Clean Energy Communities Market Evaluation

Final Report

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Table of Contents

List of Figures

List of Tables

1 Introduction

As part of its Clean Energy Fund, the New York State Energy Research and Development Authority (NYSERDA) created an Investment Plan for local governments in New York State. Integral to this effort is the Clean Energy Communities (CEC) Program that encourages investments in energy efficiency and the deployment of clean energy in local government operations and in their communities. Local governments include counties, cities, towns, and villages. The research team uses the terms 'municipality' and 'community' to refer to the local governments and the area in which they have jurisdictional control.

1.1 Program Description

The program provides outreach, guidance, and support, including technical assistance and tools, to overcome common barriers to implementing clean energy projects experienced by local governments. These barriers include a lack of awareness of clean energy opportunities available to municipalities, difficulty prioritizing clean energy projects, a lack of funding, and limited staff capacity and technical knowledge to implement clean energy projects. The program's goals are to:

- 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.

1.2 Evaluation Objective and Methods

Table 1-1 summarizes the objective and methods; see Chapter 4 for methodological detail and Appendix A for the full list of research objectives.

Table 1-1. Evaluation Objective and Methods

Objective	Purpose	Method
Present Time 1 metrics per the Clean Energy Investment Fund Plan: Communities Chapter	Estimate the Time 1 performance metrics such as number of actions completed	Phone surveys of community representatives
Present costs and impacts of, and barriers to, completed actions	Understand costs and impacts of completed actions and barriers to incomplete actions	Phone interviews with community representatives

2 Market Characterization and Assessment Results

This chapter presents the "Time 1" estimates of the program performance metrics described by the Communities Chapter in the Clean Energy Investment Fund Plan with respect to the program-defined High Impact Actions. We also include the baseline metrics from when the program began in August 2016 for comparison purposes.

The program's 10 High Impact Actions promote the deployment of clean energy projects (Table 2-1). As described in the Communities Chapter of NYSERDA's Clean Energy Fund Investment Plan,[1] the High Impact Actions include:

Table 2-1. High Impact Actions

High Impact Action	Brief Description
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.
Clean Energy Upgrades	Municipalities achieve a 10 percent reduction in the greenhouse gas emissions from municipal buildings through energy efficiency upgrades and renewable energy.
LED Street Lights	Municipalities convert at least half of the municipal "cobra-head" style street lights within the jurisdictions to energy-efficient light-emitting diode (LED) technology.
Clean Fleets	Municipalities increase the deployment of alternative fuel vehicles by installing electric vehicle charging stations and/or by deploying a qualifying alternative electric vehicle in the municipality's fleet. [2]
Solarize	Municipalities undertake a solarize campaign to increase the number of solar rooftops in the jurisdictions through group purchasing, locally-organized community education and outreach, and a limited time offer.
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 jurisdictions.
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.
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.

[1] https://www.nyserda.ny.gov/-/media/Files/About/Clean-Energy-Fund/CEF-Communities-Chapter.pdf

[2] The description of this High Impact Action includes information from the NYSERDA website: https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Communities/Action-Items

High Impact Action	Brief Description
Community Choice Aggregation (CCA)	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 jurisdictions.
Property Assessed Clean Energy (PACE) Financing	Municipalities help property owners undertake clean energy improvements to commercial properties by passing an ordinance to establish a PACE financing program.

2.1 Performance Metrics

Table 2-2 contains metrics indicating how many of the 1,600 New York State communities have completed one or more High Impact Actions, two or more High Impact Actions, three or more High Impact Actions, and four or more High Impact Actions. Based on survey responses, the market evaluation team estimates that at Time 1, 1,178 communities had completed at least one High Impact Action, a substantial increase from the 467 that had completed one action at baseline. At Time 1, 465 communities had completed at four or more High Impact Actions per survey data, the minimum required to be designated a clean energy community.

Table 2-2. Aggregate Metrics (N=1,600)*

Metric	Baseline (Attained by August 2016)	Time 1 (Attained by August 2018)	Time 1 Net (Attained between 8/16 and 8/18)
Number of communities that have completed one or more High-Impact Actions	467 (29%)	1,178 (74%)	711 (44%)
Number of communities that have completed two or more High-Impact Actions	248 (16%)	753 (47%)	505 (32%)
Number of communities that have completed three or more High-Impact Actions	128 (8%)	609 (38%)	481 (30%)
Number of communities that have completed four or more High-Impact Actions (minimum for designation)	10 (1%)	465 (29%)	455 (28%)
Number of communities that indicate clean energy is a priority**	473 (30%)	484 (30%)	11 (0%)

* The population for this table is all 1,600 New York State communities. All reported numbers of communities are estimated from a representative sample whose size provided greater than 90 percent confidence and 10 percent precision.

** Community representatives indicated whether clean energy is a priority in spring 2017 and summer 2018.

The market evaluation team found it challenging to complete surveys with communities that had not completed any actions, even though the surveyors made every effort to explain that this is a survey representative of New York State and wanted to capture the perspectives of those

communities that had not completed any actions. Given this situation, the numbers at Baseline and at Time 1 likely reflect unavoidable response bias that could inflate the number of communities in each category. At baseline, 27 of the 104 surveyed communities had completed no High Impact Actions, compared with 18 of the 105 surveyed communities at Time 1, consistent with other findings that show an increased number of actions completed after program launch.

Larger communities appear to be more active in completing the program's High Impact Actions. Table 2-3 displays the completed action metrics by community size per weighted survey data.

Table 2-3. Aggregate Time 1 Metrics by Community Size*

	Small (n=1056)	Medium (n=416)	Large (n=128)	Total (N=1600)
One or more actions	729	323	128	1179
Two or more actions	472	204	79	754
Three or more actions	378	153	79	610
Four or more actions	308	102	55	466

* Population sizes: Small = 0 to 4,999; Medium = 5,000 to 39,999; Large = 40,000 and above.

2.1.1 Indirect Program Benefits

One goal of the market survey was to assess completion of High Impact Actions not reported to the CEC program. There were more High Impact Actions reported as complete by surveyed community representatives than they had documented as complete and reported to NYSERDA (Table 2-4).

The interview findings presented in the appendix demonstrate that some communities contacted other communities to obtain advice on the CEC program actions or collaborated with nearby municipalities to complete CEC program actions. Therefore, communities who completed actions through the program were influencing other communities that may have done the actions without submitting the documentation to NYSERDA required to earn program credit. We may consider the greater number of completed actions captured by the survey as a type of "spillover," or evidence of the program indirectly influencing communities' clean energy behavior. We found that 260 communities in New York State have satisfied the requirements of at least one High Impact Action without reporting it to the CEC program.

Table 2-4. Indirect CEC Program Benefits

Metric	Time 1 Net Survey-Reported Numbers*	Time 1 Program-Reported Numbers**	Time 1 Difference: Indirect Benefits
Number of communities that have completed one or more High-Impact Actions	711	451	260
Number of communities that have completed two or more High-Impact Actions	505	330	175
Number of communities that have completed three or more High-Impact Actions	481	286	195
Number of communities that have completed four or more High-Impact Actions (minimum for designation)	455	231	224

* The Time 1 Net survey reported numbers represent actions completed between August 2016 and August 2018.

** The program-reported numbers were provided to the market evaluation team in March 2019.

2.1.2 Clean Energy as Priority

Community representatives were asked objective measures that signify whether clean energy is a priority including: whether their community has either an Energy Action Plan or an energy chapter in their general plan, whether their municipality has a procurement policy that prioritizes the purchase of energy efficiency equipment or products, and whether their municipality has an energy manager or someone explicitly responsible for pursuing energy efficiency in their facilities and operations. Table 2-5 contains metrics indicating how many of the 1,600 New York State communities reported that they achieved each of these objective measures.

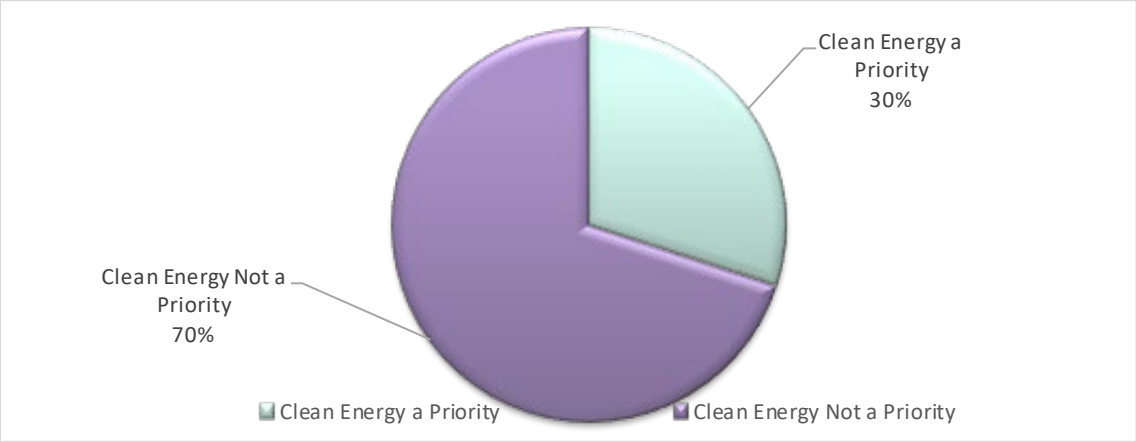
Table 2-5. Objective Indicators of Clean Energy as a Priority

Objective Indicators	Time 1
Action Plan or Energy Chapter in General Plan	322 (20%)
Procurement Policy Prioritizing Energy Efficient Equipment or Products	207 (13%)
Energy Manager or Someone Explicitly Responsible for Pursuing Energy Efficiency	353 (22%)

In addition to the objective measures, community representatives were asked whether they subjectively considered clean energy a priority in their municipality. Seventy-three percent of community representatives subjectively reported clean energy as a priority in their community. Using our algorithm that the representative agreed clean energy is a priority and achieved at least

one objective measure, (described further in section 4.4.3) we found that clean energy is a priority at 484 communities, or 30% (Figure 2-1).

Figure 2-1.Clean Energy as a Priority



2.1.2.1 Comparison to Other Priorities

Compared to other municipal priorities, municipal representatives perceive clean energy as a medium to high priority. About one-third of interviewed representatives reported clean energy is a high priority in their community. Another third reported it was "medium-high," while the same number of representatives described it as a "medium" priority in their community when compared to other initiatives. Two communities reported clean energy was between a low and medium priority. Communities that reported clean energy was not a high priority noted that infrastructure projects related to public health and safety, such as water and sewer, were higher priority items for their government.

2.1.2.2 Reasons Interested in Clean Energy

Most interviewed municipalities reported they prioritize clean energy actions because such initiatives have significant environmental and economic benefits for their community. About three-quarters of municipal representatives reported their communities were interested in clean energy for environmental reasons (21 of 29). Communities are motivated to save energy to lower their carbon footprints, conserve natural resources, mitigate climate change, and be environmental stewards.

For example, one representative described their municipality's motivations for pursuing energy efficiency and renewable energy:

> *"Whatever is going on at the federal level, it doesn't matter because at the local level, we can really have a hand in making a difference with the environment. We can actually make changes that are relevant and can make a difference and if every municipality were to be able to do that, then we could make great leaps, I think."*

Another representative reported climate change was the motivation behind completing their High Impact Actions:

> *"It's the recognition of the gravity of the situation with the climate change issue. We have to do something about it. That's the root of it. Certainly, for me. For those of us involved in energy issues and who have been behind making the CEC actions happen, that's really it."*

Communities were also motivated by cost savings: about two-thirds of representatives reported they pursued energy efficiency to save energy and money for both their municipalities and constituents (18 of 29). Some representatives noted they only pursued clean energy projects if it was economically viable in the long-term, providing them an economic return. Three representatives were interested in clean energy because it saves their constituents tax dollars or, for one of the municipal electric utilities, it keeps their electricity rates low. Two communities also reportedly pursued clean energy projects to lower long-term operation and maintenance (O&M) costs.

Interviewed municipalities were interested in clean energy for other reasons as well. Five representatives reported they are motivated to be environmental leaders: they want to demonstrate environmental leadership to their communities by being technologically innovative and environmentally progressive, both to receive recognition for their efforts as well as to influence residents and businesses to do the same.

Three communities were motivated to complete clean energy initiatives to improve their eligibility for grant opportunities. Two other representatives reported they pursue energy efficiency and renewable energy for resiliency purposes: they want to have pockets of resilient and independent energy sources in their community core in preparation for natural disasters – floods in their case.

2.1.3 Difficulty Ratings

The community representatives rated their perceived level of difficulty of implementing each action for which the municipality was both eligible and had not completed. They used a 10-point rating scale, with "1" meaning "not at all difficult" and "10" meaning "very difficult." Table 2-6 presents the average level of difficulty by action.[3]

Eight actions were rated as easier or similar in difficulty between baseline and Time 1 and two actions were rated as more difficult at Time 1. We hypothesize that an action is perceived as easier when communities become more familiar with the action, have witnessed other communities complete the action, or become more aware of NYSERDA resources and support to assist with the action. We further hypothesize that actions are perceived as harder when communities have experienced ongoing barriers to completing it.

In particular, the two actions that are perceived as more difficult at Time 1 compared to baseline are the LED streetlights and CCA. The interview findings describe the substantial challenges to completing these actions reported by communities. The evaluation team hypothesizes that as communities began investigating these two actions, they learned of the lengthy, multi-step and sometimes costly processes required to complete them and rated them difficult based on their improved understanding.

Table 2-6. Average Difficulty to Complete Each Action

Action	Average perceived level of difficulty to implement				Change**
	At Baseline	Baseline n*	At Time 1	Time 1 n*	
Benchmarking overall	6.2		5.8		Easier
Benchmarking – Small and medium communities	6.2	1,076	5.8	1,024	
Benchmarking – Large communities	6.1	110	--	--	
Clean Energy Upgrades	6.0	1,075	4.9	1,188	Easier
LED Street Lights	5.1	943	5.9	1,170	Harder

[3] As the number of communities completing each action increases, fewer communities are asked to rate the perceived difficulty of completing it. In a few cases, the number of communities reporting perceived difficulty increased from baseline to Time 1 (see Table 2-6) due to differences in the actions completed between the baseline and Time 1 samples.

Action	Average perceived level of difficulty to implement				Change**
	At Baseline	Baseline n*	At Time 1	Time 1 n*	
Clean Fleets overall	7.5		7.4		Similar
Clean Fleets – Add vehicle to fleet	8.1	1,448	7.8	1,207	
Clean Fleets – Install charging station	6.9	1,377	7.0	1,107	
Solarize overall	6.3		6.3		Same
Solarize – Conduct a Solarize Campaign	6.1	1,248	6.8	1,221	
Solarize – Achieve 10 solar installations	6.4	1,314	5.8	76	
Unified Solar Permit	5.6	1,003	5.1	778	Easier
Energy Code Enforcement Training	4.2	688	4.2	456	Same
Climate Smart Communities Certification	5.7	1,194	6.0	1,028	Similar
Community Choice Aggregation	6.7	1,231	7.4	1,147	Harder
PACE Financing	6.8	136	6.5	61	Similar

* Community contacts rated action difficulty in spring 2017 and summer 2018. The n represents the weighted number of communities who rated the perceived difficulty (thus it excludes "don't know" responses). They are communities eligible for the action that have not completed it.

** We rated an action at Time 1 as easier or harder if the change in difficulty score between baseline and Time 1 was greater than 0.3. For example, the benchmarking rating changed for 6.2 to 5.8, a difference of 0.4 and thus labeled "easier." If the change was 0.3 or less, we recorded the difficulty as the same between the two time periods.

The CCA action is somewhat challenging; it involves passing legislation that will affect all community members. For the Time 1 assessment, CEC program staff wanted to know if communities had considered the CCA action, even if they had not yet started the process of executing it. The market evaluation team found that 15% of surveyed communities had considered a CCA, though they had not started the action (Table 2-7).

Table 2-7. Considerations of Adopting CCA Legislation at Time 1

	Number of Communities	Percent
Already adopted CCA legislation	152	10%
In the process of adopting CCA legislation	102	6%
Considered adopting CCA legislation	233	15%
Not considered adopting CCA legislation	957	60%
Don't know or not applicable	156	9%
Total	**1600**	**100%**

2.1.4 Status by Action

Table 2-8 presents information on how many communities are eligible for and have completed each of the 10 High Impact Actions at baseline and at Time 1, per the survey responses. A community may not be eligible for an action based on their jurisdictional responsibilities. For example, counties do not enforce building energy codes and cannot complete the energy code enforcement training.

Illustrating the first row of Table 2-8, all communities are eligible for the benchmarking action and, before the program launch in August 2016, 184 communities (12%) had completed the action. At Time 1, 448 (28%) had completed the action. While the information in Table 2-8 is not required by the Clean Energy Fund Investment Plan, it may be useful for program staff as they plan program activities.

In the two years since the Clean Energy Communities program launched, the number of communities that completed each action rose considerably. Unified Solar Permit and Energy Code Enforcement Training have the highest rate of completion, while fewer communities have completed the Climate Smart Communities and Community Choice Aggregation actions.

Table 2-8. Status by Action*

Action	Number ineligible for action at baseline	Number eligible for action at baseline	Number complete at baseline (August 2016)	Percent of eligible at baseline	Number ineligible for action at Time 1	Number eligible for action at Time 1	Number complete at Time 1 (August 2018)	Percent of eligible at Time 1	Number completing since program launch
Benchmarking	0	1,600	184	12%	0	1,600	448	28%	264
Clean Energy Upgrades	23	1,577	55	3%	0	1,600	299	19%	244
LED Street Lights	0	1,600	109	7%	0	1,600	293	18%	184
Clean Fleets	23	1,577	132	8%	0	1,600	491	31%	359
Solarize	2	1,598	88	6%	0	1,600	198	12%	110
Unified Solar Permit	52	1,548	51	3%	62	1,538	600	39%	549
Energy Code Enforcement Training	52	1,548	103	7%	66	1,534	711	46%	608
Climate Smart Communities Certification	2	1,598	56	4%	0	1,600	166	10%	110

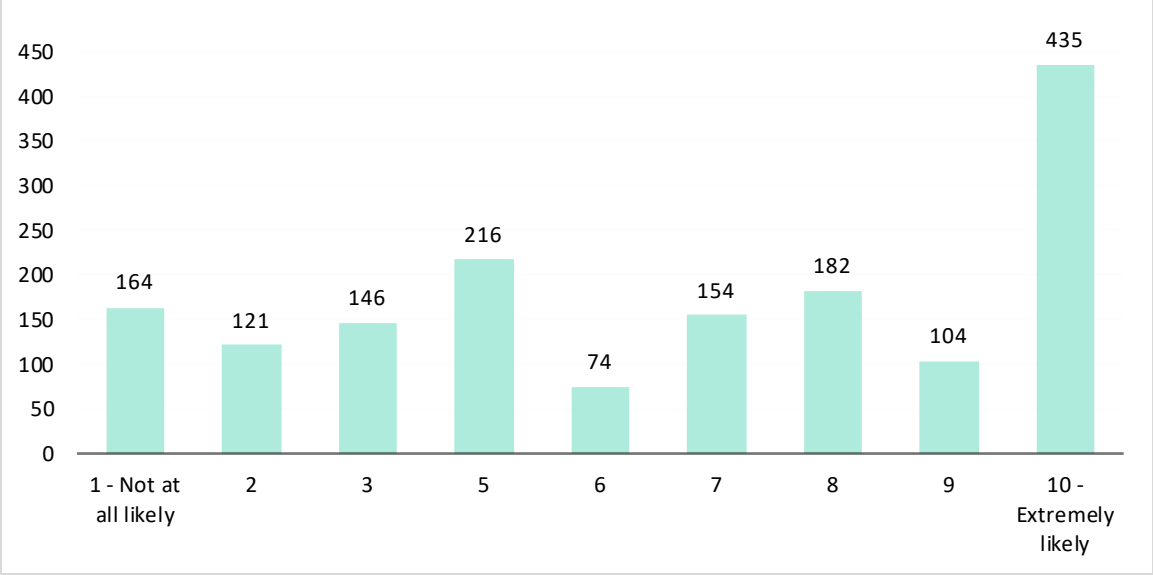
Action	Number ineligible for action at baseline	Number eligible for action at baseline	Number complete at baseline (August 2016)	Percent of eligible at baseline	Number ineligible for action at Time 1	Number eligible for action at Time 1	Number complete at Time 1 (August 2018)	Percent of eligible at Time 1	Number completing since program launch
Community Choice Aggregation	52	1,548	50	3%	61	1,539	152	10%	102
PACE Financing	1384	216	31	14%	1427	173	67	39%	36

* The numbers of communities indicate the size of the population represented. The research team derived numbers of communities ineligible for a given action using the eligibility requirements provided by the CEC program team. The numbers of eligible communities in this table differ from the numbers estimated by the program team by no more than three communities for any action.

2.1.5 Likelihood of Implementing Any High Impact Actions

Community representatives rated their municipality's likelihood of implementing any of the program's 10 High Impact Actions on a scale of 1 to 10 where "1" means not at all likely and "10" means extremely likely. Figure 2-2 displays the distribution of their answers. Overall, representatives were varied in their perceived likelihood of implementing at least one action. The greatest proportion of representatives (27%; 435 of 1596 reporting) indicated that they were extremely likely to implement at least one action. More than half of the community representatives (60%) reported a moderate-to-high likelihood of implementing an action (a "6" or higher) while 40% reported less-than-moderate likelihood (a "5" or less) of completing an action.

Figure 2-2.Likelihood of Completing Any High Impact Action (n=1596)*



* Four community representatives "did not know" their likelihood and are not included in this analysis.

3 Findings and Recommendations

3.1 Finding 1

The two most formidable barriers to completing the program's actions faced by communities cannot be appreciably reduced by CEC program intervention: lack of ongoing funding and lack of staff capacity. There are two barriers to participation that the program could ameliorate through enhanced outreach via the program's Coordinators: lack of awareness or understanding of the program's actions and lack of political support. Half of the communities reported interactions with their Coordinators and described the Coordinator as instrumental in explaining the actions, guiding the community through them, and improving their leaders' awareness of clean energy's benefits.

3.1.1 Recommendation 1

Over the course of the next year, the market evaluation team recommends the CEC program Coordinators contact the communities in their jurisdictions that they have not yet contacted, as well as communities with which they have a weak relationship. The Coordinators should inform the community representatives about the CEC program, the support and technical assistance available through it, and the potential financial benefits to the community from participation.

3.2 Finding 2

The grant that communities become eligible for after completing four High Impact Actions was a motivating factor for completing program actions and submitting documentation to NYSERDA. Community representatives enjoyed the public recognition they received for their efforts and being a leader in sustainability was a motivating factor for some to complete the program's actions. However, the program design/structure contains few rewards and recognition opportunities for communities that continue to advance, completing five or more actions.

3.2.1 Recommendation 2

The market evaluation team recommends CEC program staff consider ways in which the program could create a tiered incentive model to encourage additional actions beyond the four required to become a designated CEC community and eligible for the grant. In addition to financial incentives, they may consider non-financial rewards such as CEC-designated labels (silver, gold, platinum), or logos or plaques the community can put on its website or municipal buildings.

4 Methods

To conduct this study, the market evaluation team created a stratified random sample of municipalities from a list of all 1,600 municipalities in New York State. The team contacted the representatives of the sampled municipalities to conduct a phone survey, with the goal of achieving 102 completed surveys.

The team created a separate sample of communities to interview about the impacts, costs, and barriers of completed actions. The goal was 30 completed in-depth phone interviews.

The survey included questions about the extent to which municipalities have made progress toward implementing each of the 10 High Impact Actions, and, if incomplete, their perceived level of difficulty to complete the action. We also asked their likelihood of completing any action. Further, we assessed whether clean energy is a priority at the municipality, whether any local working groups are pursuing clean energy activities, and the extent to which their Clean Energy Communities Coordinator has been helpful.

At Time 1, the team completed surveys with 105 municipalities and analyzed the data to estimate the Time 1 performance metrics and results from the other survey questions. The sections below describe these research methods in more detail.

4.1 Sampling

The team used a list provided by program staff of all 1,600 municipalities in New York State to create a stratified sample of municipalities to contact for a phone survey. Program staff had previously assigned municipalities into one of four priority categories to guide program outreach efforts. To ensure that the study develops good visibility into the uptake of High Impact Actions through 2019, the market evaluation team decided to oversample Priority 1 communities. The team accomplished this with stratified random sampling. The team specified a sample of 37 of the 80 Priority 1 communities, providing 90/10 confidence precision for this stratum, and a sample of 65 of the 1,520 remaining communities, providing 90/10 confidence precision for this stratum. The team exceeded its data collection goal for Priority 1, obtaining 40 completed surveys.

The team weighted the two strata samples to develop estimates of the numbers of communities in the population reported in this report, as described in Section 4.3, Data Analysis.

The market evaluation team confirmed that the final weighted full sample (105 communities) is representative of the population, including its distribution by: municipality type (city, county, town, and village), location (up- and downstate), size (large, medium, and small), and region (10 regions). Appendix B contains the breakdown of community characteristics in New York State and in our final sample of surveyed communities.

The sampling approach for the interviews was to include communities that had completed one or more of the program's High Impact Actions and that had not been asked to complete a survey.

4.2 Data Collection

For Time 1 data collection, the team prioritized communities that completed the baseline survey. A little more than half (55%) of the communities surveyed at Time 1 completed a baseline survey. During Summer 2018, the market evaluation team contacted 229 municipalities in New York State and completed surveys with 105, including 40 Priority 1 and 65 Priority 2-4 municipalities, for an overall response rate of 46%. The team called municipal representatives up to five times and, to collect the necessary data, spoke with up to three representatives per municipality who were most knowledgeable about their community's clean energy efforts. Surveys ranged from 10 to 60 minutes.

In some municipalities, the surveyed representatives did not have accurate answers to some of the survey questions and, in those cases, they offered to follow-up with the surveyor later to provide the answer. The market evaluation team contacted community representatives up to two times to request follow-up answers. In some cases, the representative who knew the answer was not available, or the representative being surveyed was the most informed but did not know the answer.

The team did not ask community representatives about a High Impact Action if they met one of two criteria:

- If program data indicated that NYSERDA was aware the community had completed an action prior to the survey, or

- If program data indicated a community was ineligible for an action due to their jurisdictional authority/responsibilities.[4]

For these reasons, the number of community representatives answering the survey questions varies.

The in-depth phone interviews were conducted in Fall 2018. Fifty-five communities were contacted and 29 completed interviews for a response rate of 53%. The interviews lasted between 30 and 90 minutes, with most being about an hour.

4.3 Data Analysis

The team analyzed the data collected from the sample of surveyed municipalities using *SPSS* and *Excel*, and extrapolated the results from the sample to all the New York State municipalities. The extrapolated results provide estimates for the counts and/or percentages of all municipalities regarding the baseline performance metrics and other questions in the survey.

The team applied post-stratification weights to the data to account for the oversampling of Priority 1 municipalities. Each surveyed Priority 1 municipality in the sample represents 2.0 Priority 1 municipalities in the population and each surveyed Priority 2-4 municipality in the sample represents 23.38 Priority 2-4 municipalities in the population.

The team analyzed the interview data in *NVivo*, a qualitative data analysis software program, to assess the impacts, costs, and barriers by action.

4.4 Determining Counts for Performance Metrics

4.4.1 Completion of Actions

To obtain the number of communities that completed one or more actions the team determined the number of actions a community completed using program data and survey data. Then the team grouped the communities into categories of having completed at least one action, at least two actions, at least three actions, and at least four actions. We caution the reader that these are nonexclusive categories. For example, all the communities in the group that had completed at

[4] For example, counties are not responsible for permitting processes or energy code enforcement, and therefore cannot adopt the Unified Solar Permit or participate in code compliance training.

least four actions were also members of the groups completing at least one, at least two, and at least three actions.

4.4.2 Perceived Level of Difficulty

For each action that program or survey data indicated a municipality had not completed, the community representative rated their perceived level of difficulty of implementing the action on a scale of 1 to 10, with "1" meaning not at all difficult and "10" meaning very difficult. When representatives were hesitant to answer based on unfamiliarity with the action, surveyors encouraged them to answer to the best of their ability, given what they knew at the time of the survey.

For three actions, Table 2-6 presents an overall difficulty level and a difficulty level broken out by certain characteristics. The benchmarking action has different requirements for large communities compared to small and medium communities, therefore the market evaluation team separated the perceived difficulty of implementing the action by community size, though no large communities ranked this action at Time 1. For clean fleets, communities may either add an alternative fuel vehicle to their municipal fleet or install an electric vehicle charging station; the table presents community representatives' perceived difficulty of achieving each of those activities separately. Finally, the solarize action involves conducting a campaign and installing 10 solar arrays resulting from the campaign. Hence, the team asked the difficulty of each of those separately as well. The overall difficulty for these three actions is the average of their two subcomponents.

4.4.3 Communities Indicating Clean Energy Is a Priority

The team also investigated the number of communities that indicated clean energy is a priority at their municipality. Because self-reported, subjective opinion tends to be less valid than self-reported, objective evidence, the team collected multiple data points on this topic and triangulated them to increase the validity of the metric.

First, the team asked representatives about the following objective indicators:

- whether they have an Energy Action Plan or an energy chapter in their General Plan;
- whether they have a procurement policy that prioritizes the purchase of energy efficient equipment or products; and
- whether they have an energy manager or someone explicitly responsible for pursuing energy efficiency in their facilities and operations.

Then, the team asked representatives to subjectively report whether they agreed or disagreed that clean energy is a priority at their municipality and briefly explain why. The team used an algorithm to determine for which communities clean energy is a priority: community representatives had to both agree that clean energy was a priority and demonstrate at least one of the three objective criteria to qualify.

4.4.4 Likelihood of Completing Any Action

The market evaluation team asked each surveyed community representative how likely they thought their municipality would complete any of the High Impact Actions. No community had completed all 10 of the program's actions, so community representatives gave one answer that would apply for any of the actions they had not yet completed. They rated the likelihood on a scale of 1 to 10, with "1" meaning not at all likely and "10" meaning extremely likely. The question was not bound by time (for example, likelihood of completing an action in the next year).