

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

Final Report | August 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**

## **Document Title**

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

*Final Report*

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# 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> 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 represents quarterly and cumulative activity for the MD and I&R portfolios through June 30, 2021 and a collective view of all four portfolios' progress against minimum CEF targets in Figure 1. The CEF Order required quarterly reporting for the MD and I&R portfolios to explain the following:

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

This report 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 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>2</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.

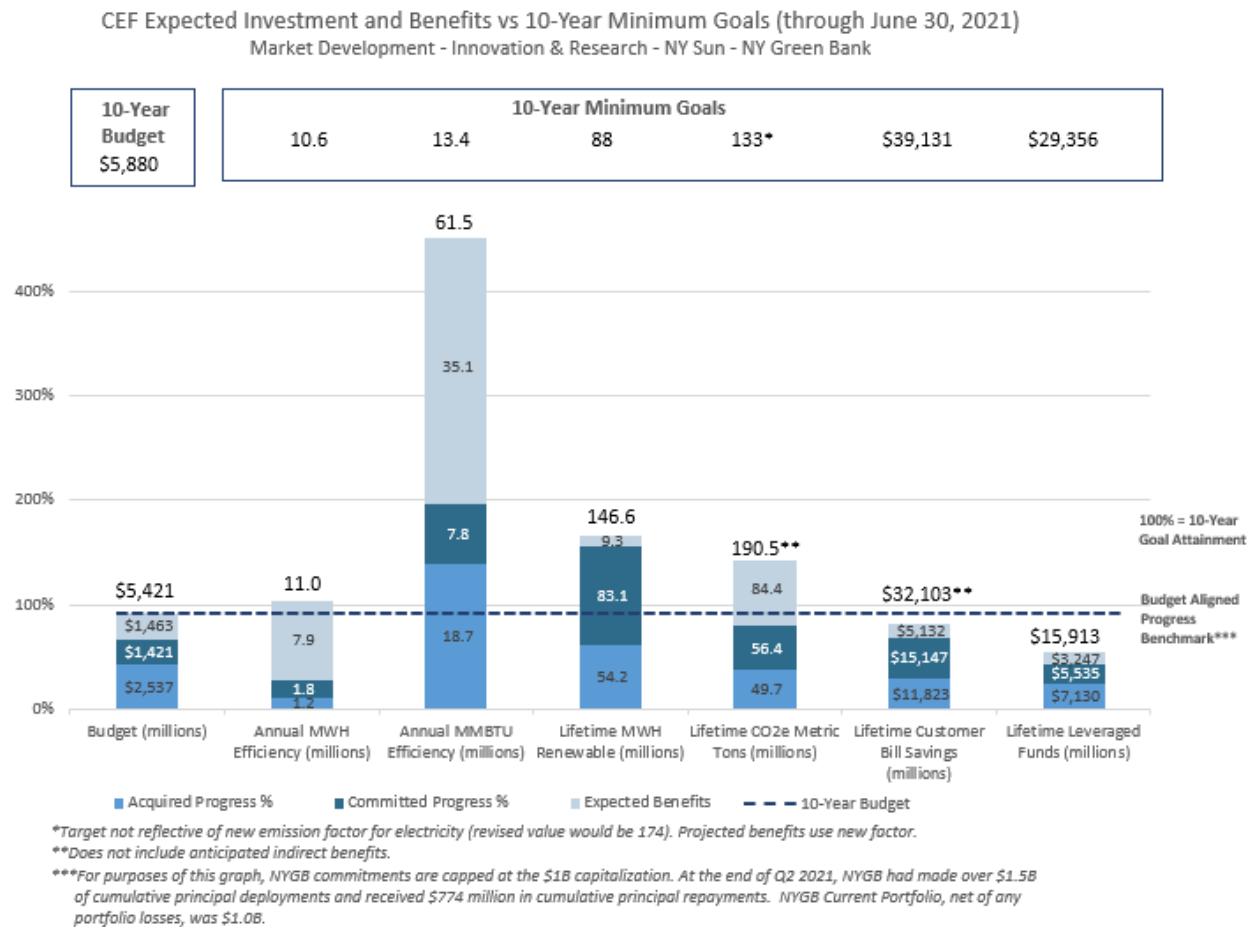
With these goals, New York State is undertaking one of the most aggressive clean energy agendas in the nation. Through the CEF and its other portfolios, NYSERDA works to foster the transformation of markets, pushing them to accurately value clean energy, energy efficiency, and resilience, while encouraging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

## CEF Portfolio Performance

Figure 1 presents a comprehensive picture of progress, with the 10-year budget and 10-year minimum goals reflecting all four CEF Portfolios (MD, I&R, NY-Sun, and NY Green Bank). Progress shown against each key performance metric represents results through June 30, 2021 and nets out overlap across portfolios where it is known to occur. NYSERDA's planning horizon for CEF initiatives extends beyond 2025 to encompass the timing of both expenditures and acquired benefits (completed projects), which are expected to occur beyond the original 10-year timeline of funding commitments.

**Figure 1. CEF Portfolio Expected Investment and Benefits**

See endnote section for more information.<sup>3</sup>



As Figure 1 illustrates,<sup>4</sup> progress toward realization of benefits is well aligned with overall goals and deployment of funds for most metrics. Here, the value Cumulative Progress (committed and acquired budgets and benefits) is combined with the value Expected Benefits (approved but not yet committed budgets and benefits) to demonstrate total progress toward NYSERDA's targets. An explanation of performance to these primary metrics is as follows:

- MMBtu expected benefits are already significantly greater than the minimum projected benefits, due largely to the expansion into all fuels and the significant potential that exists, particularly in the areas of industrial, clean transportation, workforce development industry partnerships, and across multisector solutions.
- MWh electricity savings acquired and committed total has lagged the pace of other benefits, but is still forecasted to reach CEF minimum targets as projects are completed. As the CEF evolves and strategies like building electrification expand their reach, there will continue to be greater emphasis on MMBtu fuel savings across the portfolio.

- Renewable energy MWh generation shows excellent progress largely due to NY-Sun, which began in 2014 and is performing strongly against its original goal. In May 2020, the Public Service Commission authorized additional funding to support the new State goal of installing 6 GW of solar capacity by 2025. While progress reporting continues in Figure 1, including the commitment of newly approved funding, the minimum performance target from the original CEF Order has not yet been officially updated (as currently only a portion of the additional funding authorized to reach the new 6GW goal is approved by the Public Service Commission (PSC) to be committed/spent).
- Carbon dioxide equivalent (CO<sub>2</sub>e) emission reduction progress is on track and NYSERDA is positioned to meet the original goal for the CEF.
- Performance of the customer (participant) bill savings metric is somewhat low, but it is not yet inclusive of indirect bill savings resulting from the execution of approved MD initiatives; this progress will be measured and reported later in the 10-year time frame.
- Progress on lifetime leveraged funding benefits is trending behind pace of other metrics. NYSERDA anticipates progress to ultimately fall short of the original 2016 CEF goal, largely due to a more rapid-than-anticipated decline in distributed solar costs as well as an emphasis in the NY-Sun portfolio on larger systems (e.g., community solar) that bring greater economies of scale. CEF MD and I&R portfolios continue to make steady, expected progress toward their anticipated contribution to this goal.

Indirect impacts will be reported alongside direct impacts for the first time in 2021 as the earliest evaluation projects 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.

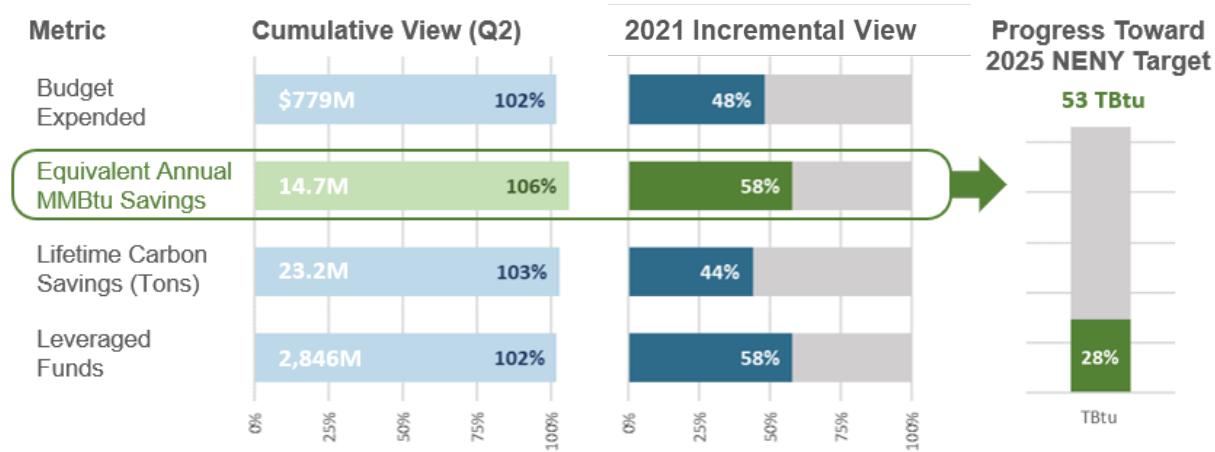
## **MD and I&R Performance to Plan**

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 2 provides a high-level view of NYSERDA's MD and I&R portfolio performance to plan, measuring progress toward expended funding and acquired benefits plans through Q2 2021. As previously noted, indirect impacts will be included as they are measured, and are expected to be delivered in the second half of the 10-year CEF timeline. Key points to interpret this figure include:

- The Cumulative View (Q2) is prorated, representing all previous years beginning in 2016 plus 50 percent of the current year.
- The Incremental View 2021 represents progress made in the current calendar year against the current calendar year plan, with the expectation that approximately 50 percent of the plan should be achieved at the end of the second quarter, based on a simple assumption of linear progress during the year.
- New Efficiency: New York (NENY) is the 2025 statewide energy efficiency target established in 2018 to achieve 185 TBtu end-use savings in buildings and industrial facilities below the 2025 energy-use forecast. NYSERDA's CEF initiatives are expected to acquire 53 TBtu of that ambitious total for New York State.<sup>5</sup> NYSERDA's forecast for 2021 and beyond indicates an acceleration of acquired savings through 2025 with the earlier foundation of project commitments now firmly in place. Importantly, 21 (nearly 40 percent) of the 53 TBtu is expected from indirect benefits that are beginning to be evaluated and counted in the coming quarters.

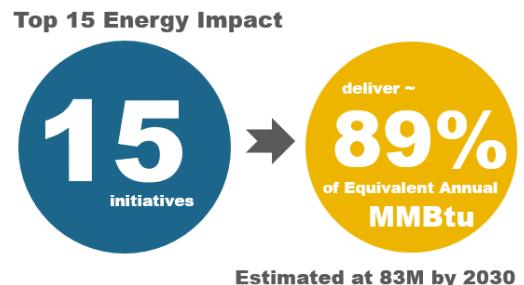
**Figure 2. CEF MD/I&R Progress and Performance Through Q2 2021**



The portfolio continues its strong start to 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 energy saving impact programs can be found in the section that follows.

## 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 savings benefits (represented by equivalent annual MMBtu) and 47 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.



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

Cumulative progress to plan is measured on a prorated basis through Q2, similar to Figure 2 metrics as described. Budget Performance here is progress against approved funding expenditure plans while Energy Performance is progress versus equivalent annual MMBtu acquired plan.

Initiative	Impact Rank	Budget Performance	Energy Performance	Progress Narrative
Energy Management Technology	1	121%	89%	A new RTEM market offer was launched in April 2021, with an accompanying RFQ to qualify RTEM vendors into the new program. This new offer—RTEM+Tenants—supports the market adoption of energy management technologies in commercial tenant spaces. Progress of performance metrics remain aligned with expected plan through Q2 2021. An impact evaluation will be completed in Q3 2021 to verify energy performance and market evaluation findings are expected in Q4 2021.
Product and Appliance Standards	2	93%	n/a	Savings and significant budget outlays are dependent on legislation passing the Assembly and the Governor's signature.
Building Operations and Maintenance Partnerships	3	96%	8%	Seven new proposals were received, four of which will be funded. Progress in many projects were delayed significantly due to COVID as most of the training was focused on hands-on, in-person training. Projects are slowly resuming and about 10-12 projects are expected to be completed by end of Q4. Energy savings are not reported until all training is completed. A combined market and impact evaluation is currently underway and findings are anticipated in early 2022.
Electric Vehicles - Rebate	4	104%	107%	CEF EV Rebate funding 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 using other funding sources. The CEF portion of this initiative is now considered "inactive" in the market as all of its program funding has been committed. A combined market and impact evaluation is currently underway and findings are anticipated in early 2022.

**Table 1 Continued**

Initiative	Impact Rank	Budget Performance	Energy Performance	Progress Narrative
Energy Management Practices	5	96%	100%	Progress of budget expenditures and energy benefits is trending favorably to plan after two quarters. A combined market and impact evaluation is currently underway and findings are anticipated in early 2022.
Industrial Transition	6	87%	100%	Attrition of projects will result in modest reductions of budget and associated benefits.
Technical Services	7	154%	159%	Due to significant market interest prior to the close 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.
LMI Multifamily	8	99%	26%	In Q2 2021, commitments continued to exceed projections, with many of the recently received project applications also going through the FlexTech program, which shows the benefit of having coordinated technical services and implementation pathways. However, the expenditures and acquired savings continue to be below projections. The variance in expenditures and acquired savings is attributed to project delays in moving through the program milestones.
Market Challenges	9	127%	n/a	Progress of budget expenditures is trending favorably to plan after two quarters. This program does not anticipate acquiring the first project benefits until 2022.
Clean Energy Communities	10	98%	107%	Progress of budget expenditures and metrics continue on a favorable trend after two quarters. Additionally, a program modification is under development to enhance and clarify current actions to encourage greater participation. An impact evaluation will be completed in Q3 to verify energy performance and market evaluation findings are expected in early 2022.
New Construction - Market Rate	11	117%	85%	Market Rate activities have largely recovered from the Covid construction pauses and these programs have now completed the shift to carbon neutral eligibility requirements. The largest award amount in Market Rate for 2021 will be a \$15 million round of the Carbon Neutral for Economic Development Program in November or December. As such, this initiative is on pace to exceed commitment goals. A combined market and impact evaluation is currently underway and findings are anticipated in early 2022.
New Construction - LMI	12	92%	104%	The New Construction team was able to commit the Round 2 Buildings of Excellence awards in the final days of 2020, several months ahead of schedule, resulting in LMI commitment goals far exceeding 2020 commitments. In 2021, the Team has fully committed resources to NYSERDA's partnership with New York State Division of Housing and Community Renewal (HCR), which has resulted in two HCR pilot RFPs. This initial funding amount is estimated to be \$7.5 in direct awards this year, in addition to the open enrollment program activity. A combined market and impact evaluation is currently underway and findings are anticipated in early 2022.

**Table 1 Continued**

Initiative	Impact Rank	Budget Performance	Energy Performance	Progress Narrative
RetrofitNY - LMI	13	85%	0%	The 3 requests for qualifications launched in March 2021 for solution providers, component manufacturers and building owners which creates an open and transparent gateway for stakeholders to interact with the RetrofitNY program. With the resulting temporary delay in pilot projects due to the need to qualify applicants, this program structure will support stakeholders in pilots through subsequent funding rounds and facilitate cost compression of whole building net zero retrofit solutions on a pathway to scale.
Multifamily	14	5%	n/a	The Multifamily team launched Low Carbon Capital Planning. This new addition to the FlexTech program will provide technical assistance for multifamily building owners to support the development of capital plans featuring low-carbon retrofits. There may be a delay in new project intake, due to a spike in projects with higher level funding through FlexTech Addendum, which ended in Q2 2021.
REV Campus Challenge	15	136%	159%	REV Campus Challenge continues to attract new members. Completion of several Energy to Lead projects have resulted in exceeding planned projections. REV Campus Challenge is undergoing an impact evaluation beginning in Q3 2021 to verify energy performance.

## 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>6</sup>

Initiative	Total Authorized Budget <sup>a</sup>	Budget Approved Through Q2 2021 <sup>b</sup>	% of Ordered Budget Funds Approved <sup>c</sup>	Expended Funds <sup>d</sup>	Committed Funds <sup>e</sup>	Total Progress <sup>f</sup>	% of Approved Budget Committed <sup>g</sup>	Budget Approved Remaining Balance <sup>h</sup>
<b>Market Development</b>								
Program Funds	\$2,399,728,000	\$2,202,764,847	93%	\$654,116,336	\$511,494,364	\$1,165,610,701	53%	\$1,053,996,916
NYS Cost Recovery Fee		\$25,846,468		\$9,003,698	-	\$9,003,698		
<b>Innovation &amp; Research</b>								
Program Funds	\$631,672,000	\$422,723,388	68%	\$114,079,109	\$139,613,702	\$253,692,811	60%	\$172,417,117
NYS Cost Recovery Fee		\$4,860,988		\$1,474,449	-	\$1,474,449		
<b>Administration</b>	\$274,400,000	\$237,656,393	87%	\$128,717,573	\$40,376	\$128,757,949	54%	\$108,898,444
<b>Evaluation</b>	\$124,200,000	\$76,852,829	62%	\$11,599,832	\$18,836,306	\$30,436,138	40%	\$46,416,691
<b>Total</b>	<b>\$3,430,000,000</b>	<b>\$2,970,704,913</b>	<b>87%</b>	<b>\$918,990,997</b>	<b>\$669,984,749</b>	<b>\$1,588,975,746</b>	<b>53%</b>	<b>\$1,381,729,167</b>

<sup>a</sup> During the quarter ending March 31, 2019, the CEF Budgets were restored to the original ordered funding authorization, reversing a prior reduction of \$68.3 million in funding as a result of the RGGI Operating Plan approved by NYSERDA's board in January 2019.

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

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

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

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

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

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

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

## 2 Resource Acquisition Transition Initiative Specific Progress

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**Table 3. Resource Acquisition Transition Initiative—Budgets and Spending**

See endnote section for more information.

Initiative	Budget Approved Through Q2 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>Resource Acquisition Transition Chapter</b>						
Agriculture Transition	\$3,598,821	\$3,598,821	-	\$3,598,821	100%	-
Anaerobic Digesters Transition	\$13,634,032	\$3,798,925	\$9,909,022	\$13,707,947	101%	(\$73,915)
Combined Heat & Power Transition	\$59,485,543	\$27,904,886	\$31,085,054	\$58,989,940	99%	\$495,603
Commercial New Construction Transition	\$20,162,139	\$7,043,517	\$8,305,853	\$15,349,369	76%	\$4,812,769
Commercial Transition	\$12,576,271	\$10,178,689	\$2,242,658	\$12,421,347	99%	\$154,924
Industrial Transition	\$61,158,483	\$36,406,915	\$21,187,717	\$57,594,632	94%	\$3,563,851
Low Rise New Construction Transition - Market Rate	\$4,538,388	\$3,538,161	\$984,434	\$4,522,595	100%	\$15,793
Multifamily Market Rate Transition	\$156,214	\$156,214	-	\$156,214	100%	-
Multifamily New Construction Transition - Market Rate	\$2,487,777	\$1,136,754	\$839,806	\$1,976,560	79%	\$511,218
Single Family Market Rate Transition	\$23,805,217	\$23,502,448	\$86,520	\$23,588,968	99%	\$216,250
Small Wind Transition	\$3,569,207	\$2,830,822	\$742,247	\$3,573,069	100%	(\$3,862)
Solar Thermal Transition	\$293,770	\$287,513	-	\$287,513	98%	\$6,257
<b>TOTAL</b>	<b>\$205,465,862</b>	<b>\$120,383,663</b>	<b>\$75,383,311</b>	<b>\$195,766,974</b>	<b>95%</b>	<b>\$9,698,887</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 Market Development Initiative Specific Results

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**Table 4. Market Development Initiative—Budgets and Spending**

See endnote section for more information.<sup>7,8,9</sup>

Initiative	Budget Approved Through Q2 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>Agriculture Chapter</b>						
2030 GLASE	\$5,000,000	\$1,878,065	\$3,121,935	\$5,000,000	100%	-
Advancing Agricultural Energy Technologies	\$3,760,000	\$213,289	\$1,867,238	\$2,080,527	55%	\$1,679,473
<b>Agriculture Chapter Total</b>	<b>\$8,760,000</b>	<b>\$2,091,354</b>	<b>\$4,989,172</b>	<b>\$7,080,527</b>	<b>81%</b>	<b>\$1,679,473</b>
<b>Clean Transportation Chapter</b>						
Electric Vehicles - Rebate	\$39,500,000	\$38,980,406	\$519,594	\$39,500,000	100%	-
<b>Clean Transportation Chapter Total</b>	<b>\$39,500,000</b>	<b>\$38,980,406</b>	<b>\$519,594</b>	<b>\$39,500,000</b>	<b>100%</b>	<b>-</b>
<b>Clean Heating and Cooling</b>						
Heat Pumps Phase 1 (2017)	\$65,776,685	\$46,400,978	\$10,307,157	\$56,708,135	86%	\$9,068,550
Heat Pumps Phase 2 (2020)	\$98,200,000	\$5,412,991	\$19,816,330	\$25,229,321	26%	\$72,970,679
Renewable Heat NY - Clean and Efficient Biomass Heating	\$13,487,000	\$11,377,231	\$1,706,581	\$13,083,812	97%	\$403,188
<b>Clean Heating and Cooling Total</b>	<b>\$177,463,685</b>	<b>\$63,191,201</b>	<b>\$31,830,067</b>	<b>\$95,021,268</b>	<b>54%</b>	<b>\$82,442,417</b>
<b>Codes Chapter</b>						
Code to Zero	\$21,000,000	\$4,504,272	\$7,768,597	\$12,272,869	58%	\$8,727,131
<b>Codes Chapter Total</b>	<b>\$21,000,000</b>	<b>\$4,504,272</b>	<b>\$7,768,597</b>	<b>\$12,272,869</b>	<b>58%</b>	<b>\$8,727,131</b>
<b>Commercial Chapter</b>						
Energy Management Technology	\$122,398,101	\$29,281,153	\$49,167,091	\$78,448,244	64%	\$43,949,857
P-12 Schools	\$21,600,000	\$3,538,622	\$4,297,038	\$7,835,660	36%	\$13,764,340
Real Estate Tenant	\$15,798,390	\$10,704,381	\$4,783,469	\$15,487,850	98%	\$310,540
REV Campus Challenge	\$21,650,002	\$7,427,404	\$9,829,789	\$17,257,193	80%	\$4,392,809
<b>Commercial Chapter Total</b>	<b>\$181,446,493</b>	<b>\$50,951,560</b>	<b>\$68,077,388</b>	<b>\$119,028,948</b>	<b>66%</b>	<b>\$62,417,545</b>
<b>Communities Chapter</b>						
Clean Energy Communities	\$81,271,963	\$15,353,083	\$10,787,384	\$26,140,467	32%	\$55,131,496
Community Energy Engagement	\$4,407,818	\$4,026,716	\$262,439	\$4,289,155	97%	\$118,663
<b>Communities Chapter Total</b>	<b>\$85,679,781</b>	<b>\$19,379,799</b>	<b>\$11,049,824</b>	<b>\$30,429,622</b>	<b>36%</b>	<b>\$55,250,159</b>
<b>Energy Storage Chapter</b>						
Reducing Barriers to Distributed Deployment	\$24,450,000	\$8,952,912	\$2,775,614	\$11,728,526	48%	\$12,721,473
Solar Plus Energy Storage	\$40,000,000	-	\$39,968,693	\$39,968,693	100%	\$31,307
<b>Energy Storage Chapter Total</b>	<b>\$64,450,000</b>	<b>\$8,952,912</b>	<b>\$42,744,307</b>	<b>\$51,697,220</b>	<b>80%</b>	<b>\$12,752,780</b>
<b>Industrial Chapter</b>						
Energy Management Practices	\$28,876,778	\$8,910,515	\$3,877,312	\$12,787,827	44%	\$16,088,951
<b>Industrial Chapter Total</b>	<b>\$28,876,778</b>	<b>\$8,910,515</b>	<b>\$3,877,312</b>	<b>\$12,787,827</b>	<b>44%</b>	<b>\$16,088,951</b>

**Table 4 continued**

<b>Initiative</b>	<b>Budget Approved Through Q2 2021<sup>a</sup></b>	<b>Expended Funds<sup>b</sup></b>	<b>Committed Funds<sup>c</sup></b>	<b>Total Progress<sup>d</sup></b>	<b>% of Approved Budget Committed<sup>e</sup></b>	<b>Budget Approved Remaining Balance<sup>f</sup></b>
<b>Large-Scale Renewables Chapter</b>						
Offshore Wind Master Plan	\$5,000,000	\$4,960,655	\$34,396	\$4,995,051	100%	\$4,950
Offshore Wind Pre-Development Activities	\$10,000,000	\$8,392,941	\$1,472,470	\$9,865,411	99%	\$134,589
ORES Support	\$9,000,000	\$1,508,771	\$1,296,610	\$2,805,381	31%	\$6,194,619
<b>Large-Scale Renewables Chapter Total</b>	<b>\$24,000,001</b>	<b>\$14,862,367</b>	<b>\$2,803,476</b>	<b>\$17,665,843</b>	<b>74%</b>	<b>\$6,334,158</b>
<b>Low- to Moderate-Income Chapter</b>						
Healthy Homes Feasibility Study	\$212,147	\$177,126	\$35,021	\$212,147	100%	-
LMI Multifamily	\$128,808,112	\$14,712,269	\$32,941,879	\$47,654,148	37%	\$81,153,965
LMI Pilots	\$2,443,532	-	-	-	0%	\$2,443,532
Low-Income Forum on Energy	\$44,467,401	\$679,162	\$1,579,620	\$2,258,782	5%	\$42,208,619
Low Rise New Construction Transition - LMI	\$8,487,000	\$5,908,918	\$2,618,986	\$8,527,903	100%	(\$40,903)
Multifamily New Construction Transition - LMI	\$10,879,000	\$3,445,344	\$5,849,549	\$9,294,893	85%	\$1,584,107
New Construction - LMI	\$138,831,361	\$4,611,744	\$42,422,939	\$47,034,683	34%	\$91,796,678
NYS Healthy Homes Value Based Payment Pilot	\$9,791,293	\$976,488	\$2,285,401	\$3,261,889	33%	\$6,529,404
RetrofitNY - LMI	\$30,503,500	\$3,428,456	\$1,063,311	\$4,491,767	15%	\$26,011,733
REVitalize	\$310,924	\$291,424	\$19,500	\$310,924	100%	-
Single Family - Low Income	\$235,627,453	\$150,731,295	\$4,469,013	\$155,200,308	66%	\$80,427,145
Single Family - Moderate Income	\$89,751,836	\$62,315,221	\$2,660,226	\$64,975,447	72%	\$24,776,389
Solar For All	\$21,218,418	\$2,994,527	\$9,715,440	\$12,709,967	60%	\$8,508,451
<b>Low- to Moderate-Income Chapter Total</b>	<b>\$721,331,977</b>	<b>\$250,271,973</b>	<b>\$105,660,885</b>	<b>\$355,932,858</b>	<b>49%</b>	<b>\$365,399,118</b>
<b>Multifamily Chapter</b>						
Multifamily	\$37,138,016	\$71,924	\$739,443	\$811,367	2%	\$36,326,649
<b>Multifamily Chapter Total</b>	<b>\$37,138,016</b>	<b>\$71,924</b>	<b>\$739,443</b>	<b>\$811,367</b>	<b>2%</b>	<b>\$36,326,649</b>
<b>Multi-Sector Solutions Chapter</b>						
Clean Energy Siting and Soft Cost Reduction	\$8,795,000	\$852,540	\$356,752	\$1,209,292	14%	\$7,585,708
Consumer Awareness	\$2,803,610	\$1,216,983	\$1,586,627	\$2,803,610	100%	-
Information Products and Brokering	\$8,500,000	\$1,109,068	\$1,890,496	\$2,999,564	35%	\$5,500,436
Market Challenges	\$105,222,650	\$8,859,821	\$17,351,309	\$26,211,130	25%	\$79,011,520
Pay for Performance	\$55,756,709	\$1,883,368	\$9,795,416	\$11,678,784	21%	\$44,077,925
Technical Services	\$62,097,185	\$11,384,767	\$37,449,761	\$48,834,528	79%	\$13,262,657
<b>Multi-Sector Solutions Chapter Total</b>	<b>\$243,175,154</b>	<b>\$25,306,547</b>	<b>\$68,430,361</b>	<b>\$93,736,908</b>	<b>39%</b>	<b>\$149,438,247</b>
<b>New Construction Chapter</b>						
New Construction - Market Rate	\$131,029,194	\$7,465,101	\$44,060,978	\$51,526,079	39%	\$79,503,115
<b>New Construction Chapter Total</b>	<b>\$131,029,194</b>	<b>\$7,465,101</b>	<b>\$44,060,978</b>	<b>\$51,526,079</b>	<b>39%</b>	<b>\$79,503,115</b>
<b>On-Site Power Chapter</b>						
Fuel Cells	\$11,310,030	\$1,585,593	\$5,613,750	\$7,199,343	64%	\$4,110,687
<b>On-Site Power Chapter Total</b>	<b>\$11,310,030</b>	<b>\$1,585,593</b>	<b>\$5,613,750</b>	<b>\$7,199,343</b>	<b>64%</b>	<b>\$4,110,687</b>

**Table 4 continued**

Initiative	Budget Approved Through Q2 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>Product and Appliance Standards Chapter</b>						
Product and Appliance Standards	\$21,699,000	\$391,170	\$236,869	\$628,039	3%	\$21,070,961
<b>Product and Appliance Standards Chapter Total</b>						
Residential	\$49,641,366	\$5,531,629	\$3,222,072	\$8,753,701	18%	\$40,887,665
<b>Residential Chapter Total</b>						
REV Technical Assistance	\$13,000,000	\$3,686,774	\$2,186,812	\$5,873,587	45%	\$7,126,413
<b>REV Technical Assistance Chapter Total</b>						
<b>Workforce Development and Training Chapter</b>						
Building Operations and Maintenance Partnerships	\$33,345,000	\$6,420,083	\$8,499,935	\$14,920,018	45%	\$18,424,982
Talent Pipeline	\$75,000,000	\$10,144,666	\$13,151,677	\$23,296,344	31%	\$51,703,656
<b>Workforce Development and Training Chapter Total</b>						
Market Characterization & Design Market Development	\$29,452,510	\$11,032,826	\$10,648,533	\$21,681,359	74%	\$7,771,151
NYS Cost Recovery Fee Market Development	\$25,846,468	\$9,003,698	-	\$9,003,698	35%	\$16,842,770
<b>Total Market Development</b>	<b>\$2,023,145,453</b>	<b>\$542,736,371</b>	<b>\$436,111,053</b>	<b>\$978,847,425</b>	<b>48%</b>	<b>\$1,044,298,028</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.

## 4 Innovation and Research Initiative Specific Results

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**Table 5. Innovation and Research Initiative—Budgets and Spending**

See endnote section for more information.<sup>10,11</sup>

Initiative	Budget Approved Through Q2 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>Building Innovation Chapter</b>						
NextGen HVAC	\$30,000,000	\$4,705,887	\$17,992,275	\$22,698,162	76%	\$7,301,838
<b>Building Innovation Chapter Total</b>	<b>\$30,000,000</b>	<b>\$4,705,887</b>	<b>\$17,992,275</b>	<b>\$22,698,162</b>	<b>76%</b>	<b>\$7,301,838</b>
<b>Clean Transportation Chapter</b>						
Electric Vehicles - Innovation	\$19,850,000	\$4,697,801	\$4,981,355	\$9,679,156	49%	\$10,170,845
Public Transportation and Electrified Rail	\$18,500,000	\$2,712,450	\$6,775,957	\$9,488,406	51%	\$9,011,594
<b>Clean Transportation Chapter Total</b>	<b>\$38,350,001</b>	<b>\$7,410,251</b>	<b>\$11,757,311</b>	<b>\$19,167,562</b>	<b>50%</b>	<b>\$19,182,439</b>
<b>Energy-Related Environmental Research Chapter</b>						
Energy-Related Environmental Research	\$37,800,000	\$15,257,620	\$14,052,136	\$29,309,756	78%	\$8,490,244
<b>Energy-Related Environmental Research Chapter Total</b>	<b>\$37,800,000</b>	<b>\$15,257,620</b>	<b>\$14,052,136</b>	<b>\$29,309,756</b>	<b>78%</b>	<b>\$8,490,244</b>
<b>Grid Modernization Chapter</b>						
High Performing Electric Grid	\$116,800,000	\$22,596,082	\$40,084,563	\$62,680,646	54%	\$54,119,354
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>\$39,290,572</b>	<b>\$40,084,563</b>	<b>\$79,375,136</b>	<b>59%</b>	<b>\$54,119,354</b>
<b>Innovation Capacity and Business Development Chapter</b>						
CleanTech Startup Growth	\$97,728,245	\$27,614,594	\$28,998,897	\$56,613,491	58%	\$41,114,754
Manufacturing Corps	\$12,000,000	\$5,952,444	\$3,826,625	\$9,779,069	81%	\$2,220,931
Novel Business Models and Offerings	\$16,100,000	\$3,918,818	\$2,721,484	\$6,640,302	41%	\$9,459,698
<b>Innovation Capacity and Business Development Chapter Total</b>	<b>\$125,828,245</b>	<b>\$37,485,856</b>	<b>\$35,547,006</b>	<b>\$73,032,862</b>	<b>58%</b>	<b>\$52,795,383</b>
<b>Renewables Optimization Chapter</b>						
Energy Storage Technology and Product Development	\$33,000,000	\$5,387,083	\$6,180,139	\$11,567,222	35%	\$21,432,778
National Offshore Wind Research & Development Consortium	\$22,500,000	\$4,167,805	\$13,759,152	\$17,926,957	80%	\$4,573,043
<b>Renewables Optimization Chapter Total</b>	<b>\$55,500,000</b>	<b>\$9,554,888</b>	<b>\$19,939,291</b>	<b>\$29,494,179</b>	<b>53%</b>	<b>\$26,005,821</b>
<b>Market Characterization &amp; Design Innovation &amp; Research</b>	<b>\$1,750,653</b>	<b>\$374,034</b>	<b>\$241,120</b>	<b>\$615,154</b>	<b>35%</b>	<b>\$1,135,499</b>
<b>NYS Cost Recovery Fee Innovation &amp; Research</b>	<b>\$4,860,988</b>	<b>\$1,474,449</b>	<b>-</b>	<b>\$1,474,449</b>	<b>30%</b>	<b>\$3,386,539</b>
<b>Total Innovation and Research</b>	<b>\$427,584,377</b>	<b>\$115,553,558</b>	<b>\$139,613,702</b>	<b>\$255,167,260</b>	<b>60%</b>	<b>\$172,417,117</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.

**Table 6. Market Development and Innovation and Research Portfolio**

Acquired and Committed Benefits Progress to Date

See endnote section for more information.<sup>12</sup>

Metric	Acquired Benefits through Q1 2021 with Adjustments	Acquired Benefits in Q2 2021	Total Acquired Benefits through Q2 2021	Cumulative Direct Acquired Planned Benefits through Q2 2021	Acquired as % of Cumulative Direct Planned Benefits through Q2 2021	Committed Benefits through Q2 2021 (Committed but not acquired)	Grand Total Committed and Acquired Benefits	Total Cumulative Direct Planned Benefits through 2030	Grand Total as % of Total Cumulative Direct Planned Benefits through 2030
<b>Market Development</b>									
Electricity Savings (MWh), Annual	1,120,635	102,534	1,223,170	1,292,161	95%	1,783,791	3,006,961	4,778,549	63%
Electricity Savings (MWh), Lifetime	15,783,768	1,529,533	17,313,301	18,342,893	94%	23,830,118	41,143,419	64,618,651	64%
Fuel Savings (MMBtu), Annual	18,288,946	370,743	18,659,690	11,043,714	169%	7,760,447	26,420,137	32,554,779	81%
Fuel Savings (MMBtu), Lifetime	278,048,291	6,784,184	284,832,475	164,253,652	173%	103,744,693	388,577,168	487,471,798	80%
Total Energy Savings (MMBtu), Annual	13,962,861	704,249	14,667,110	13,811,746	106%	11,352,679	26,019,789	45,510,195	57%
Total Energy Savings (MMBtu), Lifetime	207,834,867	11,660,898	219,495,764	197,328,335	111%	135,190,500	354,686,264	644,259,931	55%
Electricity Peak Demand Reductions (MW)	38	1	39	47	84%	89	128	90	142%
Renewable Energy Generation (MWh), Annual	254,197	700	254,897	320,220	80%	65,056	319,953	1,262,809	25%
Renewable Energy Generation (MWh), Lifetime	1,806,940	11,388	1,818,328	2,208,026	82%	713,333	2,531,661	8,324,924	30%
Renewable Energy Capacity (MW)	481	0	481	476	101%	3	484	6,256	8%
CO2e Emission Reductions (metric tons), Annual	1,572,044	69,256	1,641,300	1,654,425	99%	1,207,791	2,849,091	4,963,485	57%
CO2e Emission Reductions (metric tons), Lifetime	22,149,587	1,089,525	23,239,112	22,654,644	103%	15,167,480	38,406,592	64,866,769	59%
Participant Bill Savings (\$ million), Annual	\$287.38	\$14.42	\$301.80	\$299.94	101%	\$304.67	\$606.47	\$1,026.55	59%
Participant Bill Savings (\$ million), Lifetime	\$3,823.79	\$222.89	\$4,046.68	\$3,908.03	104%	\$3,990.53	\$8,037.21	\$13,169.71	61%
Leveraged Funds (\$ million)	\$2,068.57	\$57.71	\$2,126.28	\$2,167.05	98%	\$1,993.58	\$4,119.86	\$6,040.19	68%
<b>Innovation and Research</b>									
Leveraged Funds (\$ million)	\$716.59	\$2.66	\$719.25	\$616.15	117%	\$754.35	\$1,473.60	\$2,800.49	53%
<b>Market Development &amp; Innovation and Research</b>									
Total Leveraged Funds (\$ million)	\$2,785.15	\$60.37	\$2,845.53	\$2,783.20	102%	\$2,747.93	\$5,593.46	\$8,840.68	63%

Note: NYSERDA will track additional benefits related to Innovation and Research projects; however, specific targets were not ordered.

## Appendix A. Near-Term Milestones

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### Near-Term Milestones for 2030 Greenhouse Lighting and Systems Engineering

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Formal training offered to service providers.	A short course is currently under development to provide comprehensive greenhouse management coursework, integrating developed tools and GLASE expertise. It is anticipated that the multimodule course will be delivered in Q3 2021.

### Near-Term Milestones for Advancing Agricultural Energy Technologies

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Perform targeted outreach of successful business case scenarios to farms suitable for implementing the demonstrated technology.	Outreach is delayed due to COVID 19 and business case scenarios are still under development.

## Near-Term Milestones for Code to Zero

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2020	Issue awards from Alternative Enforcement Structures solicitation.	This solicitation will be delayed until NYSERDA completes the preparatory work necessary to release it, but anticipates issuing the solicitation in Q3 2021. A Task Work Order issued in February 2021 partners NYSERDA with a contractor to support in developing the necessary resources and training for a third-party energy code enforcement pilot solicitation. The contractor and NYSERDA will define the criteria for qualifying third-party enforcement providers, which will be leveraged by pilot communities.
	2020	Issue awards from pilot #2 Stretch to Zero assistance solicitation.	Voice of customer work to inform solicitation design was completed Q1 2021. The solicitation is currently under development and will be issued Q3 2021 and awards made Q4 2021 or Q1 2022.
✓	2020	Contract for development of NY Stretch-Energy (IECC2021).	A mini-bid for the facilitation and development of NYStretch 2023 was issued in February 2021. Proposals were received in March 2021 and work on Stretch development began in May 2021. A contractor was selected in Q2 2021 to support NYSERDA with NYStretch-2023 development and is currently reviewing responses to a Request for Information, issued in December 2020, to solicit ideas for provisions in NYStretch-2023. Also in Q2 2021, a Request for Qualifications for members of the Stakeholder Advisory and Technical Working Groups was issued and NYSERDA is finalizing the makeup of the groups.
	2020	Issue awards from RFI for Technical input to NYStretch 2022.	A Request for Information to assist in the development of NYStretch 2023 was issued in December of 2020. Responses were accepted until February 16th, 2021 and will be transferred to the consultant responsible for the facilitation and development of NYStretch 2023.

### Near-Term Milestones for Energy Management Technology

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	NYSERDA makes publicly available anonymized RTEM project data to support market confidence in performance of RTEM systems and services.	NYSERDA is on track to achieve this milestone by end of Q3 2021. Significant progress has been made standardizing data provided by the 40+ vendors active in the RTEM program, including rollout of a central data repository.
	2021	PON issued with open enrollment incentives for RTEM projects that serve small-medium businesses and other hard to reach commercial buildings.	NYSERDA is on track to achieve this milestone by the end of Q3 2021. NYSERDA is working on defining the rules and eligibility criteria for projects.

### Near-Term Milestones for Real Estate Tenant

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Develop and disseminate tools and resources to promote landlord-tenant collaboration.	The Building Energy Exchange has been contracted to support the development and dissemination of resources to raise awareness about issues impacting energy consumption in leased office spaces. The Strategy Development phase is almost complete and will pave the way for the creation of resources, trainings and other materials, to promote landlord-tenant collaboration.

### Near-Term Milestones for P-12 Schools

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Distribute first annual survey for schools to provide feedback on clean energy progress specific to energy use intensity and greenhouse gas emissions data, projects, and recognition.	NYSERDA will commence an impact evaluation in Q3 2021. The contractor selected to coordinate the impact evaluation will distribute a survey to the P-12 sector.
	2021	Deploy clean energy case studies and guidance documents based on successful execution of prior milestones and other plan activities.	NYSERDA is planning on developing case studies based on successful Benchmarking Program and Green and Clean Energy Solutions Program projects in Q4 2021.

#### Near-Term Milestones for Solar Plus Energy Storage

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2020-2021	Publish and release case studies from recently completed projects to provide timely feedback to the market.	Project details have been compiled and once projects have been completed, case studies will be developed.

#### Near-Term Milestones for Fuel Cells Initiative

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Confirm installation of equipment. This will start in 2020 and continue in 2021 based on complexity of installation.	Confirmation of installed equipment is in process and the program is on track to complete the milestone.

#### Near-Term Milestones for Office of Renewable Energy Siting (ORES) Support

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Issue first ORES permit approval.	Three projects have applications under review, with 19 other projects in the queue to be transferred to ORES from the Article 10 process.

## Near-Term Milestones for Energy Management Practices

### Strategic Energy Management

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2020	Release RFP for commercial SEM Energy Coach.	The RFP for Commercial SEM Energy Coach was launched July 30, 2021.
✓	2020	Release RFP for Energy Coach for additional industrial cohorts.	The RFP for a new Energy Coach for industrial was combined with the commercial RFP. The RFP for Commercial SEM Energy Coach was launched July 30, 2021. However, the Energy Coach will support SEM On Demand. It is not anticipated that NYSERDA will continue the cohort model due to budget changes and COVID-19 impacts.
	2021	Complete the market dissemination plan inclusive of stakeholders, vendors, and end-use customers to increase the awareness and adoption of SEM.	This is in progress and expected to wrap up in Q4 2021. NYSERDA is developing case studies and other materials to share lessons learned and successes.

## Near-Term Milestones for Clean Energy Siting and Soft-Cost Reduction

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2020	Issue awards from release of Soft-Cost Innovation solicitation.	The Soft Cost Innovation solicitation NYSERDA planned to launch in 2020 has been replaced to incorporate expertise available in existing contractor pools through mini bids. Those mini bids may be augmented by a solicitation if there are gaps in relevant areas of expertise among existing prequalified contractors. A mini-bid for assistance with legal and property tax issues was released in Q1 of 2021. Additional contractors submitted prequalification applications to the Flexergy program in Q2 2021, and a mini bid for the siting technical assistance contractor pool is slated for release in Q3 2021.
	2021	Compile and publish a document of all case studies to highlight best soft cost reduction strategies and clean energy-friendly communities.	NYSERDA identified appropriate candidates for case studies in Q1 2021 and is planning to contact those potential case study participants in Q3 2021. One case study for Mount Morris, NY progressed in Q2 2021.

## Near-Term Milestones for Information Products and Brokering

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2021	Issue award for development of value proposition calculator to support adoption of energy efficiency in the residential sector.	NYSERDA has developed two value proposition calculators. One is a multistate effort specific to residential properties ( <a href="https://www.cesa.org/projects/building-decarbonization-and-clean-heating-cooling/chc-calculator/">https://www.cesa.org/projects/building-decarbonization-and-clean-heating-cooling/chc-calculator/</a> ). The other supports both commercial and residential GSHP analysis starting in Westchester County and was well received at a launch event hosted by Sustainable Westchester.

## Near-Term Milestones for Market Challenges

### Empire Building Challenge

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Issue awards following release of round 1 of the solicitation.	The solicitation for the first round of retrofit project funding is planned for early Q4 2021. The solicitation will have two due dates: one in the Fall of 2021, and one in early 2022.
	2021	Announce the partnering of real estate owners and their public commitments from round 2 of solicitation.	The second round of funding for low-carbon retrofit projects is planned for Q1 2022.

### Commercial and Industrial Carbon Challenge

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Issue awards following release of competitive solicitation.	Solicitation launched in Q2 2021 within the Consolidated Funding Application (CFA). Awards will be issued once applications are received.

### Near-Term Milestones for Multifamily

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Complete assessment to determine if there is a viable path to support the monetization of non-energy benefits by building owners and managers.	NYSERDA is in the process of integrating non-energy benefits into upcoming low-carbon capital planning support for multifamily buildings as preliminary means of learning more about non-energy benefits in multifamily sector.
	2021	Publish technical assistance tools and resources (e.g., sample bid documents, 'starter' energy models, standard specifications).	NYSERDA is identifying areas of research or other tools needed to support market needs.

### Near-Term Milestones for Pay for Performance (P4P)

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Launch residential sector pilot.	The residential sector pilot is expected to launch in Q3 2021.

### Near-Term Milestones for New Construction—Market Rate

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2020	Announce awards for round 3 of Net Zero Energy Commercial/Carbon Competition.	The third round of the Carbon Neutral Economic Development program (formerly known as the Net Zero Energy for Economic Development Program) was released as part of round 11 of the Consolidated Funding Application (CFA), on May 10, 2021. Applications are due on July 30, 2021. It is anticipated that awards will be announced in Q4 2021. The CFA was not launched in 2020 due to COVID-19.
	2021	Announce awards for round 3 of Buildings of Excellence.	NYSERDA anticipates launching the Buildings of Excellence Round 3 in Q4 2021, and expects to announce awards in 2022.
	2021	Announce awards for round 4 of Net Zero Energy Commercial/Carbon Competition.	As round 3 of the Carbon Neutral Economic Development program was delayed until 2021, round 4 will occur in 2022.

## Near-Term Milestones Heat Pumps Phase 2 (2020)

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2020	Launch final round of Phase 1 Community Campaigns.	All round 3 campaigns have launched or soft launched.
	2020	Receive and review submittals from RFI seeking input on LMI electrification demonstration/competition categories.	This RFI is under consideration. Its direction will be informed by research that will be completed in Q3 2021, initial pilot learnings, and continued stakeholder engagement.
	2020	Publish the Building Electrification Roadmap.	NYSERDA plans to issue in Q4 2021 the contents of the draft Building Electrification Roadmap for stakeholder input.
	2021	Finalize and release the Heat Pump Pattern Book through a public web-based interface.	Phase 1 of the Heat Pump Pattern Book has been published on NYSERDA's website. An interactive web-based interface is under development. In response to positive stakeholder feedback on the usefulness of this tool, NYSERDA is working on issuing a contract to expand this tool to cover additional equipment configurations.
✓	2021	Development of revised QA/QC protocols to support the NYS Clean Heat Pump.	The revised QA/QC protocols have been developed and contractor enrollment requirements will improve the quality of the ASHP installations. The protocols will become a requirement in the New York State Clean Heart program in January 2022.
	2021	Award contracts to experts to support scoping, design, and construction of district systems.	A solicitation (PON 4614) was issued on February 4, 2021, with multiple due dates (due dates in August 2021 and November 2021 are still pending). Awards to 23 winners at round #1 constituting nearly \$4 million of awarded funds was announced via the Governor's press release on July 19, 2021.

### Near-Term Milestones Heat Pumps Phase 2 (2020) continued

	2021	Develop action plan for the next phase of cost reduction work, following the publication of the Building Electrification Roadmap to be issued Q4 2020.	NYSERDA conducted internal and external interviews regarding cost compression opportunities and led a workshop to further develop potential strategies. Strategic action plan is in development using the learnings from these activities.
	2021	Award RFP seeking LMI electrification demonstration/competition proposals.	The RFP is currently under consideration.
	2021	Establish a network of trade allies.	A framework for the Upstream Partners network has been created and outreach has begun. Recruitment and on-boarding is planned for Q3 2021.
	2021	Launch Business Support offer to marketplace to provide business development support and technical resources.	A market needs assessment has been completed to establish a prioritized list of technical and business training, tools, and other resources that are needed in the market under the Upstream Partners initiative.

### Near-Term Milestones for Reforming the Energy Vision (REV) Connect

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2020	Initial in-field market tests enter the market.	The issuance of the market test PON was delayed so in-field market tests were delayed; the first tests entered the market in April 2021.

### Near-Term Milestones for Residential

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Implement a remote energy audit available to all consumers.	<p>Two contracts were awarded out of round 1 of the Remote Audit Challenge (Category 2) in Q2 2021 with contracts pending. In June of 2021 NYSERDA received proposals in response to the second round of the solicitation with final awards to follow shortly.</p> <p>The Remote Audit Challenge Category 1, where a group of contractors tested remote audit strategies in the market, concluded at the end of June and NYSERDA is in the process of assessing the results of that initiative.</p>

### Near-Term Milestones for Talent Pipeline

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Reconvene industry partners for building operation and maintenance to disseminate learnings and best practices.	This meeting is currently on hold indefinitely due to COVID 19.

### Near-Term Milestones for Electric Vehicles—Innovation

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Issue awards for third competitive solicitation for the development and demonstration of EV-enabling technologies.	NYSERDA is evaluating whether to issue the third solicitation.

### Near-Term Milestones for Public Transportation and Electrified Rail

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Issue awards for fourth competitive solicitation for the development and demonstration of public transportation technologies.	NYSERDA is evaluating whether to issue the fourth solicitation.

### Near-Term Milestones for Energy-Related Environmental Research

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Issue awards from solicitations released in 2021.	A total of seven contracts were issued and/or executed by NYSERDA from solicitations and other procurement processes during Q2 2021.

### Near-Term Milestones for High-Performing Grid

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Issue awards following release of targeted competitive solicitation #8.	Round 1 of the Electric Power Transmission and Distribution Future Grid Challenge closed in July 2021, with award selection expected in Q4 2021.
	2021	Issue awards following release of broad competitive solicitation #9.	Additional broad and targeted selections are under consideration for 2021 and 2022.

### Near-Term Milestones for Cleantech Start-Up Growth COVID-19 Response Program

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2020	Issue awards from solicitation.	Award letters from round 1 of New York Climate Progress were issued July 7, 2021

### Near-Term Milestones for Cleantech Start-Up Growth Incubators

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2021	Extend Existing Contracts Through Q2 2022.	The contracts have been extended through Q2 2022.

**Near-Term Milestones for Cleantech Start-Up Growth Innovation Advisors**

Complete ✓	Time Frame	Milestone	Explanation of Progress
✓	2020	Issuance of awards from solicitation.	All awards were issued during Q2 2021.

**Near-Term Milestones for Cleantech Start-Up Growth Carbontech Development Initiative**

Complete ✓	Time Frame	Milestone	Explanation of Progress
	2021	Issue awards from solicitation.	Solicitation awards are expected to be issued near the end of 2021 after a Program Administrator is selected and issues grant funding solicitation(s).
	2021	At least \$2,500,000 in cost share due from Program Administrator.	The Program Administrator will be selected in Q3 2021. Cost share is due at time of contract completion, approximately August 2021.
✓	2021	Issue solicitation for Fellowship Partner.	The solicitation for the Fellowship Partner was issued on June 28, 2021.

**All near-term milestones have been completed and previously reported for the following programs:**

Advancing Agricultural Energy Technologies	Novel Business Models and Offerings
Building Operations and Maintenance Partnerships	National Offshore Wind Research and Development Consortium
Clean Energy Communities	NextGen HVAC
Cleantech Start-Up Growth (76 West)	Offshore Wind Master Plan
Cleantech Start-Up Growth Corporate Challenges	Offshore Wind Pre-Development Activities
Cleantech Start-Up Growth (Entrepreneurs-In-Residence)	On-Site Energy Manager
Cleantech Start-Up Growth Geographic Coverage	Power Electronics Manufacturing Consortium
Cleantech Start-Up Growth (ICC Engagement)	Product and Appliance Standards
Community Energy Engagement	Reducing Barriers to Deploying Distributed Energy Storage
Consumer Awareness	Renewable Heat NY—Clean and Efficient Biomass Heating
Electric Vehicles—Rebate	REV Campus Challenge
Energy Storage Technology and Product Development	Technical Services
Heat Pumps Phase 1, 2017	
Manufacturing Corps	

## Endnotes

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- <sup>1</sup> Case 14-M-0094 – Proceeding on Motion of the Commission to Consider a Clean Energy Fund, Ordering Authorizing the Clean Energy Fund Framework. Issued and effective January 21, 2016.
- <sup>2</sup> <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?Mattercaseno=18-M-0084>
- <sup>3</sup> The May 2020 NY-Sun Expansion Order approved a total requested budget of \$573 million to expand the capacity target from 3 GW by 2023 to 6 GW by 2025. The Commission ordered that the initial \$230 million in funds to support the expansion were authorized to be committed and expended. Order Extending and Expanding Distributed Solar Incentives, May 14, 2020, available at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={A67E946F-40B0-49C4-93CD-7BC454987CDF}>. This graph is not yet updated with new budget/goal.
- <sup>4</sup> Beginning with Q4 2016, NYSERDA updated emission factors for natural gas, #2 oil, #6 oil, kerosene, propane, wood, and steam to be consistent with emission factors used in the updated NYS Greenhouse Gas Inventory ([nyserda.ny.gov/About/Publications/EA-Reports-and-Studies/Energy-Statistics](http://nyserda.ny.gov/About/Publications/EA-Reports-and-Studies/Energy-Statistics)). These factors are derived from EPA's February 2016 State Inventory Tool release (<https://www.epa.gov/statelocalclimate/state-inventory-and-projection-tool>). Steam emission factors have been updated to be consistent with New York City's updated Greenhouse Gas Inventory. ([http://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/NYC\\_GHG\\_Inventory\\_2014.pdf](http://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/NYC_GHG_Inventory_2014.pdf))
- <sup>5</sup> New Efficiency: New York <https://www.nyserda.ny.gov/About/Publications/New-Efficiency>
- <sup>6</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 \$203.6 million or 61.5% of the total approved budget to date, would be included with total NYSERDA commitments.
- <sup>7</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 \$105,046,034 or 53.6% of the total approved budget to date, would be included with total NYSERDA commitments.
- <sup>8</sup> The Market Characterization and Design chapter line item includes funds to support overarching, non-initiative-specific evaluation studies.
- <sup>9</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>10</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 \$98,033,351 or 82.6% of the total approved budget to date, would be included with total NYSERDA commitments.
- <sup>11</sup> The Market Characterization and Design chapter line item includes funds to support overarching, non-initiative-specific evaluation studies.
- <sup>12</sup> Leveraged funds from the National Offshore Wind Consortium initiative are inclusive of contributions from the Department of Energy.

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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