

# Clean Energy Fund Quarterly Performance Report through September 30, 2021

Final Report | November 2021

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

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

### **Our Vision:**

New York is a global climate leader building a healthier future with thriving communities; homes and businesses powered by clean energy; and economic opportunities accessible to all New Yorkers.

### **Our Mission:**

Advance clean energy innovation and investments to combat climate change, improving the health, resiliency, and prosperity of New Yorkers and delivering benefits equitably to all.

# NYSERDA Record of Revision

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Document Title
Clean Energy Fund Quarterly Performance Report through September 30, 2021

Revision Date	Description of Changes	Revision on Page(s)
November 29, 2021	Original Issue	

# **Clean Energy Fund Quarterly Performance Report through September 30, 2021**

*Final Report*

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Albany, NY

# About This Report

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The Clean Energy Fund (CEF), approved by Public Service Commission (PSC) Order on January 21, 2016<sup>1</sup> and later modified on September 9, 2021,<sup>2</sup> is designed to accelerate the use of clean energy and energy innovation while simultaneously delivering on New York State's commitment to reduce ratepayer collections and drive economic development. The CEF is comprised of four distinct portfolios (CEF Portfolio):

- Market Development (MD)
- Innovation and Research (I&R)
- NY-Sun
- NY Green Bank

This report provides a collective view of all four portfolios' progress against CEF targets (Figures 1 and 2) and further details quarterly and cumulative activity for the MD and I&R portfolios through September 30, 2021 (Figure 3). The CEF Order revised on September 9, 2021 requires quarterly reporting for the MD and I&R portfolios which continue to include the following:

- Progress toward cumulative and annually prorated incremental targets and budgets.
- Progress toward the CEF's contribution to NE:NY targets.
- A performance summary discussion of key CEF initiatives.
- A summary of benefits acquired and projected benefits committed, compared to investment plan projections.

To meet these reporting requirements, this report document is accompanied by a scorecard (spreadsheet) that contains all plan and progress information related to CEF activity, also filed quarterly. This New York State Energy Research and Development Authority (NYSERDA) scorecard is consolidated with each State utility scorecard to publish data on [Open NY](#) where it is available to all stakeholders. Finally, the publishing of these data sets coincide with a similar update to the [Clean Energy Dashboard](#), an interactive and dynamic tool first published in 2019 to improve accessibility and transparency of ratepayer-funded clean energy program reporting statewide.

NY-Sun reports progress quarterly within the NYSERDA scorecard and Clean Energy Dashboard (CED). Quarterly reporting for NY Green Bank is similarly provided within NYSERDA's quarterly scorecard and the CED, but also within a separately filed report.

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# 1 Performance Overview

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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 strategies 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) 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>3</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. This sets the State target to reduce greenhouse gas (GHG) emissions from all anthropogenic sources 85 percent below 1990 levels by the year 2050, including an interim target of a zero-carbon emission electricity sector by the year 2040 and mandates the following:

- Six thousand megawatts (MW) of solar by 2025.
- Seventy percent renewable electricity by 2030.
- Nine thousand MW of offshore wind by 2035.
- Carbon-free electricity by 2040.
- Three thousand MW of energy storage by 2030.
- Disadvantaged communities shall receive no less than thirty-five percent of the overall benefits of spending on clean energy and energy efficiency programs, projects, or investments.

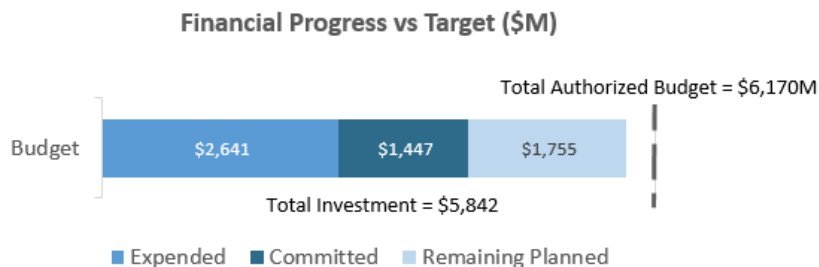
With these goals, New York State is undertaking one of the most aggressive clean energy agendas in the nation. Through the CEF and its other portfolios, NYSERDA works to foster the transformation of markets, pushing them to accurately value clean energy, energy efficiency, and resilience, while encouraging competition and innovation that delivers value to consumers.

## CEF Portfolio Performance

Figures 1 and 2 below present a comprehensive picture of progress against the CEF authorized budget and associated benefits targets reflecting all four CEF Portfolios (MD, I&R, NY-Sun, and NY Green Bank). Progress shown against each key performance metric represents results through September 30, 2021 and nets out overlap across portfolios where it is known to occur. Figure 1 captures status of CEF funding while Figure 2 depicts progress of the combined portfolios against the latest CEF ordered benefits targets. Both figures should be viewed together to properly relate investments to results.

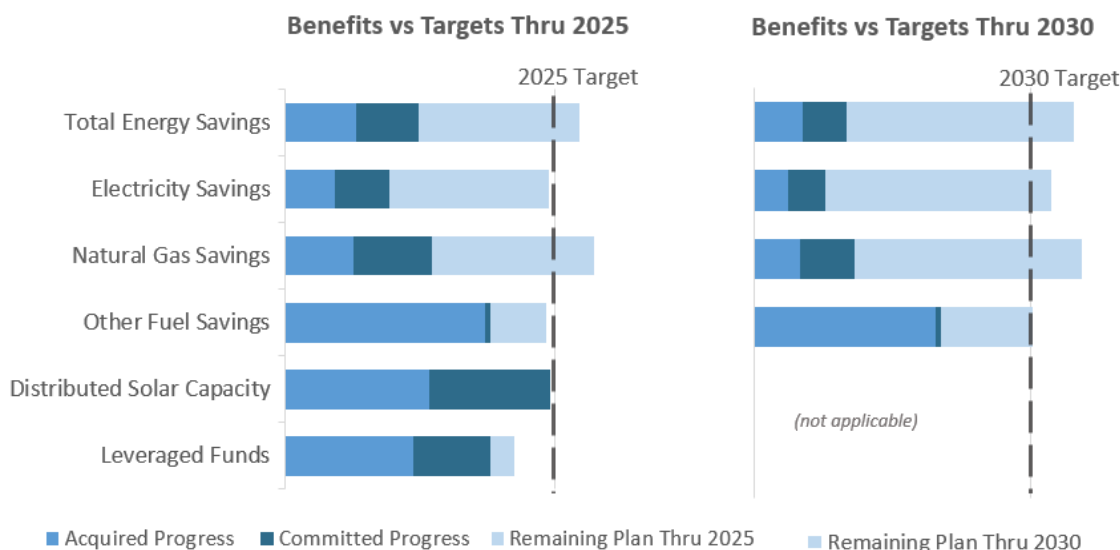
In each of these visuals, cumulative progress in the form of acquired and committed results is combined with the remaining expected results (planned) to demonstrate total progress toward NYSERDA’s targets.

**Figure 1. CEF Portfolio Expected Investment versus Targets through September 2021**



- Authorized Funding per Order Approving Clean Energy Fund Modifications, issued and effective September 9, 2021.
- Excludes \$692M in non-CEF NYSERDA funded Solar projects. For purposes of this graph, NYGB commitments are capped at the \$1B capitalization. At the end of Q3 2021, NYGB had made over \$1.5B of cumulative principal deployments and received over \$791 million in cumulative principal repayments. NYGB Current Portfolio, net of any portfolio losses, was \$655 million.

**Figure 2. CEF Portfolio Expected Benefits versus Targets through September 2021**



Benefits Metric	Acquired Progress	Committed Progress	Remaining Plan Thru 2025	Total Thru 2025	2025 Order Target	Remaining Plan Thru 2030	Total Thru 2030	2030 Order Target
Total Energy Savings (MMBtu equivalent, millions)	14.0	12.4	31.6	57.9	53.0	64.8	91.1	79.0
Electricity Savings (MWh, millions)	1.2	1.4	4.0	6.6	6.7	8.2	10.7	10.0
Natural Gas Savings (MMBtu, millions)	6.2	7.4	15.0	28.7	25.0	31.4	45.0	38.0
Other Fuels Savings (MMBtu, millions)	11.1	0.3	3.1	14.5	15.0	5.7	17.1	17.0
Distributed Solar Capacity (Renewable MW)	3,191	2,716	-	5,907	6,000	-	5,907	n/a
Leveraged Funds (\$ millions)	\$ 9,529	\$ 5,749	\$ 1,773	\$ 17,051	\$ 20,000	\$ 3,228	\$ 18,506	n/a

Figure 2 notes are on the next page.



- Energy savings values are annual; Total Energy Savings measures the combined Electricity and Fuel savings net of usage; therefore, may not sum to the total of electric and fuel savings values.
- CEF initiatives not dedicated to building energy efficiency have been excluded from progress towards energy savings targets above, including Electric Vehicles - Rebate, Combined Heat & Power, and Fuel Cells.
- Distributed Solar Capacity includes 789MW 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.”

As Figures 1 and 2 illustrate, of the sum of expended, committed, and remaining planned funding across the CEF has reached nearly 95 percent while the total projections for benefit outcomes are outpacing this for all except Leveraged Funding (the only metric not factoring anticipated indirect impacts at this time).

An explanation of performance to these primary metrics is as follows:

- Total Energy Savings (MMBtu equivalent) is a measure of NYSERDA effectiveness in building and delivering site energy efficiency savings, primarily through the combined MD/I&R portfolios, to meet the expected contribution toward overall NE:NY goals. The data shows that NYSERDA has programmed initiatives anticipated to meet the aggressive target set forth in the CEF Order for 2025, and exceed them through what is expected to be acquired by 2030. Nearly six years into the CEF, the acquisition of benefits is accelerating and remains on a strong trajectory to meet the near-term plan (see Figure 3). A closer examination of financial progress limited to just the MD/I&R portfolios shows strong alignment with energy savings progress at this stage of the CEF progression.
- Electricity savings MWh acquired and committed total has lagged the pace of other benefits, but is forecasted to reach CEF minimum targets as projects are completed, particularly when assessing against 2030 targets.
- Even in light of a revised, and significantly increased target for MMBTU fuel savings adopted in the September 2021 CEF Order, progress remains strong, with realized benefits on par with MD/I&R spending through three quarters of 2021. NYSERDA expects this trend to continue.
- Renewable energy MW is dominated by NY-Sun contributions, which began in 2014 and is performing exceedingly well against the 2025 target, on a trajectory to achieve the target early.
- Leveraged funding acquired and committed is outpacing other metrics, showing strong realization relative MD/I&R investments through three quarters of 2021. The longer-term outlook for leveraged funding planned is expected to improve over time as indirect impacts are better understood and carefully estimated.

Indirect impacts will be reported alongside direct impacts where applicable for the first time in the fourth quarter of 2021 as the earliest evaluation studies conclude and this data becomes available. As with all metrics, indirect benefits will be reported in NYSERDA’s scorecard and ultimately within the Clean Energy Dashboard.

## MD and I&R Performance to Plan

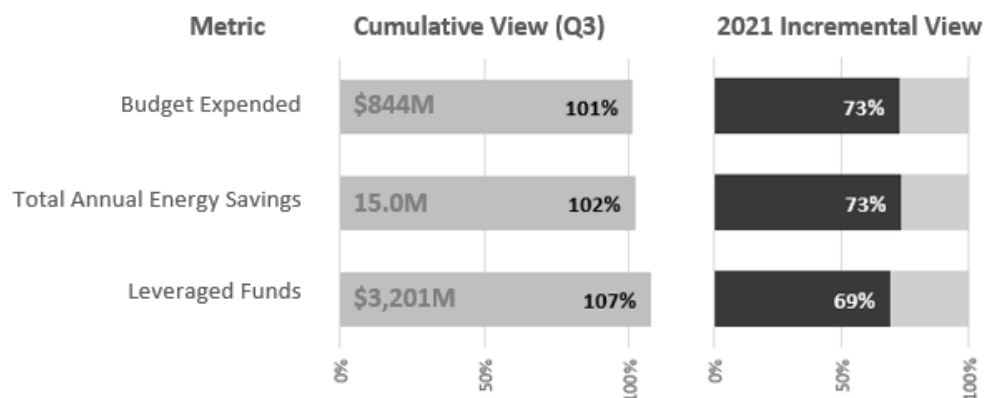
In the Fall of 2020 NYSERDA completed its annual update to forecasts for all CEF initiatives, which incorporates reported historical progress and revises forward looking plans to account for that history as well as to learn from the market. Cumulative performance against plans is the ultimate measure of success for delivering on the 10-year CEF minimum benefits (targets); however, NYSERDA also monitors incremental progress toward the current year goal to provide another viewpoint from which to assess performance, including how quickly funds are put to work in the market based on near-term expectations. Both cumulative and incremental values can be reviewed in granular detail for the portfolio and for each program and metric within the [Clean Energy Dashboard](#).

Figure 3 provides a high-level view of NYSERDA’s MD and I&R portfolio performance to plan, measuring progress toward expended funding and acquired benefit plans through Q3 2021. As previously noted, indirect impacts will be included as they are measured, and will become more prevalent in the second half of the 10-year CEF timeline. Key points to interpret this figure include:

- The Cumulative View (Q3) is prorated, representing all the years 2016–2020, plus 75 percent of 2021; 100 percent in this view represents the cumulative planned amounts for that timeline.
- The 2021 Incremental View represents progress made in the current calendar year against the current calendar year plan, with the expectation that approximately 75 percent of the plan should be achieved at the end of the third quarter, based on a simple assumption of linear progress during the year. There is no pro-rating by quarter in this view of performance.
- For each of these metrics, all CEF, MD, and I&R initiatives are included (no exclusions).

The combined portfolios continue their solid trajectory in 2021 showing good progress toward plans for the year, with all core metrics trending well toward achieving the cumulative goals set by the end of 2021. A more detailed assessment of the portfolio’s top programs with energy saving impact can be found in the following section.

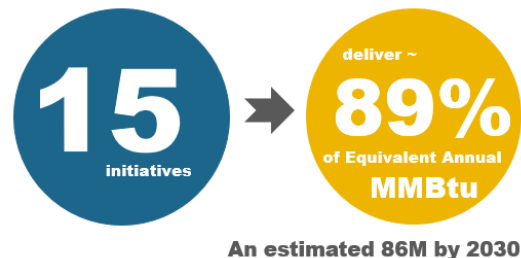
**Figure 3. Market Development/Innovation and Research Progress and Performance (Q3 2021)**



## Spotlight on the Top Energy Impact Initiatives

In NYSERDA’s MD portfolio, 15 key initiatives currently account for approximately 89 percent of the expected total energy saving benefits (represented by equivalent annual MMBtu) and 48 percent of the total approved budget. These initiatives warrant special attention due to the weight they carry in terms of the overall success of the CEF in delivering expected benefits. Like the majority of CEF programs, these top contributors also include a very strong focus on energy efficiency.

### Top 15 Energy Impact



**Table 1. Performance Summary for Market Development’s Top Energy Impact Initiatives**

Cumulative progress to plan is measured on a prorated basis through Q3 as described for Figure 3 above. Budget Performance here is progress against approved funding expenditure plans while Energy Performance is progress versus equivalent annual MMBtu acquired plan.

Initiative	MMBtu Impact Rank	Cumulative Progress: Budget Performance	Cumulative Progress: Energy Performance	Progress Narrative
Energy Management Technology	1	123%	88%	Expenditures are trending favorably to plan. There is a strong pipeline of projects in development across multifamily, commercial office, and small-to-medium businesses due to a robust network of vendors utilizing this initiative to support their business development efforts in New York State.
Product and Appliance Standards	2	126%	n/a	Energy performance remains dependent on legislation passing the NYS Assembly and the Governor’s signature.
Building Operations and Maintenance Partnerships	3	99%	7%	Two proposals were received and recommended for funding. Progress in many projects continues to be delayed because of COVID and the shift to online training. Seven projects have been completed in 2021, with three to five additional projects expected to be completed by end of Q4. Energy savings are not reported until all training is completed and the initiative has paused reporting of benefits pending inputs from an impact evaluation study.
Electric Vehicles - Rebate	4	102%	105%	CEF funding for this initiative has been fully committed and all rebates have been paid out as of Q1 2021. EV sales have been much stronger in 2021 than in previous years, in part due to the groundwork provided by the Drive Clean Rebate, which continues on, leveraging other funding sources. An evaluation study to quantify indirect benefits of this program, on additional EV sales, will be completed and reflected in this reporting soon.

**Table 1 Continued**

Initiative	MMBtu Impact Rank	Cumulative Progress: Budget Performance	Cumulative Progress: Energy Performance	Progress Narrative
Technical Services	5	109%	116%	The program is performing well on both budget and energy benefits. Due to significant market response to the closing of the COVID-response FlexTech Program addendum in June, there is an increase in commitments. This multisector initiative serves a combination of commercial, industrial, multifamily and agriculture sectors and continues to see good market participation across these sectors. Additional funds were added and approved in September to the Investment Plans and the FlexTech Program is in the process of adding these funds so that the Program can continue cost-sharing decarbonization studies for all sectors. The LMI Multifamily program has experienced project delays largely due to COVID.
Energy Management Practices	6	92%	95%	Progress of budget expenditures and energy benefits is trending favorably to plan after three quarters.
Industrial Transition	7	85%	98%	Attrition of a few data center projects and COVID delays will result in actual expenditures being approximately \$6M below plan at the end of 2021.
LMI Multifamily	8	92%	23%	The LMI Multifamily program has experienced project delays largely due to COVID. Specific reasons for the delays include lack of access to buildings or tenant units, supply chain issues hampering construction, and issues analyzing a project's energy usage due to estimated gas and electricity consumption instead of actual meter readings. These project delays have pushed back project closures and energy savings acquisition. Note the timing of expenditures and acquiring energy savings are not necessarily connected.
Market Challenges	9	120%	n/a	Progress of expenditures is trending favorably to plan. NYSERDA is seeing strong market interest from real estate portfolio owners and large energy users in pursuing deeper decarbonization through this initiative. The initiative does not anticipate acquiring the first project benefits until 2022.
Clean Energy Communities	10	97%	108%	Progress of expenditures and energy metrics are trending favorably to plan after three quarters. Additionally, a program modification is under development and is expected in Q4 to enhance and clarify current actions to encourage greater participation.

**Table 1 Continued**

Initiative	MMBtu Impact Rank	Cumulative Progress: Budget Performance	Cumulative Progress: Energy Performance	Progress Narrative
New Construction - Market Rate	11	111%	69%	<p>The Carbon Neutral for Economic Development program received a robust response to the offering. Public announcement of awarded projects via the Consolidated Funding Application (CFA) are expected in December. Program continues to be on pace to exceed 2021 commitment goals. A new Single Family offering is also expected to enter market in December of this year. Energy savings estimates are being updated to better reflect fully electrified projects.</p> <p>Market rate programs have now completed the shift to carbon neutral eligibility requirements.</p>
New Construction - LMI	12	80%	103%	<p>The New Construction Team has fully committed resources to NYSERDA's partnership with Housing and Community Renewal (HCR) in 2021 resulting in two pilot RFPs being issued. The Energy Grants as a Source Pilot program was launched in early Q3. Awards for Phase 1A of the pilot are expected late Q4. The long-term technical support mini-bid has also been released, with contracts to support Phase 1A and 1B pilot projects expected in late Q4. This initial funding amount is estimated to be \$7.5M in direct awards this year, in addition to the open enrollment program activity.</p>
P-12 Schools	13	136%	117%	<p>The P12 Schools Initiative recently added \$36 million to its Investment Plan to launch a new program in 2022 focused on disadvantaged community schools. The current effort has a Benchmarking Program slated to end in March 2022 and an Energy Solutions program that will end in December 2022. Both existing Programs have had successful quarters in participation and contracting that will secure future participation.</p>
RetrofitNY - LMI	14	80%	0%	<p>The completion of the first RetrofitNY project has been delayed because of COVID 19 related construction delays, explaining the lower than expected budget expenditures. The project is expected to complete by Q1 2022 and the savings for this project will be claimed then.</p>
Multifamily	15	6%	n/a	<p>The development of the Low Carbon Pathways for Multifamily Buildings, the main incentive program under this investment plan, was launched in Q3 2021. This launch date was delayed due to various factors, which in turn led to lower than expected expenditures. However, NYSERDA has launched several initiatives that will support upcoming low-carbon retrofit projects. In Q1 2021, NYSERDA released the Low Carbon Multifamily Retrofit Playbooks, and in Q2 2021 NYSERDA launched support for Low Carbon Capital Planning, a new component of the Flexible Technical Assistance Program (under NYSERDA's Technical Services investment plan) that will support multifamily building owners with the development of capital plans featuring low-carbon retrofits, allowing them to leverage existing capital improvement milestones. This initiative does not anticipate acquiring the first project benefits until 2023.</p>

## Market Development and Innovation and Research Portfolio Performance Data Tables—Budget and Benefits

Table 2 provides an account of portfolio budget progress to date against the funding approved for implementation. More detailed breakdowns of funding related to Transition, Market Development, and Innovation and Research focus areas can be found in Tables 3, 4, and 5 of the report. A detailed summary of benefit progress through the current reporting period concludes this overview in Table 6.

**Table 2. Market Development and Innovation and Research Portfolio-Level Budgets and Spending**

See endnote section for more information.<sup>4</sup>

Initiative	Total Authorized Budget	Budget Approved Through Q3 2021 <sup>a</sup>	% of Ordered Budget Funds Approved <sup>b</sup>	Expended Funds <sup>c</sup>	Committed Funds <sup>d</sup>	Total Progress <sup>e</sup>	% of Approved Budget Committed <sup>f</sup>	Budget Approved Remaining Balance <sup>g</sup>
<b>Market Development</b>								
Program Funds	\$2,399,728,000	\$2,274,014,845	96%	\$706,402,189	\$512,676,501	\$1,219,078,691	53%	\$1,071,904,191
NYS Cost Recovery Fee		\$26,589,691		\$9,621,654	-	\$9,621,654		
<b>Innovation &amp; Research</b>								
Program Funds	\$631,672,000	\$422,723,388	68%	\$125,920,147	\$159,642,458	\$285,562,605	67%	\$140,401,184
NYS Cost Recovery Fee		\$4,858,659		\$1,618,258	-	\$1,618,258		
<b>Administration</b>	\$274,400,000	\$243,916,471	89%	\$134,054,247	\$23,359	\$134,077,606	55%	\$109,838,865
<b>Evaluation</b>	\$124,200,000	\$76,852,829	62%	\$13,615,166	\$20,983,948	\$34,599,114	45%	\$42,253,715
<b>Total</b>	<b>\$3,430,000,000</b>	<b>\$3,048,955,883</b>	<b>89%</b>	<b>\$991,231,662</b>	<b>\$693,326,266</b>	<b>\$1,684,557,928</b>	<b>55%</b>	<b>\$1,364,397,955</b>

<sup>a</sup> Funds currently approved by DPS.

<sup>b</sup> Percentage of the authorized budget now approved.

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

<sup>d</sup> Remaining funding obligated under a contract, purchase order, or incentive award and planned funding for contracts awarded and under negotiation.

<sup>e</sup> Sum of categories Expended Funds and Committed Funds.

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

<sup>g</sup> Difference between categories Budget Approved and Total Progress.

## 2 Market Development Initiative Specific Budgets

**Table 3. Market Development Initiatives by Focus Area—Budgets and Spending**

See endnote section for more information.<sup>5,6,7</sup>

Initiative	Budget Approved Through Q3 2021 <sup>a</sup>	Expended Funds <sup>b</sup>	Committed Funds <sup>c</sup>	Total Progress <sup>d</sup>	% of Approved Budget Committed <sup>e</sup>	Budget Approved Remaining Balance <sup>f</sup>
<b>Clean Heat &amp; Cooling</b>						
Heat Pumps Phase 1 (2017)	\$65,776,685	\$47,478,494	\$9,234,156	\$56,712,650	86%	\$9,064,035
Heat Pumps Phase 2 (2020)	\$56,200,000	\$5,627,089	\$13,395,674	\$19,022,763	34%	\$37,177,237
Renewable Heat NY - Clean and Efficient Biomass Heating	\$13,487,000	\$11,942,348	\$1,389,358	\$13,331,706	99%	\$155,294
Solar Thermal Transition	\$293,770	\$287,513	-	\$287,513	98%	\$6,257
<b>Clean Heat &amp; Cooling Total</b>	<b>\$135,757,455</b>	<b>\$65,335,444</b>	<b>\$24,019,188</b>	<b>\$89,354,632</b>	<b>66%</b>	<b>\$46,402,823</b>
<b>Codes and Standards, &amp; Other Multisector Initiatives</b>						
Code to Zero	\$21,000,000	\$5,247,075	\$8,561,260	\$13,808,336	66%	\$7,191,664
Information Products and Brokering	\$8,500,000	\$1,227,488	\$1,742,737	\$2,970,226	35%	\$5,529,774
Market Characterization & Design Market Development	\$29,452,510	\$11,550,322	\$7,515,082	\$19,065,404	65%	\$10,387,106
Product and Appliance Standards	\$21,699,000	\$608,001	\$585,038	\$1,193,039	5%	\$20,505,961
REV Connect	\$13,000,000	\$3,876,152	\$3,497,435	\$7,373,587	57%	\$5,626,413
<b>Codes and Standards, &amp; Other Multisector Initiatives Total</b>	<b>\$93,651,510</b>	<b>\$22,509,038</b>	<b>\$21,901,552</b>	<b>\$44,410,592</b>	<b>47%</b>	<b>\$49,240,918</b>
<b>Commercial/Industrial/Agriculture</b>						
2030 GLASE	\$5,000,000	\$2,135,065	\$2,864,935	\$5,000,000	100%	-
Advancing Agricultural Energy Technologies	\$3,760,000	\$217,611	\$1,862,916	\$2,080,527	55%	\$1,679,473
Agriculture Transition	\$3,598,821	\$3,598,821	-	\$3,598,821	100%	-
Commercial Transition	\$12,576,271	\$10,484,543	\$1,935,447	\$12,419,989	99%	\$156,282
Energy Management Practices	\$28,876,778	\$9,357,483	\$3,714,386	\$13,071,870	45%	\$15,804,908
Energy Management Technology	\$108,298,862	\$28,458,933	\$43,282,758	\$71,741,691	66%	\$36,557,171
Industrial Transition	\$61,158,483	\$38,442,201	\$17,591,411	\$56,033,613	92%	\$5,124,870
Market Challenges	\$95,222,650	\$9,279,477	\$13,210,350	\$22,489,826	24%	\$72,732,824
P-12 Schools	\$57,600,000	\$4,594,892	\$5,491,841	\$10,086,733	18%	\$47,513,267
Pay for Performance	\$33,969,049	\$1,390,364	\$9,136,564	\$10,526,927	31%	\$23,442,122
Real Estate Tenant	\$15,798,390	\$11,183,225	\$4,430,579	\$15,613,804	99%	\$184,586
REV Campus Challenge	\$21,650,002	\$7,867,366	\$9,318,339	\$17,185,705	79%	\$4,464,297
Technical Services	\$71,597,185	\$12,796,200	\$42,766,884	\$55,563,084	78%	\$16,034,101
<b>Commercial/Industrial/Agriculture Total</b>	<b>\$519,106,491</b>	<b>\$139,806,181</b>	<b>\$155,606,410</b>	<b>\$295,412,590</b>	<b>57%</b>	<b>\$223,693,901</b>
<b>Communities</b>						
Clean Energy Communities	\$81,271,963	\$17,304,678	\$10,543,898	\$27,848,576	34%	\$53,423,387
Community Energy Engagement	\$4,407,818	\$4,157,613	\$230,934	\$4,388,546	100%	\$19,272
<b>Communities Total</b>	<b>\$85,679,781</b>	<b>\$21,462,291</b>	<b>\$10,774,832</b>	<b>\$32,237,122</b>	<b>38%</b>	<b>\$53,442,659</b>

**Table 3 continued**

Initiative	Budget Approved Through Q3 2021 <sup>a</sup>	Expended Funds <sup>b</sup>	Committed Funds <sup>c</sup>	Total Progress <sup>d</sup>	% of Approved Budget Committed <sup>e</sup>	Budget Approved Remaining Balance <sup>f</sup>
<b>Low-to-Moderate Income</b>						
Healthy Homes Feasibility Study	\$212,147	\$177,126	\$35,021	\$212,147	100%	-
Heat Pumps Phase 2 (2020)	\$30,000,000	\$2,436,804	\$5,231,441	\$7,668,246	26%	\$22,331,754
LMI Multifamily	\$128,808,112	\$15,933,243	\$35,227,320	\$51,160,563	40%	\$77,647,549
LMI Pilots	\$2,443,532	-	\$852,665	\$852,665	35%	\$1,590,867
Low Rise New Construction Transition - LMI	\$8,487,000	\$6,290,951	\$1,848,225	\$8,139,176	96%	\$347,824
Low-Income Forum on Energy	\$44,467,401	\$823,386	\$1,476,845	\$2,300,231	5%	\$42,167,170
Multifamily	\$10,000,000	\$1,440	-	\$1,440	0%	\$9,998,560
Multifamily New Construction Transition - LMI	\$10,879,000	\$3,938,050	\$5,132,930	\$9,070,979	83%	\$1,808,021
New Construction - LMI	\$138,831,361	\$5,219,802	\$45,673,925	\$50,893,728	37%	\$87,937,633
NYS Healthy Homes Value Based Payment Pilot	\$9,791,293	\$1,200,904	\$2,079,585	\$3,280,489	34%	\$6,510,804
RetrofitNY - LMI	\$30,503,500	\$3,647,811	\$1,004,201	\$4,652,012	15%	\$25,851,488
REVitalize	\$310,924	\$291,424	-	\$291,424	94%	\$19,500
Single Family - Low Income	\$235,627,453	\$159,513,138	\$3,814,436	\$163,327,574	69%	\$72,299,879
Single Family - Moderate Income	\$89,751,836	\$70,722,907	\$2,614,311	\$73,337,217	82%	\$16,414,619
Solar for All	\$21,218,418	\$3,469,791	\$9,206,902	\$12,676,692	60%	\$8,541,726
<b>Low-to-Moderate Income Total</b>	<b>\$761,331,977</b>	<b>\$273,666,777</b>	<b>\$114,197,807</b>	<b>\$387,864,583</b>	<b>51%</b>	<b>\$373,467,394</b>
<b>Multifamily Residential</b>						
Energy Management Technology	\$14,099,239	\$4,615,155	\$3,387,030	\$8,002,185	57%	\$6,097,054
Market Challenges	\$10,000,000	\$285,794	\$1,554,261	\$1,840,055	18%	\$8,159,945
Multifamily	\$27,138,016	\$124,839	\$691,888	\$816,727	3%	\$26,321,289
Multifamily Market Rate Transition	\$156,214	\$156,214	-	\$156,214	100%	-
Technical Services	\$25,749,999	\$784,570	\$8,838,603	\$9,623,174	37%	\$16,126,825
<b>Multifamily Residential Total</b>	<b>\$77,143,468</b>	<b>\$5,966,572</b>	<b>\$14,471,782</b>	<b>\$20,438,355</b>	<b>26%</b>	<b>\$56,705,113</b>
<b>New Construction</b>						
Commercial New Construction Transition	\$20,162,139	\$7,591,585	\$7,466,950	\$15,058,535	75%	\$5,103,604
Low Rise New Construction Transition - Market Rate	\$4,538,388	\$3,571,863	\$776,121	\$4,347,984	96%	\$190,404
Multifamily New Construction Transition - Market Rate	\$2,487,777	\$1,161,748	\$464,326	\$1,626,074	65%	\$861,703
New Construction - Market Rate	\$131,029,194	\$8,437,199	\$43,791,480	\$52,228,679	40%	\$78,800,515
<b>New Construction Total</b>	<b>\$158,217,498</b>	<b>\$20,762,395</b>	<b>\$52,498,877</b>	<b>\$73,261,272</b>	<b>46%</b>	<b>\$84,956,226</b>



**Table 3 continued**

Initiative	Budget Approved Through Q3 2021 <sup>a</sup>	Expended Funds <sup>b</sup>	Committed Funds <sup>c</sup>	Total Progress <sup>d</sup>	% of Approved Budget Committed <sup>e</sup>	Budget Approved Remaining Balance <sup>f</sup>
<b>Renewable/Distributed Energy Resources</b>						
Anaerobic Digesters Transition	\$13,634,032	\$4,073,735	\$9,632,056	\$13,705,791	101%	(\$71,759)
Clean Energy Siting and Soft Cost Reduction	\$8,795,000	\$1,109,279	\$618,012	\$1,727,292	20%	\$7,067,708
Combined Heat & Power Transition	\$59,485,543	\$29,280,628	\$29,714,112	\$58,994,740	99%	\$490,803
Fuel Cells	\$11,310,030	\$2,059,770	\$5,139,375	\$7,199,145	64%	\$4,110,885
Offshore Wind Master Plan	\$5,000,000	\$4,960,655	\$34,396	\$4,995,051	100%	\$4,949
Offshore Wind Pre-Development Activities	\$10,000,000	\$8,534,626	\$1,330,785	\$9,865,411	99%	\$134,589
ORES Support	\$9,000,000	\$1,714,978	\$1,090,403	\$2,805,381	31%	\$6,194,619
Reducing Barriers to Distributed Deployment	\$24,450,000	\$9,046,521	\$3,485,154	\$12,531,674	51%	\$11,918,326
Small Wind Transition	\$3,569,207	\$3,061,060	\$511,847	\$3,572,907	100%	(\$3,700)
Solar Plus Energy Storage	\$40,000,000	\$1,424,500	\$35,459,799	\$36,884,299	92%	\$3,115,701
<b>Renewable/Distributed Energy Resources Total</b>	<b>\$185,243,812</b>	<b>\$65,265,752</b>	<b>\$87,015,939</b>	<b>\$152,281,691</b>	<b>82%</b>	<b>\$32,962,121</b>
<b>Single Family Residential</b>						
Consumer Awareness	\$2,803,610	\$1,359,018	\$1,444,592	\$2,803,610	100%	-
Heat Pumps Phase 2 (2020)	\$12,000,000	\$508,256	\$1,515,865	\$2,024,121	17%	\$9,975,879
Pay for Performance	\$21,787,660	\$668,952	\$541,198	\$1,210,150	6%	\$20,577,510
Residential	\$49,641,366	\$6,200,280	\$3,174,553	\$9,374,833	19%	\$40,266,533
Single Family Market Rate Transition	\$23,805,217	\$23,509,631	\$83,864	\$23,593,495	99%	\$211,722
<b>Single Family Residential Total</b>	<b>\$110,037,853</b>	<b>\$32,246,137</b>	<b>\$6,760,072</b>	<b>\$39,006,209</b>	<b>35%</b>	<b>\$71,031,644</b>
<b>Transportation</b>						
Electric Vehicles - Rebate	\$39,500,000	\$39,073,701	\$426,299	\$39,500,000	100%	-
<b>Transportation Total</b>	<b>\$39,500,000</b>	<b>\$39,073,701</b>	<b>\$426,299</b>	<b>\$39,500,000</b>	<b>100%</b>	<b>-</b>
<b>Workforce Development</b>						
Building Operations and Maintenance Partnerships	\$33,345,000	\$7,368,889	\$9,538,597	\$16,907,487	51%	\$16,437,513
Talent Pipeline	\$75,000,000	\$12,939,012	\$15,465,146	\$28,404,158	38%	\$46,595,842
<b>Workforce Development Total</b>	<b>\$108,345,000</b>	<b>\$20,307,901</b>	<b>\$25,003,743</b>	<b>\$45,311,645</b>	<b>42%</b>	<b>\$63,033,355</b>
<b>NYS Cost Recovery Fee Market Development</b>	<b>\$26,589,691</b>	<b>\$9,621,654</b>	<b>-</b>	<b>\$9,621,654</b>	<b>36%</b>	<b>\$16,968,037</b>
<b>Total Market Development</b>	<b>\$2,300,604,536</b>	<b>\$716,023,843</b>	<b>\$512,676,501</b>	<b>\$1,228,700,345</b>	<b>53%</b>	<b>\$1,071,904,191</b>

<sup>a</sup> Funds currently approved by DPS.

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

<sup>c</sup> Remaining funding obligated under a contract, purchase order, or incentive award and planned funding for contracts awarded and under negotiation.

<sup>d</sup> Sum of categories Expended Funds and Committed Funds.

<sup>e</sup> Percentage of the approved budget now committed.

<sup>f</sup> Difference between categories Budget Approved and Total Progress.

### 3 Innovation and Research Initiative Specific Budgets

Table 4. Innovation and Research Initiatives by Focus Area—Budgets and Spending

See endnote section for more information.<sup>8,9</sup>

Initiative	Budget Approved Through Q3 2021 <sup>a</sup>	Expended Funds <sup>b</sup>	Committed Funds <sup>c</sup>	Total Progress <sup>d</sup>	% of Approved Budget Committed <sup>e</sup>	Budget Approved Remaining Balance <sup>f</sup>
<b>Buildings Innovation</b>						
CleanTech Startup Growth	\$10,000,000	-	-	-	-	\$10,000,000
NextGen HVAC	\$30,000,000	\$5,592,338	\$13,995,169	\$19,587,508	65%	\$10,412,493
<b>Buildings Innovation Chapter Total</b>	<b>\$40,000,000</b>	<b>\$5,592,338</b>	<b>\$13,995,169</b>	<b>\$19,587,508</b>	<b>49%</b>	<b>\$20,412,492</b>
<b>Clean Transportation Innovation</b>						
Electric Vehicles - Innovation	\$19,850,000	\$4,969,542	\$4,992,885	\$9,962,427	50%	\$9,887,573
Public Transportation and Electrified Rail	\$18,500,000	\$3,008,873	\$7,438,510	\$10,447,382	56%	\$8,052,618
<b>Clean Transportation Innovation Total</b>	<b>\$38,350,001</b>	<b>\$7,978,415</b>	<b>\$12,431,394</b>	<b>\$20,409,809</b>	<b>53%</b>	<b>\$17,940,191</b>
<b>Climate Resilience Innovation</b>						
Market Characterization & Design Innovation & Research	\$1,750,653	\$422,139	\$160,588	\$582,727	33%	\$1,167,927
<b>Climate Resilience Innovation Total</b>	<b>\$1,750,653</b>	<b>\$422,139</b>	<b>\$160,588</b>	<b>\$582,727</b>	<b>33%</b>	<b>\$1,167,927</b>
<b>Energy Focused Environmental Research</b>						
Energy-Related Environmental Research	\$37,800,000	\$16,487,620	\$13,233,044	\$29,720,664	79%	\$8,079,336
<b>Energy Focused Environmental Research Total</b>	<b>\$37,800,000</b>	<b>\$16,487,620</b>	<b>\$13,233,044</b>	<b>\$29,720,664</b>	<b>79%</b>	<b>\$8,079,336</b>
<b>Grid Modernization</b>						
High Performing Electric Grid	\$116,800,000	\$25,746,738	\$41,608,276	\$67,355,014	58%	\$49,444,986
Power Electronics Manufacturing Consortium	\$16,694,490	\$16,694,490	-	\$16,694,490	100%	-
<b>Grid Modernization Chapter Total</b>	<b>\$133,494,490</b>	<b>\$42,441,228</b>	<b>\$41,608,276</b>	<b>\$84,049,504</b>	<b>63%</b>	<b>\$49,444,986</b>
<b>Negative Emissions Technologies</b>						
CleanTech Startup Growth	\$5,000,000	-	\$5,000,000	\$5,000,000	\$1	-
<b>Negative Emissions Technologies Total</b>	<b>\$5,000,000</b>	<b>-</b>	<b>\$5,000,000</b>	<b>\$5,000,000</b>	<b>100%</b>	<b>-</b>
<b>Renewables Optimization</b>						
Energy Storage Technology and Product Development	\$33,000,000	\$5,696,702	\$5,799,983	\$11,496,684	35%	\$21,503,316
National Offshore Wind Research & Development Consortium	\$22,500,000	\$5,123,660	\$12,887,441	\$18,011,101	80%	\$4,488,899
<b>Renewables Optimization Total</b>	<b>\$55,500,000</b>	<b>\$10,820,362</b>	<b>\$18,687,423</b>	<b>\$29,507,785</b>	<b>53%</b>	<b>\$25,992,215</b>
<b>Technology to Market</b>						
CleanTech Startup Growth	\$82,728,245	\$31,635,529	\$47,019,144	\$78,654,673	95%	\$4,073,572
Manufacturing Corps	\$12,000,000	\$6,460,953	\$5,542,556	\$12,003,509	100%	(3510)
Novel Business Models and Offerings	\$16,100,000	\$4,081,562	\$1,964,864	\$6,046,426	38%	\$10,053,574
<b>Technology to Market Total</b>	<b>\$110,828,245</b>	<b>\$42,178,044</b>	<b>\$54,526,564</b>	<b>\$96,704,608</b>	<b>87%</b>	<b>\$14,123,637</b>
<b>NYS Cost Recovery Fee Innovation &amp; Research</b>	<b>\$4,858,659</b>	<b>\$1,618,258</b>	<b>-</b>	<b>\$1,618,258</b>	<b>33%</b>	<b>\$3,240,401</b>
<b>Total Innovation and Research</b>	<b>\$427,582,047</b>	<b>\$127,538,405</b>	<b>\$159,642,458</b>	<b>\$287,180,863</b>	<b>67%</b>	<b>\$140,401,184</b>

Table notes are on the next page.

- a Funds currently approved by DPS.
- b Invoices processed for payment by NYSERDA.
- c Remaining funding obligated under a contract, purchase order, or incentive award, and planned funding for contracts awarded and under negotiation.
- d Sum of categories Expended Funds and Committed Funds.
- e Percentage of the approved budget now committed.
- f Difference between categories Budget Approved and Total Progress.

## 4 Market Development and Innovation and Research Benefits

**Table 5. Market Development and Innovation and Research Portfolio Acquired and Committed Direct Benefit Progress to Date**

Unlike Figures 1 and 2 earlier in the report, this table is limited to Market Development and Innovation and Research initiatives and includes only direct benefits. Indirect benefits will be reported separately as these benefits are captured in future quarters. NYSERDA will track additional benefits related to Innovation and Research projects; however, specific targets were not ordered.

Benefit Metric	Acquired Benefits through 2020 with Adjustments	Acquired Benefits in 2021	2021 Plans	2021 Acquired Benefits as % of 2021 Plans	Total Acquired Benefits through Q3 2021	Committed Benefits through Q3 2021 (Committed but not acquired)	Total Progress (Committed + Acquired)	Total Expected Direct Benefits through 2030 (Acquired+Planned)	Progress as % of Total Expected Benefits through 2030
Total Energy Savings (MMBtu), Annual	12,840,017	2,207,244	3,011,747	73%	15,047,261	11,182,389	26,229,650	48,580,640	54%
Electricity Savings (MWh), Annual	1,025,416	237,808	514,215	46%	1,263,224	1,720,830	2,984,054	4,907,342	61%
Total Fuel Savings (MMBtu), Annual	17,439,924	1,480,695	2,239,856	66%	18,920,619	7,724,892	26,645,511	42,134,892	63%
Natural Gas Fuel Savings (MMBtu), Annual	5,099,568	1,145,806	1,979,969	58%	6,245,373	7,417,153	13,662,527	26,998,673	51%
Other Fuel Savings (MMBtu), Annual	12,340,356	334,889	259,888	129%	12,675,245	307,739	12,982,984	15,136,218	86%
Renewable Energy Generation (MWh), Annual	253,715	2,704	160,671	2%	256,419	64,684	321,103	1,272,808	25%
Renewable Energy Capacity (MW)	470	1	375	0%	471	2	473	6,438	7%
Total Leveraged Funds (\$ million)	\$2,668	\$533	\$774	69%	\$3,201	\$2,757	\$5,958	\$9,186	65%
Market Development Leveraged Funds (\$ million)	\$1,927	\$327	\$537	61%	\$2,254	\$1,881	\$4,135	\$6,141	67%
Innovation & Research Leveraged Funds (\$ million)	\$742	\$206	\$237	87%	\$948	\$875	\$1,823	\$3,045	60%

# Endnotes

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- <sup>1</sup> Order Authorizing the Clean Energy Fund Framework, issued and effective January 21, 2016.  
<https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7bB23BE6D8-412E-4C82-BC58-9888D496D216%7d>
- <sup>2</sup> Order Approving Clean Energy Fund Modifications, issued and effective September 9, 2021  
<https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7bD9BA5CDD-5DC3-45B7-B4AA-C9C78A98B9FD%7d>
- <sup>3</sup> <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?Mattercaseno=18-M-0084>
- <sup>4</sup> If solicitations with upcoming due dates were factored into the total NYSERDA commitments in the Market Development and Innovation and Research Portfolio Level Budgets and Spending table, an additional \$104.7 million or 59.4% of the total approved budget to date, would be included with total NYSERDA commitments.
- <sup>5</sup> If solicitations with upcoming due dates were factored into the total NYSERDA commitments in the Market Development Initiative Research and Spending table, an additional \$47,816,524 or 55.5% of the total approved budget to date, would be included with total NYSERDA commitments.
- <sup>6</sup> The Market Characterization and Design initiative includes funds to support overarching, non-initiative-specific evaluation studies.
- <sup>7</sup> Initiative commitments that are in excess of their total budgets are in anticipation of program attrition. No initiative will have total expenditures in excess of that initiative's total budget at the close of the program.
- <sup>8</sup> If solicitations with upcoming due dates were factored into the total NYSERDA commitments in the Innovation and Research Initiative Budget and Spending table, an additional \$56,912,514 or 80.5% of the total approved budget to date, would be included with total NYSERDA commitments.
- <sup>9</sup> The Market Characterization and Design initiative includes funds to support overarching, non-initiative-specific evaluation studies.



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