Case 14-M-0094, Proceeding on Motion of the Commission to Consider a Clean Energy Fund

Clean Energy Fund Investment Plan: Communities Chapter

Portfolio: Market Development

Submitted by:

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6 Communities

NYSERDA aims to enable and partner with local governments and communities in affecting energy choices in their communities, government operations, homes, businesses, and community institutions. Local governments and communities also struggle with the lack of funding, staff capacity, and inability to prioritize the highest impact clean energy actions. NYSERDA will engage with local governments and communities to focus on addressing these issues.

The first initiative described in this Chapter is the Clean Energy Communities initiative, which will provide grants, direct technical support, tools and resources, and recognition to local governments that demonstrate leadership in the area of clean energy. Clean Energy Communities will help to decrease resources communities need to advance clean energy in their neighborhoods, demonstrate the benefits of such investments, and encourage replication throughout communities and across the State.

Projected additional initiatives under development include development of additional resources aimed at helping resource-constrained and staff-strapped local governments and communities through partnerships with universities, local associations, and other organizations. In addition, NYSERDA will develop competitions aimed at challenging communities to take innovative clean energy actions through a variety of structured, NYSERDA-funded community competitions.

Additionally, enhancing access to and uptake of renewable and energy efficiency solutions for low-to-moderate income (LMI) households and communities will allow New York State to meet its ambitious clean energy, environmental, and affordability goals. Beginning in 2017, NYSERDA intends to act as a market-enabler, stimulator, and aggregator of clean energy demand in otherwise underserved populations, such as LMI communities. This effort will increase access to financing for LMI communities and households and shall create opportunities for green jobs.

Program investments and activities will be informed via engagement with stakeholders and subject matter experts.

6.1 Clean Energy Communities

6.1.1 Overview

Present Situation	Many local governments in New York State are not aware of the clean energy opportunities that are available to them. Those that are aware of the opportunities often struggle with how to prioritize, and eventually implement, the most impactful actions.
Intervention Strategy	The "Clean Energy Communities Program" will drive energy efficiency and deployment of clean energy in local government ('municipality' or 'community' – villages, cities, towns, and counties) operations and within the communities where local governments have control (i.e., permitting for renewable energy). NYSERDA will provide technical assistance, outreach, engineering support, tools, and clear guidance for implementing 10 low cost, clean energy High-Impact Actions, listed in Activities Section below. Upon completion of at least 4 of those High-Impact

	Actions, NYSERDA will reward local governments with recognition and grant funding to implement more innovative clean energy initiatives and demonstration projects. This strategy encourages replication by promoting the successes of participating local governments and demonstrating, with real-world data, the cost-effectiveness of specific High-Impact Actions. The Clean Energy Communities Program will serve as the primary entry for local governments into the State's clean energy programs and will complement the State's existing, and more comprehensive, Climate Smart Communities (CSC) Certification Program[1] and the recent Public Service Commission's approval of Statewide Community Choice Aggregation (CCA).[2] By supporting initial local government clean energy action through the Clean Energy Communities Program, NYSERDA expects that communities will gain the capacity needed to take on more projects that could eventually lead to CSC Certification. Many communities have expressed an interest and a willingness to take on clean energy actions, but have indicated that they aren't sure where to start. The Clean Energy Communities Program will finally provide local governments with a simple, but robust, framework to guide them through implementation of the most impactful clean energy actions. For a visual representation of this strategy, please reference the flow chart entitled "Logic Model: Clean Energy Communities," which can be found in Appendix A.
Goals	• Decrease the amount of time, expertise, and funding needed to prioritize and implement clean energy actions in New York State communities. • Increase adoption of high-impact, clean energy policies and actions in city, town, village, and county governments across New York State. • Support and replicate innovative clean energy initiatives and demonstration projects. • Demonstrate the value proposition associated with high-impact clean energy actions.
State Energy Plan/Clean Energy Standard Link	• Supports State Energy Plan (SEP) goals for the interagency New York State Community Partnership[3] (NYSCP) initiative: providing packaged clean energy resources that will help communities save on energy costs, stimulate their local clean economies, and reduce greenhouse gas (GHG) emissions

6.1.2 Target Market Characterization

Target Market	Primary: Local Government Operations/Municipalities (initial roll-out to a subset of 80 communities, explained in more detail in the Market Readiness section) Secondary: Private and public transportation, Commercial and Residential Buildings

[1] The Climate Smart Communities Certification program provides local governments with a robust framework to guide their climate action and enables high-performing communities to achieve recognition for their leadership. Designed around ten pledge elements, the certification program recognizes communities for their accomplishments through a rating system leading to four levels of award: Certified, Bronze, Silver, and Gold. Participating communities are also eligible to apply for $11 Million worth of Climate Smart Communities grant funding focusing on climate change mitigation and adaptation. The program is jointly sponsored by six New York State agencies: The Departments of State (DOS), Health (DOH), and Transportation (DOT), NYSERDA, the Public Service Commission, and the Department of Environmental Conservation (DEC), which administers the program.

[2] Case 14-M-0224. Proceeding on Motion of the Commission to Enable Community Choice Aggregation Programs, Order Authorizing Framework for Community Choice Aggregation Opt-Out Program, filed April 21, 2016.

[3] The New York State Community Partnership (NYSCP) is New York State's new, unified approach to driving clean energy action and energy literacy in local governments and communities across the state. The NYSCP and associated program components are managed by a dedicated NYSERDA staff team working in close collaboration with the Governor's Office, the New York Power Authority NYPA, the Department of Public Service, and the Department of Environmental conservation.

	Composition of 1,601 General Purpose Local Governments (Municipalities) in New York State Villages: 545 Cities: 62 Towns: 932 Counties: 62 Local government elected officials, public works officials, non-governmental organizations (i.e., Chambers of Commerce), community volunteers, and private consultants, as well as utility and industry representatives. Early Adopter Municipalities • Climate Smart Communities tend to have higher levels of involvement in all community-related state offerings, have already undertaken many actions, and are likely to recognize the benefits of doing more going forward. Their feedback as early adopters will be critical in shaping the Clean Energy Communities Program strategy going forward. The tools, guidance, and technical support that were made available to communities during the Climate Smart Communities Coordinators Pilot Program proved to be successful as demonstrated by the progress made by many of the participating communities. Year-end reports summarizing the successes and lessons learned in each of the pilot regions involved in the program can be found on the Department of Environmental Conservation's website: http://www.dec.ny.gov/energy/84508.html. Mid-Late Adopter Municipalities • Tying grant funding to adoption of four or more High-Impact Actions will encourage mid-late adopters to initiate action, realize benefits, and eventually implement more advanced actions with grant funding. NYSERDA expects to see increased rates of participation within six months to a year of launching the Clean Energy Communities Program, after mid-late adopter municipalities have had time to implement some of the High-Impact Actions.
Market Participants	CSC and Clean Energy Communities program partnering agencies, including the New York State DEC, DOT, DOH, DOS, the Public Service Commission, the New York Power Authority (NYPA), and the Governor's Office. • Provide technical expertise and input regarding High-Impact Actions and associated tools and resources, including alignment with existing agency offerings. • Provide ongoing input regarding overall structure of Clean Energy Communities program. Private consultants, engineering firms, and other clean energy service providers • Work with municipalities to implement innovative clean energy projects. Partner Organizations (environmental groups, schools, etc.) • Help to promote High-Impact Actions and provide support to communities in line with existing organizational goals. • Help to organize and host events related to organizational goals. Local government elected officials, public works officials, non-governmental organizations (i.e., Chambers of Commerce), community volunteers, and private consultants, as well as utility and industry representatives.
Market Readiness	Municipal officials – At least 423 (26%) municipalities in New York State have participated in one or more of the following clean energy programs. 49

	municipalities have participated in 3 or more, demonstrating there is municipal interest in clean energy.
	• Adopted Unified Solar Permit
	• Adopted streamlined electric vehicle supply equipment permitting
	• NY Prize
	• Property Assessed Clean Energy (PACE) Financing
	• Community Solar
	• NYPA Energy Services Project
	• CSC
	• CSC Certified
	
	In addition, over the past 6 years, the CSC program, a strong indicator of municipal interest in clean energy, has seen significant growth. To date, 170 municipalities in New York have joined the CSC program and more continue to join each month. Over the past couple of years, they have been joining at an increasing rate. Most of these communities have been diligently working to implement clean energy and sustainability initiatives and are eager for more support.
	
	NYSERDA also interviewed more than 50 municipal representatives and other stakeholders (i.e., regional planning organizations) to understand what High-Impact Actions would be of interest to communities, including barriers to adoption, and developed the list accordingly. While the Clean Energy Communities Program is open to any municipality, NYSERDA's initial roll-out is going to target 80 specific municipalities for proactive outreach. These municipalities were selected based on the following criteria to help ensure success:
	
	• Geographic parity.
	• Record of previous accomplishments indicating willingness to go further.
	  o Track record of participation in CSC, CSC Certification, PACE, Unified Solar Permit, Community Solar, NY Prize, and NYPA Energy Services.
	  o Only 1 of the 80 has taken no action.
	• Favored medium and large population communities to leverage impact, but also included small communities to assess replicability of actions across New York's approximately 1000 smaller communities.
	• Selected the Five Cities., which are highly likely to participate, so that they can be held up as case studies for other communities early on.
	
	Emerging Partners Include:
	• Sustainable Westchester provides lessons learned in developing and implementing Community Choice Aggregation (CCA) for municipalities in Westchester County.
	• NYPA – provides technical assistance, project management services, and financing for energy upgrades
	• New York State DEC – provides joint support for CSC Certification, which will award credit for Clean Energy Community High-Impact Actions
	• Natural Resources Defense Council (NRDC) – Provides assistance with developing guidance and support materials essential for communities implementing High-Impact Actions
	• New York State DOS: Developing updated green building standards (NY Stretch)
	• Other potential partners include organizations whose mission relates to clean energy. NYSERDA will work to develop new and expand existing relationships with all relevant or interested partners.

	In general, there has been an increasingly strong focus on community clean energy and sustainability initiatives recently as evidenced by the growth of organizations such as ICLEI[4] for- Local Governments for Sustainability, the Compact of Mayors, and the Urban Sustainability Directors Network.

Customer Value	• Local government leaders constantly struggle with where to start and what to prioritize with respect to clean energy action. NYSERDA will provide them with tools and resources to accomplish the following:
	  o Reduce the cost of implementing clean energy actions.
	  o Reduce information overload, giving municipalities clear options and a path forward.
	  o Alleviate confusion regarding prioritizing highest impact actions and what State support is available.
	  o Refocus on most impactful actions to facilitate participation and increase penetration of those actions.
	  o Animate consumer demand by clarifying available resources and recommended actions.
	• Local governments also struggle with staff capacity and lack of technical knowledge. The combination of technical assistance, outreach, engineering support, and tools will not only help municipalities overcome this barrier in the near team, it will help to build capacity and an institutionalized knowledge base for them to take future action with less external support.
	• Lack of funding is a critical barrier in local governments. The Clean Energy Communities Program motivates communities to implement High-Impact Actions (i.e., benchmarking laws) by offering rewards in the form of grant funding for future projects.
	• The flexible grant structure (no narrowly defined eligible project types) allows municipalities to come to NYSERDA for support without trying to fit their well-planned, innovative projects into currently available solicitations that are not a good fit. Providing this ongoing opportunity reduces the amount of time municipalities need to spend searching for solicitations, applying, and failing, and makes it more likely that they will dedicate staff time to developing a great project.
	• The grant funding also creates demand for innovative solutions in communities, providing a market ripe for the most innovative companies, including clean energy providers, to bring their business to New York State.
	
	In addition to grant funding, local governments will also receive numerous other benefits associated with implementation of the High-Impact Actions. For example, communities that would like to implement the Solarize Community High-Impact Action are eligible to apply for funding to support outreach and marketing efforts through NYSERDA's Community Solar program. Similarly, communities that adopt the Unified Solar Permit are eligible for incentives through NYSERDA's existing Streamlined Permitting program.
	
	• While the High-Impact Actions require little to no up-front investment, the staff time associated with implementing them varies widely by community. Developing refined estimates will be a focus of immediate and ongoing market research in order to give communities a better up front understanding of the amount of time and effort required to complete each High-Impact Action.

[4] ICLEI originally stood for "International Council for Local Environmental Initiatives," but the full phrase has since been dropped.

	Expected direct financial benefits[5] include approximately $29 million in annual energy cost savings through 2019, cumulatively totaling more than $433 million saved by 2030. Without investment in the Clean Energy Communities program. NYSERDA estimates that uptake of the High-Impact Actions, and the associated savings, would be reduced by approximately 75%[6].

6.1.3 Stakeholder/Market Engagement

Stakeholder/Market Engagement	To-date: • Developed, and will continue to refine, overall program structure and list of High-Impact Actions in collaboration with NYPA, DEC, Governor's office, municipal representatives, other New York State agency partners, and the private sector. • Interviewed 50+ communities asking them what actions they've taken, what they would like to do, and what support they need to do it. Planned: • Continued engagement with stakeholders and key market partners to gather real-time feedback on the success of the strategy, remaining barriers, and market changes. • Continue outreach: In-person meetings, webinars, and conference presentations. • NYSERDA will also utilize the Clean Energy Advisory Council (CEAC) as a way to engage with stakeholders, as appropriate.[7]

6.1.4 Theory of Change

Market Barriers Addressed	• Many municipalities lack information regarding what clean energy opportunities exist, have inadequate financial resources readily available for implementing clean energy projects, lack staff capacity, and often do not have the in-house technical knowledge needed to properly implement clean energy projects. • There are few opportunities for municipal staff to engage in peer-to-peer exchange to learn from the successes of other, similar municipalities. • Municipalities that are aware of clean energy opportunities or programs are often overwhelmed with too many choices and have trouble prioritizing the highest impact actions. • There is no reliable (ongoing), open source of funding that municipalities know will be there if they take the time to put together plans for innovative clean energy projects.
Testable Hypotheses	• If templates and standardized tools highlight the most impactful clean energy actions and take the guess work out of prioritization of initiatives, then more communities will take action.

[5] Benefits are based on approximately 800 actions being implemented by approximately 300 communities (approximately 2.5 actions each on average), 163 of which (including the initial target 80) NYSERDA expects will implement enough to be designated Clean Energy Communities, through 2019.

[6] Currently, only 75 communities have implemented 2 or more comparable actions (i.e., participating in NY Prize). By increasing uptake to 300 communities, NYSERDA more than triples the number of communities implementing High-Impact actions. (75/300 = 25%)

[7] The Clean Energy Advisory Council was established by the Public Service Commission through an Order in the Clean Energy Fund Proceeding (Case 14-M-0094. et al, Proceeding on Motion of the Commission to Consider a Clean Energy Fund, Order Authorizing the Clean Energy Fund Framework, filed January 21, 2016).

	• If competition, rewards, and recognition are provided, then uptake of clean energy actions among the State's municipalities will increase. • If communities with unique values and priorities are presented with a limited number of tailored options with clear value propositions, then they will be more likely to take action.
Activities	<u>All activities are ultimately intended to increase adoption of the following High-Impact Actions among municipalities in New York State:</u> **1. Benchmarking** Municipalities adopt a policy to report the energy use of municipal buildings on an annual basis and, in large communities, municipalities also adopt legislation requiring the annual disclosure of energy use in large private buildings. **2. Clean Energy Upgrades** Municipalities achieve a 10 percent reduction in the greenhouse gas emissions from municipal buildings through energy efficiency upgrades and renewable energy. **3. LED Street Lights** Municipalities convert at least half of the municipal "cobra-head" style street lights within the jurisdiction to energy-efficient light-emitting diode (LED) technology. **4. Clean Fleets** Municipalities increase the deployment of alternative fuel vehicles by installing electric vehicle charging stations or other alternative fuel infrastructure and/or by expediting permitting for charging stations. **5. Solarize** Municipalities undertake a solarize campaign to increase the number of solar rooftops in the jurisdiction through group purchasing, locally-organized community education and outreach, and a limited time offer. **6. Unified Solar Permit** Municipalities pass an ordinance to adopt the New York State Unified Solar Permit to reduce costs and delays for solar projects in the jurisdiction. **7. Energy Code Enforcement Training** Municipalities train code compliance officers and other municipal officials in best practices in energy code enforcement through training, collaborative plans reviews, and joint onsite inspections of local construction projects. **8. Climate Smart Communities Certification** Municipalities earn Climate Smart Community (CSC) Certification at the certified, bronze, silver and gold levels through compliance with this robust, comprehensive rating system. **9. Community Choice Aggregation** Municipalities transition to a cleaner, more affordable energy supply by passing an ordinance to allow for the aggregated purchase of electric and gas supply for residential and commercial customers within the jurisdiction. **10. Property Assessed Clean Energy (PACE) Financing** Municipalities help property owners undertake clean energy improvements to commercial properties by passing an ordinance to establish a Property Assessed Clean Energy (PACE) financing program.

	Activities/Outputs: *1. Accelerate the development of tools, resources, and policies for successful deployment of High Impact Actions (2016-2019)* • NYSERDA will develop standard packages of tools and resources for the High-Impact Actions, including benefits and best practices. Tools and resources will be made publicly available to all communities regardless of program participation status. • Implement Customer Relationship Management (i.e., Salesforce) software for NYSERDA to track community progress of High-Impact Actions and innovative project implementation. • As certain High-Impact Actions become widely adopted or standard practice, NYSERDA will begin developing and promoting tools and resources for new High-Impact Actions with the next highest potential impact, gradually phasing out previous actions ("grandfathering" them in) to ensure the success of communities currently working on implementation. • In addition to being phased out after successful adoption across the state, High-Impact Actions may also be adjusted, phased out, or newly developed based on a variety of other factors including, but not limited to, level of uptake in communities relative to other actions, changes in the regulatory environment, consistency with NYSERDA and other New York State agency program offerings, and availability of external assistance, such as federal programs, tools, and resources. • Compile data and lessons learned from successful implementation of the High-Impact Actions and consequently adjust the outreach strategy, program requirements, and tools and resources to ensure the most impactful subsequent implementation. *2. Provide Technical Assistance (2016-2019)* • NYSERDA will provide free, on-demand, locally-based general technical assistance, including supplemental engineering support services, with contractors covering every region of New York State. Technical assistance providers will work with one-on-one with communities, providing overall guidance and assistance with using the tools and resources. Monitoring the usefulness of the tools and resources, they will also work with NYSERDA to refine them based on feedback from municipalities. For communities implementing actions that require more specific technical expertise, the supplemental engineering support contractors can provide more in-depth services, such as energy audits or assessments. (Technical assistance, although supporting this effort, is funded via a separate funding source (Regional Greenhouse Gas Initiative auction proceeds – RGGI) and is not included in the budget for this Investment Plan. Supplemental engineering support services are included.) *3. Assist Communities with achieving the Clean Energy Communities designation (2016-2019)* • Assist communities with achieving the Clean Energy Community designation. To accomplish this objective, municipalities will advance through a five-step process facilitated by NYSERDA and its technical assistance and engineering support network: Step 1) NYSERDA engages with Municipalities to complete a survey to capture baseline information Step 2) NYSERDA will work with the municipality to identify the recommended high impact actions most applicable to each municipality.

	Step 3) NYSERDA and the municipality will work together to develop a detailed action plan with the support of state tools and resources. Step 4) Municipalities document and report at least 4 High-Impact Actions taken. Step 5) Municipalities will be designated a Clean Energy Community to earn recognition and be eligible to apply for grant funding for more innovative projects. *4. Provide an on-line communications and resource portal for peer-to-peer learning and engagement (initially rolled out by Q4 2016, enhancements ongoing through 2019)* • Develop and implement an interactive, online communications and resource portal (Clean Energy Communities Portal) hosting publicly available tools and resources. Include a peer-to-peer learning platform, a mechanism to distribute aggregated community-level energy use data[8] by sector, and a link with the Customer Relationship Management software for communities to track progress. *5. Provide innovation and replication support (2016-2019)* • Offer flexible grants for implementation of innovative clean energy projects to communities that have achieved the Clean Energy Community designation. • Host regular summits and other, less formal meetings through which community leaders can learn from one another, exchange best practices, provide feedback to NYSERDA, and learn about new opportunities from the State. *6. Provide quality assurance, making periodic adjustments as needed in response to the needs of the communities (2016-2019)* • Adjust the list of High-Impact Actions periodically, including new tools and resources, in accordance with market demand and changing community needs. • Conduct ongoing market research to fully understand the current needs of communities and changing market conditions. The combination of technical assistance, outreach, engineering support, tools, resources, and dedicated funding will provide the foundation necessary to enable communities to undertake clean energy actions and projects. One of the key aims of this support structure is to help build the capacity needed for local governments and communities to take future action on their own.
Key Milestones	<u>Milestone 1</u> • 80 communities complete, and demonstrate replicability of, four out of ten High-Impact Actions and submit successful grant applications to the Clean Energy Communities Program to complete innovative clean energy projects. <u>Milestone 2</u> • After realizing the benefits associated with completing High-Impact Actions, many communities go on to pursue the more rigorous CSC Certification. The number of Certified CSCs doubles, from 6 currently certified to 12 certified. <u>Milestone 3</u> • NYSERDA has conducted market research on impact of initial uptake of High-Impact Actions and has adjusted the Clean Energy Communities Program

[8] Data will be collected and distributed in accordance with all privacy rules established by the Public Service Commission. Efforts are already underway to make this non-private, aggregated (on a community-level by service class) data easily accessible for community clean energy planning and tracking purposes.

	accordingly. NYSERDA will continuously compile feedback from communities on High-Impact Actions and associated tools and resources, and adjust accordingly.
Goals Prior to Exit	• Tools and resources developed for all current and future potential High-Impact Actions. • 75% of communities in New York State are taking advantage of tools and resources provided. • Reduce level of perceived difficulty associated with implementing High-Impact Actions to between 1 and 4 on a scale of 1-10, with 10 being most difficult. • Significant private sector participation in related activities. • Self-sustaining mechanism is in place to facilitate knowledge transfer among communities, including tools and resources. • Municipal greenhouse gas inventories indicate that the trajectory of community emissions is on track to meet 2050 goal of reducing statewide emissions 80% below 1990 levels.

6.1.5 Relationship to Utility/REV

Utility Role/Coordination Points	• Utilities play a critical role in increasing access to aggregated community-level energy use data needed for clean energy planning and tracking. To date, many utilities have demonstrated a willingness and have begun to work with NYSERDA to figure out how best to go about providing data in a way that is useful to municipalities, while simultaneously protecting customer privacy. • Coordination with utilities, as well as other state agencies (i.e., NYPA), other NYSERDA groups, non-profits, and federal organizations to ensure their offerings, as applicable, are incorporated in all tools and resources that support High-Impact Actions as well as innovative projects funded through resulting grants. • In particular, coordination is needed with utilities on issues related to LED street lighting tariffs/municipal ownership and aggregated community energy use data needed to facilitate Community Choice Aggregation and NYSERDA tracking of program success. • NYSERDA will also work to ensure that utilities are kept apprised of various clean energy actions happening in their respective territories so that they can better serve municipal customers. • NYSERDA will also take advantage of the CEAC Clean Energy Implementation and Coordination Working Group to coordinate planning and implementation with the New York State utilities.
Utility Interventions in Target Market	• Incentives for energy upgrades, enabling LED street light conversions, economic development grants, approval for installing charging stations in public right-of-ways

6.1.6 Budgets & Expenditures

An annual commitment budget for all activities included in this chapter is shown in Table 1. The annual expenditure projection is included in Table 2. Budgets and expenditures do not include Administration, Evaluation, or Cost Recovery Fee; these elements are addressed in the Budget Accounting and Benefits chapter filing. The budget as presented in the Budget Accounting and Benefits Chapter will serve as the basis for any subsequent reallocation request. The additional level of detail presented within the table below is intended for informational purposes only.

To ensure the success of the Clean Energy Communities program statewide, including in municipalities that do not pay into the System Benefits Charge, such as those on Long Island or that run their own municipal utilities, RGGI funding is being used to supplement CEF activities. In addition to the budget outlined below, $13,602,000 of RGGI funding is being used: $9,000,000 for the Technical Support contractors; $4,500,000 to supplement the Clean Energy Communities grant funding; and $102,000, to build the first iteration of an interactive web portal for communities to track progress of their clean energy action.

Table 1: Annual Market Development Budget Allocation – Commitment Basis (CEF only)

Commitment Budget		2016	2017	2018	Total
Clean Energy Communities (CEF Only)	Tools, Training, and Replication	$191,430	$1,064,340	$588,913	$1,844,683
	Implementation Support	$273,473	$136,737	$136,737	$546,946
	Direct Incentives and Services	$2,796,483	$4,172,655	$4,857,759	$11,826,897
	Total	$3,261,386	$5,373,731	$5,583,409	$14,218,526

Table 2: Annual Expenditures Projection – CEF Only

Expenditures	2016	2017	2018	2019	2020	2021	Total
Total	7%	22%	25%	21%	16%	9%	100%

6.1.7 Progress and Performance Metrics

Table 3 provides program Activity/Output indicators representing measurable, quantifiable direct results of activities undertaken in the initiative. Outputs are a key way of regularly tracking progress, especially in the early stages of an initiative, before broader market changes are measurable. Outcome indicators can encompass near-term through longer-term changes in market conditions expected to result from the activities/outputs of an intervention. Outcome indicators will have a baseline value and progress will be measured periodically through Market Evaluation.

Because the Clean Energy Communities program is being co-funded with CEF and RGGI funding, the table below includes metrics associated with program implementation in its entirety. Program success will be measured on a funding-agnostic basis, with *reported* savings and metrics being allocated proportionately to the CEF and RGGI budgets committed/spent to date.

Table 3. Initiative Specific Metrics

Indicators[9]		Baseline (Before/ Current)	2019 (Cumulative)
Activity/Outputs	Number of communities that indicate they are aware of the Clean Energy Communities Program and know how to participate	0	800
	Number of Communities that have joined the Clean Energy Communities Program	0	400
	Number of communities that have completed:		
	1 or more High-Impact Action	TBD	333
	2 or more High-Impact Actions	TBD	250
	3 or more High-Impact Actions	TBD	225
	4 or more High-Impact Actions (minimum for designation)	TBD	163
	Number of Designated Clean Energy Communities	0	163
	Number of registered Climate Smart Communities (indicates interest in going beyond High-Impact Actions)	175	219
	Partner engagement: Number of organizations helping to promote High-Impact Actions without NYSERDA contracts	0	3
	Direct Cumulative Annual Energy Savings (MWh) for participants	0	130,200
	Direct Cumulative Annual Energy Savings (MMBTU) for participants	0	2,006, 000
Outcomes	Number of communities that indicate clean energy is a priority	TBD	800
	Number of communities regularly accessing Clean Energy Communities Portal and tracking progress	0	80
	Perceived level of difficulty, on the part of community representatives, in implementing each High-Impact Action? (1-10, with 10 being most difficult)	TBD	4 (or less, on average, for each action)
	Number of communities that have participated in NYS clean energy programs	423	560
	Number of communities that have completed High-Impact Actions but are not designated Clean Energy Communities	0	100
	Percentage of communities in New York State taking advantage of tools and resources provided	TBD	75% (1,200)

[9] TBD denotes that NYSERDA requires more data in order to quantify baseline/market metrics to the degree needed to measure against in the future. A 0 (zero) denotes that the actual value is currently believed to be zero for baseline/market metrics.

Benefits shown in Tables 4 through 6 are direct, near term benefits associated with program implementation. Because the Clean Energy Communities program is being co-funded with CEF and RGGI funding, all reported metrics associated with implementation of the program will be split proportionately according to the level of funding coming from each source. These benefits will be quantified and reported on a quarterly basis and will be validated through later evaluation. The first table (4) shows all metrics associated with the entire program, including both CEF and RGGI funding, and the second table (5) shows prorated metrics associated only with CEF funding. Table 6 shows program participation associated with the entire program, including both CEF and RGGI funding.

Table 4: Direct Impacts – CEF + RGGI (entire initiative) [10]

Primary Metrics		CEF + RGGI 2016	CEF + RGGI 2017	CEF + RGGI 2018	TOTAL
Energy Efficiency	MWh Annual	74,700	29,400	26,100	130,200
	MWh Lifetime	1,120,000	441,000	392,000	1,953,000
	MMBTu Annual	1,150,000	453,000	403,000	2,006,000
	MMBTU Lifetime	17,300,000	6,800,000	6,050,000	30,150,000
	MW	32	13	11	56
Renewable Energy	MWh Annual	112,000	43,800	39,000	194,800
	MWh Lifetime	1,670,000	658,000	585,000	2,913,000
	MW	71	28	25	123
CO2e Emission Reduction (metric tons) Annual		168,000	65,900	58,600	292,500
CO2e Emission Reduction (metric tons) Lifetime		2,510,000	988,000	880,000	4,378,000
Customer Bill Savings Annual ($ million)		$28.8	$11.3	$10.1	$50.2
Customer Bill Savings Lifetime ($ million)		$433	$170	$151	$754
Private Investment ($ million)		$51.9	$20.4	$18.1	$90.4

[10] Impacts are expressed on a commitment-year basis, and are incremental additions in each year. Assumes a 15-year measure life. Benefits are rounded to three significant figures. Totals may not sum due to rounding. Customer Bill Savings are calculated as direct energy bill savings realized by customers participating in NYSERDA's programs.

Table 5: Direct Impacts – CEF only[11]

Primary Metrics		CEF 2016	CEF 2017	CEF 2018	CEF TOTAL
Energy Efficiency	MWh Annual	16,800	27,700	28,800	73,300
	MWh Lifetime	252,000	415,000	432,000	1,099,000
	MMBTu Annual	302,000	498,000	518,000	1,318,000
	MMBTU Lifetime	4,540,000	7,470,000	7,770,000	19,780,000
	MW	7	12	12	31
Renewable Energy	MWh Annual	25,100	41,300	42,900	109,300
	MWh Lifetime	376,000	620,000	644,000	1,640,000
	MW	14	24	25	63
CO2e Emission Reduction (metric tons) Annual		40,300	66,400	69,000	175,700
CO2e Emission Reduction (metric tons) Lifetime		605,000	996,000	1,030,000	2,631,000
Customer Bill Savings Annual ($ million)		$6.64	$10.9	$11.4	$28.94
Customer Bill Savings Lifetime ($ million)		$99.6	$164	$170	$433.6
Private Investment ($ million)		$10.6	$17.5	$18.1	$46.20

Table 6. Annual Projected Initiative Participation (CEF + RGGI)

	2016	2017	2018	Total
Participants	76	126	131	333

Benefits shown in Tables 7 and 8 represent the estimated indirect market effects expected to accrue over the longer term as a result of this investment and follow on market activity. Because the Clean Energy Communities program is being co-funded with CEF and RGGI funding, all reported metrics associated with implementation of the program will be split proportionately according to the level of funding coming from each source. The indirect benefits that accrue from this investment will be quantified and reported based on periodic Market Evaluation studies to validate these forecasted values. Market Evaluation may occur within one year (-/+) of the years noted in the table and projected future indirect benefits and/or budgets necessary to achieve them may be updated based on the results of market evaluation. Indirect impact across NYSERDA initiatives may not be additive due to multiple initiatives operating within market sectors. The values presented below are not discounted, however NYSERDA has applied a discount of 50% to the overall portfolio values in the Budget Accounting and Benefits chapter. Table 7 shows all metrics associated with the entire program, including both CEF and RGGI funding, and Table 8 shows prorated metrics associated only with CEF funding.

[11] Impacts are expressed on a commitment-year basis, and are incremental additions in each year. Assumes a 15-year measure life. Benefits are rounded to three significant figures. Totals may not sum due to rounding. Customer Bill Savings are calculated as direct energy bill savings realized by customers participating in NYSERDA's programs.

Table 7. Estimated Indirect Market Impact – CEF + RGGI (entire initiative)

Indirect Impact		2020	2025	2030
Energy Efficiency	MWh Cumulative Annual	71,000	249,000	426,000
	MMBTu Cumulative Annual	393,00	1,370,000	2,360,000
Renewable Energy	MWh Cumulative Annual	106,000	371,000	636,000
	MW	77	269	461
CO2e Emission Reduction (metric tons) Cumulative Annual		93,168	326,088	559,008

Table 8: Estimated Indirect Market Impact – Prorated with CEF funding only

Indirect Impact		2020	2025	2030
Energy Efficiency	MWh Cumulative Annual	36,300	127,000	218,000
	MMBTu Cumulative Annual	201,000	702,000	1,200,000
Renewable Energy	MWh Cumulative Annual	54,200	190,000	325,000
	MW	39	137	236
CO2e Emission Reduction (metric tons) Cumulative Annual		47,600	167,000	286,000

6.1.8 Fuel Neutrality

Fuel Neutrality	NYSERDA intends to offer this program in a fuel neutral manner to encourage more efficient use of all fuel types. This will help develop the market at the scale needed to achieve New York State's clean energy goals. Offering the program on a fuel neutral basis will allow NYSERDA to achieve a ton of carbon savings at a cost of $80.92, compared to a cost of $87.75 in an electric only scenario.[12]

6.1.9 Performance Monitoring and Evaluation Plans

Performance Monitoring & Evaluation Plan	NYSERDA's approach to monitoring and assessing the effectiveness of the initiative and overall market development is described below. **<u>Test-Measure-Adjust Strategy</u>** Each year, NYSERDA will undertake a reassessment of priorities and funding levels and will make adjustments to the program as appropriate. Specifically: • Uptake of High-Impact Actions will be tracked in the Clean Energy Communities Portal and Customer Relationship Management software. • As uptake of certain High-Impact Actions are scaled to the point where funding is no longer necessary for communities to take action, funding will be eliminated or shifted to new actions.

[12] Fossil fuel savings make up 45% of overall program savings and only 39% of projects. This equates to fossil fuels saving 17% more emissions per dollar invested compared to electric-only projects in this program. Using those ratios, if current fossil fuel emissions savings were replaced with electric-only projects, the program costs would increase by approximately 8%.

	• Depending on identified needs, NYSERDA may use portion of the grant funding budget to support new, more structured project grant funding offerings, rather than keeping all funding open for loosely defined 'innovative' projects. If the Clean Energy Communities program is continuing to make progress after the initial three-year period, NYSERDA will reassess longer term programmatic needs and submit a revised Investment Plan outlining new funding requirements and updated implementation strategies. NYSERDA anticipates that this program will continue on in some form after the initial three-year period. **Market Evaluation** This program intervention will include surveys/interviews with samples of communities at various stages and levels of involvement to assess: • Effectiveness and value of the Clean Energy Communities Portal and resources provided • Which High-Impact Actions communities have implemented, and which ones they have not • Barriers to implementing energy actions • Cost of implementing High-Impact Actions • Detailed information on implemented actions, including project impacts • Related actions by non-participating communities that are causally linked to the intervention These surveys/interviews will be used to provide real-time insights and support systematic evaluation of the intervention, including its effectiveness for participating communities and in other communities that may replicate the program actions. **Impact Evaluation/Field Verification** For communities implementing actions, impact evaluation will involve measurement and verification (M&V) of energy and other benefits for a sample of communities/measures. M&V will also examine a subset of innovative clean energy projects funded through Clean Energy Community grants to determine replication opportunities through potentially adding the project type as a new High-Impact Action. Where communities participate in other NYSERDA programs, this data will also be gathered and used in assessing impact in a coordinated manner. Aggregated community-level energy use data will be used, as available, to track progress toward 2050 goals across communities implementing certain High-Impact Actions and those that are not.

Appendix A – Logic Models