial in-field market tests enter the market.	2021	The first tests entered the market in April 2021.	Complete	2021	2
Remainder of in-field market tests enter the market.	2022	Final market tests entered the market in Q1 2024.	Complete	2024	2

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of innovative, value-producing investor-owned utility partnerships or demonstration projects in place	-	-	-	10	15	-	1
Outcome: Number of new grid modernization technologies and business models	-	-	-	3	2	-	1
Output: Number of investor-owned utility/solution provider workshops/sprints	-	-	-	22	20	-	1
Output: Number of market solution provider submissions to investor-owned utility/solution providers identified areas of interest	-	-	-	600	540	-	1
Output: Number of market solution providers participating in webinars	-	-	-	1,200	1411	-	1
Outcome: Number of NYSERDA-supported market tests	2	2	4	-	7	-	2
Output: Number of market solution providers applying to NYSERDA market test funding opportunities	57	60	-	-	171	-	2



Summary of Performance and Future Plans

Benefits metrics continue to track to plan. The two remaining demonstration projects experienced delays and are scheduled to be completed by end of 2026.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Advancing Agricultural Energy Technologies</b>			
Budget Expenditures (\$)	2,104,449	954,688	45%
Electricity Savings, Annual (MWh)	196	196	100%
Leveraged Funds (\$)	52,076	52,076	100%
Other Fuel Savings, Annual (MMBtu)	572	572	100%
Total Energy Savings, Annual (MMBtu eq.)	1,241	1,241	100%

## Activities Summary

Activity

Activity #

Collect, analyze, and verify demonstration site data to support the business case for the technologies and share the information with the market. Perform targeted outreach of successful business case scenarios to farms suitable for implementing the demonstrated technology.

1

**Milestones Summary - No Active Milestones**

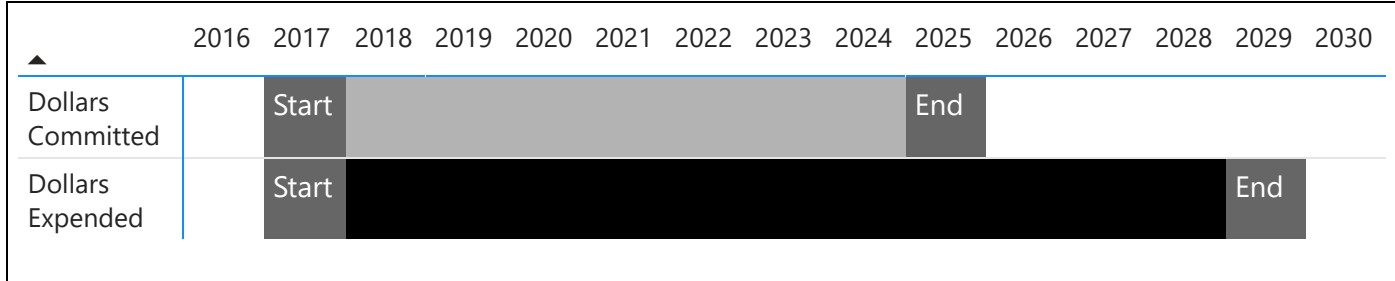
Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of farms knowledgeable of energy efficiency opportunities provided by underused or emerging technologies	87	100	-	-	90	-	1
Output: Number of case studies developed and disseminated	2	3	-	-	2	-	1
Output: Number of farm sites hosting demonstration projects	2	3	-	-	4	-	1
Output: Number of open houses hosted	4	6	-	-	7	-	1

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Agriculture Transition</b>			
Budget Expenditures (\$)	3,598,821	3,598,821	100%
Electricity Savings, Annual (MWh)	14,407	14,408	100%
Leveraged Funds (\$)	15,390,233	15,390,228	100%
Natural Gas Savings, Annual (MMBtu)	18,503	18,503	100%
Other Fuel Savings, Annual (MMBtu)	15,655	15,655	100%
Renewable Energy Generation, Annual (MWh)	1,137	1,138	100%
Total Energy Savings, Annual (MMBtu eq.)	79,635	79,637	100%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Commercial Transition</b>			
Budget Expenditures (\$)	12,424,397	12,424,391	100%
Electricity Savings, Annual (MWh)	114,657	114,983	100%
Leveraged Funds (\$)	45,902,923	44,207,700	96%
Natural Gas Savings, Annual (MMBtu)	223,782	224,450	100%
Other Fuel Savings, Annual (MMBtu)	247,795	253,094	102%
Total Energy Savings, Annual (MMBtu eq.)	862,785	868,089	101%



Summary of Performance and Future Plans

This initiative finished 2025 in good standing with respect to both budget and energy benefits. NYSERDA continues to see interest in continuous energy improvement activities. The market will be served in 2026 and beyond through Technical Services, for both Strategic Energy Management and On-site Energy Manager programs. Total progress of energy benefits on remaining open projects continues to exceed goals, with strong realization rates from the 2024 Impact Evaluation. Through 2025, completed evaluations undertaken to estimate the indirect impacts of the initiative in the market have identified approximately .7 TBtu of total energy savings (MMBtu-e).

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Energy Management Practices</b>			
Budget Expenditures (\$)	23,295,753	22,580,856	97%
Electricity Savings, Annual (MWh)	139,669	145,190	104%
Leveraged Funds (\$)	110,215,850	142,129,627	129%
Natural Gas Savings, Annual (MMBtu)	1,517,135	1,567,442	103%
Other Fuel Savings, Annual (MMBtu)	141,562	141,562	100%
Total Energy Savings, Annual (MMBtu eq.)	2,134,394	2,203,541	103%

### Activities Summary

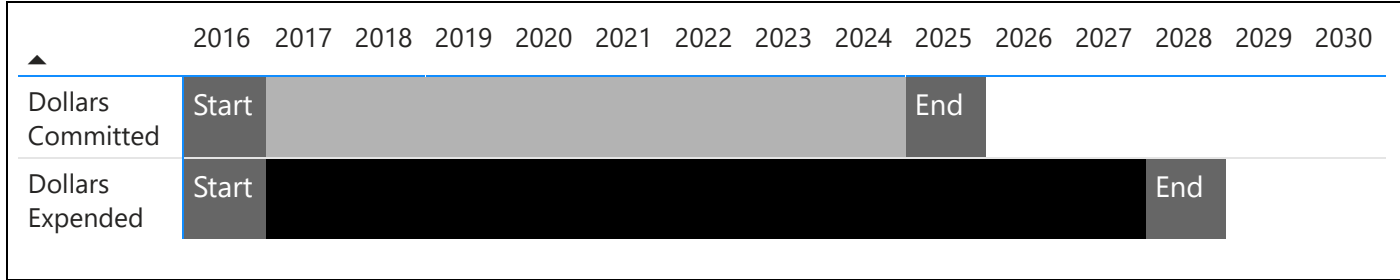
Activity	Activity #
Conduct outreach to educate industrial companies on the value of On-site Energy Manager and promote program participation.	1
<ul style="list-style-type: none"><li>• Lead facilities through Strategic Energy Management training and implementation of Strategic Energy Management activities</li><li>• Develop and disseminate templates and resources for Strategic Energy Management.</li></ul>	2

***Milestones Summary - There are Current No Active Milestones***

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of energy managers hired/retained within program facilities	5	7	11	15	3	20	1
Outcome: Number of industrial plants (beyond program participants) adopting on-site Energy Manager role	218	230	240	250	184	260	1
Outcome: Number of projects implemented involving more complex CapEx and process improvements as a result of this strategy	44	49	54	58	44	60	1
Output: Number of case studies, testimonials developed, webinars or knowledge transfer sessions conducted	15	23	27	35	25	37	1
Output: Number of energy efficiency projects identified and completed during program engagement (likely starts with low/no cost and Operations and Maintenance type measures)	210	215	220	225	499	230	1
Output: Number of energy management plans with energy reduction target developed	18	32	36	40	35	44	1
Outcome: Number of facilities that have adopted a system for monitoring, tracking, and making decisions based on their energy use to assist with their SEM activities as a result of this strategy	-	-	-	-	1097	1,996	2
Outcome: Number of industrial facilities (beyond program participants) that have adopted SEM	-	-	-	-	1	30	2
Output: Number of commercial participants	-	10	20	30	54	40	2
Output: Number of industrial participants	66	73	90	130	155	150	2



Summary of Performance and Future Plans

Program funds have been fully committed and expenditures are on target. An updated Real Time Energy Management (RTEM) Commercial impact evaluation was completed in Q3 2025 and identified electricity realization rates consistent with prior studies (62%) and doubled natural gas realization rates (66%). The application of these rates on energy metrics have impacted the programs performance against plans. Through 2025, completed evaluations undertaken to estimate the indirect impacts of the initiative (Commercial/Industrial/Multifamily) in the market have identified 0.6 TBtu of total energy savings (MMBtu-e). Energy projections for indirect savings were updated in a November 2025 CIP filing to correct an error discovered in the underlying forecast method; energy savings projections through 2030 reduced by 6.4 TBtu-e as a result.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Energy Management Technology</b>			
Budget Expenditures (\$)	73,146,793	73,730,628	101%
Electricity Savings, Annual (MWh)	685,092	216,857	32%
Leveraged Funds (\$)	907,742,512	538,829,824	59%
Natural Gas Savings, Annual (MMBtu)	732,781	378,380	52%
Other Fuel Savings, Annual (MMBtu)	75,219	425	1%
Total Energy Savings, Annual (MMBtu eq.)	3,145,535	1,118,719	36%

## Activities Summary

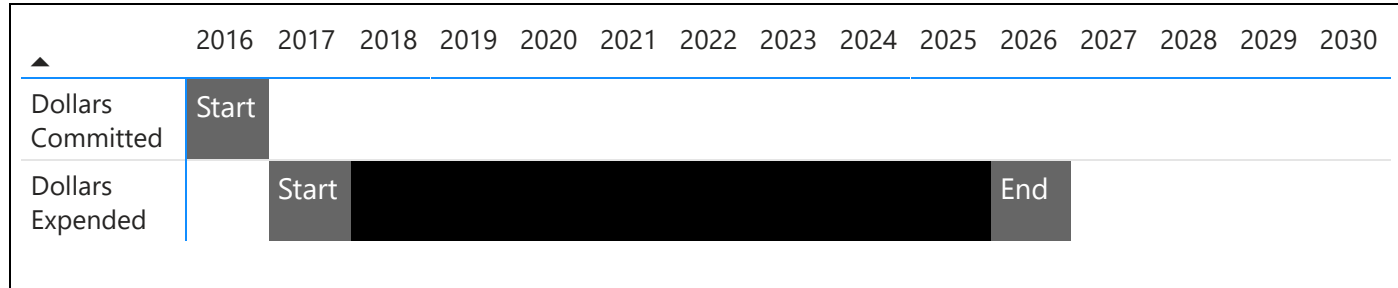
Activity	Activity #
<p>Apply the knowledge and experience gained from initial installations to replicate success and build market confidence in EM investment.</p> <ul style="list-style-type: none"> <li>• Publish case studies, technical guidance and datasets that demonstrate effectiveness of EM systems and services.</li> <li>• Provide open enrollment incentives to support EM systems and services for small to medium businesses.</li> <li>• Incentive pilots and demonstration projects that provide greater insight into EM, leveraging these projects to publish case studies</li> <li>• Establish data warehousing to collect project and system level EM performance metrics. Analyze trends in identified energy efficiency opportunities, persistence, and common practices to share with the marketplace to spur replication.</li> </ul>	1
<p>Stimulate the market to invest in EM for tenant spaces and enhance the success rate of these installations:</p> <ul style="list-style-type: none"> <li>• Create qualified vendor list for vendors that have capabilities to integrate multiple building systems and support tenant energy management.</li> <li>• Provide open enrollment incentives for EM systems and services for qualified vendors that serve commercial building owners and tenants.</li> <li>• Provide independent expert EM advisory services and training to building owners, management firms, operators and tenants.</li> </ul>	2
<p>Stimulate the market to invest in heat recovery solutions for existing building retrofits and build customer awareness of and confidence in heat recovery.</p> <ul style="list-style-type: none"> <li>• Create qualified vendor list of manufacturers that meet standards of heat recovery solutions</li> <li>• Provide open enrollment funding to reduce the upfront design and engineering costs for heat recovery retrofits in existing commercial, institutional, multifamily and industrial buildings</li> <li>• Produce design templates and provide independent expert advisory services and training to design engineers, building owners, management firms, and operators</li> </ul>	3

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Create open enrollment incentives for EM systems and services that support RTEM projects in small to medium businesses.	2021	NYSERDA launched the "RTEM for Small Business" spinoff program in January 2021, providing distinct cost-share structures and project scope requirements aimed at supporting small to medium business sites receive more effective EM services.	Complete	2021	1
Make publicly available anonymized RTEM project data to support market confidence in performance of EM systems and services.	2022	NYSERDA sponsored the "RTEM Data Hackathon" on July 2022, a public competition with over 400 participants from 27 countries, which gave \$55,000 in awards for the development and demonstration of novel & unique EM strategies using real-time data.	Complete	2022	1
Create a qualified vendor list for vendors that have capabilities to integrate building systems and meet advanced EM system and service capability and performance standards.	2021	NYSERDA released the RTEM+Tenants Qualified Vendor List in March 2021, which provides the market a clear list of vendors capable of delivering advanced EM systems and service capabilities to both building owners & commercial tenants.	Complete	2021	2
Create open enrollment incentives for EM systems and services that extend into tenant spaces.	2021	NYSERDA launched the RTEM+Tenants program in April 2021, which provides cost-share incentives for holistic building system integration, and engages tenants in EM strategies and outcomes.	Complete	2021	2
Publish case studies and publicly available aggregated data sets of RTEM + Tenants projects documenting energy savings achieved.	2024	14 RTEM+Tenant projects were installed during the second half of 2025, bringing total project installations to 15 (out of 54 approved). Once service reports are received and approved for these projects (estimated to last throughout 2026), case studies and documented energy savings can be generated.	Delayed		2
Create a qualified vendor list for ERV manufacturers that meet high efficiency standards and will invest in business development in NYS	2023	In Summer 2023, NYSEDA launched the Heat Recovery Solutions vendor qualification program under RFQL 5217, to identify manufacturers of technologies that are critical to building decarbonization in New York State.	Complete	2023	3
Create open enrollment incentives for design work on ERV retrofits	2023	In Fall 2023, NYSEDA launched the Heat Recovery Program under PON 5547, which provides cost-sharing support for project assessment and design development to integrate heat recovery energy conservation measures within existing building retrofits.	Complete	2023	3
Provide competitive funding opportunity for demonstration projects of highly repeatable heat recovery retrofits	2025	Between August 2024 - June 2025, ran two rounds of Heat Recovery Demonstration which received 57 proposals and awarded 11 proposals.	Complete	2025	3

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Awareness of EM among building owners/managers	-	40%	-	-	88%	-	1
Outcome: Percent of EM projects that institute an energy efficiency goal	-	65%	-	-	65%	-	1
Outcome: Persistence of EM service contracts (i.e., how many customers extend their subscription with an RTEM provider beyond 5 years)	-	60%	-	-	65%	-	1
Outcome: Size of market as indicated by vendor sales	-	\$40M	-	-	N/A	-	1
Output: Number of comprehensive building specific data sets submitted to NYSERDA	200	400	-	-	650	-	1
Output: Number of pilots complete	-	10	-	-	12	-	1
Output: Number of qualified providers on NYSERDA list	90	100	120	-	180	-	1
Output: Number of small to medium business RTEM projects supported by NYSERDA	-	10	80	200	100	-	1
Outcome: % of commercial portfolio owners who invest in EM systems and services for Local Law compliance	-	-	5%	15%	25%	25%	2
Outcome: % of RTEM + Tenants projects that monitor at least 75% of a building's tenant energy consumption	-	-	10%	15%	100%	25%	2
Output: # of qualified vendors with capabilities of providing EM services for tenant spaces	5	10	15	20	24	-	2
Output: Number of commercial real estate portfolio owners deploying RTEM + Tenants projects within their buildings	1	3	7	10	8	-	2
Output: Total square feet (millions) of RTEM + Tenants project supported by NYSERDA	1	5	15	20	35	-	2
Outcome: % of building square feet that can replicate successful heat recovery retrofit approaches by utilizing design templates and related program resources	-	-	-	-	N/A	-	3
Outcome: Market share of heat recovery systems in NYS by number of buildings	-	-	-	-	N/A	-	3
Output: # of qualified vendors active in NYS selling heat recovery solutions.	-	-	5	20	33	40	3
Output: Number of buildings participating in Heat Recovery initiative	-	-	-	15	200	45	3
Output: Number of demonstration heat recovery retrofit projects supported	-	-	-	-	11	6	3



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Greenhouse Lighting and Systems Engineering</b>			
Budget Expenditures (\$)	4,950,000	4,636,396	94%
Electricity Savings, Annual (MWh)		0	
Leveraged Funds (\$)		0	
Total Energy Savings, Annual (MMBtu eq.)		0	

Summary of Performance and Future Plans

The GLASE Consortium continues to be active in the greenhouse industry and remains committed to research, education, and work force development in the greenhouse growers market. The GLASE Library, continues to grow with case studies regarding the research progress in addition to the short courses and recorded webinars. This focus on education and work force development has added to the viability of the consortium.

## Activities Summary

Activity	Activity #
Form and grow the GLASE Consortium by assisting with and monitoring its organizational structure, business model, member recruitment, partner support, Scientific Advisory Panel creation, and financial self-sustainability achievement.	1
Monitor the Consortium as it develops new lighting products as well as new control strategies and services for light, CO2 and humidity to increase yield or the production of chemical compounds that increase crop value. New products that benefit greenhouse growers will be tested in small and large pilot settings, and provisional patents will be filed.	2
Assist the Consortium with the continual education and outreach to help Consortium members and others better understand best practices and the economics of improved control systems, through use of outreach materials, networking at trade association meetings/conferences, trainings, and coordinating with Cornell Cooperative Extension and other existing NYSERDA agriculture targeted programs.	3

## Milestones Summary

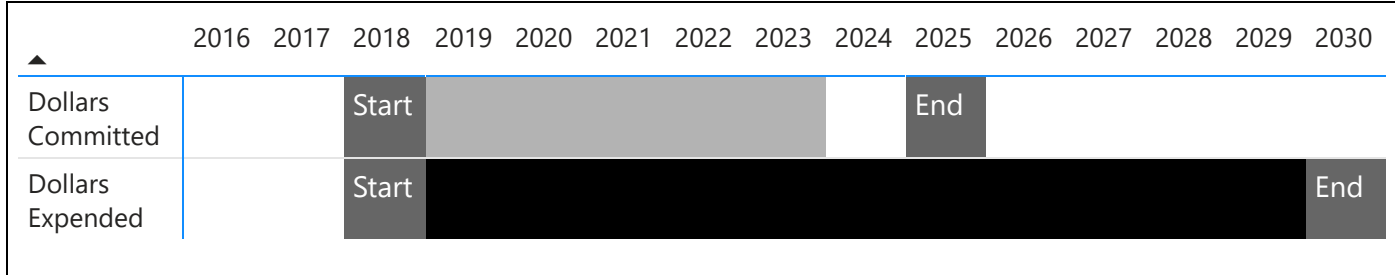
Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Consortium remains viable after NYSERDA milestones are completed.	2025	The GLASE Consortium continues to be active in the greenhouse industry and remains committed to research, education, and work force development in the greenhouse growers market. The GLASE Library, continues to grow with case studies regarding the research progress in addition to the short courses and recorded webinars. This focus on education and work force development has added to the viability of the consortium.	Complete	2025	1
Contract with core Consortium members.	2021	Contracts have been fully executed.	Complete	2018	1
Review and approve Consortium business plan to attain financial self-sustainability by 2023.	2021	The Executive Director of GLASE submitted the initial business plan Q2 2018. It is anticipated that the business plan will be updated on an annual basis.	Complete	2019	1
Review and approve Scientific Advisory Panel structure.	2021	Selection of members is completed. Contractual arrangements are also completed between members and universities regarding how they be reimbursed for participation.	Complete	2018	1
Formal training offered to service providers.	2022	A plant lighting short course was offered to greenhouse service providers and growers. 220 people attended the virtual short course.	Complete	2021	3

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Output: Number of paid Consortium memberships	25	-	-	-	14	30	1
Outcome: Number of intellectual properties or technology disclosures filed	-	8	-	-	6	-	2
Output: Greenhouse area used for pilot testing (sq ft)	-	26,000	-	-	20,000	-	2
Output: Number of product variations tested in pilot systems	-	8	-	-	7	-	2
Output: Number of services developed	-	3	-	-	8	-	2
Outcome: Average market penetration of improved technologies in New York State greenhouse acreage in the lettuce and tomato sectors	-	-	-	25%	N/A	-	3
Outcome: Number of acres of greenhouses in New York State (beyond pilot participants) adopting the improved technologies	-	-	-	23	N/A	-	3
Outcome: Reduced electricity usage per participating greenhouse in NYS (depending on NYS climate zone)	-	-	-	70%	N/A	-	3
Output: Number of case studies developed	-	4	-	-	6	-	3



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Industrial Transition</b>			
Budget Expenditures (\$)	45,196,736	45,043,819	100%
Electricity Savings, Annual (MWh)	310,016	307,009	99%
Leveraged Funds (\$)	508,429,787	501,998,779	99%
Natural Gas Savings, Annual (MMBtu)	1,756,045	1,657,942	94%
Other Fuel Savings, Annual (MMBtu)	9,028,350	9,022,612	100%
Total Energy Savings, Annual (MMBtu eq.)	4,671,541	4,557,522	98%



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Market Challenges</b>			
Budget Expenditures (\$)	60,070,169	47,687,795	79%
Electricity Savings, Annual (MWh)	62,482	7,421	12%
Leveraged Funds (\$)	84,810,737	14,793,100	17%
Natural Gas Savings, Annual (MMBtu)	4,200,233	949,398	23%
Other Fuel Savings, Annual (MMBtu)	38,479	0	0%
Total Energy Savings, Annual (MMBtu eq.)	4,157,612	965,663	23%

Summary of Performance and Future Plans

The 6 Empire Building Challenge commercial demonstrations are progressing well with 2 projects being complete and beginning measurement and verification, and 2 more nearing completion. Savings will continue to be reported as projects are installed per the phased implementation plans of these large demonstrations. An evaluation is anticipated to begin by Q2 2026. Future quarterly reports will summarize findings.

The Commercial and Industrial Carbon Challenge elected to fund 2 projects in the 2025 round of the solicitation with total incentives totaling just over \$5.8 million.

The market response to the 2025 offering was notably muted compared to past years, likely due to macroeconomic headwinds beginning in Q1 2025. These headwinds have likewise had an effect on previously awarded projects, with implementation delays, due to both capital and supply constraints, and project cancellations across the portfolio.

### Activities Summary

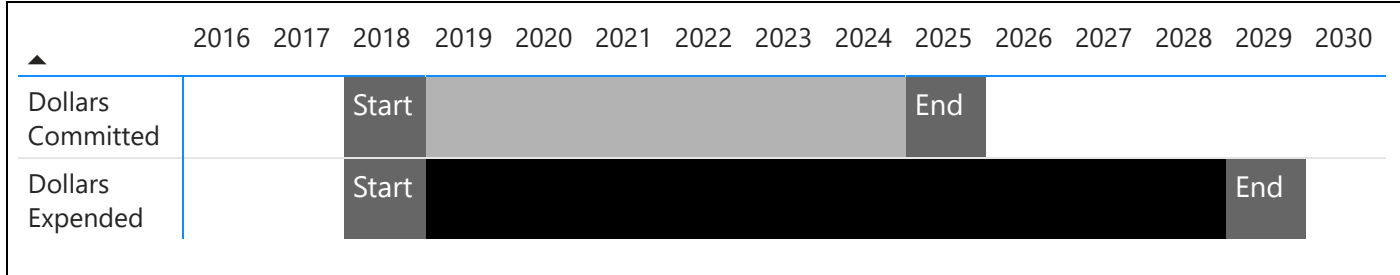
Activity	Activity #
<ul style="list-style-type: none"> <li>• Conduct a global scan to identify and catalog low carbon technologies that can support low carbon retrofits for big, tall buildings.</li> <li>• Convene real estate portfolio owners to develop a shared definition of “carbon neutral” for big, tall buildings.</li> <li>• Compile and publish market data that provides OEMs, energy-focused firms, and engineering companies better visibility on the needs and market potential for low-carbon solutions for big, tall buildings.</li> <li>• Develop a pool of real estate portfolio owners partnering with NYSERDA toward the goal of achieving carbon neutral buildings.</li> <li>• Fund demonstration projects of low-carbon retrofits in tall buildings through a competitive solicitation and leverage projects to share learnings with stakeholders.</li> </ul>	1
Fund carbon reduction project portfolios for large industrial, commercial, and/or multifamily ratepayers through a competitive solicitation and leverage projects to share learnings on low-carbon energy and manufacturing strategies.	2

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Announce awards following the release of competitive solicitation.	2022	The second funding round for Empire Building Challenge was held in Q3-Q4 2022 and project awards were announced in September 2023.	Complete	2023	1
Announce awards following the release of competitive solicitation.	2023	No new commercial partners were added to the program through the third round of recruiting, by design.	Cancelled		1
Announce the participating real estate owners and their public commitments from solicitations.	2021	The solicitation to select the first cohort of real estate partners was launched in Q3 2020 and a public announcement of the first cohort of real estate partners was made in Q1 2021.	Complete	2021	1
Announce the participating real estate owners and their public commitments from solicitations.	2022	All real estate partners have been publicly recognized for being selected as Empire Building Challenge (EBC) Partners. This includes a public announcement on each partner's commitment to carbon neutrality, at their participating building(s).	Complete	2022	1
Issue awards following release of competitive solicitation.	2021	The Solicitation was executed in the Consolidated Funding Application (CFA), in Q2 2021 and awards issued in Q4 2021.	Complete	2021	1
Issue awards following release of competitive solicitation.	2022	Awards for the 2022 round of the C&I Carbon Challenge were announced in December 2022.	Complete	2022	1
Issue awards following release of competitive solicitation.	2023	Commercial and Industrial Carbon Challenge 2023 round awards were announced in Q4 2023.	Complete	2023	1
Issue awards following release of competitive solicitation.	2024	The Consolidated Funding Application awards for the Commercial and Industrial Carbon Challenge were issued in Q4 2024. 4 Industrial applicants were selected for award.	Complete	2024	1
Issue awards following release of competitive solicitation.	2025	Awards for the solicitation were issued in Q4 2025.	Complete	2025	1
Issue awards following release of competitive solicitation.	2021	The solicitation for the first round of retrofit project funding was issued Q4 2021. As a results of the solicitation, 4 low carbon retrofit projects have been funded.	Complete	2021	2
Issue awards following release of competitive solicitation.	2022	The 2022 Commercial and Industrial carbon challenge awards were announced in Q4 2022.	Complete	2022	2
Issue awards following release of competitive solicitation.	2023	Commercial and Industrial Carbon Challenge 2023 round awards were announced in Q4 2023.	Complete	2023	2
Issue awards following release of competitive solicitation.	2024	Ten multifamily projects were awarded, and a press release with the announcement was issued in September 2025. Commercial projects were not eligible for this solicitation.	Complete	2025	2
Issue awards following release of competitive solicitation.	2025	NYSERDA awarded nearly \$28M in funding to 10 new multifamily retrofit projects, as only multifamily buildings were eligible for this solicitation.	Complete	2025	2

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Awarded participants employ advanced decarbonization solutions in their project portfolios	4	7	10	14	N/A	16	1
Outcome: Commercial replication projects within portfolios as measured by total square footage	-	-	0.5M	1.5M	N/A	2.5M	1
Output: Increase in number of portfolio owners in commercial sector with a public commitment to achieving carbon neutral buildings by 2035	6	6	10	12	14	-	1
Output: Number of sites participating	16	25	26	28	27	33	1
Outcome: Awarded participants employ advanced decarbonization solutions in their project portfolios	4	7	10	14	N/A	16	2
Output: Number of sites participating	16	25	26	28	58	39	2



Summary of Performance and Future Plans

Program incentives are fully committed and many outputs/outcomes are exceeding the targets through 2025. However, expenditures and acquired savings are slightly lagging due to two large projects being delayed. The acquired savings will continue to increase as more Clean Green Schools Initiative technical assistance projects are completed. An impact evaluation is underway as part of the larger Technical Services impact evaluation and will be completed in Q4 2026. In addition, an indirect savings market evaluation is slated to begin in Q1 2026.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>P-12 Schools</b>			
Budget Expenditures (\$)	16,735,306	19,502,972	117%
Electricity Savings, Annual (MWh)	36,871	28,199	76%
Leveraged Funds (\$)	35,778,296	22,071,347	62%
Natural Gas Savings, Annual (MMBtu)	227,765	157,141	69%
Other Fuel Savings, Annual (MMBtu)	49,116	30,455	62%
Renewable Energy Capacity (MW)	6	14	233%
Renewable Energy Generation, Annual (MWh)	5,840	14,257	244%
Total Energy Savings, Annual (MMBtu eq.)	396,938	266,457	67%

## Activities Summary

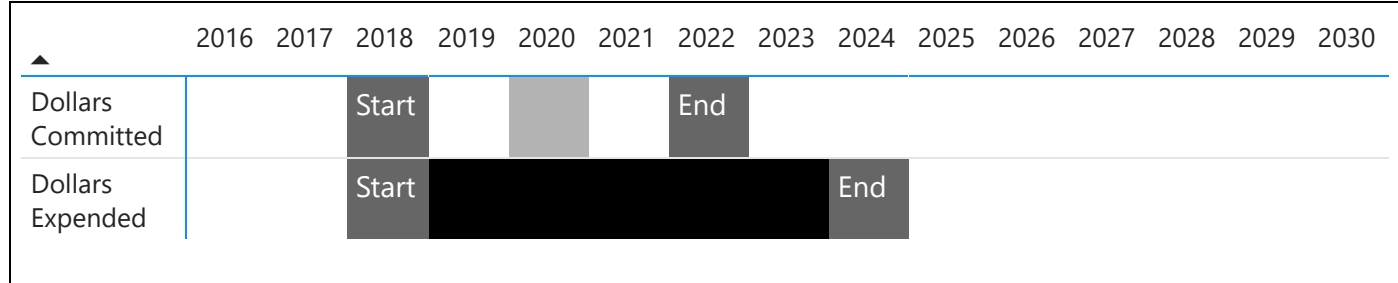
Activity	Activity #
Provide funding to school districts to collect data on energy consumption and costs. Use initial benchmarking as a stepping off point to engage the schools in the use of this resource and to lead to greater understanding of their energy use, patterns, and opportunities for improvement.	1
Provide cost-sharing to schools, focused on under-resourced schools, for professional services related to clean energy and indoor air quality analysis as well as limited funding for installations and demonstrations.	2
Develop and disseminate a centralized website of state-supported strategies and funding programs, recognition programs and events, to encourage schools to participate in and leverage existing market resources.	3
Publish and promote guidance documents and project results along with case studies and green design documents.	4

**Milestones Summary - No Active Milestones to Report**

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of schools utilizing benchmarking data and energy master plans to make informed decisions toward future clean energy projects	75	75	75	80	20	100	1
Output: Number of schools engaging with NYSERDA to conduct clean energy benchmarking	310	500	525	550	612	600	1
Output: Number of projects implemented because of P12 initiative funding	4	4	4	15	16	30	2
Output: Number of schools that receive NYSERDA funding	45	100	100	350	1,840	500	2
Output: Number of schools utilizing NYSERDA funding for student and faculty engagement (i.e. workforce development efforts)	-	25	50	75	278	100	2
Outcome: Number of schools receiving recognition	3	3	3	4	5	6	3
Outcome: Number of schools reporting a greater understanding of benefits of clean energy at their school	800	800	800	900	20	1,000	3
Output: Number of information downloads from the website	1,000	1,100	1,150	1,200	12,378	1,350	3
Outcome: Number of schools utilizing clean energy case studies to make informed decisions towards future clean energy projects	150	150	150	175	0	200	4
Output: Number of case studies developed and disseminated	20	20	22	25	15	30	4



Summary of Performance and Future Plans

The Pay for Performance initiatives developed the necessary collaboration framework and platform to support initial pilots, including engaging aggregators and launching into both residential and commercial markets. Market developments and challenges in rolling out these pilots, however, led NYSERDA and its partners to conclude that the program should not be continued. The program was closed in early 2023 and unspent funds were redirected.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Pay for Performance</b>			
Budget Expenditures (\$)	1,699,616	1,699,616	100%

### Activities Summary

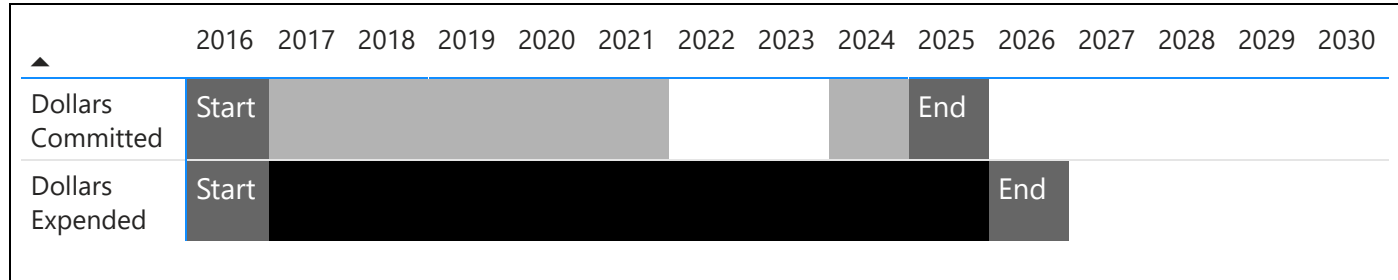
Activity	Activity #
Continue working with utilities to pilot the procurement model approach to P4P, whereby a competitive selection process identifies specific portfolio managers/aggregators to secure customers and deliver savings for a set implementation period and be paid over a longer performance period.	1
Scope and launch an open-market P4P approach, whereby a qualified vendor list determines potential aggregators that may be available to multiple sectors and could include program features such as promoting electrification.	2

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Continue Business Energy Pro pilot with Con Edison.	2021	Business Energy Pro pilot continued operation in 2021 but one of the two portfolio managers ended their participation in Q3 2021, and program team anticipated pilot would come to close in 2022.	Complete	2021	1
Continue Business Energy Pro pilot with Con Edison.	2022	NYSERDA concluded that the program should not be continued after no projects were obtained by portfolio managers in contracted time.	Cancelled		1
Gather lessons learned from procurement model approach to inform new pilot design parameters.	2021	NYSERDA concluded that the program should not be continued after assessing results from the pilots.	Cancelled		2
Gather lessons learned from procurement model approach to inform new pilot design parameters.	2022	NYSERDA concluded that the program should not be continued after assessing results from the pilots.	Cancelled		2
Obtain stakeholder feedback to complete open-market program design.	2021	NYSERDA concluded that the program should not be continued after assessing results from the pilots.	Cancelled		2
Obtain stakeholder feedback to complete open-market program design.	2022	NYSERDA concluded that the program should not be continued after assessing results from the pilots.	Cancelled		2

### Output and Outcomes Summary

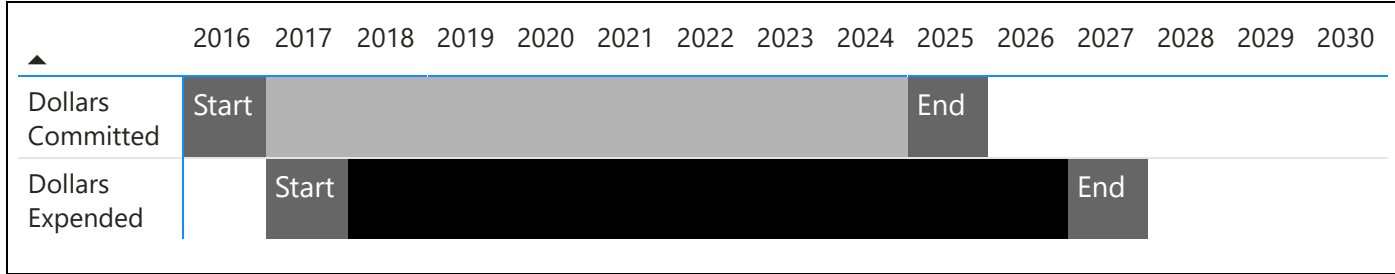
Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of additional market actors involved in P4P pilot (non-aggregator involvement such as financial institutions, subcontractors, etc)	2	4	-	-	0	-	1
Outcome: Number of utilities committed to offering P4P programs post pilot	-	1	-	-	0	-	1
Output: Number of datasets published on OpenNY	-	1	-	-	0	-	1
Output: Number of participating aggregators	1	2	-	-	2	-	1
Output: Total number of projects implemented in commercial sector	3	-	75	-	0	-	1
Outcome: Percentage of aggregators participating in utility energy efficiency programs in New York State for the first time	-	-	25%	-	0	-	2
Outcome: Reduction in time to market for first project (from pilot launch) using open-market approach versus procurement approach	-	-	50%	-	0	-	2
Output: Increase in Number of business types serving as aggregators	-	-	200%	-	0%	-	2
Output: Increased participation by aggregators in open-market approach versus procurement approach	-	-	100%	-	0%	-	2



Summary of Performance and Future Plans

The Real Estate Tenant initiative closed in 2021 and all projects have since been completed. In 2023, the program updated its acquired savings reporting methodology to reflect a Measures Adoption Rate (MAR) approach, enabling results to be reported for all completed projects. The forecast for initiative impacts was updated accordingly in the November 2023 forecast filing. This initiative reported acquired savings through 2025, according to the Measure Adoption Rate schedule.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Real Estate Tenant</b>			
Budget Expenditures (\$)	15,398,346	14,879,030	97%
Electricity Savings, Annual (MWh)	82,843	82,843	100%
Leveraged Funds (\$)	59,509,392	59,509,392	100%
Natural Gas Savings, Annual (MMBtu)	115,158	115,158	100%
Other Fuel Savings, Annual (MMBtu)	175,686	175,686	100%
Total Energy Savings, Annual (MMBtu eq.)	512,994	512,994	100%



▲ Summary of Performance and Future Plans

All funds have been committed and expenditures were strong, exceeding this year's plan. In addition to meeting the 2025 membership goal in 2023, the initiative has exceeded all CEF energy benefits goals.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Clean Green Campuses</b>			
Budget Expenditures (\$)	17,358,472	19,221,555	111%
Electricity Savings, Annual (MWh)	181,956	215,478	118%
Leveraged Funds (\$)	50,127,108	43,304,430	86%
Natural Gas Savings, Annual (MMBtu)	1,204,719	1,356,713	113%
Other Fuel Savings, Annual (MMBtu)	58,218	117,283	201%
Renewable Energy Capacity (MW)	6	10	167%
Renewable Energy Generation, Annual (MWh)	7,254	10,449	144%
Total Energy Savings, Annual (MMBtu eq.)	1,881,688	2,191,439	116%

There are currently no milestones to report

### Activities Summary

Activity

Activity #

Provide targeted outreach and communication to drive REV Campus Challenge membership and ascertain needs including webinars, website updates, event invites, and one-on-one outreach.

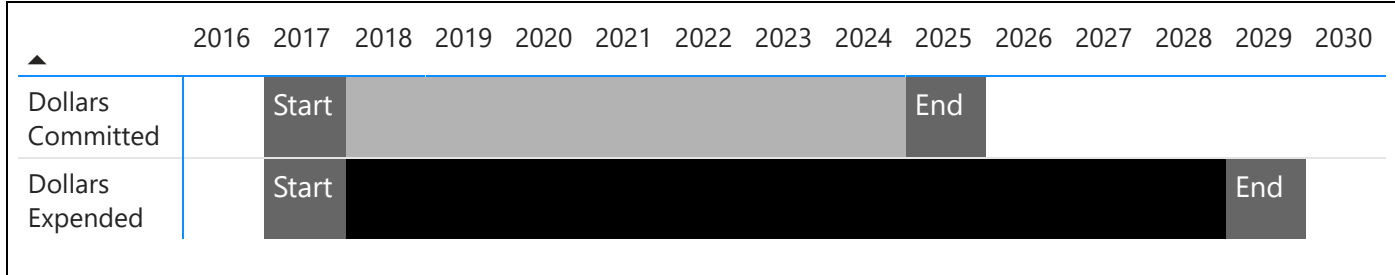
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### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of Clean Green Campuses Members reporting greater buy-in and support from management for clean energy projects and initiatives (as reported through the annual survey)	52	55	58	60	46	65	1
Outcome: Number of Clean Green Campuses Members reporting improved community relations as a result of clean energy strategies (as reported through the annual survey)	46	48	50	52	43	55	1
Outcome: Number of Clean Green Campuses Members with new or updated climate action plans, energy master plans, or GHG inventories	73	75	77	80	85	85	1
Outcome: Number of Clean Green Campuses Members with staff assigned to manage clean energy/sustainability goals (as reported through the annual survey)	91	91	93	95	96	95	1
Outcome: Number of Clean Green Campuses Members reporting a greater understanding of clean energy opportunities on their campus (as reported through the annual survey)	71	75	80	85	60	90	1
Output: Number of Clean Green Campuses members	130	135	140	145	154	150	1
Output: Number of Clean Green Campuses Members reporting new clean energy curricula or curriculum integration (as reported through the annual survey)	49	50	51	52	66	53	1
Output: Number of Clean Green Campuses Members reporting new clean energy projects on campus (as reported through the annual survey)	83	85	90	93	111	95	1



Summary of Performance and Future Plans

This initiative finished in 2025 in good standing with respect to both budget and energy benefits. Site-specific support has been provided to over 1,000 farms via this initiative. To complement the site-specific reports, interest/participation in both webinars and our on-line resources has increased in 2025, indicating that farms remain interested in energy efficiency. NYSERDA continues to see strong participation from the commercial and industrial markets. Initiative evaluation will be commencing soon. Future reports will detail results from these studies.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Technical Services</b>			
Budget Expenditures (\$)	67,888,020	78,923,742	116%
Electricity Savings, Annual (MWh)	477,766	543,021	114%
Leveraged Funds (\$)	258,749,651	303,535,304	117%
Natural Gas Savings, Annual (MMBtu)	2,388,909	2,427,143	102%
Other Fuel Savings, Annual (MMBtu)	1,220,330	2,082,737	171%
Renewable Energy Capacity (MW)	8	13	163%
Renewable Energy Generation, Annual (MWh)	29,113	39,450	136%
Total Energy Savings, Annual (MMBtu eq.)	5,113,551	6,017,991	118%

### Activities Summary

Activity	Activity #
<ul style="list-style-type: none"> <li>Continue the Agriculture Energy Audit component of the FlexTech Program to provide site-specific clean energy recommendations directly to farms to improve site operations, align future investment opportunities, and prioritize those investments as well as provide greenhouse benchmarking.</li> <li>Engage in the development of information, tools, and resources to demonstrate the benefits of clean energy investments and energy management for the agriculture sector. A third-party technical resource will be utilized to develop, market, maintain and update an energy-related, farm management best practice guide and disseminate best practice materials across multiple platforms, including direct delivery to farms, the NYSERDA website, partner organizations, and through trade allies such as sector-based organizations and consortiums, and other entities with similar market participants.</li> </ul>	1
Continue providing building and portfolio-level assessments of low-carbon solutions to drive clean energy adoption through the successful FlexTech Program.	1
Continue providing site-specific industrial technical engineering support of low-carbon solutions to drive clean energy adoption through the FlexTech Program.	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Best Practice guides published	2022	Best practice guide published.	Complete	2022	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Increase in the number of beneficial electrification installations	0	TBD	-	-	N/A	-	1
Outcome: Increase the rate at which clean energy technologies are adopted by non-participants through sharing of best practices and case studies	30%	30%	30%	30%	N/A	30%	1
Outcome: maintain or (best case) increase the rate at which clean energy technologies are adopted by participants	65%	65%	65%	65%	N/A	65%	1
Outcome: Percentage of audit participants who receive a best practice guide and adopted energy-efficiency measures by the guide	-	-	20%	20%	23%	20%	1
Output: Number of case studies developed	2	2	40	40	28	50	1
Output: Number of qualified energy-focused firms	49	49	82	82	108	85	1
Output: Number of studies assessing electrification options completed	6	26	53	84	429	200	1



	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Dollars Committed	Start									End					
Dollars Expended	Start														End

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Clean Energy Communities</b>			
Budget Expenditures (\$)	49,363,723	49,409,356	100%
Electricity Savings, Annual (MWh)	91,716	91,774	100%
Leveraged Funds (\$)	162,380,889	141,509,159	87%
Natural Gas Savings, Annual (MMBtu)	78,056	78,127	100%
Other Fuel Savings, Annual (MMBtu)	72,985	73,028	100%
Renewable Energy Capacity (MW)	156	156	100%
Renewable Energy Generation, Annual (MWh)	63,235	63,241	100%
Total Energy Savings, Annual (MMBtu eq.)	457,626	457,938	100%

Summary of Performance and Future Plans

Due to the program experiencing higher than anticipated participation levels in 2024 with over 1500 new High Impact Actions completed by communities, the program was paused due to funding constraints. In 2025, local governments continued to implement clean energy projects previously awarded through the program. In addition, a third-party market evaluation verified the impact the Clean Energy Communities (CEC) program has across NYS with 77% of local governments implementing high impact actions. Those completed projects resulted in indirect impacts of approximately 1.3 TBTU of indirect total energy savings and over 300,000 MWh's of Renewable Generation for program years 2019-2023 in addition to the direct benefits reported for the earliest years of the initiative (2016-2018). Approximately 85% of municipalities took advantage of the tools and resources to execute clean energy activities with the CEC coordinators providing relevant program knowledge & awareness. The assessment concluded that without the assistance of the program, over half of NYS communities would lack the capacity, or have only limited ability, to carry out such activities independently.

### Activities Summary

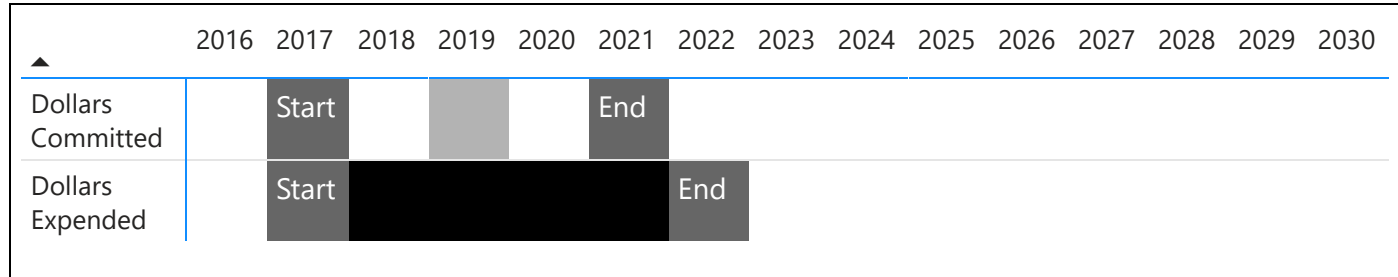
Activity	Activity #
<ul style="list-style-type: none"><li>• Refine and update the Clean Energy Communities program and related technical assistance, tools, and resources. • Increase access to aggregated community-level energy use data (via Utility Energy Registry) needed for clean energy planning and tracking.</li><li>• Target outreach and engagement efforts to influence electrification and other clean heating and cooling activities.</li><li>• Provide focused program efforts that target Disadvantaged Communities.</li><li>• Address local capacity constraints to encourage action by the local government.</li></ul>	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Develop and launch new pilot that supports advanced clean energy actions	2023	The new pilot is being pushed to 2026-2030 portfolio plans.	Cancelled		1
Launch Clean Energy Communities 3.0	2023	CEC 3.0 was launched on December 13, 2023.	Complete	2023	1
Launch Clean Energy Communities Leadership Round.	2021	Leadership round launched January 26, 2021	Complete	2021	1
Launch Clean Energy Communities program update.	2023	The Clean Energy Communities program update was launch on December 13, 2023.	Complete	2023	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of communities implementing CCA	45	55	65	75	98	85	1
Outcome: Number of communities implementing NYStretch	20	30	40	-	40	-	1
Output: Number of certified Climate Smart Communities	73	91	100	110	160	115	1
Output: Number of communities that have completed one or more high impact action	690	778	870	880	942	960	1
Output: Number of completed Community Campaigns	150	150	181	200	316	210	1
Output: Number of completed high impact actions	2,400	3,149	3,800	4,600	5342	5,200	1
Output: Number of designation communities	375	455	525	550	930	600	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Community Energy Engagement</b>			
Budget Expenditures (\$)	4,388,546	4,388,546	100%
Leveraged Funds (\$)	994,123	994,123	100%

Summary of Performance and Future Plans

CEF funding for this initiative has been fully committed and expenditures were paid out in first half of 2022. The Regional Clean Energy Hubs have been implemented to provide further community-based outreach and engagement within the Low-to-Moderate Focus Area.

There are currently no milestones to report .

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Dollars Committed		Start								End						
Dollars Expended		Start												End		

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Energy-Related Environmental Research</b>			
Budget Expenditures (\$)	40,303,952	36,780,300	91%

Summary of Performance and Future Plans

The program made significant advancements in characterizing energy-related impacts and associated opportunities for mitigation, permitting efficiencies and dual-use at energy sites in 2025. NYSERDA supported development of the first gridded inventory of methane emissions for New York State which provides more granular information on methane emissions sources. Preliminary research indicates that methane emitted during or immediately following the natural gas combustion process may be a source of methane emissions that is significantly underestimated in the state greenhouse gas emissions inventory. These findings - which are in various phases of publication - are being shared with regulators and industry to inform and optimize energy-related policy and mitigation efforts and inventories. Among projects in the offshore marine environment, NYSERDA released a competitive solicitation to increase understanding of Atlantic sturgeon presence within the greater New York Harbor area to inform and streamline regulatory decision making associated with offshore energy projects. NYSERDA also released a solicitation for developing new forward-looking climate information and characterizing potential future climate impacts on the energy sector, including those associated with compound and extreme weather events. Future research will continue to complete the work identified in the Investment Plan, with emphasis on where that plan can inform and support State efforts to meet energy policy goals in a responsible and cost-effective manner.

## Activities Summary

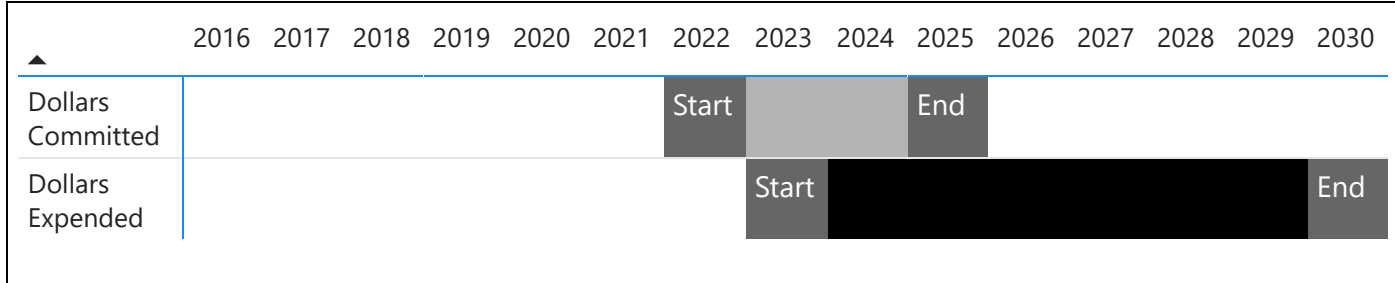
Activity	Activity #
<p>Air Quality and Health, Ecosystem Response and Climate Adaptation, and Resilience Research.</p> <ul style="list-style-type: none"><li>• These topical areas primarily support original scientific research and monitoring and publish largely in peer-reviewed journals, but in some cases in reports or guidance documents. Outputs from these activities are channeled to policy makers, regulators, and other scientists via briefings, workshops, conferences, project advisory committees and the published literature.</li></ul> <p>Alternative/Renewable Energy Development.</p> <ul style="list-style-type: none"><li>• These topical areas support the responsible and cost-effective development of offshore wind energy and terrestrial renewables through research, analysis, and stakeholder engagement designed to empower and inform decision makers with timely and impartial information. Outputs from these activities are channeled to State and federal policy makers and regulators, regional states, local governments, renewable energy developers, and related stakeholders in the form of procurement requirements/scoring criteria, reports, guidelines, tools, briefings, and presentations.</li></ul>	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Publish quarterly progress updates on NYSERDA's website.	2021	Quarterly research updates for the Environmental Research program can be viewed here: <a href="https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates">https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates</a>	Complete	2021	1
Publish quarterly progress updates on NYSERDA's website.	2022	Quarterly research updates for the Environmental Research program can be viewed here: <a href="https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates">https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates</a>	Complete	2023	1
Publish quarterly progress updates on NYSERDA's website.	2023	Quarterly progress newsletters are published on NYSERDA's website: <a href="https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates">https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates</a>	Complete	2023	1
Publish quarterly progress updates on NYSERDA's website.	2024	Quarter progress newsletters are posted on the NYSERDA website here: <a href="https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates">https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates</a>	Complete	2024	1
Publish quarterly progress updates on NYSERDA's website.	2025	Quarterly progress updates are published on NYSERDA's website: <a href="https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates">https://www.nysesda.ny.gov/All-Programs/Environmental-Research/Research-Updates</a>	Complete	2025	1
		2025 Q4's Newsletter is currently under review and is anticipated to be published in Spring 2026.			

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Output: Number of sponsored workshops, conferences, seminars or facilitated meetings to inform decision making	25	50	75	100	328	125	1
Outcome: Publications issued (articles, case studies, guides, etc.)	30	60	90	120	301	150	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Hydrogen Innovation</b>			
Budget Expenditures (\$)	5,704,786	8,784,012	154%
Leveraged Funds (\$)	600,000	10,863,734	1811%

Summary of Performance and Future Plans

Two contracts were initiated to develop hydrogen safety training materials and train the Fire Department of New York City fire fighters. Program Opportunity Notice 5944 was issued for front-end engineering design (FEED) for hydrogen-based firm capacity and industrial applications in New York. Through 2025, 35 participants were funded by the program with 19 projects started under activity 1 and another planned to start soon under activity 2 once contract negotiations finish. Three research and study projects were completed in 2025, however demonstration projects have not yet been completed, therefore replications and associated hydrogen cost reduction will be delayed in report. Projects in FEED study and safety studies are expected to start in 2026.

## Activities Summary

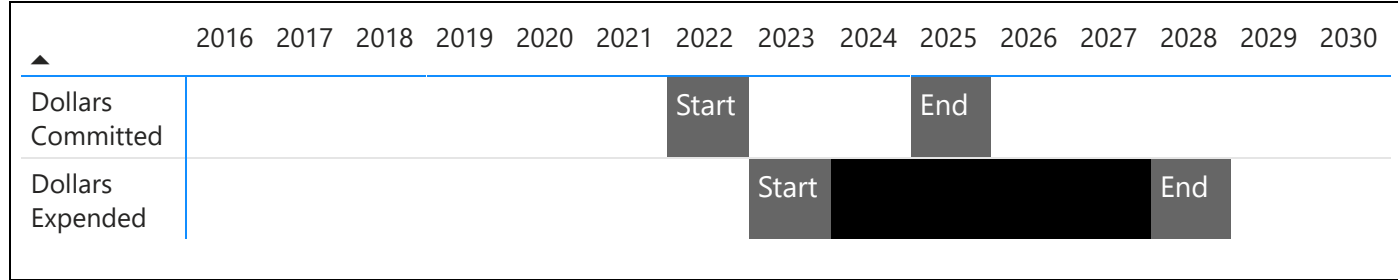
Activity	Activity #
Issue competitive solicitation for research, development and demonstration projects enabling initial clean hydrogen production and solutions for hard to electrify and natural gas replacement solutions, including but not limited to: <ul style="list-style-type: none"> <li>• Research, development and demonstration enabling hydrogen application for high-temperature industrial manufacturing process</li> <li>• Clean hydrogen production and integration with renewable energy (such as solar and offshore wind)</li> <li>• Technologies related control, test or monitor of co pollutant, such as nitrogen oxide (NOx).</li> </ul>	1
Issue competitive solicitation for projects that enable deployment of hydrogen technologies for zero-carbon firm capacity, which include: <ul style="list-style-type: none"> <li>• FEED study for stationary fuel cell power plants.</li> <li>• FEED study to convert of an existing natural-gas-powered peaking power plant to clean hydrogen.</li> <li>• Safety studies to enable hydrogen transportation through New York city bridges and tunnels.</li> </ul>	2

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Develop system evaluation tools for hydrogen lifecycle cost and impact	2024	Model developed with NREL on hydrogen cost and emission calculation.	Complete	2024	1
Issue awards from hydrogen solicitation	2023	PON5322 and PON5500 round 1 were issued in 2023. 5 projects were selected from PON5322 to provide cost share for the Department of Energy solicitations. 3 of them have been awarded and will move forward with contract negotiation. 9 projects were selected from PON5500 under the Gas Innovation focus area.	Complete	2023	1
Issue awards from hydrogen solicitation	2024	An award letter was sent for PON 5500 round 2 and PON 5712 in Nov. 2024.	Complete	2024	1
Initiate programs to support hydrogen safety studies for New York City bridges & tunnels	2024	Twp contracts were completed in 2025. One with the Fire Department of New York City and the other with the Center for Hydrogen Safety.	Complete	2025	2
Initiate programs to support hydrogen safety studies for New York City bridges & tunnels	2025	Two contracts were completed in 2025. One with the Fire Department of New York City and the other with the Center for Hydrogen Safety.	Complete	2025	2
Issue competitive solicitation for FEED studies for clean-hydrogen-based firm capacity	2024	A solicitation was issued in 2025 and one project was awarded from Program Opportunity Notice 5944.	Complete	2025	2

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Clean hydrogen cost reduction (%) associated with demonstration and replication projects			-	-	N/A	2%	1
Outcome: New patents issued			-	2	0	3	1
Outcome: Replications from demonstration projects			-	-	0	1	1
Outcome: Total # of Federal funds leveraged			-	\$2M	\$2.6M	\$5M	1
Output: Participants funded by the program			10	18	26	-	1
Output: Projects completed (studies/demonstrations/product development)			-	1	3	3	1
Output: Projects funded by DOE with NYSERDA cost share			1	3	5	-	1
Output: Projects started (studies/demonstrations/product development)			3	7	19	15	1
Output: Participants funded by the program			-	-	9	3	2
Output: Projects completed (studies/demonstrations/product development)			-	-	0	1	2
Output: Projects started (studies/demonstrations/product development)			-	1	0	4	2



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Long Duration Energy Storage</b>			
Budget Expenditures (\$)	5,276,678	8,158,648	155%
Leveraged Funds (\$)	2,650,000	857,527,051	32360%

**Summary of Performance and Future Plans**

NYSERDA launched Program Opportunity Notice (PON) 5984 in May 2025 the funding supported innovative and under-utilized advanced, next-generation battery (all durations) and long duration energy storage solutions. The PON awarded 16 proposals for a total funding \$14.85M. All awards are expected to be contracted by Q2 2026. All funding has been committed under this program and expenditures are as projected. Follow-on investment (leveraged funds) now being reported, driving the increase in performance to plan. The forecast of impacts will be adjusted to account for these investments during the next CIP filing. The performance of leveraged funding is attributed to a significant investment by a company involved in the Long Duration Energy Storage initiative.

## Activities Summary

Activity

Activity #

Long Duration Energy Storage Solicitation targeting LDES developers, OEMs, suppliers, technology innovators, and product developers to invest in the best product development, pilot, and demonstration projects for LDES solutions of 10 to 100+ hours.

1

### ***Milestones Summary***

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue awards from LDES Solicitation	2023	PON 5779 was released in Q2 2024 and awarded the remaining funds of Long Duration Energy Storage to 9 proposals.	Complete	2024	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of test sites for new technologies	-	-	-	3	3	-	1
Outcome: Products commercialized	-	-	-	-	0	1	1
Outcome: Replications from demonstration projects	-	-	-	-	1	2	1
Outcome: Revenue (\$M) resulting from products developed and demonstrations deployed	-	-	-	-	0	\$15M	1
Output: Participants funded by the program	-	1	2	-	6	-	1
Output: Projects completed (studies/demonstrations/product development)	-	-	-	-	0	2	1
Output: Projects started (studies/demonstrations/product development)	-	1	2	-	6	-	1

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Dollars Committed								Start		End					
Dollars Expended								Start	[Solid Black Bar]				End		

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Utility Thermal Network Technical Support</b>			
Budget Expenditures (\$)	955,516	540,375	57%

Summary of Performance and Future Plans

NYSERDA contracted with a qualified consultant in 2023. This support contract provides the Department of Public Service (DPS) consultant support and technical assistance to review the active Utility Thermal Energy Network Pilot Projects. Support includes assisting DPS review pilot project filings, meeting with DPS Staff & Utilities, supporting technical conferences, reviewing public comments, and making recommendations to DPS Staff on implementation of the pilot projects.

These technical support services will help DPS Staff to carry out the provisions of the Utility Thermal Energy Network Job Act (UTENJA) (S.9422 / A.10493). The UTENJA directs the Public Service Commission (PSC) to develop a regulatory structure for utility thermal energy networks that scales affordable and accessible building electrification, protects customers, and balances the role of utilities with other market and public actors. The UTENJA also directed each of the seven largest utilities to propose 1 to 5 pilot projects to the PSC for approval.

### Activities Summary

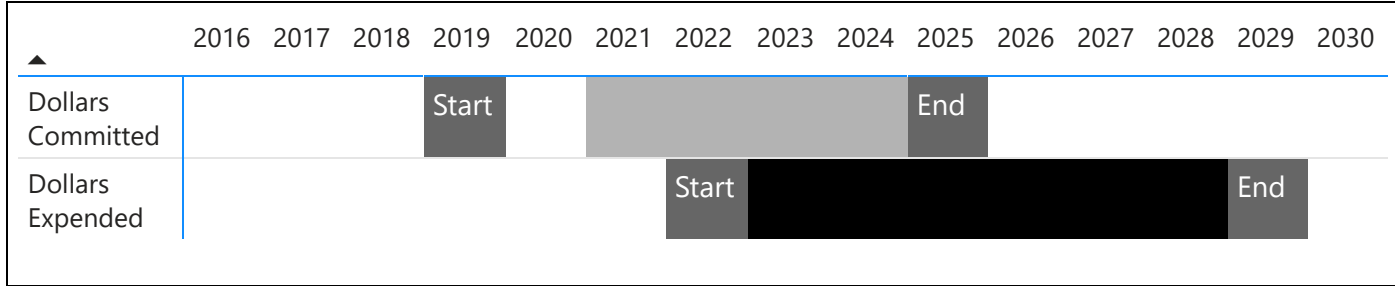
Activity	Activity #
<p>Procure the services of one or more consulting firms to support the Utility Thermal Network Act, including, but not limited to:</p> <ul style="list-style-type: none"><li>•Review and analysis of Utility Thermal Network Pilot Projects;</li><li>•Provide expertise and input on related to the implementation of the Act, including participation in any relevant working groups, as necessary</li></ul>	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Execute contract(s) with consulting firms.	2022	NYSERDA contracted with a qualified consultant in Feb 2023. This support contract provides DPS consultant support and technical assistance to review the Utility Thermal Energy Network Pilot Project Proposals originally filed on 1/9/23.	Complete	2023	1
Provide expertise and input on any Working Groups associated with the Utility Thermal Networks Pilot Projects initiated	2022	Support consultant contracted in Feb 2023 will provide DPS support reviewing pilot project filings, meeting with DPS Staff & Utilities, reviewing public comments, and making recommendations to DPS Staff to support the implementation of the pilot projects.	Complete	2023	1
Provide expertise and input on any Working Groups associated with the Utility Thermal Networks Pilot Projects initiated	2023	Consultant is participating in all working groups associated with Utility pilots.	Complete	2023	1
Provide expertise and input on any Working Groups associated with the Utility Thermal Networks Pilot Projects initiated	2024	The technical consultant selected to support the Department of Public Service with evaluation of Utility Thermal Energy Networks has provided ongoing expertise and input, including participation in a series of Technical Conferences and meetings with Utilities. This remains ongoing with meetings planned throughout 2026, as Utility pilot projects continue to be developed.	Delayed		1
Provide expertise and input on any Working Groups associated with the Utility Thermal Networks Pilot Projects initiated	2025	The technical consultant selected to support the Department of Public Service with evaluation of Utility Thermal Energy Networks has provided ongoing expertise and input, including participation in a series of Technical Conferences and meetings with Utilities. This remains ongoing with support planned throughout 2026, as Utility pilot projects continue to be developed.	Complete	2025	1
Support technical review of Utility Thermal Network Pilot Projects and identify any areas of concerns or further development needed	2023	NYSERDA contracted with a qualified consultant in Feb 2023. This support contract provides DPS consultant support and technical assistance to review the Utility Thermal Energy Network Pilot Project Proposals originally filed on 1/9/23.	Complete	2023	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Output: Utility-Scale Thermal Network Pilots commenced in New York.	-	7-14	-	-	10	-	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Future Grid Performance Challenge</b>			
Budget Expenditures (\$)	25,308,795	26,885,657	106%
Leveraged Funds (\$)	29,411,424	144,127,110	490%

**Summary of Performance and Future Plans**

NYSERDA deployed all of the remaining funding through Program Opportunity Notice 5848, Grid Enhancing Technologies, with awards made to 14 projects in 4Q 2025. This initiative continues to coordinate closely with the Advanced Technologies Working Group and Joint Utilities to focus on technologies that will provide input into the coordinated grid planning process. Utilities have partnered with each awardee and demonstrates their embrace of new technologies. The 14 new contracts will start to expend funds in the middle of 2026 and proceed through the next 3 years.

### Activities Summary

Activity	Activity #
<p>Launch program solicitations targeting solution providers, in partnership with NYS utilities, to deliver key gap-bridging technologies. Program solicitations will be targeted to:</p> <ul style="list-style-type: none"><li>• Identify performance gaps and barriers between the present state of the electric power grid and that which is required to support New York State’s climate goals.</li><li>• Develop Performance Challenge solicitations that specifically target identified performance gaps.</li><li>• Competitively select product development, pilot, and demonstration projects that validate innovative technologies to bridge performance gaps.</li><li>• Coordinate with New York State utilities, NYISO, the Department of Public Service and other key stakeholders to standardize technology solutions for widespread application in the State</li></ul>	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Complete initial Performance Gap identification studies.	2021	Initial performance gap identification studies were completed in November 2022.	Complete	2022	1
Issue targeted Performance Gap solicitation.	2022	The targeted performance gap solicitation was issued in Q4 2022.	Complete	2022	1
Issue targeted Performance Gap solicitation.	2023	Awarded 11 projects from the 4th round of the Future Grid PON in 2023.	Complete	2023	1
Issue targeted Performance Gap solicitation.	2024	4 proposals were awarded for PON 4393 Round 5 in Q4 2024.	Complete	2024	1
Issue targeted Performance Gap solicitation.	2025	The findings from the Grid Performance Gap study were used as inputs to Program Opportunity Notice 5848, Grid Enhancing Technologies, that was released in April 2025. Proposals were received and awards made in late 2025.	Complete	2025	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Develop a methodology for calculating system benefits and ratepayer impact from deploying various Grid Enhancing Technologies (GETs)			-	-	2	3	1
Output: Critical and actionable performance gaps identified	2	8	12	-	11	-	1
Output: Number of investor-owned utilities distributed system implementation plans reviewed			-	6	4	-	1
Output: Participants funded by the program	2	16	34	52	52	77	1
Output: Projects completed (studies/demonstrations/product development)			2	5	12	8	1
Output: Projects started (studies/demonstrations/product development)			4	6	44	8	1

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Dollars Committed								Start		End					
Dollars Expended								Start							End

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Grid ClimateTech Ready Capital</b>			
Budget Expenditures (\$)	3,124,013	5,566,788	178%
Leveraged Funds (\$)	5,400,000	29,338,990	543%

Summary of Performance and Future Plans

NYSERDA committed remaining funds through Program Opportunity Notice 5963 released in 2Q 2025 with \$1 million to 2 awardees. Expenditures are expected to start in mid-2026. This effort was directed towards standardizing operational gaps on interoperability within devices on the customer and utility side for EV managed charging programs.

### Activities Summary

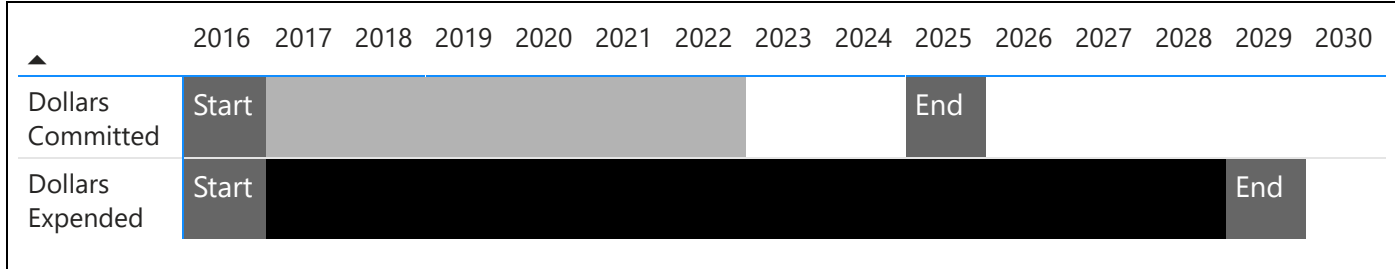
Activity	Activity #
Launch program solicitations targeting solution providers (DER project developers, large-scale renewable resource project developers, medium-to-large original equipment manufacturers, startup companies introducing innovative products and services, and grid edge and grid flexibility technology companies) in partnership with collaborators (investor-owned utilities, New York Independent System Operator, DOE National Labs, standards setting committees, universities, climate equity or environmental experts, and disadvantaged community groups).	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Launch competitive solicitation	2023	PON 5354 Round 1 issued, awarded 6 proposals in 2023	Complete	2023	1
Launch competitive solicitation	2024	PON 5354 Round 2 issued, awarded 9 proposals in 2024	Complete	2024	1
Launch competitive solicitation	2025	Program Opportunity Notice 5963 was released in collaboration with Avangrid in early 2025. Awards were made in Q4 of 2025.	Complete	2025	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Increase in number of investor-owned utility-administered EV managed charging programs that have enrolled customers			-	-	0	-	1
Output: Participants funded by the program	-	-	1	5	19	7	1
Output: Projects completed (studies/demonstrations/product development)	-	-	-	-	2	1	1
Output: Projects started (studies/demonstrations/product development)	-	-	1	3	19	4	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>High Performing Electric Grid</b>			
Budget Expenditures (\$)	50,856,102	46,924,814	92%
Leveraged Funds (\$)	204,193,397	159,766,147	78%

**Summary of Performance and Future Plans**

High Performing Grid has deployed all of its remaining funding in 2025 through Program Opportunity Notice 5848 by combining funds with Future Grid. The awardees were selected in 4Q 2025 with expenditures planned to start in mid-2026 and continue for 3 years.

2025 continued to build a pipeline of analysis at AGILE Lab with 4 projects kicking off, working with advanced Original Equipment Manufacturers, the New York Independent System Operator, and investor owned utilities focusing on identifying and testing solutions for a high inverter-based future. These 4 projects will improve the modeling capabilities of the lab and in compliance with reliability requirements.

### Activities Summary

Activity	Activity #
<p>Launch program solicitations targeting technology solution providers to support product development and demonstration of technologies that accelerate realization of an advanced, digitally enhanced, and dynamically managed "high-performing" electric grid. Program solicitations will be targeted to:</p> <ul style="list-style-type: none"><li>• Invest across the full continuum of the innovation chain including research, proof of concept, product engineering, prototyping, modeling/simulation, and field testing.</li><li>• Develop tools that can be used by multiple market participants to accelerate the build out of a modern and dynamically operated electric grid.</li><li>• Leverage expertise residing across all innovation programs and apply rigor to all decisions on project funding at all stages in the continuum emphasizing acceleration of technological readiness and commercialization.</li><li>• Involve stakeholders to the fullest extent practical in the planning and execution of the investment plan. This includes executing efficient mechanisms to sharing learnings with utilities and other critical stakeholders for the purpose of driving adoption.</li><li>• Coordinate with Department of Public Service to prioritize grid needs and support research &amp; development and initial deployments of new grid technologies, business models, and functionalities</li></ul>	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue awards following release of broad competitive solicitation.	2021	Awards were made in Q1 2021.	Complete	2021	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Advanced control/integration of DER in electric grid (ability to monitor and control DER in system, ability to take action on DER resources in system)	1	-	2	-	8	-	1
Outcome: Application of advanced grid-management tools to predict failures, prevent disruptions, and support self-healing	1	2	8	16	5	27	1
Outcome: Application of power flow optimization systems (combination of computer systems and hardware to dynamically manage power flow)	1	-	2	3	4	-	1
Outcome: Tests and pilots of technologies/systems that enable system condition prediction and restoration	1	2	3	4	4	5	1
Output: Participants funded by the program	51	64	76	92	122	99	1
Output: Projects completed (studies/demonstrations/product development)	48	67	69	73	100	77	1
Output: Projects started (studies/demonstrations/product development)	100	109	114	119	118	-	1

BAB Initiative	Plan	Progress	% To Plan
<b>Power Electronics Manufacturing Consortium</b>			
Budget Expenditures (\$)	16,694,490	16,694,490	100%
Leveraged Funds (\$)	1,200,000,000	1,200,000,000	100%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Healthy Homes Feasibility Study</b>			
Budget Expenditures (\$)	179,282	179,282	100%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Heat Pumps Phase 2 (2020)</b>			
Budget Expenditures (\$)	66,346,949	62,487,416	94%
Electricity Savings, Annual (MWh)		0	
Leveraged Funds (\$)	0	0	
Natural Gas Savings, Annual (MMBtu)		0	
Other Fuel Savings, Annual (MMBtu)		0	
Total Energy Savings, Annual (MMBtu eq.)		0	



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ LMI Multifamily</b>			
Budget Expenditures (\$)	87,488,496	107,891,504	123%
Electricity Savings, Annual (MWh)	33,133	36,095	109%
Leveraged Funds (\$)	120,753,691	114,682,672	95%
Natural Gas Savings, Annual (MMBtu)	562,919	589,163	105%
Other Fuel Savings, Annual (MMBtu)	104,159	126,511	121%
Renewable Energy Capacity (MW)	1	4	400%
Renewable Energy Generation, Annual (MWh)	1,079	3,922	363%
Total Energy Savings, Annual (MMBtu eq.)	748,389	705,358	94%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ LMI Outreach &amp; Engagement</b>			
Budget Expenditures (\$)	7,015,918	5,302,302	76%
Leveraged Funds (\$)	0	0	

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>LMI Pilots</b>			
Budget Expenditures (\$)	852,665	852,665	100%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Low Rise New Construction Transition - LMI</b>			
Budget Expenditures (\$)	7,728,133	7,728,305	100%
Electricity Savings, Annual (MWh)	7,988	8,011	100%
Leveraged Funds (\$)	20,438,352	21,520,498	105%
Natural Gas Savings, Annual (MMBtu)	78,345	85,379	109%
Other Fuel Savings, Annual (MMBtu)	1,740	1,215	70%
Total Energy Savings, Annual (MMBtu eq.)	107,341	113,928	106%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Multifamily New Construction Transition - LMI</b>			
Budget Expenditures (\$)	7,340,693	7,306,824	100%
Electricity Savings, Annual (MWh)	9,284	8,829	95%
Leveraged Funds (\$)	32,158,759	31,067,972	97%
Natural Gas Savings, Annual (MMBtu)	78,161	77,977	100%
Total Energy Savings, Annual (MMBtu eq.)	109,839	108,102	98%



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ New Construction - LMI</b>			
Budget Expenditures (\$)	78,972,813	81,125,057	103%
Electricity Savings, Annual (MWh)	18,512	16,637	90%
Leveraged Funds (\$)	48,470,380	46,697,012	96%
Natural Gas Savings, Annual (MMBtu)	165,424	145,438	88%
Other Fuel Savings, Annual (MMBtu)	2,915	3,562	122%
Total Energy Savings, Annual (MMBtu eq.)	231,502	205,764	89%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ NYS Healthy Homes Value Based Payment Pilot</b>			
Budget Expenditures (\$)	4,255,016	4,022,400	95%
Electricity Savings, Annual (MWh)	179	57	32%
Leveraged Funds (\$)	0	2,500	
Natural Gas Savings, Annual (MMBtu)	4,678	606	13%
Other Fuel Savings, Annual (MMBtu)	1,064	371	35%
Total Energy Savings, Annual (MMBtu eq.)	6,354	1,171	18%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Regional Clean Energy Hubs</b>			
Budget Expenditures (\$)	35,155,803	22,550,712	64%

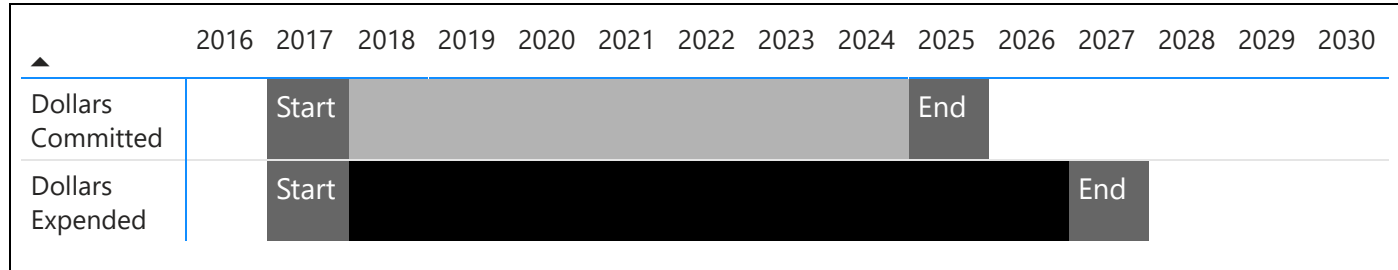
Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ RetrofitNY - LMI</b>			
Budget Expenditures (\$)	8,005,928	8,033,183	100%
Electricity Savings, Annual (MWh)	132	132	100%
Leveraged Funds (\$)	14,457,724	14,238,910	98%
Natural Gas Savings, Annual (MMBtu)	2,910	2,910	100%
Other Fuel Savings, Annual (MMBtu)	42	0	0%
Total Energy Savings, Annual (MMBtu eq.)	3,400	3,358	99%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>REVitalize</b>			
Budget Expenditures (\$)	291,424	291,424	100%
Leveraged Funds (\$)	4,629,714	4,629,714	100%
Natural Gas Savings, Annual (MMBtu)	9,000	9,000	100%
Renewable Energy Capacity (MW)		0	
Renewable Energy Generation, Annual (MWh)		0	
Total Energy Savings, Annual (MMBtu eq.)	9,000	9,000	100%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Single Family - Low Income</b>			
Budget Expenditures (\$)	281,855,709	281,838,160	100%
Electricity Savings, Annual (MWh)	23,395	22,505	96%
Leveraged Funds (\$)	0	1,497,012	
Natural Gas Savings, Annual (MMBtu)	661,877	632,935	96%
Other Fuel Savings, Annual (MMBtu)	292,283	287,453	98%
Total Energy Savings, Annual (MMBtu eq.)	1,023,328	986,280	96%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Single Family - Moderate Income</b>			
Budget Expenditures (\$)	102,716,289	102,640,828	100%
Electricity Savings, Annual (MWh)	4,985	5,068	102%
Leveraged Funds (\$)	96,176,779	97,504,425	101%
Natural Gas Savings, Annual (MMBtu)	246,002	247,362	101%
Other Fuel Savings, Annual (MMBtu)	163,454	167,182	102%
Total Energy Savings, Annual (MMBtu eq.)	338,362	343,719	102%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Solar for All</b>			
Budget Expenditures (\$)	8,189,120	7,511,556	92%
Leveraged Funds (\$)	0	0	



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Energy Management Technology</b>			
Budget Expenditures (\$)	10,101,438	8,317,587	82%
Electricity Savings, Annual (MWh)	61,198	27,510	45%
Leveraged Funds (\$)	70,450,857	75,558,579	107%
Natural Gas Savings, Annual (MMBtu)	201,005	85,054	42%
Other Fuel Savings, Annual (MMBtu)	68,009	17,489	26%
Total Energy Savings, Annual (MMBtu eq.)	477,821	196,408	41%

Summary of Performance and Future Plans

The Multifamily sector component of the broader Real Time Energy Management (RTEM) program closed to new project applications in 2022. The focus of the initiative is presently on managing the pipeline of projects to successful completion. A third evaluation study was completed in Q3 2025 for Commercial/Industrial and Multifamily direct and indirect benefits. Multifamily realization rates were low for both electric and natural gas but quantified indirect benefits tracked close to program estimates for electricity and higher for natural gas. Energy projections for indirect savings were updated in a November 2025 CIP filing to correct an error discovered in the underlying forecast method; energy savings projections through 2030 reduced by 0.9 TBtu-e as a result. A first study of multifamily RTEM identified low realization rates for electricity and natural gas: 9% and 3%, respectively. Through 2025, completed evaluations undertaken to estimate the indirect impacts of the initiative (Commercial/Industrial/Multifamily) in the market have identified .6 TBtu of total energy savings (MMBtu-e).

## Activities Summary

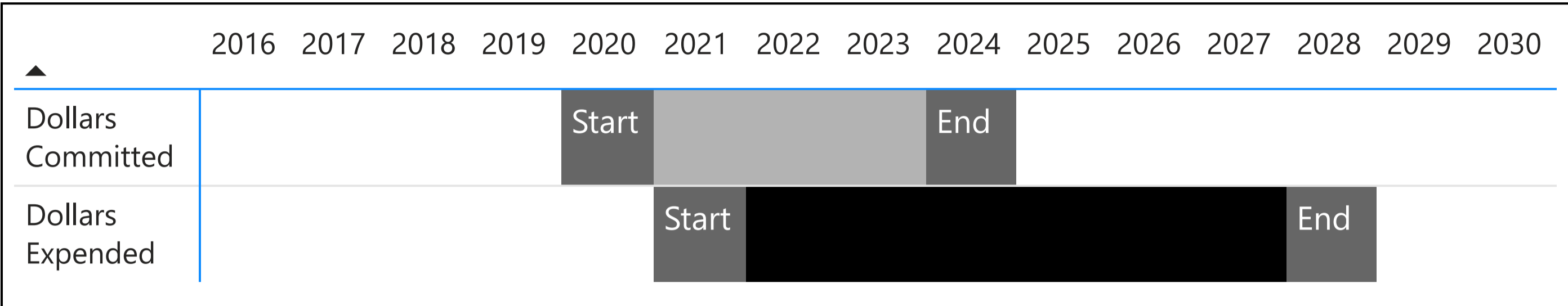
Activity	Activity #
<p>Stimulate the market to invest in EM for multifamily buildings and enhance the success rate of these installations.</p> <ul style="list-style-type: none"> <li>• Create a qualified vendor list for vendors that have capabilities to integrate multiple building systems onto RTEM platform.</li> <li>• Provide open enrollment incentives for EM systems and services for qualified vendors with eligible RTEM projects.</li> <li>• Provide independent expert EM advisory services and training to building owners, management firms, and operators</li> </ul>	1
<p>Apply the knowledge and experience gained from initial installations to replicate success and build market confidence in EM investment for all participants.</p> <ul style="list-style-type: none"> <li>• Publish case studies, technical guidance and datasets that demonstrate effectiveness of EM systems and services</li> <li>• Incentivize pilot and demonstration projects that provide greater insight into EM, leveraging these projects to publish case studies</li> <li>• Establish data warehousing to collect project and system level EM performance metrics.</li> <li>• Analyze trends in identified energy efficiency opportunities, persistence, and common practices to share with the marketplace to spur replication.</li> </ul>	2

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue revised open enrollment incentives for EM systems and services that support Multifamily market.	2021	NYSERDA issued revised incentive structures for Multifamily buildings in January 2021, and after committing all funding, recently closed the sector to new applications in June 2022.	Complete	2021	1
NYSERDA makes publicly available anonymized RTEM project data to support market confidence in performance of RTEM systems and services.	2022	NYSERDA sponsored the "RTEM Data Hackathon" on July 2022, a public competition with over 400 participants from 27 countries, which gave \$55,000 in awards for the development and demonstration of novel & unique EM strategies using real-time data.	Complete	2022	2
NYSERDA releases case studies and publicly available aggregated data sets of RTEM projects documenting energy savings achieved in Multifamily buildings, proving out cost-effectiveness.	2024	NYSERDA published the Multifamily Condo and Co-op Energy Check-Up webpage, including Multifamily specific energy management technology guidance and case studies from successful projects.	Complete	2024	2

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Large multifamily portfolio owners deploy RTEM across four or more of their buildings	-	-	3	5	13	10	1
Output: Number of multifamily buildings participating in incentive program	300	400	500	-	371	-	1
Output: Number of qualified providers on NYSERDA list serving Multifamily sector	20	30	-	-	30	-	1
Outcome: Awareness of EM among building owners/managers	-	-	40%	50%	57%	-	2
Outcome: Persistence of EM service contracts (i.e., how many customers extend their subscription with an RTEM provider beyond 5 years)	-	-	-	40%	65%	60%	2
Outcome: Size of market as indicated by vendor sales	-	\$40M	-	-	N/A	-	2
Output: Number of comprehensive building specific data sets submitted to NYSERDA	-	50	100	-	650	-	2
Output: Number of pilots complete	-	-	5	-	12	-	2



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Market Challenges</b>			
Budget Expenditures (\$)	7,477,145	8,194,858	110%
Electricity Savings, Annual (MWh)	6,556	0	0%
Leveraged Funds (\$)	15,000,000	0	0%
Natural Gas Savings, Annual (MMBtu)	9,920	0	0%
Other Fuel Savings, Annual (MMBtu)	2,480	0	0%
Total Energy Savings, Annual (MMBtu eq.)	34,769	0	0%

Summary of Performance and Future Plans

The Empire Building Challenge announced 10 new demonstrations in the multifamily sector in 2025, bringing the total number of multifamily projects to 13. The majority of these projects are affordable housing, and all are currently in different stages of design and implementation. Two projects are nearly complete and should begin M&V in Q2 2026. Savings will continue to be reported as measures are installed per the phased implementation plans of these large demonstrations. An evaluation is anticipated to begin by Q2 2026. Future quarterly reports will summarize findings.

## Activities Summary

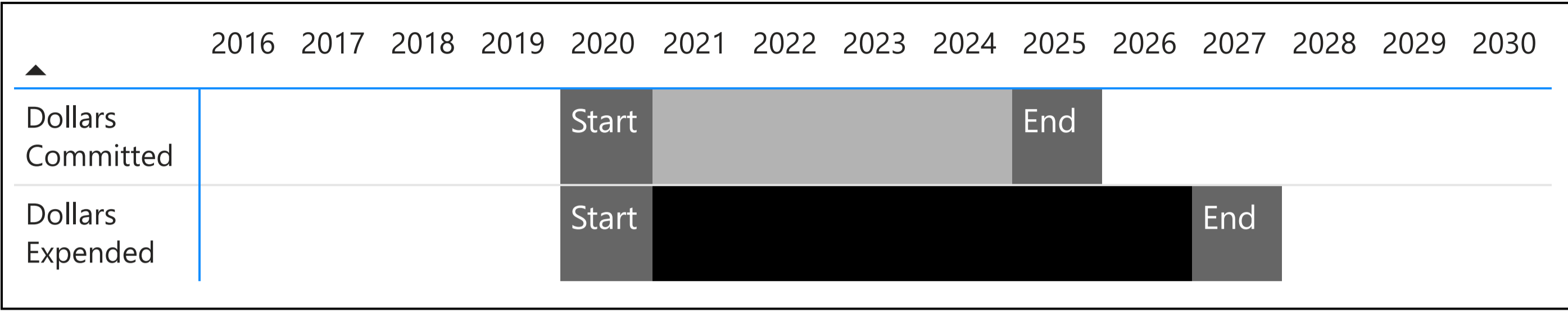
Activity	Activity #
<ul style="list-style-type: none"> <li>• Conduct global scans to identify and catalog low carbon technologies that can support low carbon retrofits for big, tall buildings</li> <li>• Convene real estate portfolio owners to develop a shared definition of “carbon neutral” for big, tall buildings, as well as low rise, and mid-rise multifamily buildings.</li> <li>• Compile and publish market data that provides original equipment manufacturers, energy-focused firms, and engineering companies better visibility on the needs and market potential for low carbon solutions for big, tall buildings.</li> <li>• Develop a pool of real estate portfolio owners partnering with NYSERDA towards the goal of achieving carbon neutral buildings.</li> <li>• Fund demonstration projects of low carbon retrofits in tall buildings, and multifamily buildings of varying sizes, through a competitive solicitation and leverage projects to share learnings with stakeholders.</li> </ul>	<p>1</p>

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity # ▲
Announce funding awards following the release of competitive solicitations to recruit new real estate partners.	2022	The second funding round for Empire Building Challenge was held in Q3-Q4 2022 and project awards were announced in September 2023.	Complete	2023	1
Announce funding awards following the release of competitive solicitations to recruit new real estate partners.	2023	Funding awards for the second round of EBC demonstrations was announced in Sept 2023.	Complete	2023	1
Announce funding awards following the release of competitive solicitations to recruit new real estate partners.	2025	Nearly \$28M was awarded to 10 new multifamily projects, and those awards were announced in September 2025.	Complete	2025	1
Announce the participating real estate owners and their public commitments from round 1 of solicitation.	2021	The solicitation to select the first cohort of real estate partners was launched in Q3 2020 and a public announcement of the first cohort of real estate partners was made in Q1 2021.	Complete	2021	1
Announce the partnering of real estate owners and their public commitments from round 2 of solicitation.	2022	All real estate partners have been publicly recognized for being selected as Empire Building Challenge (EBC) Partners. This includes a public announcement on each partner's commitment to carbon neutrality, at their participating building(s).	Complete	2022	1
Announce the partnering of real estate owners and their public commitments from round 3 of solicitation.	2024	The third cohort of Empire Building Challenge real estate partners was recruited into the program, and the public announcement was made in May 2024.	Complete	2024	1

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Multifamily replication projects within portfolios as measured by total household units served	-	-	500	2000	N/A	2750	1
Output: Number of portfolio owners in multifamily sector with a public commitment to achieving carbon neutral buildings by 2035	10	16	23	-	17	-	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Multifamily Low Carbon Pathways</b>			
Budget Expenditures (\$)	5,498,156	4,726,875	86%
Electricity Savings, Annual (MWh)	0	327	
Leveraged Funds (\$)	20,529,355	13,710,902	67%
Natural Gas Savings, Annual (MMBtu)	28,975	22,819	79%
Other Fuel Savings, Annual (MMBtu)	3,219	8,350	259%
Total Energy Savings, Annual (MMBtu eq.)	28,335	27,881	98%

▲ Summary of Performance and Future Plans

The program finished strong this calendar year, committing all the available CEF funds. Energy metrics are generally performing well, with 79% of plan on natural gas and 98% on electricity, but far exceeding plans for other fuel savings. The program saw a nearly 400% increase in participation this calendar year, mostly attributed to several attic insulation only projects in New York City. Expenditures and leveraged funds are lagging behind due to delays in construction of other projects as well as financial constraints and delays. It is expected that these expenditures and leveraged funds will catch back up in 2026 as NYSERDA expects these attic insulation projects to be relatively quick turnarounds and working with several providers on closing out some of the earlier projects. The Program closed for new applications on October 31, 2025 and all construction will be completed by October 31, 2027. Planned evaluations will commence thereafter.

## Activities Summary

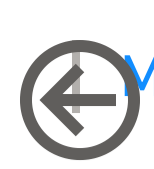
Activity	Activity #
<ul style="list-style-type: none"> <li>• Develop technical and financial playbooks with multifamily building owners to provide implementation pathways for prevalent multifamily building typologies to achieve low carbon performance over time and that leverage common capital planning milestones. Participants engaged include large portfolio owners and property management firms, A&amp;E firms, and energy service providers.</li> </ul>	1
<ul style="list-style-type: none"> <li>• Fund demonstrations of high-performance and low carbon solutions (e.g., electrification of heating or hot water, advanced envelope solutions, integrated HVAC solutions, etc.) to develop early proof points to demonstrate the feasibility of implementing these solutions in prevalent multifamily building typologies.</li> <li>• Gather data and insights from projects to help build the business case for replicating these solutions within and across building portfolios. Participants engaged include large portfolio owners and property management firms, A&amp;E firms, energy service providers, and utilities</li> </ul>	2
<p>Implement a pilot program related to non-energy benefits (NEBs) that have potential to increase adoption of energy efficiency, electrification and other low carbon solutions. Pilot projects will help building decision-makers more confidently consider benefits beyond utility bill and operational savings.</p> <ul style="list-style-type: none"> <li>• Initially conduct research to review existing literature studying NEBs and engage with multifamily stakeholders (e.g., owners, managers, building operations, service providers, brokers) to determine whether and which NEBs have the ability to impact capital improvement decision-making to support the adoption of carbon-reducing technologies</li> <li>• Validate the results from market research with experts and market participants to assess the impacts of NEBs and determine if there is a viable path to monetization. If this assessment is positive, evaluate NEBs as part of case studies for low carbon demonstrations.</li> </ul> <p>Participants engaged include large portfolio owners and property management firms, A&amp;E firms and energy service providers.</p>	3

## Milestones Summary

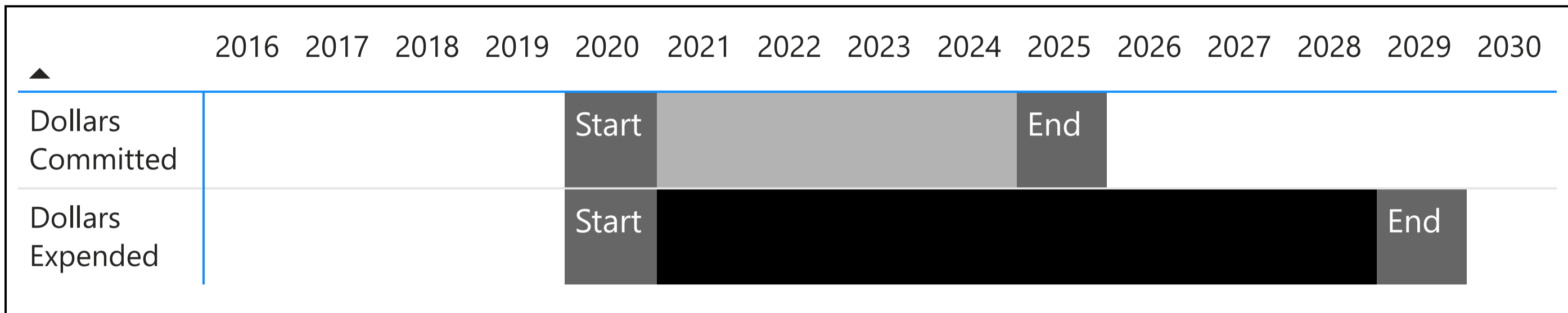
Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Identify market need for and create technical assistance tools and resources (e.g., comprehensive cost-benefit analysis frameworks, sample bid documents, 'starter' energy models, standard specifications).	2022	Program closed to new applications on October 31, 2025. Funding has been committed for all projects and are currently working their way through scope development and construction. All projects will complete construction by October 31, 2027 and will be paid by December 31 2027.	Delayed		1
Update playbooks based on market feedback on additional topics needed, such as hybrid approaches to electrification and resilience considerations.	2023	Funding for all projects have been committed. Projects are in construction and are all on-schedule to finish construction by mid-2027 and will be paid all incentives by the end of 2027.	Delayed		1
Publish case studies with owners for first cohort of low carbon demonstration projects.	2022	A case study for the International Tailoring Company Building was completed in 2023, including a written and video component. Development of further case studies will be determined as construction is completed for future projects.	Complete	2023	2
Develop preliminary method of collecting information from multifamily stakeholders on the value of non-energy benefits and their connection with low carbon retrofits.	2021	Finished implementing a resident survey that is being utilized to collect information from multifamily stakeholders on the value of non-energy benefits and their connection with low carbon retrofits.	Complete	2022	3
Develop preliminary method of collecting information from multifamily stakeholders on the value of non-energy benefits and their connection with low carbon retrofits.	2022	Finished implementing a resident survey that is being utilized to collect information from multifamily stakeholders on the value of non-energy benefits and their connection with low carbon retrofits.	Complete	2022	3

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Output: Publish low carbon playbooks for a total of five prevalent multifamily building typologies	5	-	-	-	5	-	1
Outcome: Number of multifamily buildings with awareness of low carbon implementation pathways and non-energy benefits of high-performance technologies	-	-	-	-	634 buildings	19,002 (This target number is subject to change with more accurate population data.)	2
Outcome: Number of multifamily dwelling units adopting high-performance retrofits	-	-	-	-	10,953	3,040 (This target number is subject to change with more accurate population data.)	2
Output: Number of low carbon technology demonstrations in units	96	1,141	3,143	4,932	11,452	7,403	2



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Multifamily Market Rate Transition</b>			
Budget Expenditures (\$)	156,214	156,214	100%
Leveraged Funds (\$)	70,547	70,547	100%
Natural Gas Savings, Annual (MMBtu)	829	829	100%
Total Energy Savings, Annual (MMBtu eq.)	829	829	100%



Summary of Performance and Future Plans

This initiative finished 2025 in good standing with respect to both budget and energy benefits. All funds were committed for the end of the CEF funding period. NYSERDA continued to see strong interest and participation from the multifamily market.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Technical Services</b>			
Budget Expenditures (\$)	19,720,955	20,676,300	105%
Electricity Savings, Annual (MWh)	26,228	40,382	154%
Leveraged Funds (\$)	56,297,483	82,887,583	147%
Natural Gas Savings, Annual (MMBtu)	702,103	1,646,174	234%
Other Fuel Savings, Annual (MMBtu)	194,384	338,443	174%
Renewable Energy Capacity (MW)	5	8	160%
Renewable Energy Generation, Annual (MWh)	4,699	7,945	169%
Total Energy Savings, Annual (MMBtu eq.)	911,530	1,689,734	185%

## Activities Summary

Activity	Activity #
Continue providing building and portfolio-level assessments of low-carbon solutions to drive clean energy adoption through its successful FlexTech Program. Participants engaged include multifamily building owners and property management firms, A&E firms and energy service providers.	1

There are currently no milestones to report.

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Maintain or (best case) increase the rate at which clean energy technologies are adopted by non-participants	-	30%	30%	30%	N/A	30%	1
Outcome: maintain or (best case) increase the rate at which clean energy technologies are adopted by participants	-	65%	65%	65%	N/A	65%	1

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
▲ Dollars Committed						Start				End					
Dollars Expended						Start					End				

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input checked="" type="checkbox"/> <b>CarbonTech Development</b>			
Budget Expenditures (\$)	4,837,499	4,891,154	101%
Leveraged Funds (\$)	15,462,600	1,476,667	10%

▲ Summary of Performance and Future Plans

Carbontech Development executed Round 3 and awarded \$2.7M to 11 awardees in 2025. Additional cost share of \$2.7M will be obtained as part of Round 4 award in 2026. One new product was commercialized. As of 2025, majority of expenditure target has been met in Rounds 1, 2, and 3 awards, with cost share on track to be met.

## Activities Summary

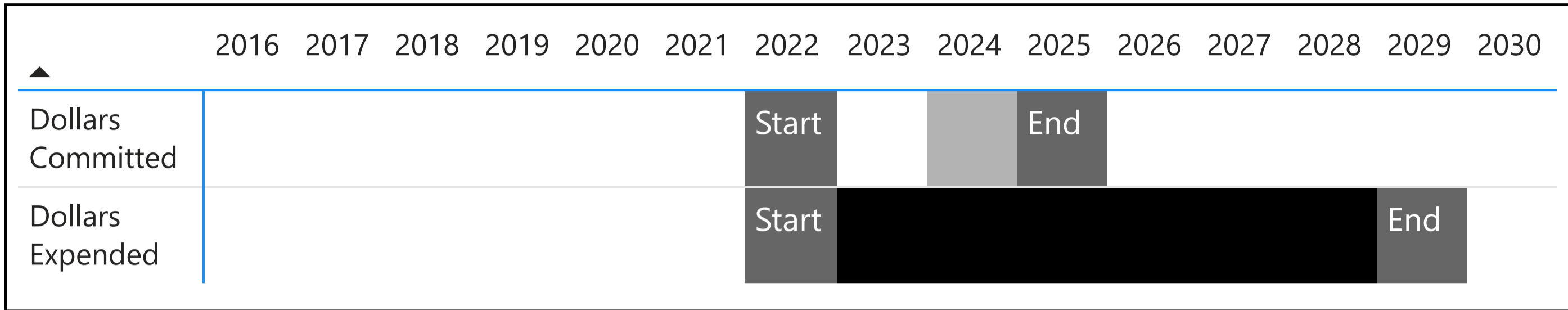
Activity	Activity #
NYSERDA will launch a grant funding and ecosystem building program focused on carbontech and negative emission technology. These activities will serve researchers and early-stage companies.	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
At least \$2.2M in external funding opportunities awarded by the program administrator.	2022	The Carbontech Development Initiative announced the opening of its inaugural solicitation round on 11.22.22 with applications due on 1.13.23 - awards of \$2.75M were made to the cohort.	Complete	2023	1
At least \$2.5M in cost share due from the program administrator.	2021	The program administrator was selected in 2021 and collected in excess of \$2,500,000 during 2021.	Complete	2021	1
At least \$5.5M in cumulative cost share due from program administrator.	2023	At the end of 2025, \$1.5M of cost share has been submitted for the program. In 2026, \$2.7M of cost share will be submitted as part of the Round 4 solicitation, and additional cost share by the end of the program in 2027 will complete the milestone.	Delayed		1
At least \$6.5M in cumulative External Funding Opportunities awarded by the program administrator.	2024	The Round 3 solicitation in 2025 awarded \$2.2M in External Funding Opportunities, bringing total to \$7.7M in cumulative external funding and completing the required commitments and expenditures for the program.	Delayed		1
At least 10 corporate partners secured as partners of the Carbontech Development Initiative.	2022	The Carbontech Development Initiative announced the opening of its inaugural solicitation round on 11.22.22 with applications due on 1.13.23 - awards of \$2.75M were made to the cohort. Partners including Steering Committee, Summit and other activities exceed 10.	Complete	2023	1
Entrepreneurial fellowship and grant making programs achieve full financial sustainability.	2024	Programs have obtained \$7.5M of cost share to date, exceeding cost share target. Activate NY continues to pursue additional philanthropic, state, and federal funders and is planning to continue programming for new fellows in 2026. The Carbontech Development Initiative will contribute additional cost share of \$2.7M in 2026 funded by Columbia and external partners.	Delayed		1
Issue awards from competitive solicitation for program administrator.	2021	The competitive solicitation for Program Administrator launched on April 7, 2021 and awards were made in 2021.	Complete	2021	1

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Products commercialized	-	-	1	2	1	3	1
Output: Participants funded by the program	-	-	4	6	39	8	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Natural Carbon Solutions</b>			
Budget Expenditures (\$)	5,798,501	5,286,688	91%
Leveraged Funds (\$)	10,620,000	6,155,931	58%

Summary of Performance and Future Plans

As planned, all CEF funding for Natural Carbon Solutions was committed in 2025. Under round 2 of Program Opportunity Notice 5180, 8 of 14 Phase 1 projects were selected for Phase 2 (\$7,526,273). Expenditure rates recovered and met projected 2025 targets. Two awardees from Round 1 had significant delays and therefore expenditures for 2026 will be slower than anticipated. Two new products have been commercialized from Round 1. The 8 new contracts will begin demonstration projects for building efficiency and passive cooling for extreme heat in Q2 of 2026.

## Activities Summary

Activity	Activity #
NYSERDA will release a multi-round solicitation for an Innovation Challenge targeting demonstrations of technologies and business models that have compelling evidence for impact in New York State, with substantial follow-on investment potential, but have not yet been sufficiently demonstrated. Round 2 may be used to support scale up of existing projects or find and evaluate new projects.	1

### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
NYSERDA completes initial stakeholder engagement process to finalize scope of solicitations	2022	NYSERDA received responses to RFI in August of 2022, and the solicitation was issued on NYSEDA's website in Q4 of 2022.	Complete	2022	1
NYSERDA completes initial stakeholder engagement process to finalize scope of solicitations.	2022	NYSERDA received responses to RFI in August of 2022, and the solicitation was issued on NYSEDA's website in Q4 of 2022.	Complete	2022	1
NYSERDA completes midpoint stakeholder engagement process reviewing project portfolio, integrating input for project down-selection and next round of funding.	2023	In 2022, Natural Carbon Solutions released Round 1 of PON 5180, committing all available CEF funds (\$12.5M) across 8 projects. Contracted projects are in the process of evaluation for continuation of funding. Lessons learned have been applied to plans for Round 2 of the PON, anticipating approval by April 1, 2024, with the PON released in Q2 2024.	Complete	2023	1
NYSERDA Round 1 Innovation challenge awards (\$4.5M).	2022	Eight CEF and two RGGI awards were made in December 2022. A total of \$11.15M CEF funds and \$1.7M RGGI funds were awarded.	Complete	2022	1
NYSERDA Round 2 Innovation Challenge awards.	2025	Program Opportunity Notice 5180 Round 2 Innovation Challenge awarded four contracts in 2025.	Complete	2025	1

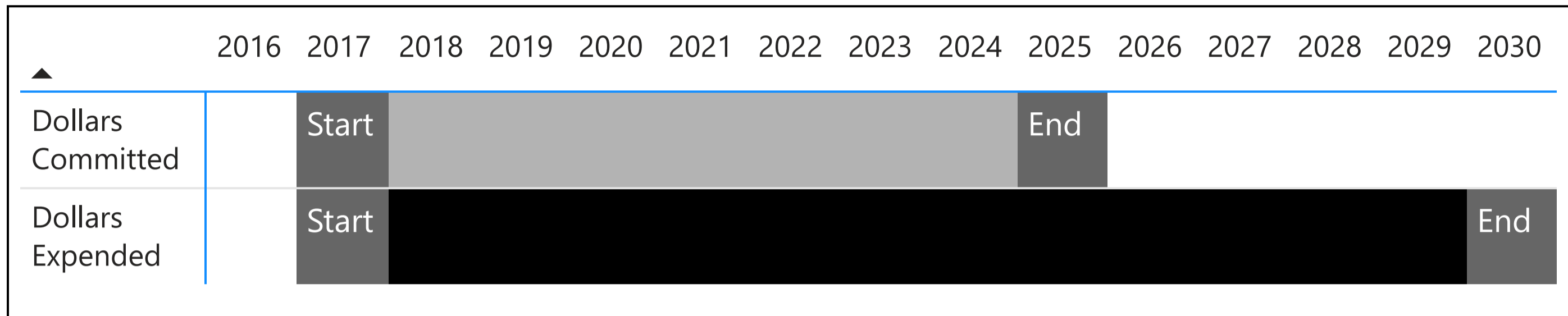
## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
▼							
Output: Projects started (studies/demonstrations/product development)	-	5	11	16	18	1	
Output: Projects completed (studies/demonstrations/product development)	-	-	1	8	5	1	
Output: Participants funded by the program	-	5	10	23	30	1	
Output: Participants engaged by the program	450	600	900	1200	1000	1	
Outcome: Replications from demonstration projects	-	-	-	0	5	1	
Outcome: Products commercialized	-	-	1	1	3	1	

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Commercial New Construction Transition</b>			
Budget Expenditures (\$)	11,211,782	11,631,196	104%
Electricity Savings, Annual (MWh)	30,295	35,357	117%
Leveraged Funds (\$)	17,574,517	19,469,224	111%
Natural Gas Savings, Annual (MMBtu)	94,225	139,804	148%
Other Fuel Savings, Annual (MMBtu)	197	197	100%
Total Energy Savings, Annual (MMBtu eq.)	176,796	243,442	138%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Low Rise New Construction Transition - Market Rate</b>			
Budget Expenditures (\$)	4,363,224	4,328,436	99%
Electricity Savings, Annual (MWh)	7,199	7,447	103%
Leveraged Funds (\$)	12,926,139	12,977,534	100%
Natural Gas Savings, Annual (MMBtu)	133,715	145,098	109%
Other Fuel Savings, Annual (MMBtu)	2,151	2,151	100%
Total Energy Savings, Annual (MMBtu eq.)	160,429	172,658	108%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Multifamily New Construction Transition - Market Rate</b>			
Budget Expenditures (\$)	1,614,346	1,528,860	95%
Electricity Savings, Annual (MWh)	1,358	1,184	87%
Leveraged Funds (\$)	3,146,394	2,561,960	81%
Natural Gas Savings, Annual (MMBtu)	12,710	11,707	92%
Total Energy Savings, Annual (MMBtu eq.)	17,345	15,745	91%



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ New Construction - Market Rate</b>			
Budget Expenditures (\$)	43,185,273	51,909,937	120%
Electricity Savings, Annual (MWh)	18,073	20,759	115%
Leveraged Funds (\$)	32,363,191	29,055,218	90%
Natural Gas Savings, Annual (MMBtu)	121,545	108,930	90%
Other Fuel Savings, Annual (MMBtu)	842	1,183	140%
Renewable Energy Generation, Annual (MWh)	3,240	3,300	102%
Total Energy Savings, Annual (MMBtu eq.)	184,051	180,059	98%

Summary of Performance and Future Plans

The initiative made strong progress for new commitments, expenditures, and energy savings for open programs and competitions. New competition rounds for both Building Cleaner Communities Competition and Buildings of Excellence launched and were awarded, with funding committed in 2025. The Buildings of Excellence Early Design Support program was closed in Q4 2025 with expenditures continuing to occur in 2026. The housing and commercial open enrollment programs are closed to new applications, but still have a robust pipeline of applications that have all been Encumbered. Higher interest rates continue to pose financing challenges for some projects, creating some uncertainty for future pipelines for both competitions. A new version of the single-family new construction offering focused on design, marketing, builder training, and general capacity building closed in 2025. All programs continue to work to prepare the market for an all-electric building code that may go into effect in 2026. Through 2025, completed evaluations undertaken to estimate the indirect impacts of the initiative in the market have identified .7 Tbtu of total energy savings (MMBtu-e).

## Activities Summary

Activity	Activity #
Provide technical assistance and financial incentives to overcome initial design challenges, costs and risk barriers related to building and renovating carbon neutral commercial and industrial buildings.	1
Provide incentives and technical support to building owners on a competitive basis, leveraging economic development opportunities, to spur carbon neutral projects that are aligned with Regional Economic Development Councils' Strategic Plan and State Priorities.	2
<ul style="list-style-type: none"> <li>• Build market capability and capacity for new construction and adaptive reuse of multifamily and single-family homes to achieve carbon neutral performance.</li> <li>• Offer project-specific targeted support for integrated and advanced design, innovative or smart technologies, as well as mentoring support.</li> </ul>	3
<ul style="list-style-type: none"> <li>• Host competition to promote and demonstrate carbon neutral buildings that are highly replicable, resilient, achieve superior performance, are cost-effective, and create great places to live or work.</li> <li>• Conduct performance analyses to assess actual building and equipment performance to create a data library on measure performance.</li> <li>• Develop case studies on successful projects to provide building performance validation and increase market demand for advanced clean energy buildings.</li> </ul>	4
<ul style="list-style-type: none"> <li>• Target single family homes and neighborhood developments through a competition to advance the adoption of carbon neutral homes and highlight the health benefits that are inherent in all-electric homes.</li> <li>• Support the market for carbon neutral single-family homes through activities that generate awareness of the benefits of these homes. This includes a media campaign, support for builder and developer self-marketing, showcasing carbon neutral homes for potential home buyers to experience, and continuing to support the design development and advancement of construction practices through training and resource development.</li> <li>• Conduct performance analyses and develop case studies on successful projects to provide building performance validation and increase market demand for carbon neutral homes.</li> </ul>	5
<ul style="list-style-type: none"> <li>• Support the writing, research and analysis for the Carbon Neutral Buildings Roadmap and other activities as determined by the Climate Action Council.</li> <li>• Support future roadmap activities and updates.</li> </ul>	6

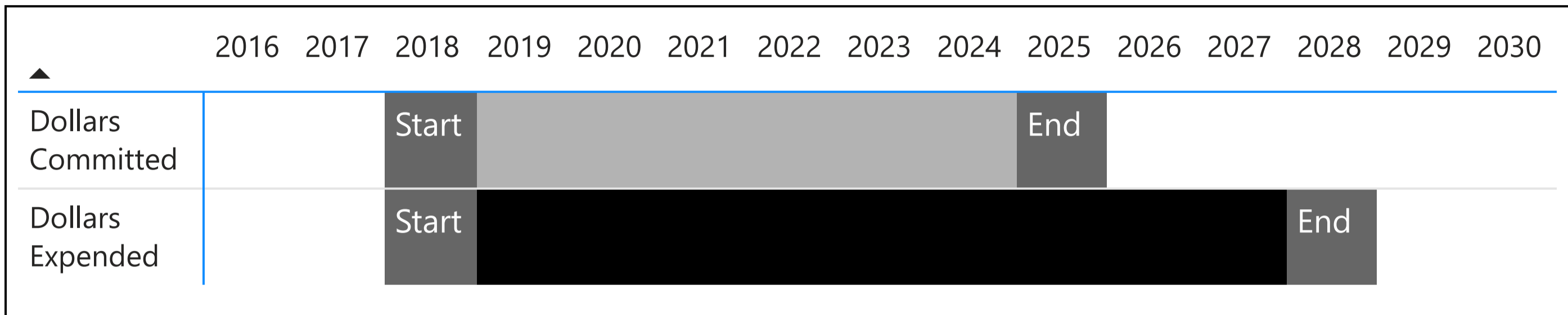
## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue Awards for the Carbon Neutral Community Economic Development program.	2021	In December 2021, NYSERDA announced the award of 19 projects for \$21 million through the Carbon Neutral Community Economic Development program.	Complete	2021	2
Issue Awards for the Carbon Neutral Community Economic Development program.	2022	In December 2022, NYSERDA announced the award of 10 projects for \$12 million through the Carbon Neutral Community Economic Development program.	Complete	2022	2
Issue Awards for the Carbon Neutral Community Economic Development program.	2023	In November 2023, NYSERDA announced the award of 10 projects for \$12.4 million through the Carbon Neutral Community Economic Development program.	Complete	2023	2
Issue Awards for the Carbon Neutral Community Economic Development program.	2024	Awards were announced in late Q4 2024.	Complete	2024	2
Issue Awards for the Carbon Neutral Community Economic Development program.	2025	On December 30, 2025, awards for the Building Cleaner Communities Competition Round 7 (2025 projects) were announced for thirteen projects, with a total award amount of \$17,853,040.	Complete	2025	2
Issue Awards for the Buildings of Excellence Competition	2022	The awards ceremony for the Buildings of Excellence Competition was held in Q1 2023.	Complete	2023	4
Issue Awards for the Buildings of Excellence Competition	2023	The awards ceremony for the Buildings of Excellence Competition was held in Q2 2024.	Complete	2024	4
Issue Awards for the Buildings of Excellence Competition	2024	On June 17, 2025, awards for the Buildings of Excellence Competition Round 5 (projects from 2024) were announced for ten projects, with a total award amount of \$6,980,078.	Complete	2025	4
		Buildings of Excellence Competition Round 6 was also announced on that date. The program closed in September 2025, with awards expected to be announced in September 2026.			
Issue Awards for the Buildings of Excellence Competition	2025	On June 17, 2025, awards for the Buildings of Excellence Competition Round 5 (projects from 2024) were announced for ten projects, with a total award amount of \$6,980, 078.	Complete	2025	4
		Buildings of Excellence Competition Round 6 was also announced on that date. The program closed in September 2025, with awards expected to be announced in September 2026.			
		The Buildings of Excellence Early Design Support program announces projects on a rolling basis. Twenty-seven projects were awarded in 2025, with a total award amount of \$3,535,420.			
Issue Awards for each round of the Carbon Neutral Single Family Neighborhoods Competition	2024	Carbon Neutral Single Family Neighborhoods Competition did not launch. Program launched Building Better Homes, a single family homes program in Q4 2024.	Cancelled		5
Issue Builder/Developer Network Solicitation	2021	In December 2021, NYSERDA launched the Building Better Homes Partner solicitation to develop a Builder or Developer's capacity to deliver carbon neutral single family homes.	Complete	2021	5
Carbon Neutral Buildings Roadmap is published.	2021	The Carbon Neutral Buildings Roadmap was published in December 2022.	Complete	2022	6
Provide input and support to State and local governments to advance adoption of requirements for carbon neutral buildings in state/local laws and programs.	2021	In 2021, the New Construction team worked with the NYS Department of State to advance decarbonization through the Downtown Revitalization Initiative Round 5 program offering.	Complete	2021	6
Provide input and support to State and local governments to advance adoption of requirements for carbon neutral buildings in state/local laws and programs.	2022	In 2022, NYSERDA worked with the NYS Department of State to advance decarbonization through the Downtown Revitalization Initiative Round 6 program offering, and offered technical support to projects seeking DRI incentives.	Complete	2022	6

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Incremental Cost of Building a highly energy efficient all-electric (Carbon Neutral) project on total construction cost	10-20%	10-20%	8-15%	8-15%	13.3%	5-10%	1
Outcome: Percent market penetration of commercial projects >20,000 square feet, utilizing integrated design and construction practices	3%	3%	6%	8%	32%	10%	1
Output: Carbon Neutral Commercial Square Feet Completed	0.04M	0.08M	0.25M	0.55M	2.79M	1.0M	1
Output: Number of Carbon Neutral Commercial Buildings Completed	11	20	40	60	39	100	1
Output: Number of Market Participants that attend Conferences and Events	5,000	9,000	13,000	17,000	11330	21,000	1
Output: Number of Market Participants that attend Trainings and Workshops	4,400	6,400	-	-	23,977	-	1
Output: Number of projects that completed performance analysis	5	12	20	30	81	45	1
Output: Published Case Studies	0	5	-	-	119	-	1
Output: Number of Carbon Neutral Community Economic Development Campus/ Community projects awarded	5	7	-	-	5	-	2
Output: Number of Carbon Neutral Community Economic Development facility projects awarded	27	37	45	49	78	57	2
Outcome: Incremental Cost of Building a highly energy efficient all-electric (Carbon Neutral) project on total construction cost	5-12%	5-12%	4-10%	3-8%	4.3% (SF) 5.3% (MF)	2-5%	3
Outcome: Percent market penetration of multifamily projects >20,000 square feet, utilizing integrated design and construction practices	3%	3%	6%	8%	35%	10%	3
Output: Carbon Neutral Market Rate Multifamily Square Footage Completed	0.10M	0.25M	0.45M	0.90M	4.29M	2.0M	3
Output: Carbon Neutral Market Rate Single Family Square Footage Completed	0.25M	0.38M	0.63M	1.0M	.058M	2.5M	3
Output: Number of Carbon Neutral Market Rate Multifamily Units Completed	100	250	450	900	1868	2,000	3
Output: Number of Carbon Neutral Market Rate Single Family Homes Completed	100	150	250	400	150	1,000	3
Output: Number of Market Participants that attend Conferences and Events	11,000	16,000	-	-	18656	-	3
Output: Number of Market Participants that attend Trainings and Workshops	4,400	6,400	8,400	10,400	36,990	12,400	3
Output: Number of Market Participants that receive mentoring Support	30	45	60	75	N/A	90	3
Output: Number of projects that completed performance analysis	15	30	45	60	36	75	3
Output: Published Case Studies	65	75	-	-	97	-	3
Output: Number of Buildings of Excellence projects awarded	42	47	56	62	74	72	4
Output: Number of Builders and Developers in the Carbon Neutral Network	-	10	20	25	23	-	5
Output: Number of Carbon Neutral Homes Awarded	-	-	-	-	8	100	5

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Anaerobic Digesters Transition</b>			
Budget Expenditures (\$)	12,593,213	7,881,083	63%
Leveraged Funds (\$)	9,476,000	0	0%
Renewable Energy Capacity (MW)	0	0	
Renewable Energy Generation, Annual (MWh)	51,956	0	0%



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Clean Energy Siting and Soft Cost Reduction</b>			
Budget Expenditures (\$)	4,991,535	4,267,974	86%
Leveraged Funds (\$)	0	0	

Summary of Performance and Future Plans

This initiative is performing well compared to plans and measure targets through 2025. The team has ramped up both in staff capacity and contracted technical support services to better serve local governments across the state. By the end of 2025, two new contracted, locally-based resources were onboarded. The number of communities receiving direct, one-on-one technical assistance continues to remain on track, while exceeding the 2025 goal of providing training workshops to 250 communities. At least 277 communities have participated in one or more Clean Energy Siting team training opportunities. This successful joint initiative with the Clean Energy Communities program provided many more communities with assistance preparing for solar and energy storage, and incorporating clean energy into their comprehensive plans. In addition, in 2025, NYSERDA implemented a new training program consisting of comprehensive, three-day trainings designed for municipal officials and decision makers, with a focus on clean energy land use planning and collaborative decision-making. Five of these new trainings were conducted, reaching 140 individuals and 68 distinct communities. In 2025 planning began for public-facing open houses for members of the public to learn more about clean energy development, in accordance with the SITED act. The first two are expected to be held in Q2 of 2026.

## Activities Summary

### Activity

### Activity #

Support local governments and other stakeholders in their efforts to prepare for clean energy development.

- Create and update guidebooks, factsheets, technical reports, and other resources that provide information on best practices to overcome soft cost barriers.
- Leverage the reach of NYSERDA Clean Energy Communities program to continue implementation of outreach and education campaigns for AHJ officials using online resources, webinars, workshops, and events to disseminate soft cost solutions and products. assistance to local governments and other stakeholders on clean energy development issues. Technical assistance offerings will include remote and in-person consultations.
- Coordinate with the Clean Energy Communities (CEC) program and other initiatives to recognize communities that actively reduce clean energy soft costs, including adopting and implementing local laws to responsibly regulate solar and energy storage, and to reward those communities with funding to implement related clean energy projects.
- Support other funding and technical support opportunities for communities and stakeholders to reduce soft costs and accelerate project deployment timelines.

1

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Launch new grant opportunity for soft cost reduction.	2023	In late 2023, NYSERDA launched and completed a Request for Information to inform development of a grant opportunity for agrivoltaics demonstration projects. The resulting solicitation was successfully launched in 2024.	Complete	2024	1
Launch updated educational campaign through CEC program.	2022	The County-Hosted Trainings High Impact Action was released through the Clean Energy Communities program in 2022. 70 trainings were delivered in 2022, with an additional 10 trainings scheduled in Q1 2023.	Complete	2022	1
Release solicitation for consultant support.	2021	The solicitation for consultant support was officially launched in early 2023.	Complete	2023	1

## Output and Outcomes Summary

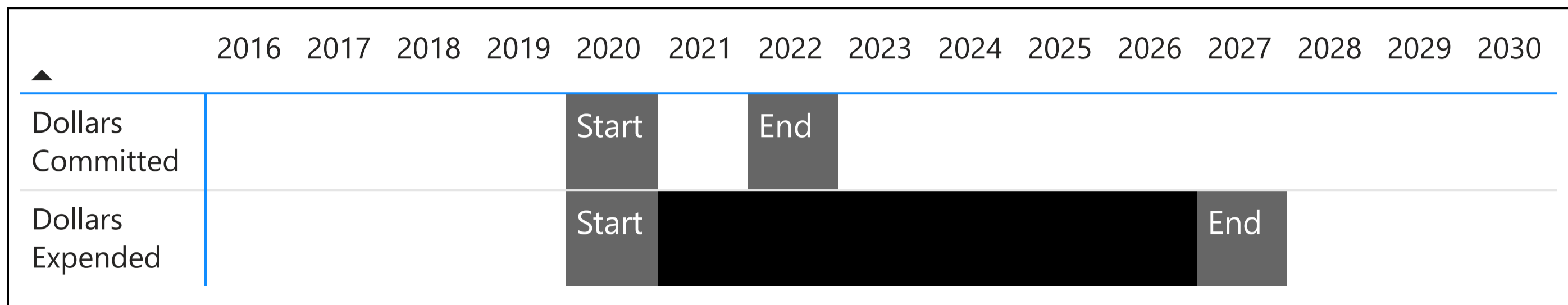
Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Cycle Time (in months) of projects from customer proposal to commissioning	22	-	-	-	28	-	1
Outcome: Soft costs \$ per kWh of battery storage based on CEF strategies	\$109	-	-	-	\$31/kWh (Residential); \$19/kWh-\$35/kWh (Non-Residential)	-	1
Output: Number of AHJs receiving direct technical assistance	376	391	406	421	527	436	1
Output: Number of communities engaged in completing steps to reduce soft costs	-	25	100	175	424	200	1
Output: Number of communities that attended workshops	-	100	150	200	277	250	1
Output: Soft cost solutions created or updated	11	12	13	14	21	15	1

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Combined Heat &amp; Power Transition</b>			
Budget Expenditures (\$)	51,499,999	49,961,925	97%
Electricity Savings, Annual (MWh)	177,509	183,816	104%
Leveraged Funds (\$)	213,999,823	221,035,451	103%
Total Energy Savings, Annual (MMBtu eq.)	-469,253	-485,927	104%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Fuel Cells</b>			
Budget Expenditures (\$)	4,786,644	4,786,644	100%
Electricity Savings, Annual (MWh)	144,929	152,189	105%
Leveraged Funds (\$)	86,842,833	82,151,583	95%
Total Energy Savings, Annual (MMBtu eq.)	-448,120	-666,282	149%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Offshore Wind Master Plan</b>			
Budget Expenditures (\$)	4,965,882	4,965,882	100%

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Offshore Wind Pre-Development Activities</b>			
Budget Expenditures (\$)	9,789,462	9,534,101	97%



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>ORES Support</b>			
Budget Expenditures (\$)	3,413,346	3,104,862	91%

Summary of Performance and Future Plans

Activities are generally consistent with plan. To date, ORES has issued thirty (30) final siting permits, totaling approximately 4.3 GW of renewable energy capacity, while ensuring the protection of the environment and consideration of all pertinent social, economic, and environmental factors and with input from local governments and host communities. The Office anticipates a steady stream of full siting permit applications, as well as projects moving from permitting into construction, in the coming months. The Office continues to focus on efficient processing of applications that includes a detailed review and robust public participation process to ensure that these facilities meet or exceed the requirements of Article VIII of Public Service Law and its implementing regulations.

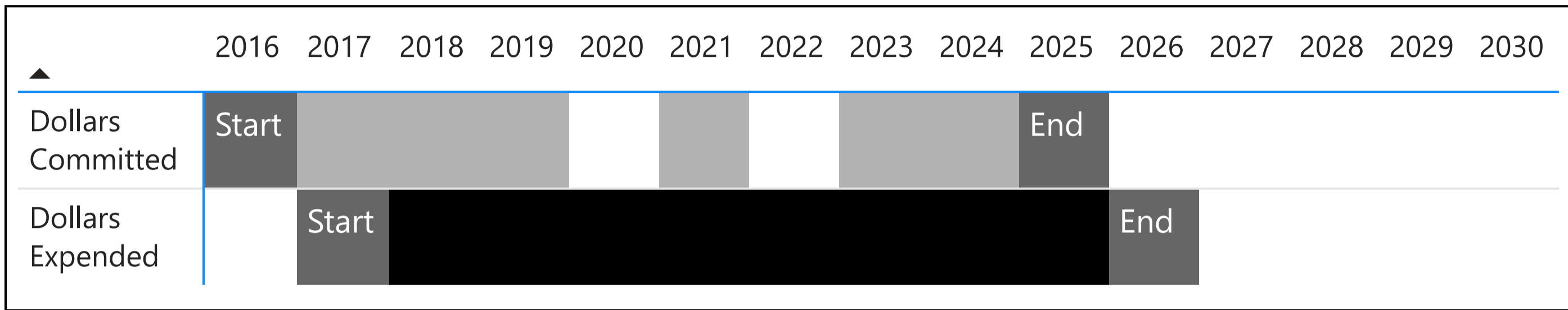
## Activities Summary

Activity	Activity #
Procure consultant support through one or more competitive solicitations to assist ORES staff with carrying out the functions necessary to issue permits for major renewable energy facilities.	1

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Finalize regulations and uniform standards and conditions (complete)	2021	Draft regulations and uniform standards and conditions were issued by ORES for public comment on September 16, 2020, with final versions adopted and effective as of March 3, 2021.	Complete	2021	1
Implement permitting process. - 10%	2021	Within one year of the Office's creation, as required by statute, the Office promulgated a comprehensive regulatory framework for the siting of major renewable energy facilities.	Complete	2021	1
Implement permitting process. - 100%	2024	As of the end of 2024, ORES has fully implemented the permitting process for generation siting and has awarded 19 permits as of February 24, 2025.	Complete	2024	1
Implement permitting process. - 60%	2022	As Executive Law § 94-c moves beyond the initial stage of implementation, the progress indicates that the Office's new siting process is meaningfully advancing the State toward its nation-leading CLCPA goals in a timely and cost-effective manner.	Complete	2022	1
Implement permitting process. - 90%	2023	As Executive Law § 94-c continues to site major renewable energy facilities at the most rapid pace in the State's history, the progress and the growing pipeline of applications indicates that the Office's new siting process is meaningfully advancing the State toward its nation-leading CLCPA goals in a timely and cost-effective manner.	Complete	2023	1

There are currently no outputs or outcomes to report



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Reducing Barriers to Distributed Deployment</b>			
Budget Expenditures (\$)	14,639,708	11,633,651	79%
Leveraged Funds (\$)	3,232,135	0	0%

Summary of Performance and Future Plans

In 2025, NYSERDA continued to fund consultants that assisted with processing storage applications at the The New York City Department of Buildings (DOB) Office of Technical Certification and Research (OTCR) and towards development of the new Peer Review requirement for Retail storage projects sited outside New York City. Leveraged funds are reported on a lag from Fire Department of New York City/DOB. Progress data will be recorded as it becomes available.

## Activities Summary

Activity	Activity #
Provide cost-share support to building owners and operators for both behind-the-meter and front-of-the-meter feasibility studies with scopes of work tailored to investigate the customer's needs. Such items may include economic viability, resiliency (long duration), carbon reduction commitments, and challenges associated with aggregating generation technologies.	1
Provide support to teams and consultants engaging with and augmenting staff at NYC government and FDNY in the development of the permitting processes for energy storage, particularly indoor applications.	2

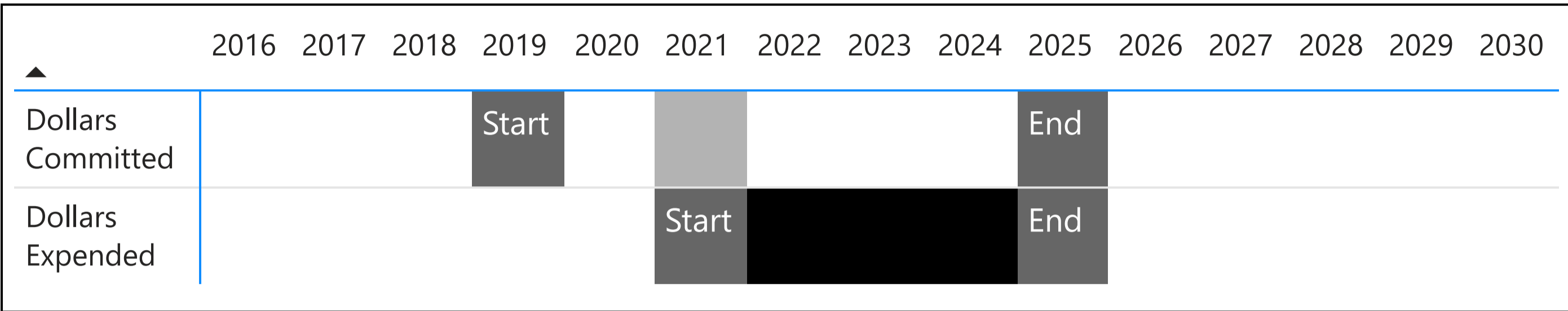
## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Complete permitting process for indoor storage systems.	2023	The New York City Department of Buildings (NYCDOB) officially finalized the full permitting process for all indoor storage in New York City in October 2025. NYSERDA will remain available to provide technical assistance to NYCDOB and industry as needed until the permitting process can be successfully navigated in the context of practical realities facing the energy storage industry.	Complete	2025	2

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of projects deployed following studies	1	1	2	2	2	3	1
Output: Number of cost-share studies supported	12	14	18	22	14	25	1
Outcome: Permitted indoor storage systems in NYC	-	-	5	10	0	20	2

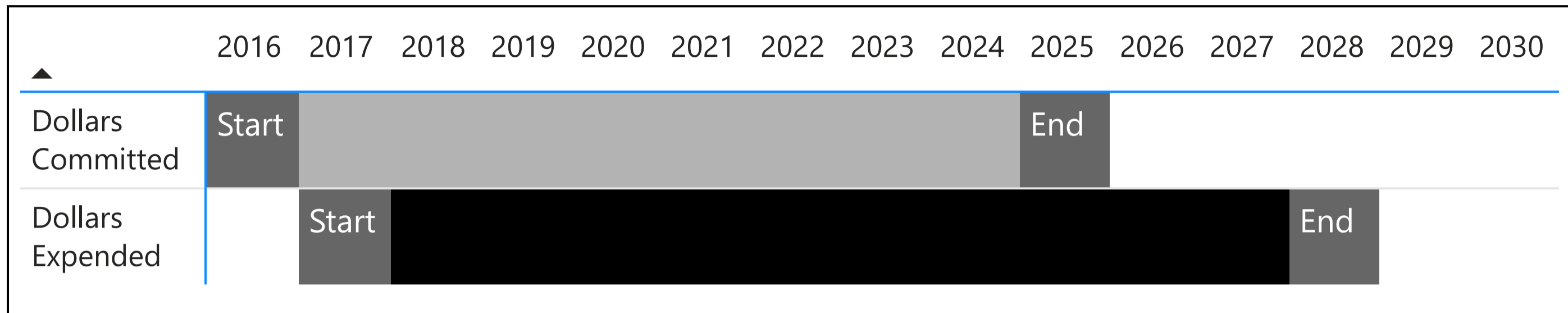
Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Small Wind Transition</b>			
Budget Expenditures (\$)	3,323,673	3,323,673	100%
Leveraged Funds (\$)	4,248,402	4,248,402	100%
Renewable Energy Capacity (MW)	2	2	100%
Renewable Energy Generation, Annual (MWh)	2,758	2,758	100%



Summary of Performance and Future Plans

In 2025, the remaining 2 projects awarded incentives were completed and the program is now closed. All 14 projects awarded are now complete and operational (39.2 MW).

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Solar Plus Energy Storage</b>			
Budget Expenditures (\$)	35,298,116	34,449,989	98%
Leveraged Funds (\$)	21,166,291	21,166,291	100%



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Energy Storage Technology and Product Development</b>			
Budget Expenditures (\$)	18,808,330	20,470,168	109%
Leveraged Funds (\$)	24,016,888	82,172,590	342%

Summary of Performance and Future Plans

NYSERDA launched Program Opportunity Notice 5984 in May 2025. The funding supported innovative and under-utilized solutions for advanced next-generation battery (all durations) and long duration energy storage. The PON awarded 16 proposals totaling nearly \$15M. All awards are expected to be contracted by Q2 2026 and all funding for the program has now been committed. Follow-on investment (leveraged funds) now being reported, driving the increase in performance to plan. The forecast of impacts will be adjusted to account for these investments during the next CIP filing.

## Activities Summary

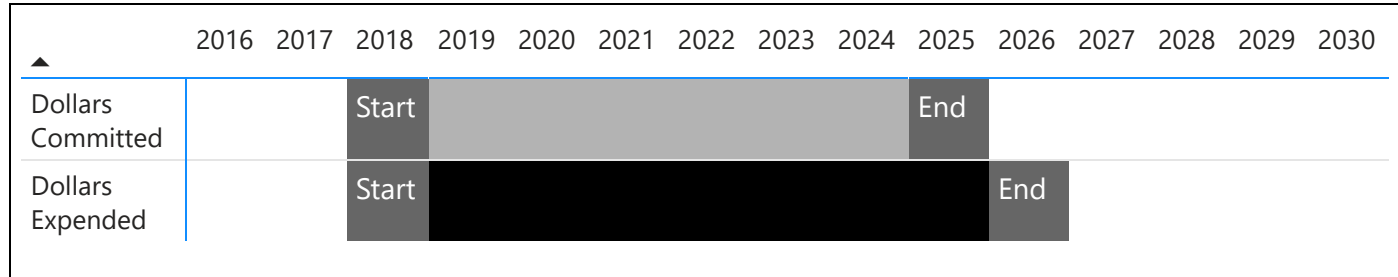
Activity	Activity #
Long Duration Energy Storage Solicitation targeting LDES developers, OEMs, suppliers, technology innovators, and product developers to invest in the best technology and product development, pilot, and demonstration projects.	1

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Make awards from LDES Solicitation	2021	Awarded 5 Projects totaling \$16.4M with \$39M in Cost Share.	Complete	2021	1
Make awards from LDES Solicitation	2022	Awarded 4 Projects totaling 14.6M with over \$25M in cost share.	Complete	2022	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of test sites for new technologies	-	4	5	-	6	-	1
Outcome: Percent reduction in hardware balance-of-system cost including power electronics for energy storage systems and installation cost	-	>20%	-	-	>10% cost reduction	-	1
Outcome: Percent reduction in hardware cost for energy storage devices	-	>20%	-	-	>10% cost reduction	-	1
Outcome: Products commercialized	-	-	-	-	2	2	1
Outcome: Replications from demonstration projects	-	-	-	-	1	2	1
Outcome: Revenue (\$M) resulting from products developed and demonstrations deployed	-	-	-	-	.511M	\$10M	1
Output: Participants funded by the program	53	55	-	-	98	-	1
Output: Projects completed (studies/demonstrations/product development)	-	-	1	2	44	5	1
Output: Projects started (studies/demonstrations/product development)	42	50	52	53	77	-	1



Summary of Performance and Future Plans

All 55 projects that were awarded through the solicitations with support of NYSERDA funds have met all deliverables and expenditures by Q4 2025. The final report regarding the performance of the OSW Program is to be delivered to the Department of Energy in Q1 2026.

The intended continuation of the National Offshore Wind (OSW) Research and Development consortium (incorporating federal funds for the next solicitation) has been delayed due to shifting Department of Energy priorities.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>National Offshore Wind Research &amp; Development Consortium</b>			
Budget Expenditures (\$)	21,828,185	21,622,688	99%
Leveraged Funds (\$)	26,286,380	19,628,678	75%

## Activities Summary

Activity	Activity #
2021 Consortium Offshore Wind R&D Solicitation targeting OSW developers, OEMs, suppliers, technology innovators, National Labs, universities, and product developers to invest in the best technology and product development, pilot, and demonstration projects aligned with current prioritized challenges.	1

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Make Awards from third Consortium Solicitation	2022	Consortium third solicitation Rounds 1 and 2 awarded 11 projects for \$7.2M in 2022.	Complete	2022	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Products commercialized	-	-	-	-	11	3	1
Outcome: Replications from demonstration projects	-	-	-	-	1	4	1
Outcome: Revenue (\$M) resulting from products developed and demonstrations deployed	-	-	-	-	0	\$10M	1
Output: Participants funded by the program	20	22	-	-	55	-	1
Output: Projects completed (studies/demonstrations/product development)	-	3	6	9	46	31	1
Output: Projects started (studies/demonstrations/product development)	42	45	46	-	55	-	1

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Dollars Committed				Start											
Dollars Expended				Start			End								

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input type="checkbox"/> <b>Consumer Awareness</b>			
Budget Expenditures (\$)	2,251,671	2,251,671	100%

Summary of Performance and Future Plans

The Consumer Awareness and Education marketing campaign was deliberately concluded, ahead of schedule, in May of 2022. At that time, Con Edison had exhausted all available NYS Clean Heat incentive funds and requested NYSERDA halt all related marketing efforts. Aligning with Con Edison's oversubscription, the marketing campaign had achieved extremely high levels of education and awareness among Westchester homeowners. At the time the campaign concluded, heat pump awareness was at 80%, and familiarity of their benefits at 44.6%. Energy efficiency familiarity was also extremely high, at 60%. The remaining marketing funds for this specific effort have been reallocated to the statewide NYS Clean Heat awareness and education marketing campaign launched in April 2021.

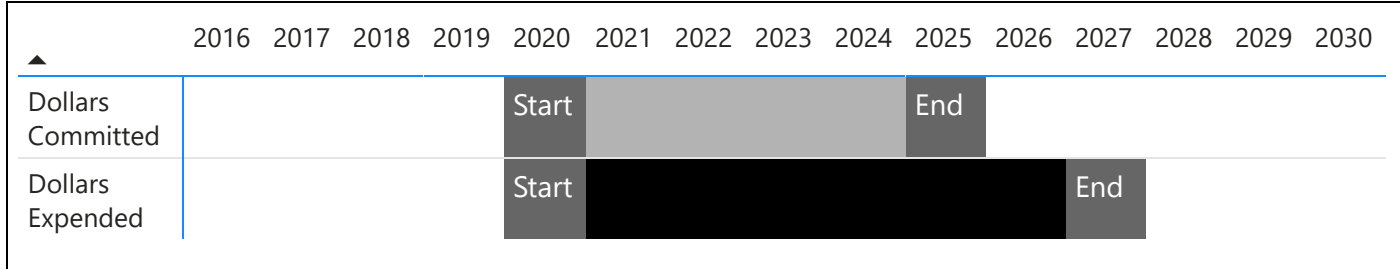
### Activities Summary

Activity	Activity #
<ul style="list-style-type: none"><li>• Conduct a co-branded (Con Edison and NYSERDA) consumer awareness campaign in Westchester County to increase consumer awareness, interest, and familiarity with energy efficiency and clean heating and cooling technologies that can be adopted in partnership with utilities.</li><li>• Proactively engage existing heating and cooling and energy efficiency contractors and suppliers so they are informed of energy efficiency and clean heating and cooling technology options and are committed to meet consumer demand.</li><li>• Maintain and expand a web-based landing environment providing a single point of entry for consumers to access and learn about the opportunities available for their home or business</li></ul>	1

There are currently no milestones to report.

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Increase in number of Westchester County service providers offering air source heat pump technology	-	38	-	-	271	-	1
Outcome: Increase in number of Westchester County service providers offering ground source heat pump technology	-	59	-	-	67	-	1
Outcome: Influence the installation of heat pump units	-	2,000	-	-	5,994	-	1
Outcome: Maintain energy efficiency service provider base in Westchester County	-	25	-	-	57	-	1
Output: Increase consumer familiarity of clean heating and cooling technology	-	44.6% / 20%	-	-	44.6% / 20.0%	-	1
Output: Increase consumer familiarity of energy efficiency	-	60% / 20%	-	-	43.5% / 29.5%	-	1
Output: Increase in consumer awareness of clean heating and cooling technology	-	80%	-	-	82%	-	1
Output: Increase interest in adopting clean heating and cooling technology	-	40%	-	-	50%	-	1
Output: Likelihood to make homes energy efficient in next 0-18 months	-	10% / 60%	-	-	5,994	-	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<input checked="" type="checkbox"/> <b>Heat Pumps Phase 2 (2020)</b>			
Budget Expenditures (\$)	10,136,900	7,321,784	72%

Summary of Performance and Future Plans

NYSERDA continued managing its Clean Heat Connect network, adding three partners this year with 29 total participating heat pump manufacturers and distributors, with many additional branch locations actively using Clean Heat Connect resources as a results of new outreach campaigns. Participants cover a majority of the New York State market, promoting adoption of educational and technical tools and resources through their contractor networks. Over 900 HVAC contractor businesses have been reached through program interactions, with 14 new educational resources launched in 2025 for a total of over 40 technical and educational resources. the Clean Heat Connect website attracted 6,222 visitors engaging in over 97,280 website actions in 2025. A 2025 third party evaluation of Clean Heat Connect found that more than half of contractors engaged in Clean Heat Connect are using the materials to grow their heat pump business, increase quality of services and decrease callbacks. A Social Network Analysis showed that Clean Heat Connect creates supply chain and peer to peer sharing of technical information and practices, shifting the overall market to grow heat pump installation capacity. Other states, organizations, and municipalities are adopting the unique program concept and materials for their own use. NYSERDA's Experience Clean Heat initiative expanded to consumer-focused sites, with interactive marketing campaigns around public places with heat pumps.

## Activities Summary

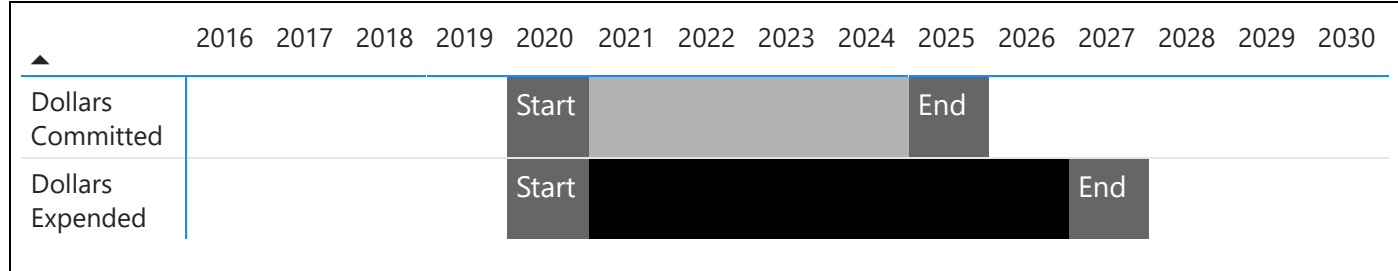
Activity	Activity #
<p>Draw a larger pool of companies across the supply chain into business activities that make clean heating products and solutions available when and where consumers need them, and support and accelerate heat pump adoption to enable wide-scale deployment.</p> <ul style="list-style-type: none"> <li>• Conduct regional roundtables with distributors, vendors, and original equipment manufacturers to define and describe the value proposition to the market through “value maps” and “market maps.” <ul style="list-style-type: none"> <li>o Supply Chain Value Map to provide a foundational understanding of the drivers, challenges, and interdependencies for all actors within the NY HVAC supply chain and identify specific areas of NYSERDA support to accelerate adoption of heat pumps</li> <li>o Market Actor Roundtables with Manufacturers, Distributors, Contractors, Drillers, and others in the NY Supply Chain to assess needs and areas of business model expansion and support a robust Clean Heat industry</li> </ul> </li> <li>• Build and support the activities of a network of trade allies to support the technical transfer and dissemination of training, tools, and resources to a wide range of contractor markets.</li> <li>• Provide business development support and technical resources to help companies transition to building electrification solutions, focusing first on larger HVAC companies (25+ employees).</li> <li>• Deploy a campaign to build awareness and confidence in heat pump technology by creating opportunities for HVAC technicians and the public at large to experience heat pumps firsthand and share their experiences virally.</li> <li>• Support improvements to stocking practices and explore midstream interventions in coordination with investor-owned utilities. NYSERDA will gather best practices from the investor-owned utilities, such as Con Edison, that are currently offering midstream incentives and have established relationships with distributors.</li> <li>• Replicate successful research models, tools, and business support to the building envelope supply chain. Develop unique tools and resources for the envelope market as needed.</li> </ul>	1

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Conduct market insight research including supply chain actor roundtables and develop a market map identifying key intervention points.	2021	HVAC supply chain market map completed in early 2022 based on roundtable efforts in 2021. Additional supply chain roundtables will occur in relation to geothermal contractors and the building envelope market.	Complete	2022	1
Develop and deploy strategic intervention workplan, informed by market map and insights research.	2022	Based on market insights work, the Clean Heat Connect and Experience Clean Heat interventions were developed and underway in 2022. Experience Clean Heat will launch in the market in early 2023.	Complete	2022	1
Develop and deploy strategic intervention workplan, informed by market map and insights research.	2024	A strategic intervention workplan was completed in Q2 2024 for Clean Heat Connect tools and resources being created or adapted and released through 2025. Clean Heat Connect Resources have been well received with over 30,000 website visits. Multiple other state and local government and training organizations borrowing content from the site to create their own versions.	Complete	2024	1
Establish a network of trade allies.	2021	A framework for the Upstream Partners network has been created and outreach has begun. Recruitment and on-boarding started in Q3 2021. Actual launch of network occurred in Q1 2022.	Complete	2022	1
Launch Business Support tools and tactics to the marketplace to provide business development support and technical resources.	2021	Clean Heat Connect launched in January 2022 and has developed and launched 15 market intervention tools and resources, including over 30 individual contractor support pieces.	Complete	2022	1

**Output and Outcomes Summary**

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Increase penetration of high-performance cold climate heat pumps as a percent of all heat pumps shipped for space conditioning in New York	61%	70%	75%	85%	N/A	90%	1
Outcome: Increase stocking of heat pumps above HARDI 2019 shipments	0%	20%	30%	40%	30%	50%	1
Output: Businesses provided with tools, technical support, and business development assistance	50	75	125	175	1174	225	1
Output: Count of demonstration sites in the Experience Clean Heat initiative	0	0	30	65	46	115	1
Output: Count of partners signed on to participate in the Clean Heat Connect program	10	10	20	25	28	30	1
Output: Increase in consumer confidence (among those targeted by marketing campaign) that heat pumps deliver benefits	63%	63%	65%	68%	N/A	70%	1



Summary of Performance and Future Plans

The Pay for Performance initiatives developed the necessary collaboration framework and platform to support initial pilots, including engaging aggregators and launching into both residential and commercial markets. Market developments and challenges in rolling out these pilots, however, led NYSERDA and its partners to conclude that the program should not be continued. The program was closed in early 2023 and unspent funds were redirected.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Pay for Performance</b>			
Budget Expenditures (\$)	885,684	885,684	100%

### Activities Summary

Activity

Activity #

Continue working with investor-owned utilities to pilot the procurement model approach to P4P, whereby a competitive selection process identifies specific portfolio managers/aggregators to secure customers and deliver savings for a set implementation period and be paid over a longer performance period.

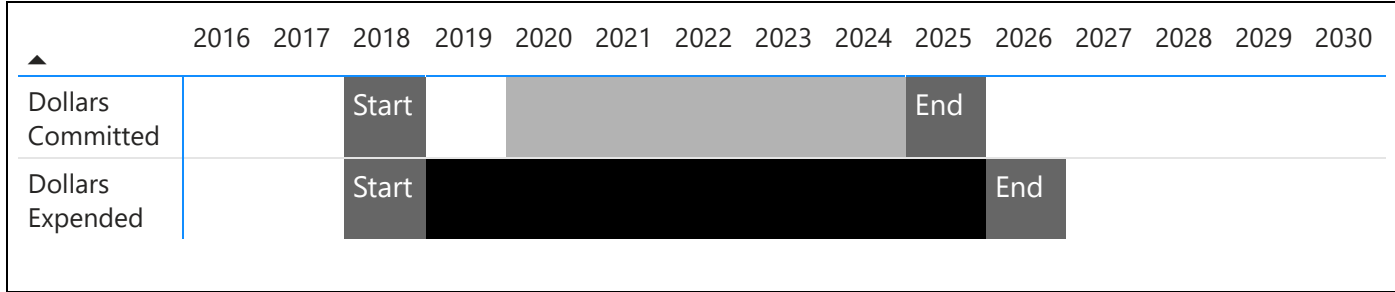
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### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Launch residential sector pilot with National Grid.	2022	The residential sector pilot was launched to the public in April 2022.	Complete	2022	1
Provide technical and platform support for PSEG LI to launch their P4P pilot.	2021	PSEGLI did not receive any proposals through their P4P RFP and decided not to continue pursuing a P4P pilot.	Cancelled		1
Support PSEG LI in release of their procurement effort for portfolio manager(s) for P4P pilot.	2021	With support from NYSERDA, PSEG LI issued an RFP for portfolio managers for a Long Island-based P4P pilot in Feb 2022.	Complete	2022	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Number of additional market actors involved in P4P pilot (non-aggregator involvement such as financial institutions, subcontractors, etc)	0	4	10	-	N/A	-	1
Outcome: Number of utilities committed to offering P4P programs post pilot	-	-	-	1	N/A	-	1
Output: Number of datasets published in OpenNY	-	-	1	-	0	-	1
Output: Number of participating aggregators	-	1	-	-	1	-	1
Output: Total number of projects implemented in residential sector	-	50	300	600	0	1,000	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Residential</b>			
Budget Expenditures (\$)	53,158,531	53,578,607	101%
Electricity Savings, Annual (MWh)	13,226	7,224	55%
Leveraged Funds (\$)	52,844,177	66,677,462	126%
Natural Gas Savings, Annual (MMBtu)	299,241	221,544	74%
Other Fuel Savings, Annual (MMBtu)	142,603	70,039	49%
Renewable Energy Capacity (MW)	0	0	
Renewable Energy Generation, Annual (MWh)	142	142	100%
Total Energy Savings, Annual (MMBtu eq.)	454,054	292,444	64%

Summary of Performance and Future Plans

Budget commitments for 2025 are on track with all CEF funds committed by the end of the year, however some delays in launching the statewide Virtual Energy Assessment (VEA) Program have led to lower savings than planned. After conducting a pilot exploring the advantages of both remote and virtual energy assessment that concluded in Oct of 2024, NYSERDA proceeded with plans to launch the VEA Program, ultimately contracting with Climative to customize software for program implementation. The VEA will provide single family residents with detailed information about their homes, customized recommendations for energy efficiency improvements, and connect them to resources to take action. The Residential Energy Assessment program was sunset in December 2025 and the VEA Program plans to launch statewide in Q2 of 2026. As the MyEnergy platform continues to mature, NYSERDA is planning to include results from the VEA into customer profiles on MyEnergy. Comfort Home continued to see increased participation completing 3,710 load reduction projects in 2025. Air sealing and insulation projects, which result in higher savings, grew 42% while window replacement projects with lower savings shrank 28%. NYSERDA also continues to support the Residential Market Advisory Group (RMAG) with quarterly meetings, including hosting our annual in-person meeting in Albany in 2024. The RMAG provided a valuable platform for engaging with stakeholders to strategize around the integration of federal IRA funds with existing program offerings. NYSERDA also undertook a study to examine housing typology and climate zones for the proper sizing of heat pumps, informing the insulation and air sealing necessary to provide economic heat pump performance while containing first costs. Over 60,000 energy efficiency projects from the Comfort Home and EmPower+ program were reviewed to determine what the scope of weatherization work in New York's housing stock could reliably achieve and what the effect of that work was on heat pump sizing. The study was able to produce an achievable schema to make homes heat pump ready.

## Activities Summary

Activity	Activity #
<p>Consumer Awareness &amp; Education</p> <ul style="list-style-type: none"> <li>• Spur participation in Comfort Home and other single-family residential programs by maintaining and updating campaign landing pages driving target segments to program-specific content.</li> <li>• Funnel targeted customers via Life Moments campaign to campaign landing pages and relevant content on the NYSERDA website that compels them to take on-site actions to either find a participating contractor or educate them on actions they can take to make their homes more energy efficient.</li> <li>• Explore driving customers in Comfort Home markets to campaign landing pages via contractor support materials, track materials with unique URLs to test, measure and adjust strategy</li> <li>• Educate consumers on energy efficiency measures they can take regardless of fuel type to reduce energy consumption.</li> <li>• Test different means of providing consumers with clear, relevant, actionable information about the energy performance of their homes.</li> <li>• Develop complementary strategies with consumer awareness and community-based campaigns to drive participation in energy audits and standard packages of envelope improvements via the Comfort Home “heat pump ready” pilot.</li> </ul>	1
<p>Energy Assessments</p> <ul style="list-style-type: none"> <li>• Support updated home energy audit practices through Green Jobs - Green New York audits, including field testing of remote and virtual audit strategies and deployment of electrification-focused audit procedures.</li> <li>• Coordinate with investor-owned utilities to align audit approaches with investor-owned utility operated online customer engagement tools and enable sharing of leads to access all incentive and financing offers.</li> </ul>	2
<p>Market Support Tools &amp; Activities</p> <ul style="list-style-type: none"> <li>• Support and facilitate stakeholder engagement forums including continued support for the Residential Market Advisory Group and relevant trade organizations.</li> </ul>	3
<p>Market Support Tools &amp; Activities</p> <ul style="list-style-type: none"> <li>• Support and facilitate stakeholder engagement forums including continued support for the Residential Market Advisory Group and relevant trade organizations.</li> </ul>	4

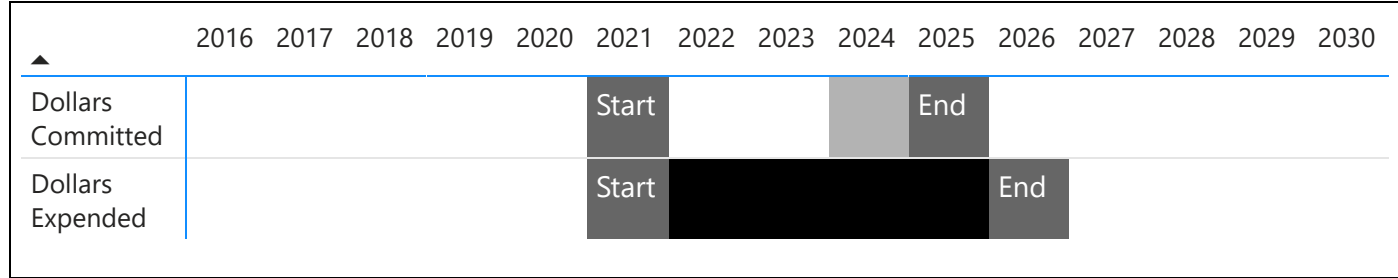
## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Deploy targeted consumer awareness digital outreach to drive participation in energy audits and Comfort Home pilot.	2022	Digital outreach in the form of paid search, social media Reels and advertisements were deployed. Comfort Home participants were the leading target market, with other customers directed to the audit program.	Complete	2022	1
Measure/Analyze assets, adjust to optimize campaign performance.	2021	NYSERDA's marketing firm completed detailed analysis of campaign performance which was used to develop the tactical strategy for the 2022 campaign. Areas for optimization were identified and delayed.	Complete	2022	1
Measure/Analyze assets, adjust to optimize campaign performance.	2024	In 2024, Comfort Home marketing capitalized on the "general discomfort life moment" to create seasonality relationship for the summer and winter months. The optimized targeting for these summer and winter discomfort life moments drove users to the eligibility quiz and filtered them into the Comfort Home program.	Complete	2024	1
Relaunch Life Moments marketing campaign based on learning and findings of the 2021 campaign	2022	A new Life Moments campaign, focused on promoting participation within the Comfort Home Program's "seal and insulate" packages was launched in October 2022 and will be in market through March 31, 2023.	Complete	2022	1
Close out ratings pilot and develop and distribute resources supporting home energy ratings as part of home sales.	2022	An evaluation study was completed and an internal final report was compiled. NYSERDA has and continues to share best practices and learnings with utilities and other stakeholders.	Complete	2024	2
Develop and deploy a consumer-facing online engagement platform to support remote/virtual audits and assist in homeowner goal-setting.	2024	In 2024 NYSERDA launched a statewide customer engagement platform, MyEnergy, connecting consumers with no-cost home energy assessments in preparation to support remote/virtual audits to assist with homeowner goal-setting by the end of 2025.	Complete	2024	2
Implement a remote energy audit available to all consumers.	2023	Remote audit demonstration projects have been completed, and an RFP for a vendor was created to release in early 2025. Project is on track to complete by end of 2025 with a remote/virtual energy audit available for all consumers.	Delayed		2
Reach agreement with investor-owned utilities on delivery of statewide energy audit offer.	2023	In 2024, NYSERDA launched a statewide customer engagement platform, MyEnergy, connecting consumers with no-cost home energy assessments through the Green Jobs Green New York act through three paths: EmPower+ for income-eligible customers and DAC residents, Comfort Home for market-rate customers, and the Virtual Energy Assessment solution.	Complete	2025	2
Complete data collection from Comfort Home pilot and distribute results and resources to investor-owned utilities to support intervention adoption.	2024	NYSERDA participated in two technical conferences in 2025 with stakeholders including investor-owned utilities to share best practices, results, and lessons learned. Additional consultations, data sharing, and feedback were provided throughout 2025.	Complete	2025	4

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Increase in percentage of consumers who favor heat pumps	70%	70%	70%	75%	54%	80%	1
Output: Count of unique users who interact with NYSERDA's campaign websites each year	177,211	191,452	200,000	TBD	817,321	TBD	1
Output: Increase prospective air sealing and insulation package customers through Comfort Home	2,051	3,000	6,000	8,000	17818	-	1
Outcome: Increase in electrification and electrification-ready measure adoption rate for assessments and audits	NA	TBD	TBD	TBD	41.2%	TBD	2
Outcome: Increase in private investment in electrification-ready measures for audit projects	NA	TBD	TBD	TBD	N/A	TBD	2
Output: Count of participant companies providing assessments/audits	85	100	120	140	209	160	2
Output: Count of remote and onsite assessments/audits	3,208	7,700	18,700	38,700	27,221	61,200	2
Outcome: Increase in contractor confidence that heat pumps and/or building electrification/decarbonization efforts deliver benefits	-	TBD	TBD	TBD	N/A	TBD	3
Output: Count of companies engaging with the Single Family Residential initiatives in voluntary efforts such as stakeholder meetings and work groups	-	200	220	265	578	320	3
Output: Count of users who have engaged with resources whose development has been supported by NYSERDA	-	25	50	125	3,343	200	3
Outcome: Increase in investor-owned utilities and other organizations that adopt tools and models introduced by NYSERDA for market targeting and sales of measure packages	1	-	-	-	2	-	4
Output: Count of Comfort home projects completed	630	2,130	5,130	7,815	10746	-	4

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Single Family Market Rate Transition</b>			
Budget Expenditures (\$)	23,528,344	23,528,344	100%
Electricity Savings, Annual (MWh)	4,064	4,064	100%
Leveraged Funds (\$)	87,348,846	87,348,846	100%
Natural Gas Savings, Annual (MMBtu)	93,263	93,263	100%
Other Fuel Savings, Annual (MMBtu)	102,158	102,157	100%
Total Energy Savings, Annual (MMBtu eq.)	158,943	158,943	100%



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>CarbonTech Development</b>			
Budget Expenditures (\$)	13,842,984	14,021,653	101%
Leveraged Funds (\$)	46,387,800	1,476,667	3%

Summary of Performance and Future Plans

Carbontech Development executed Round 3 and awarded \$2.7M to 11 awardees in 2025. Additional cost share of \$2.7M will be obtained as part of Round 4 award in 2026. One new product was commercialized. As of 2025, majority of expenditure target has been met in Rounds 1, 2, and 3 awards, with cost share on track to be met, though delayed with reporting the results of follow-on funding with a lag. In 2025, Activate NY onboarded six new Carbontech fellows and graduated ten alumni fellows. The portfolio of 25 Carbontech companies raised a cumulative total of \$54M. Program spending will be fully completed by Q1 2026.

### Activities Summary

Activity

Activity #

NYSERDA will launch a grant funding and carbontech ecosystem building program as well as an entrepreneurial fellowship program within this program. These activities will serve researchers, scientists, and early-stage companies.

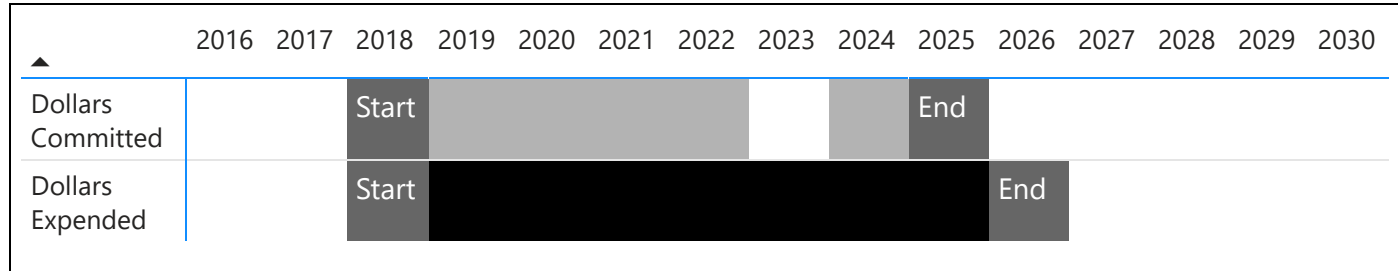
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### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
At least \$2.2M in external funding opportunities awarded by the program administrator.	2022	The Carbontech Development Initiative announced the opening of its inaugural solicitation round on 11.22.22 with applications due on 1.13.23 - awards of \$2.75M were made to the cohort.	Complete	2023	1
At least \$2.5M in cost share due from the program administrator.	2021	The program administrator was selected in 2021 and collected in excess of \$2,500,000 during 2021.	Complete	2021	1
At least \$5.5M in cumulative cost share due from program administrator.	2023	The Program Administrator (Activate) has exceeded cost share target of \$6.6M, and will continue to pursue additional funding opportunities with philanthropic partners, state, and federal partners.	Complete	2024	1
At least \$6.5M in cumulative External Funding Opportunities awarded by the program administrator.	2023	The Round 3 solicitation in 2025 awarded \$2.2M in External Funding Opportunities, bringing total to \$7.7M in cumulative external funding and completing the required commitments and expenditures for the program.	Delayed		1
At least 10 corporate partners secured as partners of the Carbontech Development Initiative.	2022	The Carbontech Development Initiative announced the opening of its inaugural solicitation round on 11.22.22 with applications due on 1.13.23 - awards of \$2.75M were made to the cohort.	Complete	2023	1
Issue awards from competitive solicitation for program administrator	2021	The competitive solicitation for Program Administrator launched on April 7, 2021 and awards were made in 2021.	Complete	2021	1
Issue awards from Fellowship partner solicitation that is released in 2021.	2022	The Carbontech Development Initiative announced the opening of its inaugural solicitation round on 11.22.22 with applications due on 1.13.23 - awards of \$2.75M were made to the cohort.	Complete	2023	1
Programs achieve full-financial sustainability	2024	Across the Activate NY program and Carbontech Development Initiative, \$7.5M in cost share has been obtained by the end of 2025. In 2026 it is planned that \$10M of cost share will be obtained, and the programs continue to pursue additional funding opportunities from philanthropy, state, and federal funders.	Delayed		1

**Output and Outcomes Summary**

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Products commercialized	-	3	7	11	30	15	1
Output: Participants funded by the program	-	9	18	27	39	36	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Catalytic Capital for Climatetech</b>			
Budget Expenditures (\$)	18,513,186	18,376,871	99%
Leveraged Funds (\$)	34,534,881	4,336,609	13%

Summary of Performance and Future Plans

In 2025 companies supported under the Catalytic initiative have raised \$80M+. Those companies include, but are not limited to: Clean Fiber, EcoLectro, GDI, Skyven Technologies. GDI on top of their most recent \$10M raise, was also awarded a \$100,000 SuperBoost grant, which will accelerate its ongoing partnership with The Energy Storage Engine in Upstate New York. GDI was also awarded a \$1.9M XTECH Army contract for Li-ion cell development for Defense applications. In 2025 Enertiv entered into a strategic partnership with Voltus the distributed energy resource (DER) software platform and virtual power plant operator. This partnership allows Enertiv's commercial real estate customers to receive demand response revenue. It also allows for the potential for lowering GHG emissions in the commercial buildings.

### Activities Summary

Activity

Activity #

- Ignition: NYSERDA will run a competitive selection process to award growth-stage climatetech companies up to \$500,000 in convertible note agreements.
- ICC Engage: NYSERDA's Co-Invest program directly supports growth stage ventures to raise money alongside private investors on their path to complete subsequent commercial milestones.

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### Milestones Summary

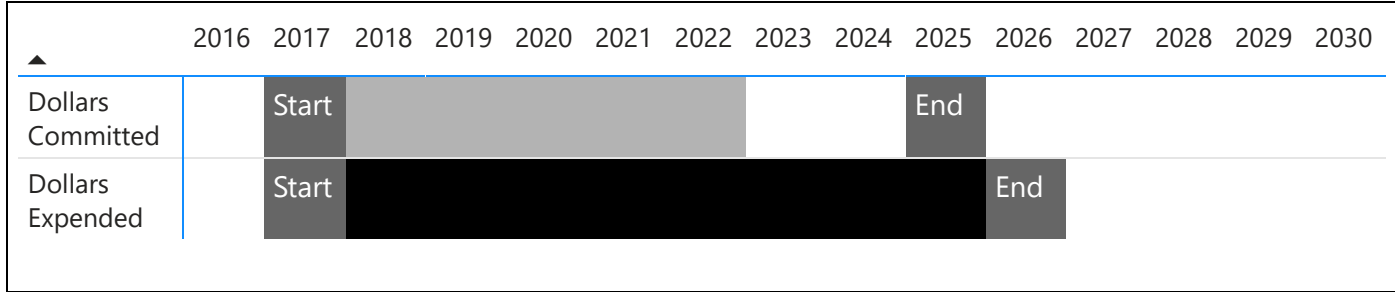
Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue awards from Ignition solicitation	2021	Awards were made durning 2021.	Complete	2021	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Agreements executed*					0		1
Output: Participants funded by the program	141	508	-	-	400	-	1

Table Notes

\* In 2024, NYSERDA standardized these output and outcome metrics to gain better clarity around the results, which were filed in the November 1, 2024 CIP. The results for this metric are reported holistically under the Tech to Market Focus Area - ClimateTech Commercialization Support initiative



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Climatetech Commercialization Support</b>			
Budget Expenditures (\$)	51,056,915	49,728,145	97%
Leveraged Funds (\$)	2,215,797,480	2,167,445,522	98%

**Summary of Performance and Future Plans**

In 2025, NYSERDA successfully completed cohort-based programming within the Cleantech Incubator sub-initiative. Venture for ClimateTech extended the program to run a fifth cohort of 20 companies. The program portfolio has supported 78 companies to date, and has secured more than \$114M in cumulative follow-on funding. The Climate Tech Growth Platform executed its second cohort, with 10 graduating companies, though a stop-work-order was issued for consistently high management turnover and the contract was terminated mid-2025. NYSERDA contracted directly with two companies that had been selected for grant-funding, post program termination, to fund the selected demonstrations for a combined total of \$300,000. Both demo projects are now in progress.

Ten companies started & finished Cohort 5 (Affordable Housing) of The Clean Fight (TCF) Accelerator and 10 companies were recruited and engaged in programming for Cohort 6 (Energy Storage). 47 demonstrations emerged from the NYSERDA-funded programs administered in 2025 including 22 projects supported by TCF grants and another 25 that program participants are pursuing without TCF support. 87 corporate partners have been engaged including partners who signed formal participation agreements or letters of support as well as those who participated in programs without formal agreements. Other organizations are engaged but not reported in the agreements total (e.g., co-op representatives who participated in webinars; audience members for events who otherwise did not engage in the program). A contract modification was executed, to include additional pass-through funding for additional demonstrations for Cohort 5 and 6 companies in 2026.

## Activities Summary

Activity	Activity #
<ul style="list-style-type: none"><li>• 76 West: NYSERDA will solicit for a third-party contractor to run a climatetech competition for early and growth stage climatetech ventures focused on driving climate impact and economic growth in the Southern Tier.</li><li>• Geographic Coverage: NYSERDA manages a variety of early-stage startup support programs run by for-profit and non-profit organizations in the Southern Tier, both incubation and acceleration programs.</li><li>• Incubators: NYSERDA will fund specific incubator organization(s) to deliver support to growth- stage companies capable of reaching near-term in-market events in New York.</li><li>• Corporate Challenges: NYSERDA will work with third party venture development organizations to run corporate challenges and accelerator programs that can support early and growth-stage climatetech companies within specific sectors</li></ul>	1

### ***Milestones Summary***

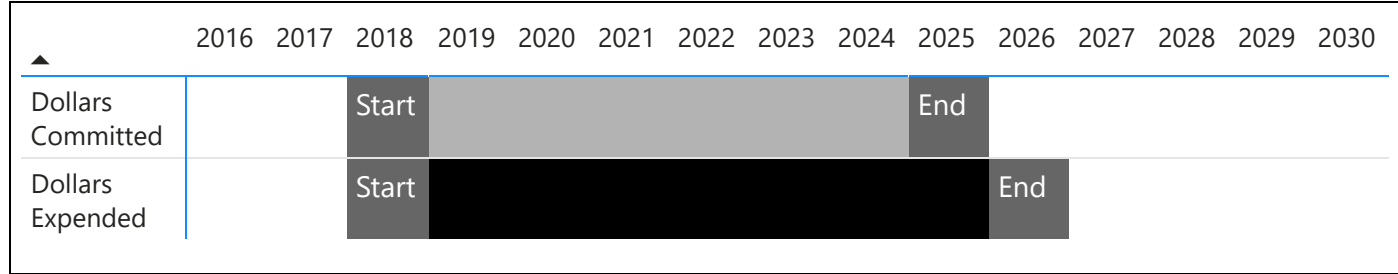
Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Extend existing Incubator contracts through 2022	2021	Contracts were successfully extended.	Complete	2021	1
Startups accepted into the first Corporate Challenge cohort	2021	Both active corporate challenges accepted their respective 1st cohorts.	Complete	2021	1

**Output and Outcomes Summary**

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Agreements executed*	60	183	322	446	5978	535	1
Outcome: Demonstrations resulting from commercialization support	4	15	24	38	155	50	1
Outcome: Products commercialized*	27	54	81	113	180	145	1
Output: Companies graduated from Incubators	12	23	28	33	75	38	1
Output: Customers engaged by the program	-	5	5	15	209	20	1
Output: New businesses launched	10	40	-	-	23	-	1
Output: Participants engaged by the program	143	175	225	260	409	285	1
Output: Participants funded by the program	2	57	82	92	119	122	1

Table Notes

\* In 2024, NYSERDA standardized these output and outcome metrics to gain better clarity around the results, which were filed in the November 1, 2024 CIP. The results for this metric are reported holistically under the Tech to Market Focus Area - ClimateTech Commercialization Support initiative



Summary of Performance and Future Plans

In 2025, the ClimateTech Expertise Network continued to expand the pool of mentors to over 130. Vendor services as a new program element has been added, and new initiative such as corporate engagement has been piloted and will launch fully in 2026. Over 400 companies have been engaged through projects cumulatively through 2025. Expenditures are on track to meet the plan, and leveraged funding is anticipated to pick up and be reported on a lag as engagements advance.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>☐ Climatetech Expertise &amp; Talent</b>			
Budget Expenditures (\$)	9,852,249	10,236,553	104%
Leveraged Funds (\$)	55,180,425	17,025	0%

### Activities Summary

Activity

Activity #

- EIR: NYSERDA will pay a third-party to match experts with early and growth-stage climatetech ventures on select projects, connect companies and experts to discuss how they can attract the right talent and resources to their companies, offer targeted trainings, and directly connect companies with the talent they need to make an impact.
- Innovation Advisors: NYSERDA will hire innovation experts to serve as internal consultants for NYSERDA team members.

1

### ***Milestones Summary***

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue Awards for Innovation Advisors	2021	Solicitation launched and applications received. Three awards were made in Q1 2021.	Complete	2021	1
Issue Awards for Innovation Advisors	2022	This program has exhausted funding and no longer anticipates any new awards.	Cancelled		1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Agreements executed*					0		1
Outcome: Demonstrations resulting from commercialization support	5	10	15	20	237	25	1
Outcome: Products commercialized*					0		1
Output: Innovation Advisors deployed	7	19	-	-	3	-	1
Output: Participants engaged by the program	52	130	150	175	603	225	1

Table Notes

\* In 2024, NYSERDA standardized these output and outcome metrics to gain better clarity around the results, which were filed in the November 1, 2024 CIP. The results for this metric are reported holistically under the Tech to Market Focus Area - ClimateTech Commercialization Support initiative

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Dollars Committed		Start								End						
Dollars Expended		Start								End						

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Manufacturing Corps</b>			
Budget Expenditures (\$)	15,723,575	15,606,583	99%
Leveraged Funds (\$)	713,717,370	673,717,370	94%

Summary of Performance and Future Plans

In 2025, Scale for ClimateTech executed Cohort 6, its second cohort under the new contract. 18 companies completed programming. 6 demonstrations resulted from the Innovation Showcase event. 21 supply-chain partners were engaged, with the majority of them as new recruits for Cohort 6. 31 corporate partners were engaged, 7 of which made meaningful contributions to support the program. Cohort 7 was recently announced with 19 companies.

### Activities Summary

Activity

Activity #

NYSERDA will fund a manufacturing training and support program that will support growth stage ventures through manufacturing training, access to experts, and grants as they advance their manufacturing readiness and commercialize their products.

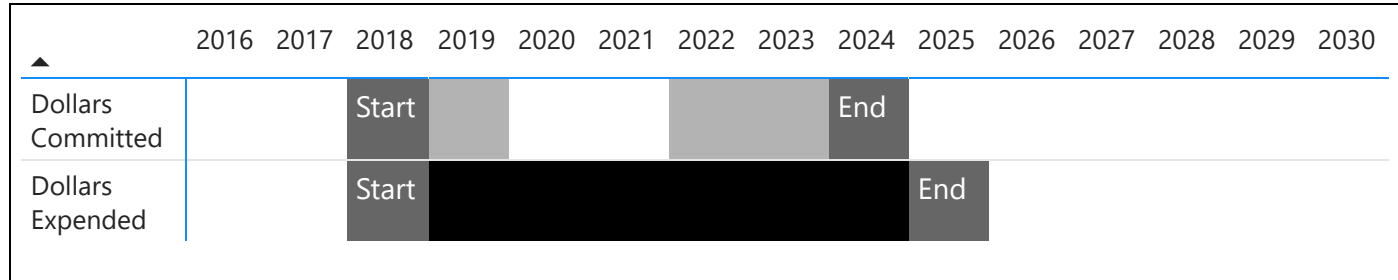
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### Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
NYSERDA determines level of continued investment based on pilot program performance.	2023	Based on successful pilot program performance, NYSERDA invested \$3.75M over three years in a new M-Corps program to help startup hardware climatetech companies achieve key manufacturing milestones and accelerate their time from prototype to commercial product.	Complete	2023	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Agreements executed	24	24	80	95	5	105	1
Outcome: Products manufactured	24	24	66	68	41	70	1
Output: Manufacturing strategies developed	24	24	66	-	104	-	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Novel Business Models and Offerings</b>			
Budget Expenditures (\$)	13,383,394	11,297,292	84%
Leveraged Funds (\$)	105,369,902	47,994,040	46%

Summary of Performance and Future Plans

In 2025, NYSERDA awarded the Insurance Innovation Prize under the Insurance Accelerator Program intended to distribute the \$5M prize amount to the seven [1] winners over the 18 months following the selection for award (January 2025), within which time the seven winners are expected to bring their product to market in New York State. Following a brief lag in expenditure due to the delay in launching the Insurance Innovation Prize, expenditures are now on track and are expected to continue this way for the remainder of the award.

[1] Note, one of the awarded companies went bankrupt and the remaining funds will be redistributed to other awardees based on select criteria.

## Activities Summary

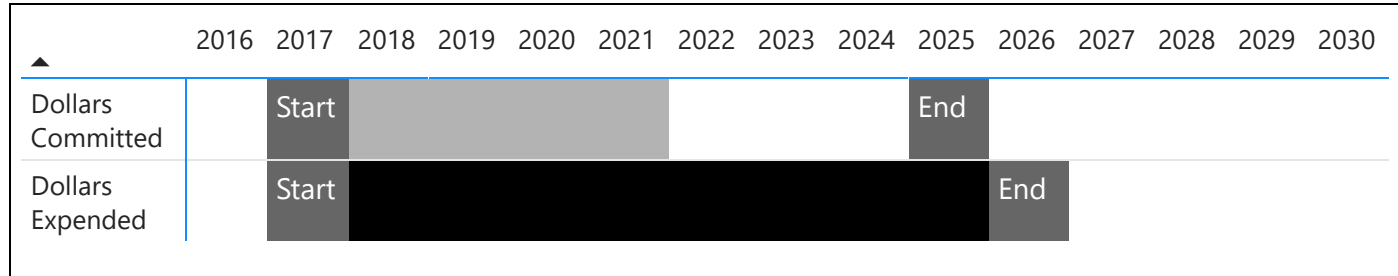
Activity	Activity #
<p>NYSERDA will support early- and growth-stage climatetech ventures, insurance companies, MGAs, MGUs, and other stakeholders in the finance ecosystem. NYSERDA will issue a competitive solicitation to award funding to scale and validate novel business models and offerings. The level of funding provided will differ for companies with a well-defined and validated business model, and for companies with a well-articulated business model that is plausible but has not yet been tested against the needs of market participants and real-world costs and barriers.</p> <ul style="list-style-type: none"> <li>• NYSERDA will solicit proposals from companies with novel business models (NBM) and offerings. These will be evaluated competitively with multiple opportunities per year.</li> <li>• Following awards, NYSERDA will employ project management practices to further limit the risks of market acceptance and mitigate execution risk as much as possible. Companies that cannot demonstrate transactions will not be eligible for the highest funding level, and NYSERDA will use Innovation Advisors, experienced entrepreneurs, and investors under contract to NYSERDA, in support of project selection and management. Progress will be monitored with a focus on ensuring achievement of well-defined and commercialization-critical milestones.</li> <li>• NYSERDA will coordinate with utilities in cases where the company’s business model intersects with evolving utility business models to ensure there is no duplication and to share lessons learned.</li> </ul>	<p>1</p>

### ***Milestones Summary***

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Issue second solicitation under this initiative	2021	The second solicitation under Novel Business Models and Offerings, Insurance Innovation for Climate Technology Solutions (PON 5163) was issued 9/1/2022.	Complete	2022	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Agreements executed	2	6	-	-	1	-	1
Outcome: Number of new business models successfully scaled by supported companies	4	8	11	-	5	-	1
Output: Participants funded by the program	16	33	35	-	14	-	1
Output: Projects completed (studies/demonstrations/product development)	14	46	49	-	12	-	1
Output: Projects started (studies/demonstrations/product development)	-	46	-	-	14	-	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Electric Vehicles - Rebate</b>			
Budget Expenditures (\$)	39,486,074	39,406,074	100%
Leveraged Funds (\$)	859,110,000	859,110,000	100%
Other Fuel Savings, Annual (MMBtu)	1,099,973	1,100,278	100%
Total Energy Savings, Annual (MMBtu eq.)	893,449	897,294	100%

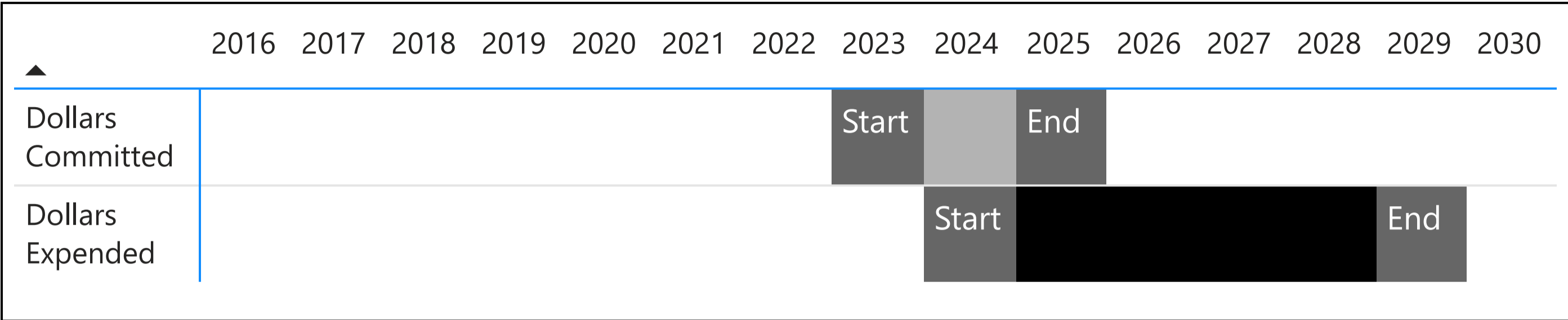
Summary of Performance and Future Plans

CEF funding for this initiative has been fully committed and all rebates have been paid out as of Q1 2021, however the rebate program continues under non-CEF funding sources. A verified gross savings analysis reduced energy performance from the gross values reported. This reduction is attributed to lower vehicle miles traveled as compared to the program assumptions. An initial assessment of indirect benefits was completed on EV-Rebates. However, given the ongoing presence of rebates through RGGI funding, no indirect savings were estimated as part of this study. Evaluation studies will continue to assess indirect impacts going forward. NYSERDA continues to report out collective progress of the rebate program to inform on the total impact.

There are currently no milestones to report.

**Output and Outcomes Summary**

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: EV market share (EV sales as a percentage of total car sales in NYS)	-	5%	-	-	9%	-	N/A
Outcome: Number of EVs registered in NYS	-	150,000	-	-	322,387	-	N/A
Output: % of rebate recipients completing follow-up surveys	-	25%	-	-	13%	-	N/A
Output: Number of rebates issued	-	46,000	-	-	225,344	-	N/A



Summary of Performance and Future Plans

The pace of Charge Ready NY 2.0 projects accelerated in 2025. By the end of 2025, about 2,700 charging stations had been installed and all of the CEF funding for the program has been committed. All remaining stations using CEF funding will be installed in 2026.

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>EV Charging and Engagement</b>			
Budget Expenditures (\$)	2,200,001	6,176,670	281%
Leveraged Funds (\$)	18,000,000	21,338,046	119%

## Activities Summary

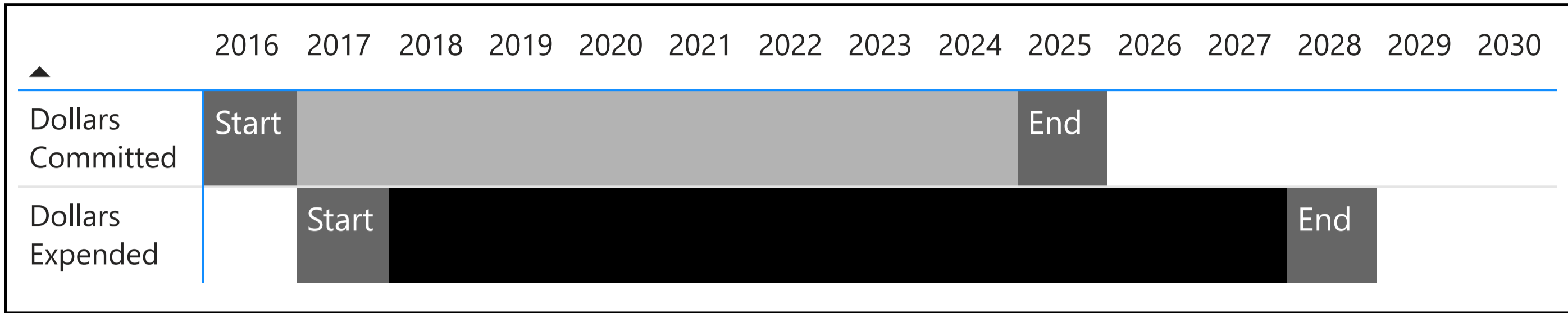
Activity	Activity #
<p>Provide incentives for Level 2 EVSE paired with bonuses for supporting EV engagement of prospective EVSE owners, EVSE manufacturers and installers, car dealers, and utilities.</p> <ul style="list-style-type: none"><li>• Initiate Level 2 EVSE rebate program targeting workplace, MUD, and public DAC charging stations</li><li>• Create accompanying incentive system for rebate recipients that take additional steps to promote EVs among their employees and tenants</li><li>• Onboard and manage contractors that can support program participants' engagement activities by developing outreach templates, facilitating relationships with car dealers, EVSE installers, EVSE vendors, municipalities, and utilities, and coordinating EV outreach events</li></ul>	1

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Launch EV charging and engagement incentive program.	2022	Charge Ready NY 2.0 was launched in July 2023.	Complete	2023	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Charging stations installed in NYS	-	-	12,500	-	19,975	25,000	1
Outcome: Verified new EVs purchased by employees and tenants of participating entities	-	-	400	2,000	2	5,000	1
Output: Number of employers and multi-unit dwellings completing EV outreach actions	-	-	20	60	16	100	1
Output: Number of Level 2 charging stations installed through program	-	-	600	1,500	2695	3,000	1



Summary of Performance and Future Plans

Commitments and expenditures met plan targets for 2025, and the Building Operations and Maintenance Program closed to new applications. All funds under this initiative were committed, and contracted projects will proceed with training delivery in 2026 and 2027. Savings results and the number of building operators trained were in line with plan. An updated evaluation is underway and will be completed in 2026 to update the program outcome metrics. Through 2025, completed evaluations undertaken to estimate the indirect impacts of the initiative in the market have identified .09 TBtu of total energy savings (MMBtu-e)

Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Building Operations and Maintenance Partnerships</b>			
Budget Expenditures (\$)	23,559,580	23,970,475	102%
Electricity Savings, Annual (MWh)	228,837	213,853	93%
Leveraged Funds (\$)	15,887,697	15,020,843	95%
Natural Gas Savings, Annual (MMBtu)	1,670,489	1,628,907	98%
Other Fuel Savings, Annual (MMBtu)	109,977	135,137	123%
Total Energy Savings, Annual (MMBtu eq.)	2,561,257	2,493,711	97%

## Activities Summary

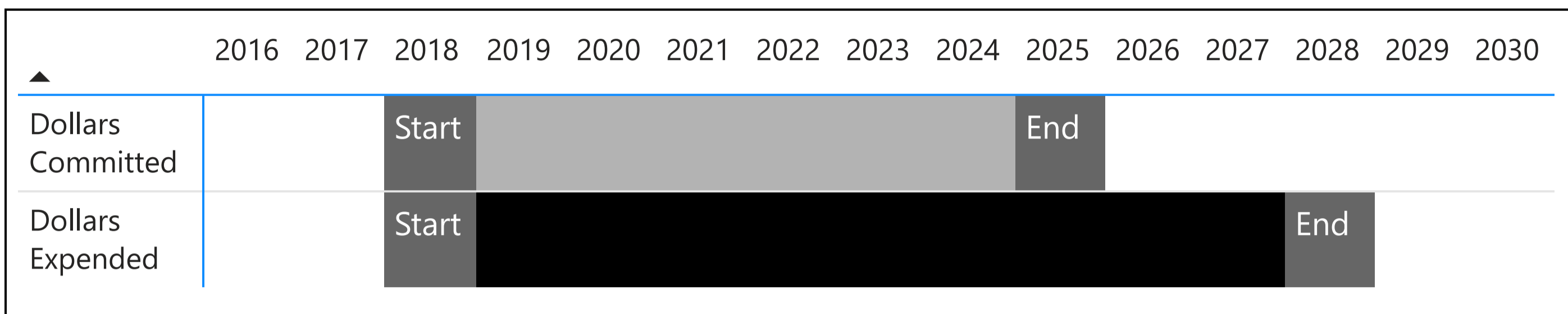
Activity	Activity #
<p>Work with training providers, building owners, and property management companies, to identify and fund training initiatives that will serve the needs of building operations and maintenance staff across building portfolios.</p> <ul style="list-style-type: none"> <li>• Solicit proposals 3-4 times annually through a competitive solicitation. The program will remain open through 2025 or until all funds are exhausted.</li> <li>• Invest in curriculum development where gaps are identified and assess the need for new industry standards to address technological changes.</li> <li>• Develop case studies to identify best practices and illustrate career pathways in energy efficient building operations and maintenance, and to identify interventions and combinations of interventions that can serve as a roadmap to advance skills and provide easy paths to entry-level jobs.</li> <li>• Implement an outreach and marketing/education strategy to disseminate building operations and maintenance training project results and case studies and to cultivate new partnerships. Activities will be tailored to the various sectors that can benefit from the results and lessons learned.</li> </ul>	<p>1</p>

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Continue to promote and offer competitive solicitations annually.	2021	There were four due dates for PON 3715 in 2021 (2/25/21, 5/20/21, 8/19/21, 11/18/21)	Complete	2021	1
Continue to promote and offer competitive solicitations annually.	2022	There were 4 Due Dates for PON 3715 in 20212 (5/19/22, 8/18/22, 9/22/22, 11/16/22)	Complete	2022	1
Continue to promote and offer competitive solicitations annually.	2023	There were two proposal due dates under PON 3715 in 2023 (February and May). Then the program transitioned to an open enrollment solicitation (PON 5357), accepting applications on a rolling basis starting in September 2023.	Complete	2023	1
Continue to promote and offer competitive solicitations annually.	2024	The Building Operations and Maintenance Training Program was open to new applicants throughout 2024. Applications were accepted on a rolling basis throughout the year.	Complete	2024	1
Continue to promote and offer competitive solicitations annually.	2025	The Building Operations and Maintenance Training Program was open to new applications through October 30, 2025. Upon closure of the program, CEF funds for this initiative were fully committed.	Complete	2025	1
Develop and distribute 4-5 case studies annually.	2021	NYSERDA published and distributed four case studies of Building O&M Training Projects in 2021.	Complete	2021	1
Develop and distribute 4-5 case studies annually.	2022	NYSERDA published five updated sector-specific Fact Sheets for the Building O&M Training Program in 2022 that included condensed sector-specific case studies.	Complete	2022	1
Develop and distribute 4-5 case studies annually.	2023	One article / case study was published in 2023 covering 2 Building O&M training projects. Three additional case studies were started in 2023 and are expected to be completed in the first half of 2024. (This milestone is superseded by similar milestone in 2024)	Cancelled		1
Develop and distribute 4-5 case studies annually.	2024	In addition to the three case studies published in 2024, NYSERDA published two case studies on Building Operations and Maintenance projects in 2025.	Complete	2025	1
Execute a contract to develop and implement an outreach and education strategy that will be implemented over 24-30 months.	2022	NYSERDA engaged two consultants focusing on outreach and education related to building O&M training opportunities, the value proposition to property owners and managers, etc.	Complete	2022	1

### Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Improve performance and efficiency of building systems	5%	5%	5%	7%	NA	-	1
Outcome: Increase number of organizations developing new curricula	380	392	408	426	833	446	1
Outcome: Increase number of staff qualified to train others	4,382	4,482	4,622	4,792	4322	4,992	1
Outcome: Square footage of buildings whose owners invest in training infrastructure without NYSERDA funding	-	-	-	-	6M	125M	1
Output: Increase in number of workers trained (electrification target in parenthesis)	3,000 (0)	5,000 (100)	6,500 (250)	7,000 (300)	7,887 (39)	7,670 (300)	1
Output: Technical consultants offering O&M Building training services.			-	24	27	26	1



Cumulative Progress through reporting period for CEF Initiative	Plan	Progress	% To Plan
<b>Talent Pipeline</b>			
Budget Expenditures (\$)	53,849,230	55,396,013	103%
Leveraged Funds (\$)	39,121,025	50,204,644	128%

Summary of Performance and Future Plans

Commitments and expenditures met plan targets for 2025. The funds associated with the Talent Pipeline initiative were fully committed in 2025, and contracted projects will proceed with training delivery in 2026 and 2027. Overall trainees to date exceeded plan, with the results for existing workers trained and number of new hires exceeding targets. The number of new workers trained lagged slightly behind plan based on program uptake and the average number of new workers trained per project. An updated program evaluation is underway and expected to be completed in 2026 which will provide updates to program output metrics.

**Activities Summary**

Activity	Activity #
Continue to administer and market the On-the-Job Training Program on an open enrollment basis.	1
Continue to implement and market the open enrollment Internship Program. Implement and market the Fellowship program which will be offered in 2021-2023 to support 3 cohorts or a total of 150 fellows.	2
Continue to offer solicitations to support technical training for existing workers. Address technical training gaps such as timing, geographical needs, and lack of consistent market demand, through training providers. High-priority areas include building electrification, energy efficiency, OSW, and training for transitioning fossil fuel workers to support clean energy transition goals.	3
Continue to offer solicitations and other program support to fund pathway training for new workers, including career awareness and education initiatives that start in K-12 schools. High priority areas include building electrification, energy efficiency and large-scale renewables.	4

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Promote and offer the open enrollment program annually through 2025.	2021	Clean Energy Internship and On-the-Job Training solicitations were promoted and offered throughout 2021.	Complete	2021	1
Promote and offer the open enrollment program annually through 2025.	2022	Clean Energy Internship and On-the-Job Training solicitations were promoted and offered throughout 2022.	Complete	2022	1
Promote and offer the open enrollment program annually through 2025.	2023	Clean Energy Internship and On-the-Job Training solicitations were promoted and offered throughout 2023.	Complete	2023	1
Promote and offer the open enrollment program annually through 2025.	2024	The open enrollment programs (Clean Energy Internships, On-the-Job Training, and Climate Justice Fellowship Programs) were offered and promoted throughout 2024.	Complete	2024	1
Promote and offer the open enrollment program annually through 2025.	2025	The open enrollment programs (Clean Energy Internships, On-the-Job Training, and Climate Justice Fellowship Programs) were offered and promoted throughout 2025.	Complete	2025	1
Release due date solicitations and associated awards for the Fellowship Program.	2021	The 1st due date for the Climate Justice Fellowship Program was 10/28/21, and four awarded projects were contracted in 2021.	Complete	2021	2
Release due date solicitations and associated awards for the Fellowship Program.	2022	The 2nd due date for the Climate Justice Fellowship Program was 1/31/22, and 12 awarded projects were contracted in 2022.	Complete	2022	2
Release due date solicitations and associated awards for the Fellowship Program.	2023	In January 2023, the Fellowship Program solicitation was changed from a due date solicitation to an open enrollment solicitation, accepting applications on a rolling basis.	Complete	2023	2

## Milestones Summary

Key Milestone	Planned	Explanation of Progress	Status	Year Completed	Activity #
Release competitive solicitations and award contracts to train existing workers and address training gaps in the market.	2021	Solicitation Due Dates for training of existing workers in 2021 included: PON 3981 (01/14/2021, 05/03/2021, 10/13/2021) and PON 4595 (03/16/2021). Total projects contracted in 2021 = 17 (projects train new workers, existing workers, or both).	Complete	2021	3
Release competitive solicitations and award contracts to train existing workers and address training gaps in the market.	2022	Solicitation Due Dates for training of existing workers in 2022 included: PON 3981 (03/10/2022, 07/26/2022, 10/27/2022). Total projects contracted in 2022 = 10 (training new or existing workers, or both).	Complete	2022	3
Release competitive solicitations and award contracts to train existing workers and address training gaps in the market.	2023	There were 6 proposal due dates in 2023 for training of existing workers through PON 3981. There were 9 projects contracted in 2023 (training new or existing workers, or both). PON 5437 (Labor union focused solicitation) was released in 2023.	Complete	2023	3
Release competitive solicitations and award contracts to train existing workers and address training gaps in the market.	2024	NYSERDA accepted proposals under three competitive solicitations to train / upskill existing workers in 2024: PON 3981 (Energy Efficiency and Clean Technology Training), PON 4595 (Offshore Wind Training), and PON 5437 (Apprenticeship and Pre-apprenticeship Clean Energy Training). 13 new contracts were awarded between the three programs (this number includes projects for new and/or existing workers).	Complete	2024	3
Release competitive solicitations and award contracts to train existing workers and address training gaps in the market.	2025	NYSERDA accepted proposals under three competitive solicitations to train / upskill existing workers in 2025: PON 3981 (Energy Efficiency and Clean Technology Training), PON 4595 (Offshore Wind Training), and PON 5437 (Apprenticeship and Pre-apprenticeship Clean Energy Training). 8 new contracts were awarded between the three programs (this number includes projects for new and/or existing workers).	Complete	2025	3
Release competitive solicitations & award contracts to train new workers	2021	Due Dates for training of new workers in 2021 included: PON 3981 (01/14/2021, 05/03/2021, 10/13/2021); PON 4463 (05/25/2021, 10/06/2021), and PON 4595 (03/16/2021). Total projects contracted in 2021 = 17 (training new or existing workers, or both).	Complete	2021	4
Release competitive solicitations & award contracts to train new workers	2022	Solicitation Due Dates for training of existing workers in 2022 included: PON 3981 (03/10/2022, 07/26/2022, 10/27/2022). Total projects contracted in 2022 = 10 (training new or existing workers, or both).	Complete	2022	4
Release competitive solicitations & award contracts to train new workers	2023	There were 6 proposal due dates in 2023 for training of existing workers through PON 3981. There were 9 projects contracted in 2023 (training new or existing workers, or both). PON 5437 (Apprenticeship and pre-apprenticeship focused solicitation) released in 2023.	Complete	2023	4
Release competitive solicitations & award contracts to train new workers	2024	NYSERDA accepted proposals under three competitive solicitations to train new workers in 2024: PON 3981 (Energy Efficiency and Clean Technology Training), PON 4595 (Offshore Wind Training), and PON 5437 (Apprenticeship and Pre-apprenticeship Clean Energy Training). 13 new contracts were awarded between the three programs (this number includes projects for new and/or existing workers).	Complete	2024	4
Release competitive solicitations & award contracts to train new workers	2025	NYSERDA accepted proposals under three competitive solicitations to train new workers in 2025: PON 3981 (Energy Efficiency and Clean Technology Training), PON 4595 (Offshore Wind Training), and PON 5437 (Apprenticeship and Pre-apprenticeship Clean Energy Training). 8 new contracts were awarded between the three programs (this number includes projects for new and/or existing workers).	Complete	2025	4

## Output and Outcomes Summary

Indicator	2021 Target Cumulative	2022 Target Cumulative	2023 Target Cumulative	2024 Target Cumulative	2025 Progress Cumulative	2025 Target Cumulative	Activity #
Outcome: Percent reduced cost to recruit and hire new workers	30%	30%	30%	30%	0%	30%	1
Outcome: Percentage of new workers supported by OJT that remained employed with their employers 12 months from their date of hire	-	-	-	65%	65%	65%	1
Output: Number of New Hires (electrification target in parentheses)	650 (170)	900 (250)	1,100 (350)	1,550 (450)	1,797 (911)	1,750 (600)	1
Output: Percent of New Hires from Disadvantaged Communities and/or Priority Populations	-	-	50%	50%	45%	50%	1
Output: Number of Interns and Fellows (electrification target in parenthesis)	1,050 (18)	1,200 (100)	1,350 (200)	1,500 (300)	1,517 (333)	1,700 (350)	2
Outcome: Number of new business and training provider partnerships created	50	65	75	85	30	90	3
Output: Number of existing workers upskilled (electrification target in parenthesis)	3,440 (1,200)	7,000 (2,200)	10,000 (3,500)	13,000 (6,000)	21,353 (7,437)	14,000 (7,000)	3
Output: Number of new curriculum developed, or curriculum modified	55	60	70	75	125	-	3
Output: Number of trainers trained (existing workers and new workers).	83	90	100	110	284	115	3
Outcome: Number of new business and training provider partnerships created	50	65	75	85	30	90	4
Output: Number of individuals trained for new job placements (electrification target in parenthesis)	925 (120)	2,200 (600)	4,000 (1,200)	4,500 (1000)	5,405 (2,277)	5,900 (1,800)	4
Output: Number of new curriculum developed, or curriculum modified	55	60	70	75	242	-	4
Output: Number of students placed in internships by training providers	128 (0)	300 (75)	400 (150)	450 (175)	624 (168)	500 (200)	4
Output: Percent of Trainees from Disadvantaged Communities and/or Priority Populations	-	-	-	65%	72%	65%	4

## **Appendix B. Service Territory Report**

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The Annual Service Territory Report, a new requirement for NYSERDA beginning with the 2021 Annual Report, utilizes data on location-specific projects reported to date to estimate NYSERDA's program impact by Utility service territory. The tables that follow provide estimated impacts with respect to the unique electric and gas service territory combinations found across NYSERDA projects. Investments considered statewide in nature (not specific to any utility territory) are reported as such. Additional analysis of NY Green Bank data is required before NYSERDA can draw conclusions on service territory impacts, therefore it is not included in this report.

**Table 1. Market Development and Innovation & Research Portfolio Distribution**

Table notes that provide additional information about the contents of this report can be found on the next page.

Electric Utility Service Territory	Gas Utility Service Territory	Expenditures		Electricity Savings Annual MWh		Electricity Usage Annual MWh		Natural Gas Savings Annual MMBtu		Natural Gas Usage Annual MMBtu		Other Fuel Savings Annual MMBtu		Other Fuel Usage Annual MMBtu	
		Incremental 2025	Cumulative Thru 2025	Incremental 2025	Cumulative Thru 2025	Incremental 2025	Cumulative Thru 2025	Incremental 2025	Cumulative Thru 2025	Incremental 2025	Cumulative Thru 2025	Incremental 2025	Cumulative Thru 2025	Incremental 2025	Cumulative Thru 2025
<b>Market Development Program Expenditures &amp; Direct Benefits</b>															
Central Hudson	Central Hudson	\$ 3.22	\$ 38.25	4,646	54,717	(446)	(5,943)	13,083	270,632	(16)	(12,049)	1,968	117,363	(0)	(618)
	National Grid	\$ -	\$ 0.11	-	26	-	(20)	-	313	-	(220)	-	567	-	-
	NYSEG	\$ 0.00	\$ 0.10	-	23	-	(33)	-	-	-	-	-	1,104	-	-
	Other/None	\$ 1.91	\$ 18.22	155	5,433	(48)	(1,727)	719	34,517	-	(3,438)	6,098	53,212	(0)	(892)
	Sub-totals	\$ 5.13	\$ 56.67	4,801	60,199	(494)	(7,724)	13,802	305,463	(16)	(15,706)	8,066	172,246	(0)	(1,510)
Con Edison	Con Edison	\$ 101.03	\$ 292.07	227,463	1,251,889	(92,517)	(227,019)	1,493,922	4,756,489	(34,471)	(1,247,653)	974,674	2,922,290	(0)	(1,206)
	National Grid - NYC	\$ 10.33	\$ 95.76	12,427	114,611	(1,534)	(12,820)	114,199	388,834	(2,609)	(67,197)	16,865	170,584	-	-
	Other/None	\$ 6.38	\$ 35.60	2,693	77,279	(655)	(192)	10,844	28,313	(88)	(12,326)	10,191	53,047	(0)	(201)
	Sub-totals	\$ 117.74	\$ 423.43	242,583	1,443,779	(94,705)	(240,030)	1,618,965	5,173,636	(37,167)	(1,327,176)	1,001,730	3,145,922	(0)	(1,407)
National Grid	National Grid	\$ 56.66	\$ 307.72	25,668	342,565	(11,046)	(19,035)	607,429	2,107,123	(866)	(100,885)	16,992	437,493	(0)	(8,560)
	NFG	\$ 16.87	\$ 72.15	11,761	127,443	(25,317)	(19,261)	281,045	728,372	(216)	(6,938)	33,709	278,052	(0)	(909)
	NYSEG	\$ 3.17	\$ 12.93	1,874	18,603	(14,673)	(6,842)	111,166	132,273	(16)	(6,900)	3,163	22,873	-	(2,286)
	RG&E	\$ 1.57	\$ 11.66	603	6,977	(11,522)	(6,531)	91,363	111,779	-	(1,696)	4,787	21,273	-	(2,090)
	Central Hudson	\$ -	\$ 0.13	-	12	-	(28)	-	-	-	-	-	559	-	-
	Other/None	\$ 12.28	\$ 94.10	2,830	40,845	(13,490)	(9,889)	189,686	357,173	(10)	(6,491)	65,950	289,119	(0)	(20,310)
	Sub-totals	\$ 90.55	\$ 498.69	42,735	536,444	(76,048)	(61,587)	1,280,690	3,436,720	(1,109)	(122,910)	124,601	1,049,368	(0)	(34,155)
NYSEG	NYSEG	\$ 9.12	\$ 117.96	4,638	125,368	(637)	(9,821)	138,758	819,674	(3)	(76,126)	22,640	199,712	(0)	(6,912)
	Central Hudson	\$ 0.36	\$ 1.30	-	1,360	-	(294)	-	3,029	-	-	-	9,142	-	(17)
	Con Edison	\$ 0.07	\$ 2.13	6	2,458	-	(733)	177	5,541	-	(4,784)	48	18,601	-	(7)
	National Grid	\$ 0.47	\$ 2.62	78	10,310	(2)	(353)	818	46,777	-	(7,523)	590	9,997	(0)	(55)
	NFG	\$ 2.87	\$ 17.74	6,499	17,108	(216)	(1,651)	48,982	122,620	(403)	(1,154)	2,431	41,921	(0)	(517)
	RG&E	\$ 0.10	\$ 1.91	(3)	960	-	(67)	189	4,688	-	(520)	1,955	5,481	-	(128)
	Other/None	\$ 9.79	\$ 87.12	7,046	78,022	(346)	(11,364)	74,345	1,330,629	(1)	(2,967)	43,070	290,001	(0)	(8,498)
	Sub-totals	\$ 22.78	\$ 230.79	18,265	235,586	(1,201)	(24,283)	263,269	2,332,958	(406)	(93,074)	70,733	574,855	(0)	(16,134)
O&R	O&R	\$ 1.78	\$ 42.66	4,034	33,527	(2)	(2,920)	11,103	159,779	(79)	(4,493)	131	57,604	-	(129)
	NYSEG	\$ 27.19	\$ 14.36	-	2,049	-	(146)	-	3,044	-	(8,310)	-	3,057	-	(81)
	Central Hudson	\$ 0.02	\$ 0.54	4	2,305	-	(832)	-	4,769	-	(1)	-	10,287	(0)	-
	Other/None	\$ 1.04	\$ 13.66	2,141	3,283	(2)	(162)	-	1,853	-	(98)	1,262	9,562	-	(20)
	Sub-totals	\$ 30.03	\$ 71.22	6,179	41,164	(4)	(4,060)	11,103	169,445	(79)	(12,902)	1,393	80,509	(0)	(230)
RG&E	RG&E	\$ 10.12	\$ 190.58	12,361	224,295	(9,237)	(31,543)	162,285	3,582,640	(86)	(8,077,924)	1,077	9,384,348	-	(3,063)
	NYSEG	\$ 0.24	\$ 6.46	5	13,615	(4)	(329)	493	27,377	-	(444)	-	7,178	-	(818)
	NFG	\$ 0.08	\$ 2.03	1	2,998	(2)	(175)	109	29,900	-	(76)	23,116	15,980	-	(527)
	Other/None	\$ 0.49	\$ 9.61	11	3,304	(14)	(302)	-	3,246	-	(2,848)	2,665	30,256	-	(2,260)
	Sub-totals	\$ 10.93	\$ 208.68	12,378	244,211	(9,257)	(32,349)	162,888	3,643,162	(86)	(8,081,292)	26,857	9,437,762	-	(6,667)
	Utility Totals	\$ 277.17	\$ 1,489.49	326,941	2,561,383	(181,708)	(370,033)	3,350,717	15,061,384	(38,863)	(9,653,061)	1,233,381	14,460,661	(0)	(60,103)
	Market Development Statewide Program Expenditures <sup>1</sup>	\$ -	\$ 202.04	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Innovation and Research Statewide Program Expenditures <sup>2</sup>	\$ 87.24	\$ 387.59	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Admin, Evaluation and Cost Recovery Fee	\$ 38.11	\$ 327.70	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	<b>Grand Totals</b>	<b>\$ 402.52</b>	<b>\$ 2,406.83</b>	<b>326,941</b>	<b>2,561,383</b>	<b>(181,708)</b>	<b>(370,033)</b>	<b>3,350,717</b>	<b>15,061,384</b>	<b>(38,863)</b>	<b>(9,653,061)</b>	<b>1,233,381</b>	<b>14,460,661</b>	<b>(0)</b>	<b>(60,103)</b>

**Table 1 Notes**

- a. The data presented in this table reflects reported expenditures and acquired *direct* energy impacts through the end of the reporting period, December 31, 2025.
- b. NYSERDA reports acquired benefits in Market Development and can directly attribute a significant portion of these reported benefits to specific locations. Benefits that cannot be pinpointed are reported consistent with the distribution of projects that can be. Similarly, not all program costs are project-specific, however all funding is distributed consistent with the project-specific spend.
- c. Progress reported here is a blend of verified gross and gross savings. Where studies have been completed and yield realization rates, verified gross acquired savings are reported. Where studies are not complete, those initiatives and/or time periods will continue reporting gross savings.
- d. Verified gross savings included in this report have been based on the program-level realization rates, and not derived from realization rates specific to utility territories. Evaluation of verified gross savings, and therefore any associated sampling, is generally done at the statewide program level. The resultant realization rate is meant to be applied and is assessed for its statistical confidence/precision at the program level. For the purposes of this territory report, realization rates are applied to each territory equally.
- e. Statewide expenditures in Market Development reflect initiatives that are statewide in nature and have no direct energy savings, including: Clean Energy Siting and Soft Cost Reduction, Code to Zero, Information Products and Brokering, Market Characterization, Offshore Wind Master Plan, Offshore Wind Pre-development Activities, ORES Support, Product Standards, and REV Connect.
- f. All Innovation & Research investments are characterized as “statewide” for the purposes of this report considering the vast majority of investments cannot easily be pinpointed to a particular territory, rather they are intended to drive advancement of technologies and business models that can have broad, statewide impacts as they flourish.

**Table 2. NY-Sun Portfolio Distribution**

Electric Utility Service Territory	Expenditures		Installed Capacity MW	
	Incremental 2025	Cumulative Thru 2025	Incremental 2025	Cumulative Thru 2025
Central Hudson	\$ 13.1	\$ 165.5	45.9	536.0
Con Edison	\$ 65.9	\$ 338.6	127.5	1,096.4
National Grid	\$ 148.1	\$ 665.9	576.1	2,156.2
NYSEG	\$ 44.1	\$ 317.0	177.9	1,026.4
O&R	\$ 17.1	\$ 109.5	67.1	354.5
RG&E	\$ 3.0	\$ 77.3	16.8	250.3
Administration, Evaluation & Cost Recovery Fee	\$ 4.0	\$ 33.9	n/a	n/a
<b>NY-Sun Totals</b>	<b>\$ 295.3</b>	<b>\$ 1,707.7</b>	<b>1011.3</b>	<b>5419.8</b>

**Table 2 Notes**

- a. This table includes only investments and installed capacity resulting from CEF NY-Sun investments.

## Appendix C. Evaluation, Measurement and Verification

In accordance with CE-05: Evaluation, Measurement and Verification (EM&V) Guidance, NYSERDA is required to file all final EM&V Reports in the Document Matter Management system. This section includes a compilation of the high-level summaries of the EM&V Report filed within the reporting period.

### Evaluation, Measurement and Verification Summary

During 2025, 20 studies were finalized and summarized in CEF quarterly reports as listed in Table 1 by quarter. These study summaries are reproduced in the sections below. In addition, in the Q1 2025 and Q3 2025 CEF reports, NYSERDA undertook an update to report recommendations deemed “pending”. A summary of recommendation updates from the Q1 2025 and Q3 2025 reviews is included as well.

**Table 1. Evaluations Completed by Quarter 2025**

Quarter	Evaluated Program	Evaluation Type	Evaluated Program Year(s)
Q1 2025	Codes and Standards for Carbon Neutral Buildings	Market	2023-2024
	Energy Efficiency and Beneficial Electrification Soft Cost	Market	2022-2024
	Heat Pumps Phase 2	Market	2023-2024
	New Construction (Commercial and Multifamily)	Impact & Market	2016-2022
	Statewide Multifamily Building Stock	Market	2023-2024
	Workforce Development	Impact & Market	Q1 2024-Q4 2023
Q2 2025	Comfort Home	Impact & Process	Q1 2020- Q2 2023
	Solar Photovoltaic (PV) Program Performance Persistence	Impact	Q1 2012- Q4 2021
Q3 2025	Industrial Process Efficiency	Impact	Q1 2018-Q2 2023
	Build-Ready	Process	2025
	Clean Energy Communities	Process	Q3 2024 – Q1 2025

	Real Time Energy Management: Commercial/Industrial	Impact/Market	Q1 2022 – Q2 2024 (impact); Q1 2017 – Q2 2024 (market)
	Real Time Energy Management: Multifamily	Impact/Market	Q1 2022 – Q2 2024 (impact); Q1 2018 – Q4 2023 (market)
	Single Family Retrofit Programs	Impact	2023
Q4 2025	Clean Energy Communities	Market	Q1 2019 – Q2 2023
	Clean Energy Communities	Impact	Q1 2019 – Q2 2023
	Dandelion Ground Source Heat Pump Case Study	Case Study	2025
	Dr. Max Zhang Environmental Research Case Study	Case Study	2025
	Orange and Rockland Smart Grid Case Study	Case Study	2025
	Gradient Window Heat Pump Case Study	Case Study	2025

For more information on the schedule of studies as they pertain to NYSERDA’s Market Development and Innovation & Research initiatives, please reference the Compiled Investment Plan or view reporting for historical periods to see past summaries both on NYSERDA’s website.

The latest Compiled Investment Plans:

<https://www.nyserdera.ny.gov/About/Funding/Clean-Energy-Fund/>

Clean Energy Fund Reports:

<https://www.nyserdera.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Clean-Energy-Fund-Reports>

Note that NYSERDA began providing these summaries with the 2021 Annual CEF Performance Report.

# 1 Q1- 2025 Evaluation, Measurement, and Verification Summary

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In accordance with the Department of Public Service CE-05: Evaluation, Measurement, & Verification (EM&V) Guidance, NYSERDA is required to file all final EM&V Reports in the Document and Matter Management system. This section will include a compilation of the high-level summaries of the EM&V reports due for filing within the reporting period.

For the Q1 2025 reporting period, six evaluation studies were finalized as presented in Table 2. For more information on the schedule of studies as they pertain to NYSERDA’s Market Development and Innovation & Research initiatives, please reference the Compiled Investment Plan or view reporting for historical periods to see past summaries both found on NYSERDA’s website.

**Table 2. Evaluations Completed Q1 2025**

Evaluated Program	Evaluation type	Evaluated program year(s)
Codes and Standards for Carbon-Neutral Buildings	Market	2023-2024
Energy Efficiency and Beneficial Electrification Soft Cost	Market	2022-2024
Heat Pumps Phase 2	Market	2023-2024
New Construction (Commercial and Multifamily)	Impact and Market	2016-2022
Statewide Multifamily Building Stock	Market	2023-2024
Workforce Development	Impact and Market	Q1 2024 – Q4 2023

The latest Compiled Investment Plans:

<https://www.nyserdan.gov/About/Funding/Clean-Energy-Fund/>

Clean Energy Fund Reports:

<https://www.nyserdan.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Clean-Energy-Fund-Reports>

Note that NYSERDA began providing these summaries with the 2021 Annual CEF Performance Report.

## 1.0 Recommendation Tracking Updates

NYSERDA periodically reviews and tracks the status of recommendations that have been “pending” in quarterly CEF reports. As shown in Table 3, during Q1, the following NYSERDA responses to recommendations have been updated from “pending” since their presentation in these CEF quarterly reports, beginning with the 2021 Annual CEF Performance Report. For reference purposes, since early 2017, when NYSERDA began conducting CEF evaluations, 295 recommendations have been published. Of these, 237 have been implemented, 36 have been rejected and 22 are still pending.

From the 2021 Annual CEF Performance Report through the latest status review (Q1 2025) recommendation statuses from evaluation studies have been updated as follows:

- 11 recommendations is/are still pending.
- 14 recommendation(s) has/have since been implemented, as detailed in Table 3.
- 2 recommendation(s) has/have since been rejected, as shown in Table 3.

**Table 3. Summary of CEF Evaluation Study Recommendations through Q1 2025**

Study Name	Published	Recommendation	New Status	Update
Agriculture Impact Evaluation 2017-2020	5/31/2024	Impact evaluators should ask participants’ reasoning as to why recommended equipment is not installed.	Rejected	Agriculture Audits Evaluation EVAL 4536 has been canceled. Descoping in progress as of 24 March 2025
Agriculture Impact Evaluation 2017-2020	5/31/2024	NYSERDA should consider advertising solutions to common concerns raised by agricultural sites in the audit program evaluations (for example, cattle disliking the sound of electrical motors) in its Energy-Related Agricultural Best Practices guides.	Rejected	Agriculture Audits Evaluation EVAL 4536 has been canceled. Descoping in progress as of 24 March 2025.

Codes and Standards for Carbon Neutral Buildings Market Evaluation (2022-2023)	3/1/2024	Continue to support Alternate Code Compliance pilot participants with the application process and development of materials and assess additional resources that would be beneficial to guide jurisdictions and energy professionals. Explore new marketing techniques to effectively share the materials. Consider using case studies to give examples of utilization of third-party support.	Implemented	Work with DOS continues. No other update for this quarter.
Codes and Standards for Carbon Neutral Buildings Market Evaluation (2022-2023)	3/1/2024	To provide more support with the challenge of bringing additions and alterations up to code, consider adjusting the NYSERDA-approved trainings to include more in-depth topics on retrofitting additions and alterations. Target improving builder understanding of additions and alterations energy code requirements.	Implemented	Rulemaking for new state Energy and Uniform Codes (based on 2024 I-Codes) and requirements for building electrification in new construction began March 2025. Effective date for these new requirements is still expected to be 12/31/2025. No other update this quarter.

<p>Codes and Standards for Carbon Neutral Buildings Market Evaluation (2022-2023)</p>	<p>3/1/2024</p>	<p>To better understand how builders are impacted by the training, add questions to gather data on builder training needs and motivations, as well as a self-identifying section in the surveys for builders. Currently, the two main categories are code officials and building professionals. With further breakdown, NYSERDA can better understand builder attendance by region, builder perceptions, opportunities, and barriers, if any.</p>	<p>Implemented</p>	<p>Work continues to foster and maintain relationships with state and regional HBAs, and perform market research to inform training and resource needs for building professionals. No other updates.</p>
<p>Codes and Standards for Carbon Neutral Buildings Market Evaluation (2022-2023)</p>	<p>3/1/2024</p>	<p>Consider adjusting the trainings topics to include more of the training participants' interests and needs with compliance topics such as building decarbonization and new technologies. Continued response to respondent suggestions on topics will drive engagement and improve code compliance.</p>	<p>Implemented</p>	<p>A training solicitation will be issued Q2 2025. No other update.</p>

Codes and Standards for Carbon Neutral Buildings Market Evaluation (2022-2023)	3/1/2024	Expand the Alternate Code Compliance pilot to engage additional jurisdictions and bring these resources to more communities across the state.	Implemented	Total funding available to local governments will be \$7.5M. A solicitation to procure a software vendor was issued 1/30/25 and closed 3/17/25. The proposal review and selection process is now underway. NYSERDA still expects to issue a PON offering local governments access to code enforcement software in Q3 2025.
Codes and Standards for Carbon Neutral Buildings Market Evaluation (2022-2023)	3/1/2024	Explore other options and data sources that could be used to isolate the impact on indirect savings estimates of DACs and non-DACs. Consider other ways that the impact on DACs can be assessed, such as tracking the responses and progress of jurisdictions that serve DACs under the Alternate Code Compliance pilots.	Implemented	A contractor was selected and work is underway.
Codes and Standards for Carbon Neutral Buildings Market Evaluation	12/1/2022	NYSERDA should convene jurisdictions that have adopted NYStretch in a short online debriefing session or focus group to deepen understanding of jurisdictional	Implemented	No update, the plan and schedule has not changed.

		<p>experience with program support—particularly with circuit riders/consultants—and identify opportunities for improvements with the greatest potential to increase program impact. These improvements can enhance NYSERDA’s future stretch code support work.</p>		
<p>Energy Management Practices (Industrial) 2017-2020 Impact Evaluation Phase 2</p>	<p>5/31/2024</p>	<p>Although it will add some additional burden on the program participants, the Impact Evaluation Team recommends that NYSERDA encourage on-site energy managers to provide complete project documentation and savings calculations. When possible, documentation such as photographs, spot metering or short-term meter logging electronically saved would increase confidence in the reported savings.</p>	<p>Implemented</p>	<p>Recommendation has been implemented on selected new sites</p>

Energy Management Practices (Industrial) 2017-2020 Impact Evaluation Phase 2	5/31/2024	Continue to refine and improve modeling best practices and procedures and use them consistently.	Implemented	Recommendation implemented for selected new sites
Energy Storage System Performance Impact Evaluation	6/6/2024	In the upcoming year, the state of charge data from the nine sites for which this data is available can be used to generate battery-level model outputs if this is of interest to NYSERDA. Ideally, however, state of charge and operating temperature would be available for all sites. Since these metrics are typically collected by the system vendors as part of the routine operational data collection, NYSERDA should consider adding this as a data collection requirement for program participants.	Implemented	This information is being collected for selected sites
Energy Storage System Performance Impact Evaluation	6/6/2024	NYSERDA should consider alternative outreach methods with stakeholders (e.g., target workshops, focus groups, etc.) to drive continued adoption of these systems.	Implemented	This recommendation is being implemented through NYSERDA Quality and Market Standards

P-12 Schools Market Baseline Evaluation (2019-2023)	3/1/2024	As the program team begins to see trends in program participation, consider conducting a nonparticipant and/or non-respondent study for the Clean Green Schools Program, which targets DAC and high-need schools, to identify early trends around engagement.	Implemented	NYSERDA Program staff conducted a non-participant survey to better understand the specific challenges and barriers preventing schools to participate in the NYSERDA Programs.
P-12 Schools Market Baseline Evaluation (2019-2023)	3/1/2024	Consider reworking the indirect benefits framework to be more flexible when evaluating initiatives that contain several unique, complex, and multi-faceted program designs. Consider refinements to the process for calculating UEBs to account for the variation in school size, district size, and building square footage as well as reworking influence constraints.	Implemented	NYSERDA's evaluation contractor and team have completed indirect benefits memos identifying potential rework for the framework for P-12 and NYSERDA. A new indirect benefits framework is being developed for Q2 2025.
Single-Family Low-to Moderate-Income Heat Pump Demonstration Study (Pilot Period 2021-2022) Market Characterization	7/24/2024	Expand marketing and educational resources of heat pump technologies to further emphasize increased home comfort in addition to bill savings and proper equipment usage. These expanded	Implemented	Marketing and educational resources of heat pump technologies emphasize increased home comfort are currently in the market.

		<p>marketing and educational resources targeting contractors and customers may include items such as: Contractor instructions and marketing assets, e.g., case studies; Fact sheets and contractor training that support contractors in identifying funding options to better support customer decision-making and capitalizing on their existing motivations; and Customer-facing resources explaining or demonstrating heat pump technologies, such as videos, infographics, or equipment tutorials, that are promoted on the NYSERDA website or social media.</p>		
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## 1.1 Codes and Standards for Carbon Neutral Buildings Initiative Market Evaluation (Program Years 2023-2024)

*Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings and associated recommendations from the Codes and Standards for Carbon Neutral Buildings Initiative Market Evaluation include:<sup>1</sup>

The Market Evaluation of the Codes and Standards for Carbon Neutral Buildings initiative was designed to span five years with preliminary estimates of initiative savings presented yearly and final indirect market impacts determined in this current, final year of the evaluation. Table 4 below shows the final initiative savings as total energy TBTUs for the years 2015 through 2024 for the Technology & Market Development (T&MD) and CEF portfolios.

**Table 4. Initiative Savings by TBTU**

Incremental Annual Additions (TBTUs)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Cumul. Annual 2015-2024
Total T&MD and CEF	0.5342	0.3757	0.4050	0.3874	0.4044	0.2821	0.2851	0.3886	0.3400	0.3316	3.734
T&MD Only	0.5342	0.3757	0.4034	0.2881	0.1236	0.0028	-	-	-	-	1.728
CEF Only	-	-	0.0016	0.0993	0.2807	0.2793	0.2851	0.3886	0.3400	0.3316	2.006

**Finding 1: Estimated code compliance is increasing but at a slower rate in the last years of the current code cycle.** Data show that compliance levels are cyclical. Typically, compliance initially drops following the adoption of a new code, with the greatest increases in the years that follow the code adoption (coinciding with use of compliance resources such as training) and then plateaus in later years.

Delphi panel data and interviews point to an overall trend of energy code compliance increasing over the course of the evaluation period of 2023-2024 by 7% to 22%. These substantial increases in code compliance are a key factor in the initiative exceeding its initial savings estimates for this evaluation period. This continued compliance increase is largely driven by commercial new construction; in residential projects and commercial additions and alterations, data suggest that compliance has plateaued. Expert feedback suggests the following reasons for these trends:

- Commercial new construction projects are built by teams that have more resources and higher levels of staff (on average) than in residential new construction, while the actors in the residential new construction market are more fragmented.

- Commercial builders typically have broader experience with building systems and compliance measures (e.g., weather barriers) than residential builders, and can therefore better engage with new requirements. Commercial builders already default to a higher level of review that enables compliance, while market actors in residential and smaller projects are more likely to find the additional costs and time requirements of compliance more challenging.
- **Recommendation 1a:** With NYS at the end of the current code cycle and adoption of a new state code expected in 2025, continue plans to offer increased support to familiarize stakeholders with the upcoming code and minimize the anticipated drop in compliance, to the extent possible. Prioritize support to jurisdictions with limited bandwidth to further energy code compliance by focusing on increasing their understanding of and engagement with new requirements. Continue to provide technical support to larger jurisdictions, such as New York City, to enable collaboration and demonstration. Continue to explore opportunities for engaging building professionals and market actors who can influence the quality of projects brought to code officers.
  - **NYSERDA Response to Recommendation: Pending.** NYSERDA will contract with training providers to develop and deliver training on the new state Energy Code and intersecting requirements of the state Uniform Code and do so within the context of the state’s pending building electrification rule. NYSERDA will evaluate the impact and effectiveness of this training and adjust as needed. NYSERDA will continue to work with state and regional home builder associations, and regional material suppliers, to inform training and resources aimed at supporting building professionals in advance of and during the next code cycle. NYSERDA will continue to work closely with DOS to provide code compliance support and tools including online code compliance resources to NYS AHJs.
- **Recommendation 1b:** Develop packages of resources specifically focused on residential projects and additions and alterations and explore new ways to market these resources to building professionals with limited bandwidth for compliance activities. When developing compliance resources, ensure that the resources serve market actors of all types of projects (small and large, residential and commercial, new construction and alterations).
  - **NYSERDA Response to Recommendation: Pending.** Future training will address additions and alterations for residential and commercial buildings. Market research will inform what, if any, other additional resources should be developed and what their potential demand and utility would be.

**Finding 2: Regional variations in resources, staffing, and priorities impact opportunities to improve compliance.** Many experts stressed that jurisdictions have competing priorities, such as easing processes to streamline economic development and using limited staff bandwidth for compliance with safety elements (e.g., fire code) rather than energy consumption. Feedback suggests that compliance levels vary across the state and that rural jurisdictions facing resource and staffing limitations are key drivers of lower compliance rates. Permit application processes vary by jurisdiction, with many jurisdictions still using paper processes that require additional staff hours. These variations add to the burden of applicants who must keep track of different processes and platforms across jurisdictions. Experts estimated that targeted third-party support will have a meaningful impact on compliance in these jurisdictions (average of 10%), as will code compliance technology (average of 6%).

- **Recommendation 2a:** While post-training surveys gather data about where trainees work, survey questions could be structured to require respondents to select one or more cities or counties in a drop-

down menu to allow for easier processing and mapping of who has been engaged in each region across the state.

- **NYSERDA Response to Recommendation: Pending.** NYSERDA will explore the feasibility of gathering a greater degree of locational granularity in training survey instruments.
- **Recommendation 2b:** Develop a protocol for assessing community capacity for compliance, considering potential inputs such as number of code officials, number of trained building professionals, points of engagement with NYSERDA, and others. Use findings from this analysis to support the development of more opportunities to target specific communities with resources that allow them to pursue energy code compliance without sacrificing already limited bandwidth. Explore opportunities to build local resources that support compliance and limit administrative, procurement, and maintenance requirements for code officials, builders, and other permit applicants.
  - **NYSERDA Response to Recommendation: Pending.** NYSERDA plans to expand the availability of pilot programs designed to make enforcement easier and more efficient at the building department level.

**Finding 3: Energy code officials' perception of the energy code in some jurisdictions may affect code enforcement and by extension, compliance.** Interviews revealed that some code officials are not motivated to communicate code requirements to other market actors due to the perception that the value of the energy code was tied to concern about climate change, which they consider unnecessarily political and not well received in their jurisdiction. Some code officials also noted that they believed the energy code was becoming unrealistic and infeasible, or that they would alienate developers or political leadership by pursuing compliance. Interviews suggest that the majority of these concerns would be mitigated if energy code compliance was positioned as offering financial benefits such as compelling payback periods.

- **Recommendation 3a:** Develop materials that highlight various benefits of the energy code in state resources and training. Incorporate easily communicated bullets and sound bites into training offerings, so that trainees may communicate benefits within the communities they serve.
- **Recommendation 3b:** Where feasible, leverage existing pilot activities to enhance communication of the value proposition to communities. Given the ways in which compliance and motivating policies vary across jurisdictions, it may be beneficial in some cases to explore working meetings and collaboration with community leadership and stakeholders in select jurisdictions to assess different jurisdictions' needs and provide customized support aligned with their needs and interests.
  - **NYSERDA Response to Recommendations (3a & 3b): Pending.** NYSERDA will explore the practicality and utility of incorporating additional value propositions of energy code compliance into any future training and resources developed.

**Finding 4: Trainings continue to provide value to attendees and are useful in increasing compliance.** The percentage of code officials and building professionals who reported an increased understanding of energy codes influencing their approach to code compliance has remained consistently high throughout the evaluation period. This evaluation found that trainings have impacted code compliance, representing 80% of the energy savings in this initiative. At least 71% of respondents in all years say that they believe trainings increased compliance. Respondents also reported increased understanding of the energy code post-training in all years at remarkably consistent rates, though data show trainings have a slightly greater impact in the years immediately following code changes. More than 40% of survey respondents reported that they either made changes or expected to make changes to their energy code-related work procedures after attending the training every year. Early data suggest

NYSERDA's increased diversification in training offerings has been well received, with surveys showing high ratings for information quality and relevancy to work for the new asynchronous trainings.

- **Recommendation 4:** As was done ahead of code adoption in 2020, increase training efforts and resources near the upcoming energy code update. Providing additional support in the ramp up and following a code change will support code officials and building professionals with the transition. Continue to explore the impact of diversifying the energy code trainings' reach by experimenting with training formats (e.g., asynchronous online training options). Interview feedback noted that complex technical slides can be overwhelming and that providing real-world examples, pictures, and case studies could help engage trainees.
  - **NYSERDA Response to Recommendation: Pending.** NYSERDA will support training on the next energy code update, informed in part by this evaluation.

## 1.2 Energy Efficiency and Beneficial Electrification Soft Costs in New York Market Evaluation (Program Years 2023-2024)

*Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings and associated recommendations from the Energy Efficiency and Electrification Soft Costs in New York Market Evaluation include:<sup>2</sup>

### **Finding 1: Market forces continued to have an impact on energy efficiency and building electrification projects in New York.**

As was the case for the period between the baseline and 2021 studies, the New York State market experienced several shocks between the 2021 and 2024 studies. This included continued increases in the Producer Price Indices and Consumer Price Index, increases in energy costs, a high degree of uncertainty in the market, and a tight labor market. While cost increases generally leveled off in 2023, costs did not fall back to previous levels, keeping pressure on the market.

- **Recommendation 1:** Identify specific topics of interest from this study, such as specific soft cost categories or specific prototypical projects and consider conducting more in-depth tracking of these costs in future years. For example, if NYSERDA plans to launch an initiative to increase the electrification of space heating in multifamily buildings, conducting targeted research with multifamily building providers could shed additional light on drivers of project costs.
  - **NYSERDA Response to Recommendation:** Implemented. NYSERDA has and will continue to conduct targeted research focused on understanding the drivers of soft costs. For example, to inform the energy conservation measure packages of the Empire Building Challenge, NYSERDA has conducted a focused review of the demonstration projects and associated soft costs. Additionally, under the Comfort Home pilot, NYSERDA tested the impact of program design strategies aimed at reducing soft costs for comprehensive home improvements. The strategies have demonstrated promising results in reducing the overall amount of time needed for field data collection, energy modeling, and bid preparation, as well as making the program easier to understand and therefore easier to sell to homeowners. NYSERDA will continue to explore opportunities for more in-depth research to support the reduction of soft costs.

**Finding 2: Energy efficiency and electrification project costs generally increased, but some signs of maturity for newer HVAC technologies emerged.**

Across five of eight prototypical projects measured in 2024, total project costs (both hard and soft) increased from 2021 to 2024. This contrasts with 2021, where the majority of the increase was seen in hard costs. Generally, in 2024, costs increased for more established project types (i.e., those where contractors may have a good understanding of the level of effort needed for project completion). Notably, two prototypical projects—the multifamily ASHP retrofit and commercial HVAC projects—experienced decreases in total project cost. While the sample sizes were small, this may indicate that there is growing comfort with these project types in the market.

- **Recommendation 2:** Continue training and workforce development initiatives, ensuring they have proper funding and cover a sufficient number of technologies and the varied occupations involved in projects. Ensure trainings tie together complementary topics, such as building shell improvements with HVAC retrofits, to help contractors develop broader skillsets and reduce barriers to more holistic retrofit projects. Additionally, identifying any avenues for training on proper maintenance that can be provided to building operators/managers may reduce barriers to initial installation.
  - **NYSERDA Response to Recommendation:** Pending. NYSERDA submitted a Workforce Development plan pursuant to the July 2023 PSC Order directing energy efficiency and building electrification proposals. The PSC Order in response to these proposals is still pending currently. If approved, NYSERDA will offer programs that support training initiatives to prepare new workers for energy efficiency and clean energy jobs as well as providing critical upskilling / reskilling for existing workers as part of the next funding cycle. The Energy Efficiency / Building Electrification portfolio of programs would allow for the complementary training topics and training on equipment operations noted above to be included in training and workforce development efforts.

**Finding 3: Across the study waves, residential contractors have responded to increased customer interest via increased bid volume, impacting total project costs and shifting the share of soft costs.**

Consistent with 2021, one of the primary drivers of soft cost changes for the residential HVAC project was the increase in bid preparation costs. Compared to 2021 estimates, total marketing and customer acquisition costs grew by an average of \$602 per project in 2024, of which most of that increase (\$420) is due to bid preparation costs. When reviewing the number of bids contractors reported responding to, the Evaluation Team found that this amount increased by 39%, nearly identical to the change in bid preparation costs (+40%). Thus, in 2024, contractors did not spend longer on bids but responded to more of them. Interestingly, this same trend was not seen in other sectors.

- **Recommendation 3:** While NYSERDA has a robust set of trainings and standardized bid packages for the residential and multifamily sectors, conducting outreach to contractors not currently within their network may increase the awareness of these offerings. This effort could involve strengthening existing partnerships with industry groups or utilities as they expand their electrification offerings. Engaging new contractors is critical for advancing the market toward greater efficiency.
  - **NYSERDA Response to Recommendation:** Pending. NYSERDA makes multifamily standard measure packages available as this is an important component incorporated into the structure of the Low Carbon Pathways program. NYSERDA also uses this measure packages approach for

other NYSERDA residential programs. For heat pump projects, NYSERDA has plans to develop some standard system designs for common home types that could be available to the market at large and could greatly reduce the level of effort required to design a whole house system and build up a cost estimate.

**Finding 4: Downstate service providers continued to experience additional costs not experienced by upstate service providers, leading to higher project soft costs.**

Consistent with findings from 2019 and 2021, downstate and upstate service providers' costs differed. These regional disparities were also evident in the data from the Empire Building Challenge projects. Specifically, soft cost categories for the residential HVAC project, marketing and customer acquisition, and transaction costs accounted for the majority of the difference in costs between upstate and downstate service providers driven by higher costs for preparing bids and obtaining necessary construction permits. While these findings were not statistically significant due to low sample sizes, the directional trend aligns with expectations and is reflected in the higher downstate labor rates.

One soft cost category that was consistently higher downstate across sectors was permitting. While upstate permitting costs tended to converge closer to zero, downstate permitting costs were more widely dispersed, pulling the mean higher. This finding is consistent with data from 2019 and 2021 and is expected, given the more complex and expensive permitting landscape downstate. Additionally, more complex projects, such as commercial HVAC, had a wider gap between upstate and downstate permitting costs, while the gap narrowed for less complex projects.

- **Recommendation 4a:** Consider conducting qualitative research among downstate service providers to identify more specific aspects of the energy efficiency and electrification project process that are pain points. This research could be included in upcoming HVAC market research.
  - **NYSERDA Response to Recommendation: Pending.** In future market characterization research in the HVAC market space, NYSERDA will consider conducting qualitative research at the regional level to identify aspects of energy efficiency and electrification projects that are pain points for service providers. Further, NYSERDA will consider conducting targeted research to characterize and quantify the monetary impact of barriers specific to urban markets for single family and small multifamily buildings.
- **Recommendation 4b:** To provide assistance to contractors working across jurisdictions, consider consolidating resources created by municipalities with more complex permitting requirements in a single repository that contractors can reference. This could include links to relevant permitting pages on other municipalities' websites that detail the necessary steps and requirements for obtaining a permit. By providing a consolidated repository for different permitting resources, contractors can more easily identify what is needed and, ideally, spend less time on permitting.
  - **NYSERDA Response to Recommendation: Rejected.** NYSERDA has considered and rejected these types of efforts as a role for NYSERDA in the past due to the very high level of effort involved in maintaining up-to-date information across all local jurisdictions in New York State. This task is better handled at the local level.

### 1.3 Heat Pumps Phase 2 Market Evaluation (2023-2024)

#### *Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

In 2024, NYSERDA undertook an internal analysis of heat pump indirect impacts for the Heat Pumps Phase 2 initiative of the Clean Heating and Cooling focus area. This analysis quantified acquired indirect energy savings for the period 2023-2024 and updated the forecast of expected indirect energy savings for the period of 2025-2030.

Key findings and associated recommendations from the Codes and Standards for Carbon Neutral Buildings Initiative Market Evaluation include:<sup>3</sup>

- Acquired indirect savings of 297,990 MMBtu for the 2023 period.
- Forecasted future indirect energy savings of 3.0 TBtu for the period 2024-2030 (“Thru 2030”).

This analysis did not yield recommendations. However, recommendations from the prior round of this work still apply:

- Consider a more robust study to shore up analytical assumptions about the amount of naturally occurring market adoption (NOMAD) that is occurring.
  - **Pending.** NYSERDA is considering a study to baseline the estimated NOMAD variable implemented in this analysis.
- Continue efforts to gain access to HARDI data.
  - **Pending.** NYSERDA is in discussions with several entities to obtain this data.

### 1.4 New Construction Impact and Market Evaluation (Commercial and Multifamily) (2016-2022)

#### *Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings and associated recommendations from the New Construction Phase 2 study include:<sup>4</sup>

**Finding 1: The interim results largely support program savings claims with realization rates for commercial and multifamily between 99% and 122% of gross savings.** These results provide an evaluated savings of 34,380 MWh and 231,301 MMBtu of natural gas savings for commercial and multifamily projects combined. Note that these interim results will be updated in final overall results, which will be produced as part of Phase Three, and which may include expanded review of some projects from this (Phase Two) sample.

**Finding 2:** Fifteen of the 58 sampled projects did not have available energy models to support savings claims. The PONs for these programs required the submission of energy models as appropriate, indicating that these were captured at the time the projects were completed. **A transition between NYSERDA project data management platforms in 2023 may have affected the availability of this data and thus how many energy models were readily available to the Evaluation Contractor Team.** Their presence in files provides the basis for verifying savings as part of impact evaluation work as well as general support for NYSERDA to ensure the

accuracy of gross savings claims and performing internal QA/QC activities. The study also observed that gross savings were not always substantiated by project documentation.

- **Recommendation 1:** The Evaluation Contractor Team recommends that NYSERDA conducts an audit of completed projects as part of the project closeout phase to ensure all required documents and models have been received, accurately transcribed into the tracking system, and properly filed for later access. Availability of key project documentation such as model files is critical for quality control and to verify gross savings estimates. These files are also an essential element in performing the impact evaluation work needed to support program claims.
  - **NYSERDA Response to Recommendation 1: Pending.** NYSERDA will review this recommendation and discuss with staff to ensure that all of the required documents are collected and saved. The reinforcement of this and change in process may eliminate the need for a regular audit exercise.

**Finding 3: Reviewed energy models were generally found to be representative of the treated buildings.** Of the 43 models reviewed by the Evaluation Contractor Team, 37 accurately represented the completed project. Most discrepancies found in the models and project documentation were minor, with only six models showing significant discrepancies in system types, schedules, or setpoints.

**Finding 4: Modeled codes used in energy savings baselines were correctly applied in most cases.**

Differences in energy performance of compliant buildings between building code cycles varies. While observed differences between more recent code changes has been estimated to have a smaller impact (estimated at approximately a 2% difference in energy performance), differences can be much more notable between older code cycles. For example, the difference at one project with older code changes was significant (this mis-application of baseline reduced the claimable energy savings by 24%).

**Finding 5: Several high-rise multifamily projects were modeled in eQuest (a building energy analysis modeling tool), which did not use the energy model results in the gross savings and instead used deemed savings estimates. These gross estimates were found to be highly variable compared to verified gross savings, introducing more uncertainty around project-level savings estimates.**

- **Recommendation 2:** The Evaluation Contractor Team recommends using project-specific energy models where available as the basis for gross savings estimates and only using deemed savings estimates where energy models are not available.
  - **NYSERDA Response to Recommendation 2: Pending.** NYSERDA New Construction Program will review this recommendation and discuss with staff to ensure that project-specific energy models are used whenever possible. The findings presented here indicate a need to rely on the energy modeling technique to gather more accurate saving information.

**Table 5. Interim Realization Rates by Sector and Fuel\***

Period of Application		Electric		Natural Gas/Propane	
		Realization Rate	Precision (90% c.i.)	Realization Rate	Precision (90% c.i.)
Commercial	2016-2022	98.8%	±7.9%	122.2%	±10.3%
Multifamily	2016-2022	103.2%	±8.8%	108.4%	±10.5%

\*Updated realization rates will be assessed in the next phase of the study

## 1.5 Statewide Multifamily Building Stock Study

### *Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings and associated recommendations from the Statewide Multifamily Building Stock Study include:<sup>5</sup>

#### *Summary of Report Findings*

The primary objective of the Statewide Multifamily Building Study (SMBS) was to provide baseline data on the building stock and equipment for an estimated 2.6 million multifamily dwellings across New York State. Data was collected between June 2022 and January 2023 from more than 2,400 multifamily properties through online phone surveys and site visits. The study also identified motivations and barriers to energy efficiency and electrification upgrades in multifamily buildings, which will be used to inform program planning and setting baselines for energy savings calculations.

The study encompassed three components: A building stock study, market assessment and image analysis study.

- The building stock study provided a profile of multifamily buildings in the State based on data from a representative sample of buildings and dwelling units and to provide baseline data on building and equipment stock, including changes in the saturation of energy-consuming equipment (electric, natural gas, and other fuels), building characteristics, and energy management practices to stakeholders in the industry such as utilities, contractors, and other service providers.<sup>6</sup> The building stock study also collected occupant household and demographic information.
- The market assessment established a baseline understanding of industry practices, market drivers, and barriers in the State multifamily market.
- The image analysis study used machine learning to analyze aerial imagery, estimating externally visible characteristics of every multifamily building in the State.

The summary herein covers the Building Stock study and Market Assessment. The image analysis will be presented in a public-facing dashboard, anticipated to be complete Q2 2025.

Key findings from the Building Stock Study include:

Population Data

The baseline assessment estimated the total number of multifamily buildings in New York State by climate zone (cz). The climate zones for NYS are outlined in Figure 1 below.


**Figure 1. New York State Climate Zones**

CLIMATE ZONE 4A				CLIMATE ZONE 4B			
Bronx	Richmond	Queens	New York	Nassau	Suffolk	Westchester	
Kings							
CLIMATE ZONE 5				CLIMATE ZONE 6			
Albany	Erie	Ontario	Saratoga	Allegany	Franklin	Montgomery	Sullivan
Cayuga	Genesee	Orange	Schenectady	Broome	Fulton	Oneida	Tompkins
Chautauqua	Greene	Oswego	Seneca	Cattaraugus	Hamilton	Otsego	Ulster
Chemung	Livingston	Orleans	Tioga	Chenango	Herkimer	Schoharie	Warren
Columbia	Monroe	Putnam	Washington	Clinton	Jefferson	Schuyler	Wyoming
Cortland	Niagara	Rensselaer	Wayne	Delaware	Lewis	St. Lawrence	
Dutchess	Onondaga	Rockland	Yates	Essex	Madison	Steuben	

The study estimated a total number of 129,611 multifamily buildings in NYS (75,821 in cz 4a; 12,134 in cz 4b; 31,154 in cz 5; and 10,502 in cz 6).

Figure 2 shows the total by building size and region.

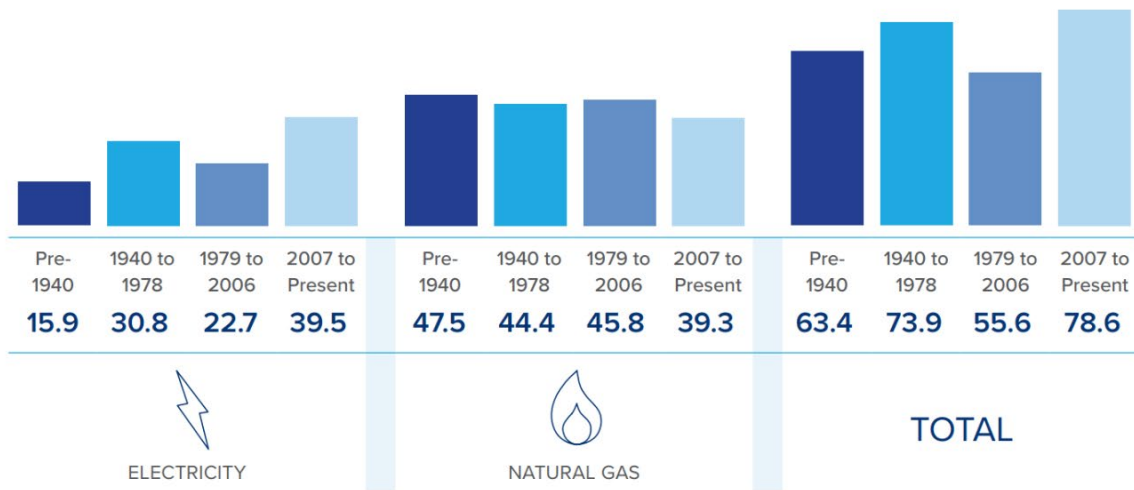
**Figure 2. Multifamily Buildings by Size and Geographic Region**

BUILDING SIZE	CLIMATE ZONE 4A	CLIMATE ZONE 4B	CLIMATE ZONE 5	CLIMATE ZONE 6	
1 to 3 Floors	20,246	9,166	27,884	9,395	66,691
4 to 7 Floors	47,381	2,522	2,933	1,042	53,878
8 or More Floors	8,194	446	337	65	9,042

Energy Usage Intensity

Newer buildings use more energy than old buildings, as shown in Figure 3 below. The study found that buildings built after 2006 have a higher total building energy use intensity (EUI<sup>7</sup>) than older buildings, measured in kBtu/sqft.

**Figure 3. Energy Use Intensity by Fuel and Building Age**



<sup>7</sup>Total Building EUI (kBtu/Sqft) is calculated as the total of electric EUIs, natural gas EUIs, and other fuel EUIs. The EUI weighting accounts for the presence of each fuel - i.e. the fuel saturation. Other fuels that are included in the total building EUI include fuel oil, propane, and steam, and represent 6-12% of fuel saturation across geographic regions.

Low-Mid-High-Rise Findings

Natural Gas metering type depends on building size; low and mid-size buildings tend to have direct natural gas meters for tenants, while most high-rise buildings have building level meters.

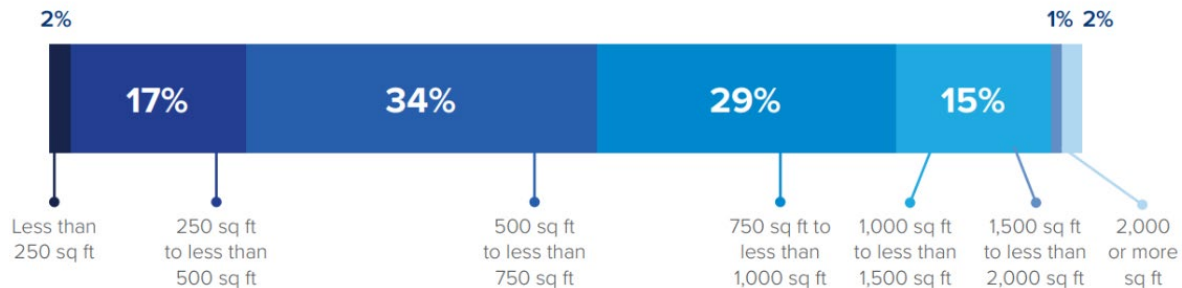
About two-thirds of low- and mid-rise buildings have individual natural gas meters for tenants. This relationship is reversed for high-rise buildings, where less than one-third have individual meters.

Low-rise buildings tend to have the largest dwelling units, then mid- and high-rise buildings, as shown in Figure 4 below.

**Figure 4. Unit Size by Building Size**

SMALLER BUILDINGS CONTAIN LARGER DWELLING UNITS

**DWELLING UNITS TEND TO BE LARGER IN LOW-RISE BUILDINGS THAN IN MID- OR HIGH-RISE BUILDINGS.**



Key findings and recommendations from the Market Assessment include:

**Finding 1: PMOs (property managers & owners) who manage high-rise buildings are more likely to need financial and planning assistance to prepare their multifamily properties for future energy upgrades. PMOs of all building sizes will be looking to contractors, design professionals, and asset managers for decision-making guidance.**

- PMOs typically purchase standard-efficiency HVAC and DHW equipment and just under half of HVAC and DHW PMOs surveyed said they do not include future building upgrades in their capital budget.
- PMOs consider up-front costs and recommendations from contractors or design professionals when deciding whether to install high-efficiency or standard-efficiency HVAC and DHW equipment. When making decisions about the efficiency level of building shell improvements, surveyed PMOs say they look at the up-front cost more than the expected future energy savings.

All PMOs reported that when a multifamily building has an asset manager, that person is involved in energy decisions for the property.

Recommendation 1a: Consider developing marketing materials that focus on longer-term planning with regard to building improvements to encourage PMOs to shift from impromptu maintenance and replacements to scheduled upgrades. More long-term planning could help PMOs lower up-front costs, reduce unpredictability, and increase tenant comfort.

Recommendation 1b: Consider collecting contact and building portfolio information for multifamily building asset managers and use an account-based outreach approach to build relationships with and market to them.

**Finding 2: According to PMOs, project costs are the most common barrier to high efficiency building shell improvements. Contractors and architects also cited cost as one of the barriers to the adoption of HVAC and DHW equipment.**

- HVAC and DHW PMOs said the top two factors when deciding between high-efficiency and standard efficiency equipment are up-front cost and recommendations from their contractors or design

professionals. Shell PMOs cited project cost as the most common barrier to high-efficiency windows and doors, recladding, and insulation.

Recommendation 2: Consider developing a quantitative planning tool that not only factors in costs, incentives, financing, and savings but also clearly shows calculations to assist in decision-making. This tool should be easily accessible so energy consultants, design professionals, contractors, PMOs, and outreach staff can use it to facilitate planning conversations.

**Finding 3: Energy efficiency program incentives and other financial assistance, such as loans or grant money, could alleviate financial barriers to participation for PMOs and encourage them to make energy upgrades in the near future.**

- Many PMOs said they plan to make energy upgrades such as installing new windows and doors, performing weatherization, and installing new heating, cooling, and water heating equipment in the next few years.
- A majority of PMOs expressed interest in NYSERDA's energy efficiency programs targeted at multifamily building upgrades.

Recommendation 3a: Continue emphasizing the energy-efficiency incentive programs available for multifamily properties through materials and sources such as utility bill inserts, social media posts, contractor communication, and websites.

Recommendation 3b: Develop materials outlining sources of funding for multifamily retrofit projects, including NYSERDA-sponsored energy efficiency programs and federal and state loan or grant money, and make this information available to PMOs, contractors, and design professionals.

**Finding 4: PMOs have knowledge barriers, while energy consultants, design professionals, and contractors face technical barriers. Knowledge and technical barriers must be addressed to increase adoption of high efficiency equipment and improvements.**

- Many architects and HVAC and DHW contractors think PMOs could be better informed about energy efficient technology options and the benefits of installation. Several contractors also said that some PMOs doubt the reliability of new DHW technologies.
- Contractors and architects cited technical concerns about multifamily retrofits, including finding space/room to install efficient equipment; installing equipment without disturbing tenant space; and being left with limited installation options after factoring in size, space, and ductwork.

Recommendation 4a: Consider developing case studies of successful multifamily retrofit projects to demonstrate to PMOs the benefits of installing high-efficiency equipment and alleviate PMOs' concerns about installations. Highlight a variety of technology upgrades in different building types and structures. Partner with contractors and architects to identify types of projects to include as case studies.

Recommendation 4b: In outreach messaging and on the website, continue to educate PMOs and contractors about the use and energy-saving benefits of installing high-efficiency equipment, such as heat pump HVAC systems and heat pump water heaters, to increase equipment awareness and interest.

## 1.6 Workforce Development Impact and Market Evaluation (Q1 2021 – Q4 2023)

### *Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings and associated recommendations from the Workforce Development Retrospective Evaluation include:<sup>8i</sup>

**Finding 1:** NYSERDA used a simplified approach to estimate ex ante annual energy baseline consumption based on allocating customer reported energy spending. However, when finalizing savings for a completed project, this approach will lead to errors, including misstatement of electricity (thus savings) and missing non-natural gas fuel savings.

- **Recommendation 1:** When finalizing the savings for a completed WFD project, NYSERDA should use the actual consumption, gathered as a program requirement in the savings calculations.
  - **Response to Recommendation 1: Implemented.** For active projects, NYSERDA has been collecting baseline energy use data by fuel type and is basing reported savings on that information moving forward. Participants choose the best source of this data for their portfolios (e.g. LL84 benchmarking data, data from an energy management system, or straight utility bill data).

**Finding 2:** The WFD BOM training did not yield the expected savings due to the overestimated baseline building consumption, omitted fuels, and the savings factors provided by the vendors being unrealistic (many of the measures do not produce whole buildings impacts like the savings factors provided). Most of the current WFD training is designed and delivered to improve staff’s understanding of building systems and their intended operation, which limits time spent on how to identify and implement energy efficiency measures. The training also does not address energy savings opportunities across fuels equally.

- **Recommendation 2a.** NYSERDA should apply the Alternative Prospective Realization Rate values presented in Table 6 below when reporting BOM savings. The APPR incorporates the direct impact evaluation results adjusted for Program Staff’s revised practices to incorporate actual billing data into reported savings at the time the project is complete. NYSERDA should evaluate whether the practices are consistent within 18 months of the publication date.
  - **Response to Recommendation (2): Implemented.** Program has implemented the APPR for a period of 18-months, starting in Q1 2025.

**Table 6. Direct Impact Reporting Ratios**

Type (VGSRR/APRR)	Effective from date (year quarter)	Effective until date (year quarter)	Electricity savings annual MWh (RR)	Natural gas savings annual MMBtu (RR)
APRR	2025-Q2	2026-Q4	23%	60%

- **Recommendation 2b.** When relying on the training vendor or applicant’s estimate of savings, require vendor or applicant to submit a preliminary and final listing of the measures covered in training and their approximate impact on total savings by fuel. This will encourage vendors to support the claimed savings fraction.
- **Recommendation 2c.** At the ex-ante savings estimation stage, the vendor may not know the full extent of training, however, a preliminary plan may be acceptable at this stage. A final submission should be required that documents each measure’s training, its expected savings as a fraction of the usage, and explicit references to slides or documentation in the training materials. This more directly ties the savings estimates to the training that is delivered. NYSERDA could streamline this with a reference list of measures, their expected savings impacts, and a description of appropriate training.
  - **Response to Recommendations 2b and 2c. Pending.** The nature of operations and maintenance training is not necessarily linked to distinct ECMs as is the case with physical retrofit or upgrade projects. Instruction on building systems and proper operation of equipment empowers operators to improve operations and address issues as they come, but the nature of those issues or optimizations may not be known as part of the training.
  - It is not practical to request training providers catalog the universe of potential equipment adjustments or maintenance activities that an operator may implement across a portfolio of buildings as a result of their trainings. Additionally, the responses would differ a good deal across training providers working in different types of buildings and would necessitate a restructuring of the program that is not suitable for a program that is close to sunseting.
  - NYSERDA has been collecting more detailed data on the specific building systems covered in the O&M training projects, which allows for a more informed review of the potential impacts of training on electricity and fuel usage for each project. NYSERDA will work with training providers to determine if separate electric- and fuel-specific savings percentages are warranted based on the balance of the training, determine if separate electric- and fuel-specific savings percentages are warranted based on the balance of the training focus.

**Finding 3:** Indirect annual savings of 784 MWh (electric savings) and 31,287 MMBTU (natural gas savings) were associated with projects with a Complete and Encumbered status in the Scorecard between September 30, 2021, and December 31, 2023. The indirect savings data were calculated using self-reported survey data and represent an additional program contribution primarily arising from the extension of the participant training to other staff within the participant organization and through staff bringing their training to new employers.

- **Recommendation 5:** NYSERDA should report indirect savings using Table 3 values.
  - **Response to Recommendations: Implemented.** The savings are being reported within the Q1 2025 CEF report.

## 2 Q2 2025 Evaluation, Measurement, and Verification Summary

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In accordance with the Department of Public Service CE-05: Evaluation, Measurement, & Verification (EM&V) Guidance, NYSERDA is required to file all final EM&V Reports in the Document and Matter Management system. This section will include a compilation of the high-level summaries of the EM&V reports due for filing within the reporting period.

For the Q2 2025 reporting period, two evaluation studies were finalized as presented in Table 7. For more information on the schedule of studies as they pertain to NYSERDA’s Market Development and Innovation & Research initiatives, please reference the Compiled Investment Plan or view reporting for historical periods to see past summaries both found on NYSERDA’s website.

**Table 7. Evaluations Completed Q2 2025**

Evaluated Program	Evaluation type	Evaluated program year(s)
Comfort Home	Impact and Process	Q1 2020 – Q2 2023
Solar Photovoltaic Program Performance Persistence	Impact	Q1 2012 – Q4 2021

The latest Compiled Investment Plans:

<https://www.nyserdera.ny.gov/About/Funding/Clean-Energy-Fund/>

Clean Energy Fund Reports:

<https://www.nyserdera.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Clean-Energy-Fund-Reports>

Note that NYSERDA began providing these summaries with the 2021 Annual CEF Performance Report.

## 2.0 Comfort Home Impact and Process Evaluation (PY Q1 2020 – Q2 2023)

*Summary of Report Findings, Recommendations, and NYSERDA Response to Recommendations.*

Key findings and associated recommendations from the Comfort Home Impact and Process Evaluation include:<sup>9</sup>

**Finding 1: During the evaluation period, the Comfort Home Program achieved total first year energy savings of 20,660 MMBtu including natural gas and electric.** Natural gas savings account for approximately 95% of these electric and natural gas program savings. These results represent deep energy savings and reduced baseline heating consumption by up to 20%, depending on which program package was chosen. Across all fuels, natural gas and electricity represent approximately 68% and 5% of all savings, respectively; ongoing evaluation studies will capture the impact related to the remaining delivered fuels savings.<sup>10</sup>

- **Recommendation 1a:** Revisit the program’s incentive structure to ensure incentives are aligned with the energy savings potential of measures. In particular, incremental incentives for installing windows in Package C may be misaligned with their savings potential.
  - **NYSERDA Response to Recommendation 1a:** Implemented. Package C has been renamed to “Windows Add-on” and the available incentive has been reduced to a lower value than the other two Package offerings.
- **Recommendation 1b:** To facilitate access to the necessary data required for future impact evaluations, NYSERDA should continue to enforce the requirement that contractors collect and submit consent forms. The evaluation team understands that NYSERDA’s efforts with recent Comfort Home projects have a high consent form compliance rate (95% in 2024). Use a consistent file naming format (such as Last name <Space> First name) to make it easier to locate already collected consent forms.
  - **NYSERDA Response to Recommendation 1b:** Pending. NYSERDA will consider implementing a required file naming convention for contractors uploading customer consent forms.

**Finding 2: The realization rate of natural gas savings was 66%, indicating room for improvement in the accuracy of program-estimated savings.**<sup>11</sup> Sub-group analysis suggests the program energy savings modeling algorithms are more reliable for inefficient homes and tend to overstate savings for more efficient homes.

- **Recommendation 2:** Review and improve program algorithms to enhance program-estimated savings estimates for more efficient homes.<sup>12</sup>
  - **NYSERDA Response to Recommendation 2:** Implemented. NYSERDA has transitioned from the NY Technical Resource Manual Custom Measure Category 5 to Custom Measure Category 6 to model estimated savings. This updated savings methodology requires more inputs and is expected to result in more accurate energy savings predictions.

**Finding 3: The Process Evaluation revealed that Comfort Home contractors were highly satisfied with the Comfort Home program’s simplicity, including its streamlined processes, minimal paperwork, and user-friendly workflow platform.** While these aspects currently set it apart from other incentive programs, contractors expressed concern that upcoming changes to workflows would introduce inefficiencies to the processes and undermine the strengths of the program. Additionally, while contractors receive initial onboarding training, there was a lack of ongoing training, particularly on customer education. This results in wide variability in how heat pumps are presented, potentially leading to missed opportunities for customer education and heat pump adoption.

- **Recommendation 3a:** Maintain the program’s streamlined workflow and minimal paperwork requirements. If changes are needed, gather contractor input and provide clear training and support to avoid added complexity or confusion.
  - **NYSERDA Response to Recommendation 3a:** Implemented. NYSERDA intends to maintain Comfort Home’s streamlined processes.
- **Recommendation 3b:** NYSERDA, in coordination with NYS Clean Heat and other stakeholders, should determine what, if any, heat pump communication should take place through Comfort Home. If contractors will be expected to deliver or support heat pump messaging, materials and training should be made available. This could include creating or leveraging existing training modules on the long-term benefits of heat pumps and customer engagement strategies or leave-behind materials contractors can give to customers after the upgrades are complete.
  - **NYSERDA Response to Recommendation 3b:** Pending. NYSERDA will consider the extent of heat pump communication Comfort Home contractors will be expected to provide to customers in line with broader electrification efforts statewide.

**Finding 4: Most customers who participated in Comfort Home reported improved home comfort and lower energy bills, particularly among those who installed heat pumps.** Adoption of heat pumps was driven

largely by environmental motivations and was more common among higher-income households, those using delivered fuels, or those with solar PV. However, the high upfront cost remains a barrier for many, especially middle-income households who may not qualify for low-income support but still find current heat pump incentives inadequate.

- **Recommendation 4:** Provide learnings and recommendations to NYS Clean Heat program administrators as well as NYS Joint Utility program administrators who are designing regional market-rate weatherization programs to enhance incentives for households earning under \$200,000. Even if heat pump incentives fall outside of Comfort Home’s future program structure, learnings from the program could inform the design of more effective incentive structures and support improved heat pump affordability and adoption.
  - **NYSERDA Response to Recommendation 4:** Implemented. NYSERDA is providing learnings and recommendations to NYS Clean Heat program administrators and NYS Joint Utilities market-rate weatherization programs.

## **2.1 Solar Photovoltaic Program Performance Persistence Study (PY Q1 2021 – Q4 2021)**

*Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings and associated recommendations from the Solar PV Persistence Study include:<sup>13</sup>

**Finding 1: Performance loss rates estimated in this study represent the performance loss of operating and communicating systems, approximately over the first four to seven years of life.** Temporary outages of systems or communications could contribute to additional production loss across the NYS solar fleet. The frequency of such disruptions across the data and time span studied is quite low and does not suggest the need to consider temporary disruptions as an additional loss factor over this time horizon.

- **Recommendation 1:** Consider a study to investigate the proportions of incentivized systems that are still in operation at different ages while considering technical features (e.g., whether they are monocrystalline vs. polycrystalline or tracked vs. fixed systems). Such a study could include working with the system managers to identify rates of data loss and reasons.
  - **NYSERDA Response to Recommendation 1: Pending.** NYSERDA will consider this study as part of future performance analyses.

**Finding 2:** Overall performance loss rates are estimated at 0.83% per year across projects in New York State. This rate is statistically significantly higher than the benchmark of 0.64% generally used by the contractor for project pool assessments on behalf of developers. If the current loss rate was to persist through the system lifetimes, New York could still achieve approximately 80% of the expected annual energy production by 2050 from the 10 GW of solar capacity planned for installation by 2030 under the Climate Act Scoping Plan<sup>14</sup> and the Distributed Solar Roadmap.<sup>15</sup>

The estimated loss rate varies substantially across regions, with lower loss rates in Long Island and higher rates in Upstate New York. These regional differences may be related to differences in weather conditions that may cause damage to equipment or differences in snow accumulations.

- **Recommendation 2:** Take estimated performance loss rates by region into account when projecting future production of NYS solar systems as a whole.
  - **NYSERDA Response to Recommendation 2: Pending.** NYSERDA will consider the estimated performance loss rates when projecting future production of NYS solar systems as a whole.

**Finding 3: Both purchased systems and, to a lesser extent, PPA systems have higher PLR than leased systems.** This result is expected for purchased systems, where maintenance routines may be less robust due to less active monitoring. PPA and leased systems are typically maintained by third parties who are responsible for the performance of the systems.

- **Recommendation 3: Consider offerings that could support improved maintenance for purchased systems.**
  - **NYSERDA Response to Recommendation 3: Pending.** NYSERDA will consider this based on continued NYSERDA program funding,

**Finding 4: Monocrystalline modules are associated with lower performance loss rates than polycrystalline.** These empirical findings are consistent with expectations for these technologies. Newer systems are more likely to be monocrystalline, which have a higher persistence in production over the life of the system.

- **Recommendation 4:** No recommendation, given that most new installations will be monocrystalline.
  - **NYSERDA Response to Recommendation 4: N/A.**

**Finding 5: Microinverter systems have higher performance loss rates than those with optimizers or string systems, even controlling for other characteristics.** A possible explanation is that failures of individual microinverters within a system go undetected and unaddressed resulting in higher performance loss rates. In contrast, a string system failure would result in zero production and could be more likely to be recognized and repaired.

- **Recommendation 5:** Consider offerings that would support system owners identifying and addressing reduced performance that may be related to microinverter failures. One option could be to encourage continued sharing of production data with NYSERDA, in exchange for NYSERDA sending alerts for indications of maintenance needs. Such an approach could provide NYSERDA with an expanded data series for future persistence studies.
  - **NYSERDA Response to Recommendation 5: Rejected.** NYSERDA does not have the ability to implement this recommendation.

**Finding 6: Controlling for other characteristics, systems in DAC locations have higher PLR than those in non-DAC areas.**

- **Recommendation 6:** Consider additional research to determine factors associated with greater PLR in DAC areas, for both third-party operators and homeowners with purchased systems.
  - **NYSERDA Response to Recommendation 6: Pending.** NYSERDA will consider completing additional research to determine which factors are most closely associated with a greater PLR in DAC areas.

**Finding 7: Most projects analyzed in this study had five or fewer years of production data. Only a handful had more than seven years. As a result, the performance loss rates developed in this study may not be indicative of loss rates after 10 or more years.**

- **Recommendation 7:** Continue to collect production data for the NY-Sun sample included in this study, to establish a larger data set of longer production records that can be used for further study. Explore processes that could be used to collect later production data for the supplemental data sets included.
  - **NYSERDA Response to Recommendation 7: Pending.** NYSERDA will consider this study as part of future performance analyses and/or leverage studies completed by other independent third parties.

### 3 Q3 2025 Evaluation, Measurement, and Verification Summary

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In accordance with the Department of Public Service CE-05: Evaluation, Measurement, & Verification (EM&V) Guidance, NYSERDA is required to file all final EM&V Reports in the Document and Matter Management system. This section will include a compilation of the high-level summaries of the EM&V reports due for filing within the reporting period.

For the Q3 2025 reporting period, six evaluation studies were finalized as presented in Table 8. For more information on the schedule of studies as they pertain to NYSERDA’s Market Development and Innovation & Research initiatives, please reference the Compiled Investment Plan or view reporting for historical periods to see past summaries both found on NYSERDA’s website.

**Table 8. Evaluations Completed Q3 2025**

Evaluated Program	Evaluation type	Evaluated program year(s)
Industrial Process Efficiency	Impact	Q1 2018 – Q2 2023
Build-Ready	Process	2025
Clean Energy Communities	Process	Q3 2024 – Q1 2025
Real Time Energy Management: Commercial/Industrial	Impact/Market	Q1 2022 – Q2 2024 (impact); Q1 207 – Q2 2024 (market)
Real Time Energy Management: Multifamily	Impact/Market	Q1 2022 – Q2 2024 (impact); Q1 2018 – Q4 2023 (market)
Single Family Retrofit Programs	Impact	2023

The latest Compiled Investment Plans:

<https://www.nyserdan.y.gov/About/Funding/Clean-Energy-Fund/>

Clean Energy Fund Reports:

<https://www.nyserdan.y.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Clean-Energy-Fund-Reports>

Note that NYSERDA began providing these summaries with the 2021 Annual CEF Performance Report.

### 3.0 Recommendation Tracking Updates

NYSERDA periodically reviews and tracks the status of recommendations that have been “pending” in quarterly CEF reports. As shown in Table 9, during Q3, the following NYSERDA responses to recommendations have been updated from “pending” since their presentation in these CEF quarterly reports, beginning with the 2021 Annual CEF Performance Report. For reference purposes, since early 2017, when NYSERDA began conducting CEF evaluations, 320 recommendations have been published. Of these, 254 have been implemented, 40 have been rejected and 26 are still pending.

From the 2021 Annual CEF Performance Report through the latest status review (Q3 2025) recommendation statuses from evaluation studies have been updated as follows:

- 19 recommendations is/are still pending.
- 11 recommendation(s) has/have since been implemented, as detailed in Table 9.
- 3 recommendation(s) has/have since been rejected, as shown in Table 9.

**Table 9. Summary of CEF Evaluation Study Recommendations through Q3 2025**

Study Name	Published Date	Recommendation	New Status	Update
New Construction Market and Impact Study	6/30/2023	It is recommended that NYSERDA develop a 2020 baseline home to base savings on for both Ekotrope and REM/Rate models. This will help facilitate the use of appropriate baselines and improved realization rates in future evaluations.	Rejected	We will close this recommendation. Both the legacy single family new construction program and the Building Better Homes program are closed. Any need for modeling tied to policy changes would not be directly tied to this effort or with this contractor.

Clean Transportation Market and Impact Evaluation (2022)	9/9/2022	To improve upon NYSERDA’s existing Electric Vehicle Calculator, NYSERDA should advertise this tool to all personal vehicle customers interested in purchasing a new vehicle, not just those explicitly interested in EVs; this may also include building in the opportunity to compare to specific non-EV vehicles. To address concerns about range anxiety, NYSERDA should also include reference to their Electric Vehicle Station Locator tool in their Electric Vehicle Calculator tool.	Implemented	NYSERDA continues to see good use of its web resources around EVs, including the EV calculator.
Regional Clean Energy Hubs Market Evaluation and Baseline Customer Survey	8/1/2024	NYSERDA should support Hubs by developing materials with talking points explaining the benefits of the clean energy economy, such as the role of battery storage in ensuring stability of electricity service and framing educational materials around non-energy benefits such as health and comfort to reduce misunderstandings and negative perceptions about electrification.	Implemented	Given the complexity of each region, different messaging resonates with the target audience. The Hub and Marketing Teams continues to work with each hub on the development of marketing materials and talking points. When program teams approach the Hubs to promote their programs, we recommend they provide a webinar, one pager, talking

		<p>NYSERDA has past experience in addressing consumer reluctance to embrace solar PV and wind power that may be useful to Hubs as they work to address negative perceptions about grid reliability in the transition to a grid powered by renewable generation. Additionally, NYSERDA has long documented non-energy benefits in its evaluations and can use this information to help Hubs make a case to consumers for clean energy solutions.</p>		<p>points and direct contact to the program. this ensures the Hubs are adequately supported in educating customers on NYSERDA programs.</p>
<p>Single-Family Low- to Moderate-Income Heat Pump Demonstration Study (Pilot Period 2021-2022) Market Characterization</p>	<p>7/24/2024</p>	<p>Since surveyed customers were relatively new heat pump owners at the time of this evaluation, consider conducting follow-up research with Pilot Program participants to assess if and how they have changed their system usage over time and whether they have increased familiarity with heat pumps.</p>	<p>Implemented</p>	<p>Future evaluations will consider a follow up assessment to understand changes in system usage.</p>

<p>Agriculture Technical Services Market Update (PY 2020-2021)</p>	<p>12/31/2024</p>	<p>NYSERDA should improve the application by including check boxes that ask if the farmer expects to use the audit results for a grant application, their goals of the audit (adding new technologies, assessing recently built structures or new processes, etc.), and a reminder that promptly providing utility bills and farm design drawings will speed up their audit process and report receipt.</p>	<p>Rejected</p>	<p>The Implementation Contractor calls each farm upon application submission and inquires about the goals of the audit, if the audit report will be used for a grant application, and reminding the customer of the benefit of promptly providing utility bills. The program is set to close at the end of 2025.</p>
<p>Codes and Standards for Carbon Neutral Buildings Initiative Market Evaluation (Program Years 2023-2024)</p>	<p>3/1/2025</p>	<p>With NYS at the end of the current code cycle and adoption of a new state code expected in 2025, continue plans to offer increased support to familiarize stakeholders with the upcoming code and minimize the anticipated drop in compliance, to the extent possible. Prioritize support to jurisdictions with limited bandwidth to further energy code compliance by focusing on increasing their understanding of and engagement with new requirements. Continue to provide technical support to larger jurisdictions, such as New York City, to</p>	<p>Implemented</p>	<p>NYSERDA contractor selection is underway with training providers for plans to continue offering training and support on the new state Energy Code.</p>

		enable collaboration and demonstration. Continue to explore opportunities for engaging building professionals and market actors who can influence the quality of projects brought to code officers.		
Codes and Standards for Carbon Neutral Buildings Initiative Market Evaluation (Program Years 2023-2024)	3/1/2025	Develop packages of resources specifically focused on residential projects and additions and alterations and explore new ways to market these resources to building professionals with limited bandwidth for compliance activities. When developing compliance resources, ensure that the resources serve market actors of all types of projects (small and large, residential and commercial, new construction and alterations).	Implemented	NYSERDA contractor selection is underway with training providers for plans to specifically address additions and alterations in residential and commercial buildings and investigate new marketing strategies for these resources
Codes and Standards for Carbon Neutral Buildings Initiative Market Evaluation (Program Years 2023-2024)	3/1/2025	Develop a protocol for assessing community capacity for compliance, considering potential inputs such as number of code officials, number of trained building professionals, points of engagement with NYSERDA, and others. Use findings from this analysis to support the development of more opportunities to	Implemented	NYSERDA program contracting is currently underway to support targeted local resources that allow communities to pursue energy code compliance with their already limited bandwidth.

		target specific communities with resources that allow them to pursue energy code compliance without sacrificing already limited bandwidth. Explore opportunities to build local resources that support compliance and limit administrative, procurement, and maintenance requirements for code officials, builders, and other permit applicants.		
Codes and Standards for Carbon Neutral Buildings Initiative Market Evaluation (Program Years 2023-2024)	3/1/2025	Where feasible, leverage existing pilot activities to enhance communication of the value proposition to communities. Given the ways in which compliance and motivating policies vary across jurisdictions, it may be beneficial in some cases to explore working meetings and collaboration with community leadership and stakeholders in select jurisdictions to assess different jurisdictions' needs and provide customized support aligned with their needs and interests.	Implemented	Meetings have been scheduled with communities and stakeholders in select jurisdictions to assess jurisdictions/ needs and promote the value proposition of energy code compliance.

<p>Codes and Standards for Carbon Neutral Buildings Initiative Market Evaluation (Program Years 2023-2024)</p>	<p>3/1/2025</p>	<p>As was done ahead of code adoption in 2020, increase training efforts and resources near the upcoming energy code update. Providing additional support in the ramp up and following a code change will support code officials and building professionals with the transition. Continue to explore the impact of diversifying the energy code trainings' reach by experimenting with training formats (e.g., asynchronous online training options). Interview feedback noted that complex technical slides can be overwhelming and that providing real-world examples, pictures, and case studies could help engage trainees.</p>	<p>Implemented</p>	<p>NYSERDA is supporting training in the next energy code update with contacting currently underway.</p>
<p>Energy Efficiency and Electrification Soft Costs in New York Market Evaluation (Program Years 2023-2024)</p>	<p>3/1/2025</p>	<p>While NYSERDA has a robust set of trainings and standardized bid packages for the residential and multifamily sectors, conducting outreach to contractors not currently within their network may increase the awareness of these offerings. This effort could involve strengthening existing partnerships with industry groups or</p>	<p>Implemented</p>	<p>Implemented for SF. We use measure packages for our market rate Comfort Home program and we are exploring how to expand that approach to the LMI sector through EmPower+. In terms of contractor outreach, we engage regularly with the Building Performance Contractors</p>

		utilities as they expand their electrification offerings. Engaging new contractors is critical for advancing the market toward greater efficiency.		Association, host a minimum of four meetings per year of the Residential Market Advisory Group open to all residential sector actors, and leverage the Clean Heat Connect partner network of heat pump manufacturers and distributors to access and channel technical knowledge and business development resources to the broad HVAC contractor community mark
Heat Pumps Phase 2 Market Evaluation (2023-2024)	9/1/2023	Continue efforts to gain access to HARDI data.	Implemented	The HARDI data is currently in procurement and will be available for Q4 2025.
Workforce Development Impact and Market Evaluation (Q1 2021 – Q4 2023)	3/1/2025	At the ex-ante savings estimation stage, the vendor may not know the full extent of training, however, a preliminary plan may be acceptable at this stage. A final submission should be required that documents each measure’s training, its expected savings as a fraction of the usage, and explicit references	Rejected	Based on project scopes and budgets, it is not feasible for all individual training vendors to develop a measure-by-measure analysis of savings estimates for each customized training project. Additionally, as the program will be ending, it is not practical for

		to slides or documentation in the training materials. This more directly ties the savings estimates to the training that is delivered. NYSERDA could streamline this with a reference list of measures, their expected savings impacts, and a description of appropriate training.		NYSERDA to invest in developing a comprehensive reference list of measures that align with the variety of training topics at this time.
Workforce Development Impact and Market Evaluation (Q1 2021 – Q4 2023)	3/1/2025	When relying on the training vendor or applicant's estimate of savings, require vendor or applicant to submit a preliminary and final listing of the measures covered in training and their approximate impact on total savings by fuel. This will encourage vendors to support the claimed savings fraction.	Implemented	In training vendor's final reports, they include a general discussion on energy impacts from the training, in some cases including examples of results with some sample savings analysis. While this information may not be at the measure level or fuel specific in all cases, the additional information and insight provided by the vendors on energy impacts of the project is taken into account when NYSERDA finalizes a claimed savings amount.

### 3.1 Industrial and Process Efficiency Close-Out Impact Evaluation (Q1 2018 – Q3 2023)

*Summary of Report Findings, Recommendations, and NYSERDA Response to Recommendations.*

Key findings and associated recommendations from the Industrial and Process Efficiency Close-Out Impact evaluation include:<sup>16</sup>

#### **Finding 1:** Program savings and realization rates

Overall, the IPE program achieved energy savings of 1,658,967 MMBtu. This verified savings result corresponds to an overall 94% realization rate for program annual electric energy savings and a 90% realization rate for combined heating fuel (fossil fuel) energy savings. The concurrent evaluation and M&V of program sites shortly after implementation largely produced accurate estimations of energy savings. However, some discrepancies in baselines, calculation methodologies, and measure interactivity were discovered between realized project savings and savings estimated by the prior M&V as described in Recommendations 2 through 3.

- **Recommendation 1:** N/A. Recommendations to reduce discrepancies between estimated and verified savings are provided in Recommendations 2 through 3.

#### **Finding 2:** Project documentation requirements

The evaluation contractor team determined the data provided was sufficient for evaluation. The program team maintained strong record keeping, including for projects that were up to six years old, and savings calculations were available for every project. Project documentation and files collected through the program typically consisted of engineering analysis (EA) review, measurement and verification (M&V) plan, project installation report (PIR), and M&V report.

In some cases, the evaluation contractor team found that the project files did not contain sufficient information regarding the baseline systems and operations to thoroughly support the reported savings. Additionally, the project files did not contain information to confirm that the decommissioned systems were running in the baseline case before project implementation.

- **Recommendation 2:** Ensure program submissions include guidelines and requirements for documenting the baseline case, systems, operations, and conditions.
  - **NYSERDA Response to Recommendation 2:** Implemented. NYSERDA is aligned with this recommendation and aims to accomplish it on all projects, leveraging the Baseline Guidance Document developed in collaboration with Michaels Energy during the 2018 Concurrent Evaluation.

**Finding 3:** Tracking of energy penalties

In some cases, electric penalties were not captured in the tracking savings data. While the installed measure resulted in increased electricity usage, the reduction in fossil fuel usage was significant enough to offer net energy savings.

- **Recommendation 3:** Continue documenting any relevant energy penalties for implemented measures in the tracking savings data.
  - **NYSERDA Response to Recommendation 3:** N/A. During the IPE program, NYSERDA collected ancillary usage. This is a past practice since discontinued by NYSERDA. NYSERDA currently collects actual usage data by fuel.

## 3.2 Build-Ready Program Process Evaluation (2025)

*Summary of Report Findings*

Key findings from the Build-Ready Program Process Evaluation include:<sup>17</sup>

**Finding 1: Institutional knowledge and network building** NYSERDA’s Build-Ready (BR) Program staff have developed robust institutional knowledge, tools and resources (e.g., an interactive map), and processes for identifying and assessing prioritized sites. Additionally, the program has developed relationships with partner agencies and renewable energy developers.

**Finding 2: Adaptive management** The Build-Ready Program exemplifies NYSERDA’s test-measure-adjust approach, fostering a culture of adaptive management. Program staff have continuously pivoted in response to roadblocks.

**Finding 3: Validation of market barriers** Despite significant effort, only one build-ready site - Benson Mines - has been auctioned to a developer, despite the hard work of NYSERDA and BR program staff. BR's development challenges for brownfields, landfills, and other prioritized sites are ultimately similar to the challenges that private sector developers face when considering the same sites and have been documented by other states and federal agencies. Many of the sites evaluated by the BR program had been rejected by the private sector due to the same technical and economic constraints that ultimately made them unviable for the BR Program.

**Finding 4: Identified future pathways** In the spirit of adaptive management, BR program staff have worked to find viable pathways for the program, and the BR team is continuing to explore options for pathways the program can take to mitigate the current obstacles faced when developing prioritized sites for renewable energy generation. BR staff have explored everything from floating solar to parking lot solar, adjacent landfill siting, and ways to support other related technologies, such as battery energy storage systems (BESS). Numerous brainstorming sessions and onsite retreats have informed their efforts to identify new pathways, and the team continues to explore options as part of its visioning for the program.

### 3.3 Clean Energy Communities Process Evaluation (Q3 2024-Q1 2025)

*Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings and associated recommendations from the Clean Energy Communities Process Evaluation include:<sup>18</sup>

**Finding 1: Smaller municipalities may be at a disadvantage compared to larger municipalities because of their staff size and financial resources.** Municipal participants expressed that the support and motivation from Coordinators, who provide expertise and additional capacity, is essential to their ability to successfully participate in the program. Despite the staffing support that Coordinators provide, participating municipalities may still face a combination of resource and technical barriers that make it harder for them to implement clean energy solutions at the same pace as others. The financial and digital divide between under-resourced municipalities and other municipalities may exacerbate their disadvantage.

- **Recommendation 1. Prioritize additional CEC Program funding and extended program timelines to sustain the availability of match-free grants for a longer period.** As part of this program extension, implement funding caps for municipalities of different sizes to provide increased access to resources across participating municipalities.
  - **NYSERDA Response to Recommendation 1: Pending.** NYSERDA acknowledges the challenges municipalities face, particularly in managing budget constraints and limited staff capacity. The CEC Program also tailors its incentive structure based on municipal size, recognizing that the needs and capacities of smaller and larger communities differ significantly. Larger communities often require

more substantial incentives to initiate action, while smaller communities may benefit more from targeted support and require smaller funding levels. This differentiated approach has proven effective in fostering engagement in the program. Additionally, the program’s High Impact Action Items (HIAs) are intentionally weighted to reflect their relative complexity and potential benefits as well as greenhouse gas emission reduction potential. This points-based system ensures that funding levels align with the scope of work and impact achieved by each municipality.

**Finding 2. CEC Coordinators are confronted with challenges in serving municipal participants due to a lack of transparent communication from NYSERDA.** In particular, Coordinators emphasized that NYSERDA’s inconsistent messaging about program/application requirements and possible flexibilities not widely communicated in bundling grants for initiating more expensive clean energy projects has frustrated municipal participants. Conflicting information from Coordinators or from the website on things like application steps and deadlines sometimes hindered municipalities from achieving the “snowball effect” that allows them to gain points on the projects implemented with NYSERDA grant money. The evaluation contractor team conducted interviews as CEC Program funding for match-free grants dwindled and then ran out, so some of the feedback the evaluation contractor team received was directly focused on the lack of information about when grant funding would no longer be available.

Despite some complaints from municipalities about changing program structure and lack of transparent communication from NYSERDA, this evaluation provides a positive demonstration that the relative continuity of the CEC Coordinators and the relationships they have built are a core factor in the program success, *particularly for resource-limited communities.*

- **Recommendation 2. Improve the CEC Program documentation and communicate updates routinely to ensure clarity, accessibility, and transparency for all applicants, especially regarding funding availability.** Program documents (e.g., factsheets, toolkits, etc.) should be clear, concise, and easy to follow, offering step-by-step instructions that provide clarity on topics like combining grants, meeting important deadlines, or what internet browser(s) to use when attempting to submit HIAs.
  - **NYSERDA Response to Recommendation 2: Implemented.** NYSERDA is committed to improving the Clean Energy Communities (CEC) Program experience for municipal partners and will be taking several steps in response to the suggestions received. Website enhancements will be considered to improve overall navigation and ensure that key guidance documents including those related to grant bundling and deliverable submittals to ensure they are more accessible and easier to find. NYSERDA will explore the creation of a Frequently Asked Questions (FAQ) document to address common inquiries related to High Impact Action Item requirements and submittal documents. The Clean Energy Community Coordinators will continue to be an essential resource, and NYSERDA strive to equip them with the most current and relevant information to effectively support municipalities. To further assist with program navigation, NYSERDA will explore improvements to Salesforce which aim to enhance the customer experience.

**Finding 3. Gamification, recognition, and sustainability inspire ongoing municipal participation in the program, but money is still an essential driver, even for long-term participants.** This finding strongly aligned with the program’s own learnings from municipal feedback as well as the evaluation contractor team’s findings that match-free grant funding for completed HIAs is essential to municipalities’ participation in the program. Municipal participants indicated that they would have difficulty implementing clean energy projects without the match-free funding for HIAs available through the program. Smaller municipalities often do not have the budget to implement clean energy initiatives, so Coordinators help identify the HIAs that can help them maximize low- or no-cost activities to achieve momentum with the program. For champions or volunteers that have municipal authorization (but no budget) to participate in the program, securing the first grant is an essential step to additional CEC participation.

**Recommendation 3:** N/A.

### **3.4 Real Time Energy Management: Commercial/Industrial Direct and Indirect Benefits (Direct: Q1 2022 – Q2 2024; Indirect: Q1 2017 – Q2 2024 Indirect)**

*Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings and associated recommendations from the Real Time Energy Management: Commercial/Industrial Direct and Indirect Benefits Evaluation include:<sup>19</sup>

**Finding 1:** The two most significant indirect pathways of influence for the RTEM program are additional and unreported actions by participating organizations at participating buildings, which resulted in 30,694 MWh and 73,845 MMBtu of energy savings, and contributions from participating vendors at nonparticipating buildings, which generated 50,561 MWh and 20,865 MMBtu in savings.

- **Recommendation 1:** Any future versions of the RTEM program, when considered, should support and strengthen these pathways to optimize indirect benefits that could be achieved over time.
  - **NYSERDA Response to Recommendation 1:** Pending. NYSERDA will assess the pathways revealed in this evaluation that apply to future programs that feature characteristics that can be replicated.

**Finding 2:** Unreported and additional actions from participating organizations at nonparticipating buildings resulted in 23,012 MWh and 22,317 MMBtu of indirect energy savings. Meanwhile, participating vendors at participating buildings contributed 6,434 MWh and 15,845 MMBtu of indirect energy savings. These pathways show somewhat less evidence of indirect benefits for the RTEM program.

- **Recommendation 2:** Future versions of this program, when considered, should explore program interventions to help participating organizations scale RTEM to their portfolio of buildings. This is already occurring in a limited way, and there is room to optimize the pathway of influence.
  - **NYSERDA Response to Recommendation 2:** Implemented. NYSERDA is scaling these considerations for certain subsectors in the RTEM + tenant program.

**Finding 3:** Although there is evidence of the NYSERDA RTEM program influencing New York utilities' RTEM programs, it is too early to estimate indirect benefits from this influence pathway.

- **Recommendation 3:** As utility RTEM programs scale over time, NYSERDA should revisit and estimate the indirect benefits associated with those projects, since NYSERDA did influence the design and launch of those programs.
  - **NYSERDA Response to Recommendation 3:** Pending. NYSERDA will revisit this recommendation once utility programs have matured.

**Finding 4:** Interviews revealed that, on average, each vendor has over 10 RTEM projects that continue using RTEM services after NYSERDA engagement to support non-energy benefits (e.g., building occupant comfort).

- **Recommendation 4:** NYSERDA should consider quantifying non-energy benefits in future versions of this program as part of the evaluation process.
  - **NYSERDA Response to Recommendation 4:** Pending. NYSERDA will be capturing non-energy benefits for future versions of this program.

**Finding 5:** From Q1 2022 through Q2 2024, the RTEM program achieved electric direct energy savings of 79,889 MWh (realization rate: 62%) and non-electric direct energy savings of 47,717 MMBtu (realization rate: 66%). Beyond these direct impacts, the program influenced owners and managers of participating buildings to take additional actions outside of vendor service reports, contributing to notable indirect energy savings. Estimating total savings for this program is challenging to quantify ex post, as effects from specific measures implemented through RTEM systems are often indistinguishable and may not be fully captured in available documentation.

- **Recommendation 5a:** To better capture the full scope of program impacts, consider requiring vendors to report implemented savings, or establishing another systematic method for capturing savings attributable to RTEM systems. Direct savings estimates from vendors who provided this information were higher than those from sites without such reporting, while indirect savings estimates often rely on

customer reported actions that can be affected by recall bias. More consistent documentation of implemented actions and associated savings would reduce underestimation risk and provide a clearer picture of the program's influence on operational practices and decision making in the market.

- **NYSERDA Response to Recommendation 5a:** Pending. NYSERDA will revisit during future iterations of the program.
- **Recommendation 5b:** Consider requesting, at program intake, key technical details for equipment monitored by the RTEM system - for example, manufacturer spec sheets, system capacity, square footage or space served, and other relevant characteristics (e.g., for HVAC units, whether they are connected to other systems). While some of this information has been collected during application submission, it has not been part of the program process to identify site by site specific savings. Having these details readily available would be valuable during future evaluations that follow a similar process, as it would help evaluators determine what actions customers took because of the RTEM system and better understand the magnitude of associated savings. Collecting this information at intake is generally more efficient and less burdensome than attempting to gather it retrospectively during evaluation.
  - **NYSERDA Response to Recommendation 5b:** Pending. NYSERDA will consider this feature for future program iterations.

**Finding 6:** The RTEM program achieved savings in different sectors, showing the flexibility of the system to address complex situations. For forecasting purposes, it is important to understand differences in outcomes in terms of percent savings in different sectors. EM systems in commercial, retail, and institutional facilities reported a focus on building schedules and savings came primarily from HVAC settings and maintenance. Customer-reported goals for EM systems in these facilities were tenant comfort and energy savings. EM systems in industrial and agricultural facilities were focused on industrial processes, with customers indicating a desire to reduce the price per unit of their products. While reductions in cost per unit can come from reduced energy use, the facilities reported taking other actions that reduced cost without a reduction in energy use. While the sample size for industrial facilities was not large enough to say definitively, the study found less savings as a percentage of consumption in industrial facilities than in other sectors.

- **Recommendation 6:** Consider forecasting savings based on facility type with different expectations for savings as a percentage of consumption in sectors who use the EM system in different ways.
  - **NYSERDA Response to Recommendation 6:** Implemented. This is already a feature of program reporting where aligned with facility type and/or sector.

**Finding 7:** Electronic Data Interchange (EDI) data were successfully obtained for approximately 40% of sites. For the remaining sites, no usable data were returned from the EDI request. In addition, while the program collected some preinstallation consumption data, these data were only sufficient to support a sanity check for about 2% of sites, as the vast majority included just a single month of consumption. The lack of complete, standardized baseline data significantly limited opportunities to conduct a formal billing analysis to derive savings.

- **Recommendation 7:** To support robust evaluation and long-term market insights, the program could consider requesting EDI data for all participating sites for each program year. If adopted, the program could extract account numbers and points of delivery (PoDs) from applications and submitted bills/proof of account upon program intake then immediately attempt to acquire baseline data to confirm the accuracy of the account numbers and PoDs in the tracking data. This will ensure data is available for savings estimation and evaluation. Note: there are some measures where billing data may be unable to provide direct quantification of savings, for example early identification of a system needing repair will often not have a period operating in poor condition to support billing or even advanced metering infrastructure-based estimation of savings because the increase in usage was avoided. Despite this risk, having more of the consumption data can enable better savings estimates even when used indirectly and can provide better baseline consumption estimates than the current square footage estimates provide. This, in turn, strengthens the program’s ability to demonstrate its role in transforming market practices and decision-making over time.
  - **NYSERDA Response to Recommendation 7:** Pending. Some, but not all NYSERDA programs will have this feature moving forward.

**Finding 8:** Vendor service reports provide the best available information for measure installation and savings verification for the RTEM program and thus are the primary source for evaluation of direct savings. This is a key risk for the program, as vetting of the savings claims with engineering and baseline assessments was not possible. As described previously, customer reports suffer from recall bias, and billing data was largely unavailable or incomplete. The evaluation contractor team confirmed that vendor-reported implementations were completed and identified indirect benefits from participating sites, but where savings magnitudes were not reported, evaluator estimates of these savings may be lower than actual savings.

- **Recommendation 8:** Continue to assess available methods for evaluation of the RTEM program. For instance, concurrent evaluation of targeted sites with large estimated savings and multi-site projects within two years of EM system installation would have a much higher

likelihood of capturing measure-level post-installation information and participating organization intentions for future installations, associated savings data, and non-routine events from major equipment upgrades or industrial process improvements. Similarly, utility billing data would be more readily available through an EDI request. Customer and vendor interviews at this early stage would provide feedback to vendors on the critical importance of vendor service report data for evaluation of program direct benefits and capture more real-time indirect benefits as they are planned and occur.

- **NYSERDA Response to Recommendation 8:** Implemented. NYSERDA is implementing pre-install interviews on select programs.

**Finding 9:** Vendor reports often included activities that might incur cost savings through diagnostics and fault detection events, but did not report any annual energy savings from such measures. NYSERDA assumes modeled energy savings for all fuels serving a site, so the presence of these activities can substantially depress realization rates and projected savings as a percentage of estimated baseline.

- **Recommendation 9:** Consider including a post-installation verification step to confirm actual vendor-reported and installed energy-saving measures upon project completion or as part of the acquired savings process. This step will help verify actual baseline energy consumption and vendor-reported energy savings from installed measures. Post-installation verification will also identify instances where only diagnostics or fault-detection activities were implemented, which result in cost savings for a site but not significant annual energy savings.

- **NYSERDA Response to Recommendation 9:** Implemented. NYSERDA is implementing a post-installation verification on select programs.

### **3.5 Real Time Energy Management: Multifamily (Direct: Q1 2022 – Q2 2024; Indirect: Q1 2018 – Q4 2023)**

#### *Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings and associated recommendations from the Real Time Energy Management: Multifamily Direct and Indirect Benefits Evaluation include:<sup>20</sup>

**Finding 1:** In the multifamily sector, the largest source of indirect benefits was from participating building owners/managers implementing additional operation/maintenance upgrades and changes at participating buildings (Source A), which resulted in 5,691 MWH and 50,595 MMBtu. The second largest source of indirect

benefits came from participating vendors also introducing RTEM to some of their customers without receiving NYSERDA incentives (Source C), resulting in 2,166 MWH and 9,208 MMBtu.

- **Recommendation 1:** In future programs, NYSERDA could continue to support these sources of indirect benefits by making sure that projects have strong “energy champions” that continue to push the potential for energy savings that RTEM enables. Several of the vendors who shared evidence of indirect benefits also mentioned that they had specifically had someone who pushed for using RTEM to generate additional energy saving ideas.
  - **NYSERDA Response to Recommendation 1:** Implemented. Programs maintain the importance of onsite energy champions to enhance uptake and persistence of energy efficiency measure savings, in addition to non-energy benefits from NYSERDA program engagement.

**Finding 2:** There is not enough evidence yet to indicate that the program has transformed the New York EM market for the multifamily sector. Rather, it appears that a large swath of the New York multifamily market still needs some sort of support to adopt RTEM. Of the five participating customers who managed buildings in their portfolio that did not receive a NYSERDA incentive, only one decided to implement RTEM at these other buildings. As a result, Source B only generated 630 MWH and 0 MMBtu. Furthermore, only one-third of participating vendors had replicated RTEM projects with customers that did not receive incentives. Among the four vendors that also completed both multifamily and commercial projects through the program, there was a consensus that while multifamily projects tended to be smaller, multifamily building owners often expressed a greater need for financial support due to more limited resources.

- **Recommendation 2:** NYSERDA could consider follow-up outreach with customers that did not adopt RTEM at all the properties in their portfolio to better understand multifamily owners/managers’ decision-making process.
  - **NYSERDA Response to Recommendation 2:** Pending. NYSERDA will consider follow-up outreach with RTEM MF customers to collect additional direct and subsequent indirect benefits.

**Finding 3:** Participating vendors and customers frequently lauded the non-energy benefits of RTEM systems. Vendors described improvements to temperature control and regulation, improving occupancy comfort, while also highlighting improved building management efficiency. RTEM systems allowed for quicker troubleshooting of operational issues, and the remote monitoring of building systems by smartphone made fault detection and repair easier and faster.

- **Recommendation 3:** In future programs, NYSERDA could consider working with affiliated vendors to make non-energy benefits a bigger selling point for potential customers. All interviewed customers reported using RTEM for non-energy benefits despite their initial focus on energy savings. NEBs could serve as a gateway towards greater adoption of EM technology if they were more frequently communicated.
  - **NYSERDA Response to Recommendation 3:** Implemented. Non-energy benefits are incorporated into programs where relevant.

**Finding 4:** Among multifamily facilities, the RTEM program achieved electric direct energy savings of 2,008 MWh, with a realization rate of 9%, and non-electric direct energy savings of 1,288 MMBtu, with a realization rate of 3%, during the current evaluation period (Q1 2022–Q2 2024). Since inception (Q1 2017–Q2 2024), the RTEM program achieved electric and non-electric direct energy savings of 13,865 MWh, with a realization rate of 27%, and 22,198 MMBtu, with a realization rate of 20%, respectively among multifamily facilities. The program influenced owners and managers of participating buildings to complete additional actions outside of those reported in vendor service reports, and those actions were associated with notable energy savings accounted for as indirect benefits.

- **Recommendation 4a:** To better capture the full scope of program impacts, consider requiring vendors to report implemented savings, or establishing another systematic method for capturing savings attributable to RTEM systems. Direct savings estimates from vendors who provided this information were higher than those from sites without such reporting, while indirect savings estimates often rely on customer reported actions that can be affected by recall bias. More consistent documentation of implemented actions and associated savings would reduce underestimation risk and provide a clearer picture of the program’s influence on operational practices and decision making in the market.
  - **NYSERDA Response to Recommendation 4:** Pending. NYSERDA will revisit during future iterations of the program.
- **Recommendation 4b:** Consider requesting, at program intake, key technical details for equipment monitored by the RTEM system - for example, manufacturer spec sheets, system capacity, square footage or space served, and other relevant characteristics (e.g., for HVAC units, whether they are connected to other systems). While some of this information has been collected during application submission, it has not been part of the program process to identify site by site specific savings. Having these details readily available would be valuable during future evaluations that follow a similar process,

as it would help evaluators determine what actions customers took because of the RTEM system and better understand the magnitude of associated savings. Collecting this information at intake is generally more efficient and less burdensome than attempting to gather it retrospectively during evaluation.

- **NYSERDA Response to Recommendation:** Pending. NYSERDA will consider this feature for future program iterations.

**Finding 5:** Electronic Data Interchange (EDI) data were successfully obtained for 40 sites. For the remaining sites, no usable data were returned from the EDI request. In addition, while the program collected some pre-installation consumption data, these data were only sufficient for 2 sites, as the vast majority included just a single month of consumption. The lack of complete, standardized baseline data significantly limited opportunities to conduct billing analysis to derive savings.

- **Recommendation 5:** To support robust evaluation and long-term market insights, the program could consider requesting EDI data for all participating sites for each program year. If adopted, the program could extract account numbers and points of delivery (PoDs) from applications and submitted bills/proof of account upon program intake then immediately attempt to acquire baseline data to confirm the accuracy of the account numbers and PoDs in the tracking data. This will ensure data is available for savings estimation and evaluation. Note: there are some measures where billing data may be unable to provide direct quantification of savings, for example early identification of a system needing repair will often not have a period operating in poor condition to support billing or even advanced metering infrastructure-based estimation of savings because the increase in usage was avoided. Despite this risk, having more of the consumption data can enable better savings estimates even when used indirectly and can provide better baseline consumption estimates than the current square footage estimates provide. This, in turn, strengthens the program's ability to demonstrate its role in transforming market practices and decision-making over time.

- i. **NYSERDA Response to Recommendation 5:** Pending. Some, but not all NYSERDA programs will have this feature moving forward.

**Finding 6:** Vendor service reports provide the best available information for measure installation and savings verification for the RTEM program and thus are the primary source for evaluation of direct savings. This is a key risk for the program, as vetting of the savings claims with engineering and baseline assessments was not possible. As described previously, customer reports suffer from recall bias, and billing data was largely unavailable or incomplete. The evaluation team confirmed that vendor-reported implementations were completed, but where savings magnitudes were not reported, evaluator estimates of these savings may be lower than actual savings.

- **Recommendation 6:** Continue to assess available methods for evaluation of the RTEM program. For instance, concurrent evaluation of targeted sites with large estimated savings and multi-site projects within two years of EM system installation would have much higher likelihood of capturing measure-level post-installation information and participating organization intentions for future installations, associated savings data, and non-routine events such as major equipment upgrades. Similarly, utility billing data would be more readily available through EDI request. Customer and vendor interviews at this early stage would provide feedback to vendors on the critical importance of vendor service report data for evaluation of program direct benefits and capture more real-time indirect benefits as they are planned and occur.

- **NYSERDA Response to Recommendation 6:** Implemented. NYSERDA is implementing pre-install interviews on select programs.

**Finding 7:** Vendor reports often included activities that might incur cost-savings through diagnostics and fault detection events, but did not report any annual energy savings from such measures. NYSERDA assumes modeled energy savings for all fuels serving a site, so the presence of these activities can substantially depress realization rates and projected savings as a percentage of estimated baseline.

- **Recommendation 7:** Consider including a post-installation verification step to confirm actual vendor-reported and installed energy-saving measures upon project completion or as part of the acquired savings process. This step will help verify actual baseline energy consumption and vendor-reported energy savings from installed measures. Post-installation verification will also identify instances where only diagnostics or fault-detection activities were implemented, which result in cost savings for a site but not significant annual energy savings.
  - **NYSERDA Response to Recommendation 7:** Implemented. NYSERDA is implementing a post-installation verification on select programs

### **3.6 Single Family Retrofit Programs Evaluation: Natural Gas and Electric Billing Analysis Impact Evaluation (Program Year 2023)**

*Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations*

Key findings Single Family Retrofit Programs Evaluation include:<sup>21</sup>

**Finding 1: The realization rates are 20% for gas savings and 18% for electric savings.** Realization rates show how evaluated savings compare to estimated savings and are influenced by factors like end-uses present in

the home, usage patterns, and existing efficiencies of installed measures. They are not a measure of a program's actual impact, but they are a measure of how well the impact was estimated. Various factors can cause differences between actual savings and estimated savings, including assumptions made during the estimation process. If both estimated and evaluated savings perfectly matched actual savings, realization rates would be 1.

**Finding 2: Changes in the way estimated savings are calculated have resulted in lower realization rates.**

While PY2023 evaluated savings values are similar to previous studies, estimated savings are much higher, leading to lower realization rates. The engineering analysis found that the program software adheres well to the NY Technical Resource Manual (TRM) methodologies for calculating estimated savings, and so the high estimated savings are a product of the TRM itself. In 2023, the program shifted to using the TRM to calculate estimated savings rather than using a proprietary tool, EmPCalc, as was done in previous years. Unlike the TRM, the EmPCalc tool accounted for interactive effects between measures and was calibrated to previous year evaluated savings. The change from EmPCalc to the TRM coincides with the increase in estimated savings.

**Finding 3: Electric savings have been diminishing since 2011.** The average evaluated electric savings have been decreasing in each evaluation since the evaluation for PY2011. As LED lighting becomes more widely adopted electric baselines have gotten more efficient making it harder to achieve additional savings. The main driver of electric savings in PY2023 identified by the billing analysis, replacement refrigerators and freezers, also has diminishing savings (430 kwh yr in 2019 to 218 kwh/yr in 2023).

**Finding 4: EmPower+ has greater impact on gas consumption than on electric consumption.** The billing analysis found evaluated gas savings representing 8% of baseline usage, while electric savings were only 1% of baseline usage. The gas savings are similar to previous evaluations, while the electric savings are slightly lower than previous evaluations. Gas savings are driven by insulation and air sealing measures. For both gas and electric savings, there is no significant difference between geographic DAC status, utility, or geographic region.

**Finding 5: There is some indication of beneficial snapback which leads to positive outcomes for customers associated with an increase in energy consumption.** For example, if the program repairs broken heating, cooling, or water heating equipment, the customer can use that equipment again which would result in an increase in energy consumption. Indeed, the billing analysis found that equipment repair measures were associated with negative savings. Additionally, during the add-on participant survey, 35% of respondents who used a secondary source of heating for part of their home reported using that secondary source less often after participating.

Key recommendations from the evaluation include:

**Recommendation 1: Consider focusing on fossil fuel savings and beneficial electrification rather than electric savings.** The evaluation found the program is more effective at achieving gas and delivered fuel savings while electric savings have been diminishing over time. New York State climate goals also call for electrification of heating and water heating systems, which increases electric consumption. As electric baselines become more efficient, achieving electric savings will only become more difficult, and payback time on electric measures will increase. A focus on fossil fuel savings and electrification may better align the program with real-world limitations and New York state climate goals.

- **NYSERDA Response to Recommendation 1:** Implemented. Beginning in March 2025, EmPower+ began to phase out incentivizing the replacement of refrigerator and freezer incentives due to limited opportunities to achieve electric savings and ability to meet cost effective payback. Further, the program expects to phase out incentives for LED lighting beginning in 2027 as a non-strategic measure identified by the NY Technical Resource Manual.

**Recommendation 2: Engage with NYS Department of Public Service and Technical Resource Manual (TRM) Management Committee to address the overestimation of program savings resulting from the TRM.** NYSERDA could explore the possibility of applying lessons learned from the EmPCalc tool to the New York Home Energy Portal (NYHEP) portal calculation methodology. This could include discussion of allowing NYHEP to be calibrated to previous estimations of evaluated savings and account for interactive effects, rather than just using the TRM methodology.

- **NYSERDA Response to Recommendation 2:** Pending. The TRM management process includes use of evaluation findings and recommendations to continually improve methods. NYSERDA will consider this recommendation.

## 4 Q4 2025 Evaluation, Measurement, and Verification Summary

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In accordance with the Department of Public Service CE-05: Evaluation, Measurement, & Verification (EM&V) Guidance, NYSERDA is required to file all final EM&V Reports in the Document and Matter Management system. This section will include a compilation of the high-level summaries of the EM&V reports due for filing within the reporting period.

For the Q4 2025 reporting period, six evaluation studies were finalized as presented in Table 10. For more information on the schedule of studies as they pertain to NYSERDA’s Market Development and Innovation & Research initiatives, please reference the Compiled Investment Plan or view reporting for historical periods to see past summaries both found on NYSERDA’s website.

**Table 10. Evaluations Completed Q4 2025**

1. Evaluated Program	2. Evaluation type	3. Evaluated program year(s)
Clean Energy Communities	Market	Q1 2019 – Q2 2023
Clean Energy Communities	Impact	Q1 2019 – Q2 2023
Dandelion Ground Source Heat Pump Case Study	Case Study	2025
Dr. Max Zhang Environmental Research Case Study	Case Study	2025
Orange and Rockland Smart Grid Case Study	Case Study	2025
Gradient Window Heat Pump Case Study	Case Study	2025

The latest Compiled Investment Plans:

<https://www.nyserderda.ny.gov/About/Funding/Clean-Energy-Fund/>

Clean Energy Fund Reports:

<https://www.nyserderda.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Clean-Energy-Fund-Reports>

Note that NYSERDA began providing these summaries with the 2021 Annual CEF Performance Report.

## 4.0 Clean Energy Communities Market Evaluation (2019-2023)

*Summary of Report Findings, Recommendations, and NYSERDA Response to Recommendations.*

Key findings and associated recommendations from the Clean Energy Communities Market Evaluation include:<sup>22</sup>

### *Market Assessment*

#### **Finding 1**

**The Contractor team estimated indirect impacts for the 2019-2023 reporting period of 356,645 MMBtus, 275,092 MWh of indirect energy savings and 320,135 MWh of renewable generation.** These impacts are an indication of the CEC program successes in assisting local governments to take actions toward a clean energy economy, and progressing NYS toward achievement of the Clean Energy Standard.

**Recommendation 1:** N/A. There is no recommendation for this finding.

**Finding 2: The CEC Program provides valuable resources and support for municipalities to execute clean energy activities.** Without the assistance of the CEC Program, over half of NYS communities would lack the capacity, or have only limited ability, to carry out such activities independently. This underscores the continued relevance of the CEC Program, highlighting that the barriers it was designed to overcome remain significant challenges for many communities across the state.

**Recommendation 2:** N/A. There is no recommendation for this finding.

**Finding 3: DAC communities were found to have lower engagement and participation in the CEC Program compared to non-DAC communities.** A key contributing factor may be their less frequent interaction with CEC Coordinators, one of the Program's most valued and commonly used resources. While Coordinators play a critical role in supporting municipalities, representatives from DAC communities report fewer interactions than their non-DAC counterparts. Notably, one-third of DAC representatives indicate they do not engage regularly with their Coordinators, which means they may not be fully aware of the range of available guidance and resources that a CEC Coordinator can provide.

**Recommendation 3:** When communities engage with their Coordinator, it often greatly improves their knowledge and awareness of clean energy. To boost CEC Program activity in DACs, the Contractor team recommends that Coordinators make explicit efforts to connect with municipal representatives in the DAC communities within their territories over the next 12 months. Once connected, Coordinators can inform community representatives about the resources available through the CEC Program and Coordinators.

- **NYSERDA Response to Recommendation 3:** Implemented. Although the data indicates there is less outreach support to DAC communities than non-DAC communities, NYSERDA has made it a priority to support DAC communities through the Program and Coordinator network. Once the next program is launched, NYSERDA will take additional steps to prioritize DAC support.

**Finding 4: The recurring additions of High Impact Actions (HIAs) to the Program offerings ensure that the Program offerings evolve with the changing energy landscape, keeping the CEC Program current with the market changes.** Updates to the Program’s HIA list provide communities with new options, helping to maintain the Programs continued to respond to market changes. The introduction of new HIAs gives communities a reason to engage regularly with the CEC Program, promoting long-term participation.

**Recommendation 4:** N/A There is no recommendation for this finding.

#### *Grants Analysis*

**Finding 5: The CEC Program design is flexible and evolves with changing market conditions. This adaptability allows communities to receive grants for executing the clean energy actions most relevant to their situations.** For example, more action grants were awarded for Community Solar Campaigns in 2021, while Clean Heating and Cooling Campaigns received more grants in 2023. As rooftop and community solar become more common, the need for municipal campaigns to promote them diminishes. In contrast, heat pumps are now a statewide priority that requires more public education. Therefore, the CEC Program grants ensure the Program remains relevant by adapting to communities over time. In addition, the CEC Program offers flexibility for how communities use the grant funding. Many communities combined multiple CEC grants to fund their clean energy projects.

**Recommendation 5:** N/A. There is no recommendation for this finding.

**Finding 6: The documentation format for CEC-funded grant projects limits the Program’s ability to effectively track and report on energy impacts.** The existing format and instructions for providing project information do not always yield sufficient detail to determine the specific activities and measures funded by CEC grants. Documentation also does not indicate whether a community used grant funding to support completion of an HIA. Simple administrative changes can greatly improve the tracking of grant funds and determination of their energy impact.

**Recommendation 6a:** The Contractor team recommends that when CEC Program staff review the project description in grant applications, they confirm that the description presents sufficient details to know what energy-saving (or energy-generating) measures will be implemented as part of the project. If the project description lacks sufficient details, the community should add them.

- **NYSERDA Response to Recommendation 6a:** Implemented. The program team will revise the grant application to provide additional clarity and capture benefits for the 2026 program.

**Recommendation 6b:** The Contractor team recommends the CEC Program add a question to the grant project application that asks communities if they plan to use the grant funding to support the completion of a HIA, and if so, identify the HIA.

- **NYSERDA Response to Recommendation 6b:** Implemented. In the new program, the team will capture additional information, including if a grant will be used for the completion of a HIA.

## 4.1 Clean Energy Communities Impact Evaluation (2019-2023)

*Summary of Report Findings, Recommendations and NYSERDA Response to Recommendations.*

Key findings and associated recommendations include the Clean Energy Communities (CEC) Impact Evaluation include:<sup>23</sup>

The evaluation verified the per-capita and total energy savings for three High Impact Actions (HIAs): Benchmarking -Advanced Reporting, Clean Heating and Cooling Demo, and Clean Energy Upgrades for use in estimating indirect program impacts. The evaluated and verified savings results for each action are shown in Table 11 below.

**Table 11. Evaluated HIA Savings Impacts**

HIA	Annual Impact**	Annual Efficiency kWh Savings	Annual Natural Gas Btu Savings	lbCO2e
Benchmarking-Advanced Reporting	Total Verified Gross	1,281,721	14,216,984	2,191,711
	Per-Capita Verified Gross	0.246	2.729	0.42
Clean Heating and Cooling Demo	Total Verified Gross	18,343	1,728,992	57,163
	Per-Capita Verified Gross	0.016	1.476	0.049
Clean Energy Upgrades	Total Verified Gross	7,762,154	2,505,934	20,167,959
	Per-Capita Verified Gross	4.135	1.335	10.744

\*Impacts are reported in units of kW, kWh, Btu, and lbCO2e for purposes of improving readability.

\*\* Additional impacts per HIA found within the final report document.

The evaluation additionally estimated Beneficial Electrification impacts for the Clean Heating & Cooling Demo and the Clean Energy Upgrades HIAs, as seen in Table 12 below.

**Table 12. Evaluated HIA Beneficial Electrification Impacts**

Beneficial Electrification kWh by HIA	Total Verified Gross Impacts	Per-capita Verified Gross Impacts
Clean Heating and Cooling Demo	-203,321	-0.174
Clean Energy Upgrades	-140,085	-0.075

**Finding 1: Results of the Benchmarking – Advanced Reporting HIA showed better performance in large communities than in small ones.** Achieving energy savings from benchmarking is a long-term investment with greater potential for success in communities that have dedicated energy managers and buildings with integrated controls. While those characteristics are more commonly found in larger communities, small communities can also achieve savings but may require additional support and continued touchpoints with their NYSERDA CEC Coordinators.

**Recommendation 1: To promote longer-term engagement, NYSERDA should consider adding a new HIA within the benchmarking activities that requires continued tracking of energy use,** up to 24 months, and that demonstrates an improvement in energy use intensity tracking for all buildings that were a part of the Benchmarking – Advanced Reporting HIA. The HIA would drive deeper savings in municipal buildings and provide NYSERDA with detailed building-level energy use data that might be useful in identifying targeted HIAs.

- **NYSERDA Response to Recommendation 1:** Implemented. Benchmarking - Municipal Buildings - receive points if they submit a certified copy of an executed local law, ordinance, or resolution that requires the applying jurisdiction to make available to the public on the internet on an annual basis energy use information for each municipal building that is owned or occupied by the applying jurisdiction that is 1,000 square feet or larger. At a minimum, publicly disclosed energy use information shall include each building’s energy use intensity (EUI), annual greenhouse gas emissions, and an energy performance score where available.

**Finding 2: The Clean Heating and Cooling Demo participation requirements include submission of a certification form, with limited estimated energy information.** It does not include essential equipment details such as the heat pump make, model, or rated capacity. Collecting this information at the time of installation is the most reliable approach to ensure data accuracy and would enable NYSERDA to verify compliance with HIA technical requirements. This data is critical for estimating the magnitude of energy and emissions impacts across participating communities. In the Clean Energy Upgrades HIA, the option for “comparable information” remains inadequately defined, introducing uncertainty regarding the data’s completeness and comparability.

**Recommendation 2:** To improve the accuracy of energy savings estimates, NYSERDA should revise the certification form for the Clean Heating and Cooling Demo HIA to include a required photo of the equipment nameplate, along with data entry fields for equipment capacity, heating efficiency, and cooling efficiency. Communities can obtain this information with support from the installation contractor. Additionally, the Contractor team recommends removing the option to submit “comparable information” under the Clean Energy Upgrades HIA. Eliminating this vague provision will help ensure that backup documentation includes sufficient detail to support more precise energy savings calculations.

- **NYSERDA Response to Recommendation 2:** Rejected. At first attempt, minimal CEC projects were able to be matched to the Clean Heat dataset. NYSERDA is confident this will be a useful data set in the future by working on the alignment needed for matching purposes.

**Finding 3:** The current work applied the 2010 US Census data for normalizing results to per capita totals, which is consistent with the Program Opportunity Notice (PON) during the Program years 2019—2023. The 2020 Census showed an overall increase in statewide population of 4.2%. However, community-to-community population changes vary positively and negatively.

**Recommendation 3:** Future iterations of the CEC Program PON should update community size descriptions (large and small) to use 2020 Census data. Future evaluations can also apply 2020 Census values to stay aligned.

- **NYSERDA Response to Recommendation 3:** Implemented. All future analysis and evaluations will implement the 2020 Census.

## 4.2 Dandelion Ground Source Heat Pump Case Study (2025)

Founded in 2017, Dandelion Energy (“Dandelion”) offers ground source heat pump (GSHP) drilling and installation services for residential and commercial customers across the United States. NYSERDA awarded Dandelion \$375,000 in 2018 to purchase a compact sonic drill, which Dandelion hypothesized would reduce drilling costs, minimize negative impacts to customers’ yards, and expand the company’s addressable market by reducing the outdoor space requirements for drilling.

A compact sonic drill is smaller and lighter than the drills traditionally used by geothermal installers in the US and emits high-frequency sonic vibrations to penetrate the ground. Dandelion was the first US-based company to use a compact sonic drill for GSHP installation, although the technology is commonplace in the European geothermal industry. Dandelion determined that the sonic element of the drill did not improve efficiency or reduce costs as anticipated due to differences in geologic conditions between New York State (NYS) and Europe. However, the company did determine that the smaller size of the drill was beneficial for increasing the number of potential customers and reducing the amount of damage to customers’ yards.

This case study explores and attempts to quantify how NYSERDA’s initial grant to Dandelion for the compact sonic drill helped the company evolve and expand the residential market for GSHPs in New York State (NYS).<sup>24</sup> In addition to market development, the case study also explores project benefits related to energy savings, emissions reductions, and improved customer satisfaction.

### *Summary of Report Findings*

Selected key findings from the Dandelion Case Study include:<sup>25</sup>

- NYSERDA’s grant signaled Dandelion’s credibility to investors and helped the company secure an additional \$86 million in venture capital funding between 2018 and 2024.
- Dandelion used some of this follow-on investment to purchase another compact drill (this time without the sonic drilling technology). NYSERDA’s initial award helped reduce the corporate risk of investing in subsequent drills by allowing Dandelion to prove the feasibility and benefits of the compact drilling approach.
- Between 2018 and 2023, Dandelion installed approximately 2,600 GSHPs, of which approximately 1,560 projects (60 percent) would not have been possible without compact drilling (i.e., space constraints precluded the use of a larger drill).
- Given current trends in GSHP adoption, this case study estimates that an additional 54,700 residential GSHPs could be installed in NYS through 2050 given the increase in addressable market due to the innovative use of compact drilling proven by Dandelion with support from NYSERDA.
- By 2050, this case study estimates that the additional 54,700 GSHPs deployed in NYS because of compact drilling would generate:
  - 58 million MMBtu in net energy savings,
  - 3.6 million MTCO<sub>2e</sub> in avoided net GHG emissions, and
  - \$707 million in avoided damages from net GHG emissions.

## **4.3 Dr. Max Zhang Environmental Research Case Study (2025)**

Dr. K. Max Zhang (hereafter “Dr. Zhang”) is the Provost’s Fellow for Public Engagement at the Cornell Atkinson Center for Sustainability and the Irving Porter Church Professor of Engineering. He received his PhD in Mechanical Engineering from the University of California, Davis in 2004. His research interests include renewable energy systems, air pollution, decarbonization, and environmental justice.

NYSERDA’s Environmental Research Program, designed to support energy policy-relevant research, has awarded approximately \$2 million in funding across eight contracts. Dr. Zhang leveraged this NYSERDA funding to secure over \$3 million in additional research funding.

This case study describes the impacts of Dr. Zhang’s research funded by NYSERDA’s Environmental Research Program as it relates to public policy, energy generation, air quality modeling, and environmental justice, highlighting the benefits of Dr. Zhang’s NYSERDA-funded research to New York State.

## *Summary of Report Findings*

Selected key findings from the Dr. Zhang Case Study include:<sup>26</sup>

- NYSERDA's Environmental Research Program, designed to support energy policy-relevant research, has awarded Dr. Zhang approximately \$2 million in funding across eight contracts. Dr. Zhang has leveraged this NYSERDA funding to secure over \$3 million in additional research funding.
- Dr. Zhang has published 23 academic papers based on research funded by NYSERDA, all of which sought to improve understanding of air pollution and other effects from how we generate or use energy. As of April 2024, Dr. Zhang's NYSERDA-funded papers have been cited over 640 times, including 11 papers that have each been cited over 20 times and seven that have each been cited over 50 times.
- Dr. Zhang's work on energy and air quality is filling critical knowledge gaps. The insights from Dr. Zhang's models will help New York State determine the most efficient and robust mix of renewable energy sources throughout the year depending on weather. In addition, Dr. Zhang's work to identify more efficient methods of balancing energy supply and demand will result in lower cost electrification.
- Dr. Zhang's work was cited in the New York State Department of Environmental Conservation's regulation on Distributed Generation Sources, which established emission control requirements for sources used in demand response programs.<sup>27</sup>
- Dr. Zhang's dual-use solar research was cited in New York State Senate Bill 7081, which aims to preserve agricultural activities and promote ecosystem services at utility-scale solar farms.
- Dr. Zhang's NYSERDA-funded work has resulted in follow-on policy research funded by other New York-based and national agencies

## **4.4 Orange & Rockland Grid Modernization Case Study (2025)**

NYSERDA's Smart Grid program promotes modernization of New York State's electric grid by funding research and technology development projects that can be implemented at utility scale. Through these projects, the program aims to:

- Increase grid efficiency by reducing losses and improving system management,
- Reduce costs and improve technologies associated with integrating renewable energy sources, and
- Improve the ability of the grid to predict, withstand, and recover from power outages.

Examples of smart grid technologies include remote sensing devices for monitoring grid conditions in real-time, tools enabling two-way communication between a utility's operations center and various points on the grid, and automated controls for optimizing grid performance. These technologies and devices are relatively new on the market and are evolving quickly.

Orange & Rockland is one of seven electric utilities in New York State. Its service territory covers over 300,000 households across six counties in New York and New Jersey. NYSERDA's Smart Grid program began supporting Orange & Rockland's grid modernization efforts in 2007, when the utility responded to a competitive solicitation for distribution automation proposals and was awarded \$1 million to conduct a smart grid pilot project. The pilot upgraded two 13.2 kV electric circuits in West Nyack with advanced sensors, field devices, online decision-making software, and improved communications. In 2010, Orange & Rockland was awarded \$2 million to expand its distribution automation work to upgrade the southeastern portion of Orange & Rockland's territory in Rockland County. The work was carried out over three years from 2014-2016 and included upgrades

to fourteen 13.2 kV electric circuits sensors. One of the main drivers for the project was to improve grid reliability for customers, especially during major storm events.<sup>28</sup>

These smart grid upgrades, deployed from 2014-2016, significantly improved grid reliability in Orange & Rockland, significantly reducing the frequency and duration of electricity outages after 2016 when compared to past performance, and performance statewide. The grid upgrades also increased grid efficiency, allowing Orange & Rockland to defer the construction of a new substation by eight years.

This case study quantifies the key benefits that resulted from Orange & Rockland and NYSERDA's investment in the Utility's grid modernization improvements, including improved grid reliability, economic cost savings, and avoided CO<sub>2</sub> air pollution emissions.

### *Summary of Report Findings*

Selected key findings from the Orange and Rockland Smart Grid Case Study include:<sup>29</sup>

- \$3 million awarded (\$1M in 2015, \$2M in 2016) to Orange & Rockland by NYSERDA for grid modernization upgrades.
- \$8.7 million invested by Orange & Rockland (\$3.4M in 2015, \$5.3M in 2016) in the grid modernization upgrades.
  - \$2.90 committed by Orange & Rockland for every \$1 of NYSERDA funding.
- Reliability benefits of the grid modernization upgrades valued to be at least \$14.5 million for three storm events in 2020-2021. As the frequency and severity of storms increases due to climate change, the upgrades made during the project are likely to provide additional reliability benefits.
- Economic benefits of \$1.4 million from deferring \$5 million capital expenditure of building a new substation by 8 years.
- 5,274 metric tons of CO<sub>2e</sub> emissions avoided from deferring substation construction.
- \$1.3 million of environmental benefits from avoided CO<sub>2e</sub> from deferred substation construction.
- \$3.0 million in health benefits from avoided PM<sub>2.5 eq</sub> and the reduction in adverse health events from air pollution, from deferred substation construction.
- Total benefit of NYSERDA's and Orange & Rockland's funding is approximately \$20 million.
  - \$3.87 in benefits for every \$1 of NYSERDA funding (valued in \$2024).
- NYSERDA's funding helped inform Orange & Rockland's decision to plan significant follow-on smart grid investments and enabled equipment suppliers to further develop technologies and expand their businesses.

## **4.5 Gradient Window Heat Pump Case Study**

In 2021, the New York City Housing Authority (NYCHA) initiated a search for a scalable and affordable solution for decarbonizing its building portfolio. NYCHA manages over 170,000 apartments in 2,550 buildings across NYC, more than half of which were constructed prior to 1950 and rely on energy inefficient steam radiators and window air conditioners for heating and cooling.<sup>30</sup> NYCHA had previously conducted pilots of electrification technologies including air source heat pump (ASHP) mini-splits and geothermal heat pumps, but installing these solutions required extensive building retrofits and proved to be cost prohibitive.

NYCHA identified window heat pumps (WHPs) as a potential solution that could be both scalable and cost-effective. WHPs are compact, energy efficient ASHPs that are mounted in a window like traditional air conditioners but offer both cooling and heating capabilities. WHPs are easy to install and require no structural modifications (e.g., cutting holes in walls to accommodate mini-splits, running condensate and refrigerant lines, or adding ductwork for ducted systems). NYCHA was aware that some manufacturers were developing room air conditioners with limited heating capabilities suitable for mild climates, but a true cold climate WHP technology was not yet commercially available.<sup>31</sup>

To address this commercialization gap, NYSERDA collaborated with NYCHA through the NextGen Building Innovation Challenge (PON 3519) and awarded contracts to manufacturers Gradient and Friedrich to develop a WHP that could meet NYCHA's needs. In addition, NYSERDA, NYCHA, and NYPA jointly issued an RFP under the Clean Heat For All Challenge (CH4A) for a pilot demonstration of 30,000 WHP units in NYCHA facilities. In August 2022, the NYPA Board of Trustees awarded manufacturers Gradient and Midea a combined \$70 million in CH4A prize funding to commercialize and pilot the 30,000 units.<sup>32</sup> NYCHA beta tested Gradient WHP units in 12 apartments at Woodside Houses in Queens between December 2023 and September 2024.

NYSERDA selected Gradient as the focus of this case study because the Authority funded Gradient under both the NextGen Building Innovation Challenge (WHP prototype development) and the Clean Heat for All Challenge (WHP commercialization and deployment).<sup>33</sup> This case study evaluates the impact of NYCHA's Gradient WHP beta test in terms of energy benefits (avoided gas use and net energy use), fiscal benefits (energy and maintenance cost savings), environmental benefits (GHG emission reductions), comfort benefits (improved thermal comfort), and product design improvements.

### *Summary of Report Findings*

Selected key findings for the Gradient Window Heat Pump Case Study include:<sup>34</sup>

- Switching to WHPs in the 12 pilot apartments reduced NYCHA's annual natural gas consumption by 812 MMBtu (68 MMBtu per apartment) and lowered net energy consumption by 483 MMBtu (40 MMBtu per apartment).
- NYCHA's annual energy costs increased by only \$937 (\$78 per apartment), suggesting that energy efficiency improvements from switching to WHPs helped balance the impact of the 3x gas-electricity price differential.
- NYCHA avoided 24 MTCO<sub>2e</sub> in emissions (2 MTCO<sub>2e</sub> per apartment) at a net cost of \$39 per ton (in increased electricity expenditures).
- 92% of tenants confirmed the new WHP units kept them warm in the winter and cool in the summer, and nearly 80% were satisfied with their units overall.
- Installing WHPs in all 1,357 apartments at Woodside Houses could decrease annual energy consumption by 54,600 MMBtu at a cost to NYCHA of \$106,000 per year in increased electricity bills. Annually, 2,700 MTCO<sub>2e</sub> could be avoided at a value of \$436,000.
- NYCHA's cost to maintain steam heating infrastructure is significant and may attenuate or even outweigh the increase in energy costs from switching to WHPs.
- Gradient is proactively addressing observations identified by NYCHA staff related to condensation performance. While NYCHA and Gradient complete this evaluation, large-scale deployment of the Gradient window heat pump units at NYCHA has been slowed, but the existing 10,000-unit contract

remains in effect. Gradient's window heat pump is fully commercialized and is being sold and installed for customers nationwide.

# Endnotes

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- <sup>1</sup> The final study can be found here: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/Program-Evaluation/Matter-No1602180NYSERDACodesStandards-MarketEvaluation-Report-May-2025.pdf>.
- <sup>2</sup> The final study can be found here: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/Program-Evaluation/2024-Soft-Costs-in-NY-market-Evaluation-Executive-Summary-and-Final-Report.pdf>.
- <sup>3</sup> The final study can be found here: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/Program-Evaluation/2025-Heat-Pumps-Phase-2-Indirect-Impact-Analysis-Report.pdf>.
- <sup>4</sup> The final study can be found here: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/Program-Evaluation/Matter-No1602180NYSERDACEF-New-Construction-Direct-Impact-Report-Phase2-May-2025.pdf>.
- <sup>5</sup> The final study can be found here: <https://www.nyserda.ny.gov/About/Publications/Evaluation-Reports/Building-Stock-and-Potential-Studies/Statewide-Multifamily-Building-Study>.
- <sup>6</sup> The study completed 434 site visits; 29 were conducted in Central Hudson; 184 in Con Ed territory; 68 in NYSEG/RG&E; 81 in National Grid; 12 in Orange & Rockland; and 60 in PSEGLI.
- <sup>7</sup> Total Building EUI (kBtu/Sqft) is calculated as the total of electric EUIs, natural gas EUIs, and other fuel EUIs. The EUI weighting accounts presence of each fuel – i.e., the saturation.
- <sup>8</sup> The final study can be found here: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/Program-Evaluation/Matter-N01602180NYSERDAWorkforceDevBuilding-Operations--Maintenance-Impact-Eval-Report-June-2025.pdf>.
- <sup>9</sup> The final study can be found here: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/Program-Evaluation/2025-09-Comfort-Home-Impact-and-Process-Evaluation.pdf>.
- <sup>10</sup> A study evaluating delivered fuels is anticipated to be complete Q4 2025.
- <sup>11</sup> In this study, the term “program-estimated savings” refers to modeled savings provided by the program team as part of the program tracking dataset.
- <sup>12</sup> Per comments received from NYSERDA staff, the program is transitioning the savings estimation algorithm from Custom Measure Category 5 in the New York TRM to Custom Measure Category 6. This new estimation model requires more inputs and may improve the accuracy of program estimation of savings.
- <sup>13</sup> The final report can be found here: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/NYSERDA/2025-09-Solar-PV-Persistence-Study.pdf>.
- <sup>14</sup> <https://climate.ny.gov/-/media/project/climate/files/nys-climate-action-council-final-scoping-plan-2022.pdf>
- <sup>15</sup> <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7b4C42AAFF-0EB9-4890-AA0D-21C70B088F4B%7d>
- <sup>16</sup> The final study can be found here: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/Program-Evaluation/NYSERDA-Industrial-and-Process-Efficiency-Close-Out-Impact-Evaluation.pdf>.
- <sup>17</sup> The final report can be found here: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/NYSERDA/Build-Ready-Final-Report.pdf>.

- <sup>18</sup> The final study can be found here: <https://www.nyscrda.ny.gov/-/media/Project/Nyscrda/Files/Publications/PPSER/Program-Evaluation/Matter-No1602180NYSERDA-Clean-Energy-Communities-Process-Evaluation-Report-November-2025.pdf>.
- <sup>19</sup> The final study can be found here: <https://www.nyscrda.ny.gov/-/media/Project/Nyscrda/Files/Publications/PPSER/Program-Evaluation/2025-11-RTEM-Commercial-Industrial-Direct-and-Indirect-Benefits-Impact-Study.pdf>
- <sup>20</sup> The final study can be found here: <https://www.nyscrda.ny.gov/-/media/Project/Nyscrda/Files/Publications/PPSER/Program-Evaluation/Real-Time-Energy-Management-Program-Evaluation-Multifamily-Direct-and-Indirect-Benefits.pdf>. The final study will be posted Q4 2025.
- <sup>21</sup> The final study can be found here: <https://www.nyscrda.ny.gov/-/media/Project/Nyscrda/Files/Publications/PPSER/Program-Evaluation/Matter-No1602180NYSERDA-SingleFamily-LMI-Retrofit-Programs-Evaluation-ReportNovember-2025.pdf>.
- <sup>22</sup> The final study can be found here: <https://www.nyscrda.ny.gov/-/media/Project/Nyscrda/Files/Publications/PPSER/Program-Evaluation/Clean-Energy-CommunitiesMarketEvaluationReport-March-2026.pdf>.
- <sup>23</sup> The final case study can be found here: <https://www.nyscrda.ny.gov/-/media/Project/Nyscrda/Files/Publications/PPSER/Program-Evaluation/Clean-Energy-CommunitiesImpactEvaluationReportMarch-2026.pdf>.
- <sup>24</sup> This case study relies on the most recent publicly available NYSERDA heat pump data, input from Dandelion, and historical technology growth rates from the academic literature to provide an indication of market expansion. This case study is *not* an in-depth GSHP market potential study, as that type of new analysis is beyond the scope of this work.
- <sup>25</sup> The final case study will be posted Q2 2026.
- <sup>26</sup> The final case study will be posted Q2 2026.
- <sup>27</sup> 6 NYCRR Part 222, Distributed Generation Sources, 2020, [https://extapps.dec.ny.gov/docs/air\\_pdf/siprev222.pdf](https://extapps.dec.ny.gov/docs/air_pdf/siprev222.pdf).
- <sup>28</sup> NYSERDA has supported Orange & Rockland’s grid modernization work through multiple awards. However, this case study focuses on two: the smart grid pilot project and distribution automation work.
- <sup>29</sup> The final case study will be posted Q2 2026.
- <sup>30</sup> See the U.S. Department of Energy’s NYCHA Better Buildings Profile found here: <https://betterbuildingssolutioncenter.energy.gov/partners/new-york-city-housing-authority-nycha> and 2022 Challenges and Solutions Electrifying NYCHA presentation found here: [https://betterbuildingssolutioncenter.energy.gov/sites/default/files/2022Summit-Electrification\\_in\\_Existing\\_Multifamily\\_Buildings-Slides.pdf](https://betterbuildingssolutioncenter.energy.gov/sites/default/files/2022Summit-Electrification_in_Existing_Multifamily_Buildings-Slides.pdf)
- <sup>31</sup> Interview with Jordan Bonomo, NYCHA Senior Project Manager (April 2024).
- <sup>32</sup> Gradient and Midea were announced as winners of the \$70 million CH4A investment in August 2022.
- <sup>33</sup> Midea is also piloting precommercialized WHP units in 12 tenant apartments at Woodside Houses under the CH4A contract. However, Midea was not a recipient of NYSERDA funding for WHP prototype development under the NextGen Building Innovation Challenge.
- <sup>34</sup> The final case study will be posted Q2 2026.

NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975.

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