

P12 Schools Initiative Market Evaluation

Appendices

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Appendix A. Indirect Benefits Calculation

This memo outlines the market evaluation team’s approach and methodology to assessing indirect impacts within the P12 Schools Initiative Market Evaluation, including the Benchmarking Program, Clean Green Schools, and Green & Clean Energy Solutions. Highlighted below are the evaluation teams’ goal with assessing indirect impacts, as well as the steps the team will take to gather the proper data and analyze the indirect impacts.

Indirect Benefits Overview

The market evaluation team has developed a methodology for assessing the indirect benefits of the P12 Schools Initiative and its programs. Evaluation of indirect benefits includes two components: the change in market adoption influenced by the P12 Schools Initiative, and the savings impact of the adopted technology or practices. To develop the approach below, the market evaluation team followed NYSERDA’s Indirect Benefits Evaluation Framework, and the following definitions and equations provided within.

Indirect benefits	=	Energy savings and other benefits resulting from measure adoption ⁶ associated with indirect program influence
Program-Induced Market Adoption	=	The number of “units” of the measure adopted that were influenced by the program activities
UEB	=	Unit Energy Benefits; energy savings (MWh or MMBtu) or renewable energy (MWh) per end user resulting from the adoption of the measure
Direct benefits	=	Energy savings (MWh or MMBtu) or renewable energy (MWh) resulting from measure adoption associated with direct program engagement

$$\text{Indirect benefits} = \text{Program Induced Market Adoption} \times \text{UEB} - \text{Direct benefits}$$

$$\text{Program Induced Market Adoption} = \text{Participant Adoption} + \text{Nonparticipant Adoption} - \text{NOMAD}$$

Approach

To estimate indirect benefits, the market evaluation team will use the indirect benefits evaluation process roadmap that NYSERDA provides:

FIGURE 1: NYSERDA INDIRECT BENEFITS PROCESS ROADMAP



According to the indirect benefits framework, the following activities would occur at each step in the process:

- **Step 1:** Review BAB and supporting Investment Plan documentation: identify underlying BAB estimation algorithms and assumptions, flag any questions or issues with respect to the underlying assumptions, and incorporate updates as needed.
- **Step 2:** Determine which values and assumptions will be estimated through evaluation research activities. Specify the estimation approaches and equations to determine each value in the indirect savings algorithm
- **Step 3:** Conduct baseline research to inform quantification or program influence.
- **Step 4:** Conduct market adoption and causality research to inform program influenced-market adoption calculation.
- **Step 5:** Calculate indirect benefits, based on research, using algorithms agreed to in the evaluation plan.

Outlined below is how the market evaluation team will complete these activities to estimate the indirect benefits.

Step 1: Review Program Documentation; Clarify Key Elements

The first step in calculating indirect benefits includes clarifying key elements of the program and reviewing associated documentation. This includes the market definition, key program interventions and hypothesized outcomes and market effects, and which measure(s) will be included in the savings calculations.

In coordination with NYSEERDA, the market evaluation team reviewed the BAB, the most recent impact evaluation for the Benchmarking program and assigned specific savings values to actions and measures possible within the P12 Schools Initiative.

The market for the P12 Schools Initiative has been defined in the CEF Commercial/Industrial/Agriculture focus area: “P-12 public and private schools in New York State, the engineering consultants and contractors who serve them, and stakeholder groups with vested interest such as New York State education Department (NYSEED) and the School Business officials.”

These market actors identified in the CEF chapter include:

- New York Power Authority
- NYS Office of General Services
- State Education Department
- BOCES
- Superintendents of Schools (including NYS Council of School Superintendents)
- Facilities Staff (including the NYS School Facilities Association)
- School Business Officials (including NYS Association of School Business Officials)
- The NYS School Boards Association
- Energy Service Companies
- Architects and Engineers
- School Health Advocacy Organizations

The evaluation team has already reviewed program documentation including the BAB, supporting Investment Plan documentation, program theory, and logic model. The evaluation team has thoroughly reviewed the program theory and logic model and the causal linkages between program activities and outcomes.

Step 2: Develop Evaluation Plan

The overall market evaluation plan, including timeline, data sources and research questions, is complete. The following table includes the research questions determined to assess indirect benefits.

TABLE 1: INDIRECT BENEFITS RESEARCH QUESTIONS AND DATA SOURCES FROM WORK PLAN

RESEARCH QUESTIONS	DATA SOURCES
<ul style="list-style-type: none"> • Have non-participating schools undertaken benchmarking? What influence did the program have on that decision? • Do non-participating schools conduct clean energy planning and analysis? Is this in-house or do you hire an architect or engineer to assist? 	<ul style="list-style-type: none"> • Survey of a sample of participating and nonparticipating schools. • Interview a sample of market participants. • Using frequencies of survey data, the contractor will measure progress on indicators shown in Table 2. • The Contractor will conduct qualitative data analysis of interview data to look for patterns

- Do non-participating schools conduct clean energy installations? Is this in-house or do you hire an architect or engineer to assist?
 - Have schools engaged in any peer networking on the topic of benchmarking or clean energy?
 - Have non-participating schools conducted an energy study, energy master plan or other feasibility study? Did it result in implementation?
 - What changes in clean energy planning and adoption among schools have market participants seen? Is any of this influenced by the program they participated in?
- and themes in how market participants have used program resources and noticed changes in clean energy planning and adoption.
- The Contractor will use frequencies and crosstabs by participation status, school location (e.g., urban vs rural) and other identified characteristics of interest) and of survey data to understand the any differences in market change or barriers for these groups.
-

As part of developing the evaluation plan to determine indirect benefits, the market evaluation team will estimate the following:

- *Influenced nonparticipant adoption*: units of adoption by targeted end users (schools) who have adopted the technology or practice but have not engaged directly with NYSERDA. However, these non-participants must credit NYSERDA as an important influence in their decision to adopt the technology or practice.
- *Direct influence participant adoption*: For a participant to have direct adoption outside of direct program involvement, the participant will have to credit NYSERDA and adopt these additional units outside of the direct program involvement and adopt them after program involvement has begun.
- *NOMAD*: Naturally occurring market adoption. These are non-participants that do not meet the criteria for influenced indirect adoption (i.e., nonparticipant adoption).
- *Unit Energy Benefit (UEB)*: The market evaluation team's original plan was to derive this value from the BAB provided to the team by NYSERDA. Because the P12 Schools Initiative includes many different measures and practices, the evaluation team's goal was to determine an individual UEB for each measure or practice included in the P12 Schools Initiative programs. The market evaluation team has worked with NYSERDA to determine which measures/practices will be included in this calculation.
 - However, during the analysis phase of this research, the evaluation team decided to calculate the UEB by school/district as the "unit of adoption", for the following reason:
 - The P12 Schools Initiative does not target specific measures for installation, but rather is a market transformation program designed to raise school awareness of utility programs, implement projects overall, access information, increase NYSERDA program participation, and reduce energy use, costs, and carbon emission sector wide.

Step 3: Estimate Baseline Conditions and Forecast

According to NYSERDA's indirect benefits framework, "program-induced market adoption is the difference between total adoption and adoption that would have occurred absent program intervention".

In this step, the Market Evaluation Team will estimate what the current practice and level of market adoption is prior to the start of NYSERDA's P12 Schools Initiative.

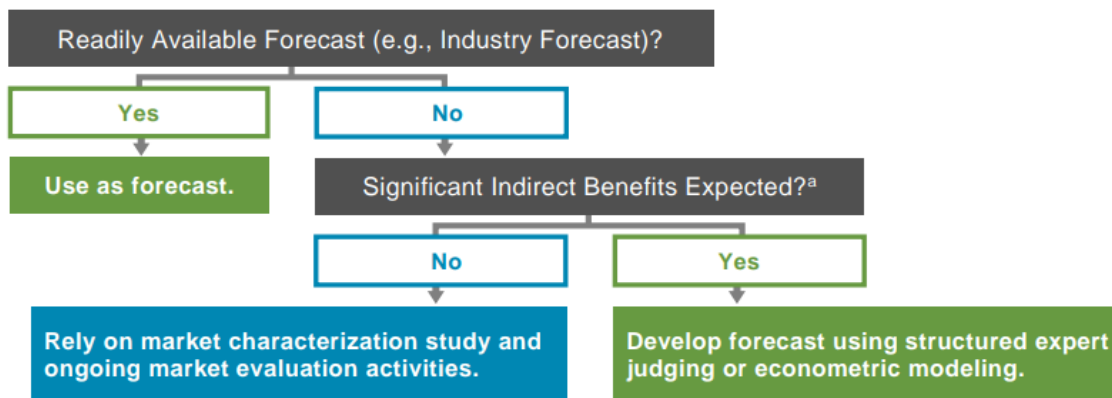
The evaluation team also wants to recognize that given the long-term nature of market transformation initiatives and how long it has been since the P12 Schools Initiative began, the market baseline may be zero.

Baseline Forecast: the market evaluation team will lean on any NYSERDA provided studies or data on market characterization and baseline.

The market evaluation team may also determine that the development of a baseline forecast is not necessary for this evaluation of indirect benefits. In which case, the Market Evaluation Team will validate the hypothesized causality between program interventions and market adoption through participant and non-participant surveys and participant interviews, as described in Step 4 below.

The market evaluation team used the decision-making tree provided below in NYSERDA's Indirect Benefits Framework to determine that developing a forecast would not be necessary for this evaluation because the team does not expect there to be significant indirect benefits and there is no existing industry forecast.

FIGURE 2: BASELINE FORECAST DECISION TREE



^a "Significant" is used here in the context of the total expected benefits for the portfolio.

Step 4: Assess Market Adoption and Causal Influence

To assess market adoption and causal influence, the market evaluation team will ask specific questions regarding participant adoption and non-participant adoption in participant surveys, participant interviews, and non-participant surveys.

With participants, direct influence includes any measures, projects or practice implemented with direct NYSERDA assistance through the P12 Schools Initiative. Any additional measure, projects or practices implemented after direct engagement with the program will be considered indirect influence.

For nonparticipants, as described previously, to be considered as an indirect benefit, the nonparticipant must have adopted a practice or implemented a measure after the start of the P12 Schools Initiative began, credit NYSERDA as an influence in the school's decision to adopt or implement and rate that

influence as important. Those non-participants that adopt relevant practices or implemented measures but do not meet the other criteria will be considered naturally occurring (NOMAD).

Since the implementation of the P12 Schools Initiative programs is relatively recent, the market evaluation team will also document the progress of adoption that schools demonstrate in the surveys and interviews in order to get a sense of how the initiative might move the market in future years.

To assess causal influence through the participant and non-participant survey, the market evaluation team will ask the following questions in Table 2 to understand awareness, influence, and timing.

TABLE 2: SURVEY AND INTERVIEW QUESTIONS TO ASSESS CAUSAL INFLUENCE

PARTICIPANT INTERVIEW QUESTIONS	NON-PARTICIPANT SURVEY QUESTIONS
<p>D1. Did your school/school district install any additional measures or adopt any practices outside of what was a direct result of program participation?</p> <p>D2. What additional measures did you install, or practices did you adopt? (Measures listed that are agreed upon with NYSERDA)</p> <p>D3. In what year did you [COMPLETE ACTIVITY]? Was this before or after participating in the NYSERDA P12 Schools Initiative?</p> <p>D4. How influential was participation in NYSERDA’s P12 Schools Initiative in deciding to pursue this additional project?</p> <p>D5. How often, if at all, do you discuss your participation in NYSERDA’s P12 Schools Initiative with peer school districts?</p> <p>D6. How often, if at all, do you discuss specific energy projects or activities with peer schools? For example, benchmarking, energy master plans, etc.</p> <p>D7. Since participating in the P12 Schools Initiative, do you feel as though your school has changed how it approaches clean energy planning and adoption?</p> <p>D8. On a scale from 1 to 5 where 1 means “not at all influential” and 5 means “very influential”, how influential was the P12 Schools Initiative in improving your school district’s approach to clean energy planning and adoption? Why?</p>	<p>D1. Has your school district conducted or implemented any of the following energy projects? Select all that apply. (Measures listed that are agreed upon with NYSERDA and match list in participant interview)</p> <p>D2. In what year did you [COMPLETE ACTIVITY]?</p> <p>D3 Which, if any, of the following factors contributed to your school’s decision to [COMPLETED ACTIVITY]? Please select all that apply.</p> <p>D4. How important was [INFLUENCE] to your school’s decision to [COMPLETED ACTIVITY]?</p> <p>D5. Was the energy study, energy master plan or other feasibility done in-house, or did you hire an architect, engineer, or energy service company (ESCO) to assist?</p> <p>D6. Did the energy study, energy master plan, or other feasibility study lead to any energy-related project implementation?</p> <p>D7. What energy-related projects did you implement as a result of the energy study, energy master plan, or feasibility study?</p> <p>D8. Has your school engaged in any peer networking (e.g., conferences, events, meetings) on benchmarking or clean energy?</p>

- . D9. What was the name of the peer networking conference, event or meeting that you attended?
 - . D10. As a result of peer networking, did you implement any clean energy or energy efficiency projects?
 - . D11. Was your project done in-house, or did you hire an architect, engineer or energy service company (ESCO) to assist?
 - . D12. Did NYSERDA play any role in the peer networking event you participated in?
-

The following list of measures will be used for indirect benefits:

- *Conducted benchmarking*
- *Initiated an energy study or capital facilities plan which included energy efficiency projects*
- *Coordinated a comprehensive energy efficiency project, such as a LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.*
- *Engaged in an energy performance contract*
- *Electrified an HVAC system, such as installing a heat pump (either ground source or air source) or installing a variable refrigerant flow (VRF)*
- *Electrified building systems like kitchen equipment or hot water heaters*
- *Coordinated a comprehensive energy efficiency project, such as a LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.*
- *Some other type of clean energy installation, please specify.*
- *Another type of feasibility study or design work, please specify.*

For the participant interview, the interviewee's activity will be determined to be indirectly impacted if they:

- said they installed any additional measures or adopted any practices outside of what was a direct result of program participation (question D1), and
- implemented the additional measure/action after participating in the P12 Schools Initiative (question D3), and
- ranked participating in NYSERDA's P12 Schools Initiative as either "somewhat" or "very important" to their decision to pursuing the additional project (question D4).

For the non-participant survey, determining indirect impacts will be based on how survey respondents rank NYSERDA as an influence on their decision to implement any of the agreed upon measures or actions. This framework was created by pulling directly from NYSERDA's Indirect Benefits Evaluation Framework and by reviewing past NYSERDA evaluations that determined indirect benefits. A measure or action can be counted towards the indirect impacts calculations if a non-participant:

- says that they implemented one of the list of measures/actions (question D1), and

- says that they implemented the measure/action after the start of the P12 Schools Initiative (question D2).
- credits NYSERDA or a NYSERDA consultant as an influence on their decision to implement the measure/action (question D3), and
- ranks that influence as either “somewhat” (50% influence) or “very important” (100% influence) (question D4)

Step 5: Estimate Indirect Benefits

This step will happen once data collection is complete and the market evaluation team is able to fill out the components of the following equation. The NYSERDA evaluation team plans to take the estimation approach the Market Evaluation Team outline below to calculate indirect impacts, as it mirrors the approach outlined in NYSERDA’s indirect benefits framework. However, the Market Evaluation Team recognizes that other evaluators have deviated from this prescribed approach, and the Market Evaluation Team may choose to do so as more is learned through survey and interview responses.

This equation estimates indirect benefits by looking at non-participant adoption plus direct influence participant adoption and will be calculated separately for kWh, MMBtu, and MWh.

$$\begin{aligned}
 & \textit{Indirect benefits} \\
 &= \sum [(Nonparticipant Adoption - NOMAD) \\
 &+ \textit{Direct Influence Participant Adoption}]_e * UEB
 \end{aligned}$$

To estimate each component of the above equation, the market evaluation team will use the following three equations.

Non-participant adoption

*Nonparticipant market adoption = % NY nonparticipating school districts that implemented an influenced measure * total NY nonparticipating school districts*

NOMAD

*NOMAD = (% of NY nonparticipating school districts that implemented a measure with no NYSERDA influence / 2) * total NY nonparticipating school districts.*

Direct influence participant adoption

Participant adoption (direct influence) = # of school districts that implemented additional measures after involvement with P12 Initiative

Below is a list of the energy savings associated with each measure or action taken, as determined by NYSERDA:

- *Conducted benchmarking*
 - *Per District (5 buildings): 98.6 MWh*
- *Initiated an energy study or capital facilities plan which included energy efficiency projects*

- Average study cost (5 buildings) = \$67,507
 - MWh = $\$67,507/143.11 = 471.71$ MWh
 - MMBtu = $\$67,507/ 10.15 = 6,650.93$ MMBtu
- *Coordinated a comprehensive energy efficiency project, such as a LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.*
 - 471.71 MWh and 6,650.93 MMBtu
- *Engaged in an energy performance contract*
 - 471.71 MWh and 6,650.93 MMBtu
- *Electrified an HVAC system, such as installing a heat pump (either ground source or air source) or installing a variable refrigerant flow (VRF)*
 - Average savings for a high school CHC project: 6,505 MMBtu
- *Electrified building systems like kitchen equipment or hot water heaters*
 - Average savings for a kitchen electrification project at one building = 1,574 MMBtu
- *Coordinated a comprehensive energy efficiency project, such as a LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.*
 - 471.71 MWh and 6,650.93 MMBtu
- *Some other type of clean energy installation, please specify.*
 - 471.71 MWh and 6,650.93 MMBtu
- *Another type of feasibility study or design work, please specify.*
 - 471.71 MWh and 6,650.93 MMBtu

Appendix B. Participant Interview Guide

Interview Instrument: P-12 Participant Interview

TO: NYSERDA

FROM: ILLUME ADVISING

The 2022 market evaluation of NYSERDA's P-12 Schools Initiative will address key research questions through a combination of a participant interview, a nonparticipant survey, and a review of program data. This instrument outlines the research goals, sampling plan, approximate timeline, and questions for the participant interview.

Research Goals

The goals of the P-12 participant interview are to:

- Assess market change by measuring key market indicators.
- Assess the indirect benefits of the program
- Assess the energy efficiency funding that participating and nonparticipating schools are receiving from utilities, NYSERDA or other funding sources
- Assess the program's impact on schools and residents of DACs
- Assess the impact of COVID-19 on schools' ability to participate in clean energy related activities and the program.

The table below outlines specific research questions, outputs from this research, and cross-references the interview questions that will be used to help answer those questions and provide those outputs.

FIGURE 3: PARTICIPANT INTERVIEW RESEARCH QUESTIONS, OUTPUTS, AND INTERVIEW QUESTIONS

TOPIC	RESEARCH QUESTION	OUTPUTS	INTERVIEW QUESTIONS
	What is awareness and use of utility programs among P-12 schools?	X	
	Either through NYSERDA or otherwise, have P-12 schools implemented any clean energy projects after using benchmarking data or energy master plans?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	
	Are schools receiving recognition for clean energy activities through the Green Ribbon Schools program or other organizations or municipalities? Is this recognition motivating for completing more energy activities?	Number of schools receiving recognition for clean energy activities	
	Does receiving recognition for a clean energy project motivate a school to do more clean energy projects?		
Market Change	Do schools report a greater understanding of the benefits of clean energy, benchmarking, energy master plans, and efficient operation at their school because of the program they participated in?	Number of schools reporting a greater understanding of the benefits of clean energy and efficient operation at their school	Section B
	Either through NYSERDA or otherwise, have P-12 schools utilized benchmarking data and energy master plans to make informed decisions towards future clean energy projects? If they have, how have they made use of the benchmarking results?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	
	What value do participating schools see in clean energy projects? How do schools demonstrate that value?	Number of schools reporting a greater understanding of the benefits of clean energy and efficient operation at their school	

TOPIC	RESEARCH QUESTION	OUTPUTS	INTERVIEW QUESTIONS
Indirect Impacts/Benefits	Have nonparticipating schools undertaken benchmarking? What influence did the program have on that decision?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	Section D
	Have schools engaged in any peer networking on the topic of benchmarking or clean energy?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	
	Have nonparticipating schools conducted an energy study, energy master plan or other feasibility study? Did it result in implementation?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	
	How have market participants used templates and guidance provided by the program to increase clean energy adoption in schools?	N/A	
	What changes in clean energy planning and adoption among schools have market participants seen? Is any of this influenced by the program they participated in?	N/A	
EE and electrification funding from Utilities, NYSERDA, or other funding.	What funding (dollar amount and type) has the school received for energy resources?	Number of schools utilizing NYSERDA funding for student and faculty engagement (i.e. workforce development efforts)	Section C
	From what providers have P-12 schools received funds?	Number of schools that receive clean energy funding from utilities	
	What will the funding be used for? What are the expected benefits or impacts of the funding?	N/A	
		Number of schools utilizing NYSERDA funding for student and faculty engagement	

TOPIC	RESEARCH QUESTION	OUTPUTS	INTERVIEW QUESTIONS
		(i.e. workforce development efforts)	
	How well did the funding work with schools' procurement and planning policies?	N/A	
Impact on DACs	<p>How does the experience with benchmarking, clean energy projects, and funding of schools within DACs compared to schools outside of DACs?</p> <p>High-need compared to non-high-need schools?</p> <p>What unique barriers to participating in benchmarking, energy projects, or procuring funding do schools located in DACs experience? High-need compared to non-high-need schools?</p> <p>Has the program been able to address any of these barriers? How?</p>	N/A	From embedded program data & cross-tabbed with survey questions
COVID	<p>How, if at all, has COVID-19 affected time and budget priorities for schools?</p> <p>How, if at all, has COVID-19 affected staffing and availability of maintenance and facilities staff?</p> <p>How, if at all, has COVID-19 affected the ability to prioritize clean energy related activities?</p>	N/A	Section E

Sample Design

The sampling frame includes participating schools and will be stratified based on participation status. The Market Evaluation Team will aim for a total of 30 completes. The Market Evaluation Team will offer respondents a \$50 gift card as an incentive.

NYSERDA will pull the program participation data from Data Axle, and the Market Evaluation Team will pull samples from the program participation list. The sample the Market Evaluation Team will recruit from will be a census of program participants that are at any stage of their participation in the Benchmarking program and only in the “Report to Customer” phase of participation in the Green and Clean Energy Solutions Program, Clean Green Schools Initiative, and FlexTech Addendum.

Interview Delivery and Timeline

The Market Evaluation Team will conduct interviews over the phone using Teams, Zoom, or a phone call as the platform. The Market Evaluation Team will use the previously programmed survey in Qualtrics to track interview responses. Respondents will receive an initial recruitment email from NYSERDA, followed by additional recruitment by phone and email from the market evaluation team. The Market Evaluation Team will attempt to make contact three times using a combination of phone and email outreach.

The team anticipates fielding will begin in late March/early April 2023.

Recruitment

Initial Email Invitations

Subject: Share your feedback to improve NYSERDA’s energy offerings for schools

Sender: ILLUME Advising

Dear [CUSTOMER_NAME],

NYSERDA is conducting a study to gather feedback from participants in the [P12 Schools Initiative](#). You recently participated in the <PROGRAM_NAME>, and we invite you to share your experiences. Your feedback will help improve NYSERDA’s program offerings.

The interview should take 30 minutes to complete, and you will receive a **\$50 Amazon gift card**.

Please respond to this email to let us know you are interested in participating. Or, if you would prefer, please click this **link** to reserve a time for us to call you.

If you wish to verify the legitimacy of this study, please contact Tricia Gonzales at patricia.gonzales@nyserda.ny.gov or 518-862-1090 x3338.

Sincerely,

[NAME]

ILLUME Advising, LLC

[OPT-OUT LINK]

Reminder Email

Subject: Share your feedback to improve NYSERDA's energy offerings for schools

Sender: ILLUME Advising

Dear [CUSTOMER_NAME],

We recently reached out to you about your participation in NYSERDA's P12 Schools Initiative. We invite you to share your experiences and feedback in a 30-minute phone interview. If you complete the interview, you will receive a **\$50 Amazon gift card**.

Please respond to this email to let us know you are interested in participating. Or, if you would prefer, please click this **link** to reserve a time for us to call you.

If you wish to verify the legitimacy of this study, please contact Tricia Gonzales at patricia.gonzales@nyserda.ny.gov or 518-862-1090 x3338.

Sincerely,

[NAME]

ILLUME Advising, LLC

[OPT-OUT LINK]

Interview Guide

A. INTRODUCTION

PHONE:

Hello, my name is [*Interviewer Name*] with ILLUME Advising, a national research firm. I am conducting research for NYSERDA on their P12 Schools Initiative, which you recently participated in. Your answers will help to improve their services for customers like you. Do you have 30 minutes today to share your input?

This is not a sales call, and responses will be used for program evaluation purposes only.

[IF NO] Is there a time that might be more convenient for us to call back?

[IF YES] Great, thank you! We will use the results of this interview to better understand the impact of the NYSERDA P-12 Schools Initiative on the broader market, as well as to improve program offerings to customers

like you. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Law (FOIL). All results will be anonymized.

[*Interviewer Note*: If a customer asks about how their information is kept secure, please use the following response, “We do not record the audio of these calls and we maintain safeguards to protect survey responses. These include, for example, physical security of our facilities, technical safeguards to protect electronic data, and manager supervision.”]

A.1 Based on our records, you work for <DISTRICT>. Is this correct?

- 1. Yes
- 2. No [TERMINATE]

A.2 What is your role at <DISTRICT>? [OPEN END]

A.3 NYSERDA offers multiple programs under the P12 Schools initiative, including Benchmarking, Clean Green Schools, and Green and Clean Energy Solutions. During COVID-19, there was a brief offering under the FlexTech program as well. Our records show that you participated in the P12 Schools Initiative under the <PROGRAM NAME> and worked with <CONTRACTOR> as your contractor?

- 1. Yes
- 2. No
- 98. I’m not sure

[IF 0 = 2, TERMINATE]

[IF 0 = 3]

MULTIPLE RESPONSE

A.4 Please share the name and email of someone at <DISTRICT> who may be most familiar with participation in NYSERDA energy programs.

Name: [OPEN END]

Email: [OPEN END]

[TERMINATE]

[PAGE BREAK: TEXT] We understand that you may be currently participating in a program under the P12 Schools Initiative. For the sake of language consistency, we refer to past participation in this survey, but please speak to all participation (be it past or current) in any P12 Schools Initiative program.

B. MARKET CHANGE & PROGRAM PARTICIPATION

1. Program Specific

[IF PROGRAM = CLEAN GREEN SCHOOLS]

B.1 We understand that you may not be very far along in your program participation in the Clean Green Schools Program. What energy-related and non-energy related outcomes do expect by completing the project? [OPEN END]

[ASK IF DID NOT PARTICIPATE IN BENCHMARKING]

B.2 Either through a program within the P12 Schools Initiative or otherwise, has your district used benchmarking data? What about energy studies?

1. Yes – benchmarking data
2. Yes – energy studies / master plans
3. Yes – both
4. No
98. I'm not sure

[IF 0= 1 OR 3]

B.3 Was the benchmarking data you used a result of your participation in the P12 Schools Initiative?

1. Yes
2. No
98. I'm not sure

[IF 0 != 4 OR 5]

B.4 How were these efforts funded? [OPEN END]

[IF PARTICIPATED IN BENCHMARKING OR IF 0 = 1 OR 3]

B.5 Did findings from the benchmarking data inform any changes to your district's energy systems?

1. Yes – we implemented energy efficiency upgrades
2. Yes – we took another action, please specify [OPEN END]
3. No
98. I'm not sure

B.6 Do you know of other districts that have participated in benchmarking outside of the P12 Schools Initiative?

1. Yes
2. No
98. I'm not sure

B.7 What was useful about the information provided by the benchmarking? [PROBE: How did you use that information in the studied facilities? Did you apply what you learned to other facilities in the district that were not part of that Benchmarking study?] [OPEN END]

[IF 0= 2 OR 3]

B.8 Was the energy study you used a product of participating in the P12 Schools Initiative?

1. Yes
2. No
98. I'm not sure

[IF GREEN_ES = 1]

MULTIPLE RESPONSE

B.9 Based on our records, it looks like you participated in <ACTIVITIES> within the Green and Clean Energy Solutions Program. Does that sound correct? Can you tell me more about what that looked like? [OPEN END]

PROBE:

1. Cost-share: Energy studies
2. Cost-share: Clean heating and cooling and net zero design projects
3. Direct incentives (rebate payments for energy efficiency projects)
4. Benchmarking (complimentary service)
5. Clean heating and cooling technology screening (complimentary service)
6. Other, please specify: [OPEN END]

[IF 0 != 7. REPEAT 0 FOR EACH COMPONENT PARTICIPATED IN IN 0]

B.10 How useful was <PIPE IN RESPONSE FROM 0> to enabling clean energy or energy efficiency projects in <DISTRICT>?

1. 1 – Not at all useful
2. 2
3. 3
4. 4
5. 5 – Very useful

3. Market Change

[ASK ALL]

B.11 Are you aware of any other programs, besides NYSERDA, that provide funding for clean energy, energy efficiency, or decarbonization projects?

1. Yes
2. No
98. Not sure

[IF 0= 1 OR 98]

B.12 Which programs have you heard of? [OPEN END]

[ASK ALL]

B.13 Have you received any recognition for clean energy and energy efficiency projects (referred to as “energy projects” in the rest of the survey) through the Green Ribbon Schools Program or other organizations or municipalities?

1. Yes
2. No

98. I'm not sure

[IF 0 = 1]

B.14 Was this recognition motivating for completing additional energy projects?

1. Yes
2. Somewhat
3. No
98. I'm not sure

[IF 0 = 1 OR 2]

B.15 Why was this recognition motivating for completing additional energy projects? [OPEN END]

B.16 The next few questions are going to be on a scale from 1-5, where 1 means "not at all important" and 5 means "very important. How important are the following outcomes of energy projects are to your district. How important are: [PROBE FOR WHY]

1. Cost savings to your district?
2. Energy savings to your district?
3. Health improvements (ex. indoor air quality) to your district?
4. Improved student, teacher, and staff comfort to your district?
5. Carbon emissions reductions to your district?
6. Recognition (awards, ribbons, etc.) to your district?

B.17 I have a few questions about how the P12 Schools Initiative has changed your understanding of clean energy/energy efficiency. How has your understanding of: [PROBE FOR "NO CHANGE", "UNDERSTAND SOMEWHAT MORE", "UNDERSTAND A GREAT DEAL MORE"]

1. the *benefits of clean energy/energy efficiency* changed as a direct result of participating in the P12 Schools Initiative?
2. *benchmarking* changed as a direct result of participating in the P12 Schools Initiative?
3. *energy master plans* changed as a direct result of participating in the P12 Schools Initiative?
4. *efficient operation in your district* changed as a direct result of participating in the P12 Schools Initiative?

B.18 How satisfied are you overall with the P12 Schools Initiative? [PROBE FOR WHY]

1. 1 – Not at all satisfied
2. 2
3. 3
4. 4
5. 5 – Very satisfied

4. Barriers to Participation

[ASK ALL]

MULTIPLE RESPONSE

B.19 Did you encounter any barriers to participation in the P12 Schools Initiative?

1. Lack of support from district/school administration
2. Difficulties with the application process
3. Difficulties with collecting appropriate data needed for participation
4. Difficulty finding a contractor to perform the study
5. Approval process
6. Length of application
7. Difficulty scheduling the project installation
8. Difficulty communicating with NYSERDA
9. Other difficulties with participation, please specify: [OPEN END]
10. No difficulties [EXCLUSIVE]

[IF 0 = 2]

MULTIPLE RESPONSE

B.20 What difficulties with the application process did you encounter? Select all that apply.

1. Confusion around who should fill the application out
2. Difficulty accessing or finding the application
3. Difficulty gathering necessary information
4. Other, please specify: [OPEN END]

[ASK ALL]

MULTIPLE RESPONSE, RANDOMIZE

B.21 What barriers, if any, do you encounter with adopting energy efficient or clean energy technologies within <DISTRICT>, more generally? Select all that apply.

1. Receiving the necessary funding
2. Upfront costs
3. Getting district approval
4. Competing priorities – these kinds of projects are not a priority for my district
5. Time or resources (including staffing) needed to implement project
6. Other, please specify: [OPEN END]
7. No barriers [EXCLUSIVE]

[IF 0 != 7]

B.22 Has participation in the P12 Schools Initiative helped address any of these barriers?

1. Yes
2. Somewhat
3. No
98. I'm not sure

[IF 0 = 1 OR 2]

B.23 How has participation in the P12 Schools Initiative helped address these barriers? [OPEN END]

[ASK ALL]

B.24 Have you participated in any other NYSERDA programs outside of the P12 Schools Initiative?

1. Yes
2. No
98. I'm not sure

[IF 0=1]

MULTIPLE RESPONSE, RANDOMIZE

B.25 Which programs have you participated in? Please select all that apply.

1. NY-Sun
2. NY Truck Voucher
3. Charge NY
4. Heat Pump Program
5. New Construction Program
6. Real Time Energy Management
7. Other, please specify: [OPEN END]

C. FUNDING

C.1 Has your district received funding outside of the P12 Schools Initiative for any energy projects? This could be for energy-related studies, installations, etc.

1. Yes
2. No [SKIP TO SECTION D]
98. I'm not sure

[IF 0 = 1 OR 98]

MULTIPLE RESPONSE

C.2 What funding has your school district received for energy resources? Please select all that apply.

1. Other NYSERDA funding (outside of P12 Schools Initiative)
2. Other utility program funding
3. State program funding
4. Federal funding
5. Other, please specify: [OPEN END]

[FOR EACH RESPONSE IN 0]

C.3 What was the dollar amount of the <RESPONSE FROM C2> funding? [OPEN END]

[IF 0 = 1 OR 98, AND FOR EACH RESPONSE IN 0]

C.4 Was the funding used for any student or faculty engagement (i.e. workforce development)?

1. Yes
2. No
98. I'm not sure

[IF 0 ERROR! REFERENCE SOURCE NOT FOUND. = 1 OR 98, AND FOR EACH ADDITIONAL SOURCE OF FUNDING]

C.5 How well did the funding work within your procurement and financial planning policies?

- 1. 1 – Not well at all
- 2. 2
- 3. 3
- 4. 4
- 5. 5 – Extremely well
- 98. I'm not sure

C.6 What changes, if any, can you suggest to improve the process of integrating funding within these policies? [OPEN END]

D. INDIRECT IMPACTS

D.1 Did your school district install any additional measures or adopt any practices outside of what was recommended as part of your program participation?

- 1. Yes
- 2. No
- 98. I'm not sure

[IF 0 = 1]

MULTIPLE RESPONSE

D.2 What additional measures did you install, or practices did you adopt?

- 1. Conducted benchmarking
- 2. Initiated an energy study or capital facilities plan which included energy efficiency projects
- 3. Coordinated a comprehensive energy efficiency project, such as LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.
- 4. Engaged in an energy performance contract
- 5. Electrified an HVAC system, such as installing a heat pump (either ground source or air source) or installing a variable refrigerant flow (VRF)
- 6. Electrified building systems like kitchen equipment or hot water heaters
- 7. Coordinated a comprehensive energy efficiency project, such as LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.
- 8. Some other type of clean energy installation, please specify: [OPEN END]
- 9. Another type of feasibility study or design work, please specify: [OPEN END]

[REPEAT 0 FOR EACH SELECTION IN 0]

D.3 In what year did you <PIPE ACTIVITY FROM 0>? Was this before or after participating in the NYSERDA P12 Schools Initiative? [OPEN END]

[REPEAT 0 FOR EACH SELECTION IN 0]

D.4 How important was your participation in NYSERDA’s P12 Schools Initiative in deciding to pursue this additional project? **[PROBE: LIST ACTIVITIES FROM PROGRAM PARTICIPATION: CASE STUDIES, WORK WITH CONSULTANTS, BENCHMARKING REPORTS, ETC.]**

SINGLE RESPONSE

1. Not at all important
2. Not too important
3. Somewhat important
4. Very important

D.5 How often, if at all, do you discuss your participation in NYSERDA’s P12 Schools Initiative with peer school districts?

SINGLE RESPONSE

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always

D.6 How often, if at all, do you discuss specific energy projects or activities with peer school districts (e.g., benchmarking, energy master plans)

SINGLE RESPONSE

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always

D.7 Since participating in the P12 Schools Initiative, do you think your school district has improved how it approaches clean energy planning and adoption?

SINGLE RESPONSE

1. Yes
2. Somewhat
3. No
98. I’m not sure

[IF 0 = 1 OR 2]

D.8 On a scale from 1 to 5 where 1 means “not at all influential” and 5 means “very influential”, how influential was the P12 Schools Initiative in improving your school district’s approach to clean energy planning and adoption? Why?

SINGLE RESPONSE

- 1 – Not at all influential
- 2 – Slightly influential
- 3 – Moderately influential

- 4 – Very influential
- 5 – Extremely influential

E. COVID IMPACTS

To wrap up, I have a few questions here about the impact of the COVID-19 pandemic on the school district.

E.1 On a scale from 1 to 5, where 1 means “not at all influential” and 5 means “very influential”, how influential has the COVID-19 pandemic been on the following: **[PROBE FOR HOW IF ABOVE A 1]**

SINGLE RESPONSE

1. Budget priorities for your school district **[OPEN END]**
2. Availability of maintenance and facilities staff **[OPEN END]**
3. Ability to prioritize clean energy/energy efficiency activities **[OPEN END]**
4. Ability to gain approval for clean energy/energy efficiency activities **[OPEN END]**
5. Other, please specify (leave blank if nothing else): **[OPEN END]**

MULTIPLE RESPONSE

E.2 In what ways have operations changed since the start of the COVID-19 pandemic? Please select all that apply.

SINGLE RESPONSE

1. Increased ventilation
2. Increased/improved cleaning procedures
3. Added infrastructure to prevent the spread of germs (e.g. bottle fillers, automatic doors, touchless sinks)
4. Improved HVAC filtration
5. Added air cleaning technology to HVAC systems
6. Added operable windows to increase ventilation
7. Other, please specify: **[OPEN END]**
8. No changes

E.3 Have school district operations returned to pre-COVID levels?

SINGLE RESPONSE

1. Yes, we have no remaining COVID protocols
2. Somewhat
3. No, our operations are still affected by COVID protocols

F. TERMINATION

[ASK IF 0 = 2 OR 3]

F.1 Thank you for your interest in the survey. At this time, we are only surveying people who can speak to their school district’s participation in the NYSERDA P12 Schools Initiative.

[DISPLAY IF QUOTA REACHED]

F.2 Thank you for your interest in the survey. We have reached our quota for respondents. NYSERDA offers a variety of energy efficiency and clean energy programs that could help schools manage their energy use. For more information on ways to save, please visit: <https://www.nyserdera.ny.gov/All-Programs/P-12-Initiative>

G. THANK YOU & CLOSING

G.1 Those are all the questions I have. Is there anything else you would like to add that we have not touched on today? [OPEN END]

G.2 Thank you so much for your time today. NYSERDA really appreciates your feedback. As mentioned, we will send you a \$50 electronic gift card as a thank you for your time. What is the best email to send you the gift card to? [OPEN END – EMAIL VALIDATION]

You will receive an email from Amazon Gift Cards with your \$50 electronic gift card and instructions on how to use it within the next two weeks. If needed, you can search for an email “From: ILLUME Advising <noreply@tangocard.com>.”

If you do not receive this email within two weeks, please contact us at: andie@illumeadvising.com.

Appendix C. Nonparticipant Survey Guide

Survey Instrument: P-12 Nonparticipant Survey

TO: NYSERDA

FROM: ILLUME ADVISING

The 2022 Market Evaluation of NYSERDA’s P-12 Schools Initiative will address key research questions through a combination of a participant survey, a nonparticipant survey, participant interviews, and a review of program data. This instrument outlines the research goals, sampling plan, approximate timeline, and questions for the nonparticipant survey.

Research Goals

The table below outlines specific research questions and cross-references the survey questions that will be used to help answer those questions.

FIGURE 4: NONPARTICIPANT SURVEY: RESEARCH QUESTIONS, OUTPUTS AND SURVEY QUESTIONS

TOPIC	RESEARCH QUESTION	OUTPUTS	SURVEY QUESTIONS
	What is awareness and use of utility programs among P-12 schools?	N/A	
Market Change	Either through NYSERDA or otherwise, have P-12 schools utilized benchmarking data and energy master plans to make informed decisions towards future clean energy projects? If they have, how have they made use of the benchmarking results?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	Section C, Section D
	Are schools receiving recognition for clean energy activities through the Green Ribbon Schools program or other organizations or municipalities?	Number of schools receiving recognition for clean energy activities	

TOPIC	RESEARCH QUESTION	OUTPUTS	SURVEY QUESTIONS
	Is this recognition motivating for completing more energy activities?		
	Either through NYSERDA or otherwise, have P-12 schools implemented any clean energy projects after using benchmarking data or energy master plans?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	
	Have nonparticipating schools undertaken benchmarking? What influence did the program have on that decision?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	
Indirect Impacts/Benefits	Do nonparticipating schools participate in clean energy planning and analysis? Is this in-house or do you hire an architect, or engineer to assist?	<p>Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects</p> <p>Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects</p>	Section D
	Have schools engaged in any peer networking on the topic of benchmarking or clean energy?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	
	Have nonparticipating schools conducted an energy study, energy master plan or other feasibility study? Did it result in implementation?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	

TOPIC	RESEARCH QUESTION	OUTPUTS	SURVEY QUESTIONS
	<p>What funding (dollar amount and type) has the school received for energy resources?</p> <hr/> <p>From what providers have P-12 schools received funds?</p>	<p>Number of schools utilizing NYSERDA funding for student and faculty engagement (i.e. workforce development efforts)</p> <hr/> <p>Number of schools that receive clean energy funding from utilities</p>	
<p>EE and electrification funding from Utilities, NYSERDA, or other funding.</p>	<p>What will the funding be used for? What are the expected benefits or impacts of the funding?</p> <hr/> <p>How well did the funding work with schools' procurement and planning policies?</p> <hr/> <p>How does the experience with benchmarking, clean energy projects, and funding of schools within DACs compare to schools outside of DACs?</p> <p>High-need compared to non-high-need schools?</p>	<p>Number of schools utilizing NYSERDA funding for student and faculty engagement (i.e. workforce development efforts)</p> <hr/> <p>N/A</p>	<p>Section E</p>
<p>Impact on DACs</p>	<p>How does the experience with benchmarking, clean energy projects, and funding of schools within DACs compared to schools outside of DACs?</p> <p>High-need compared to non-high-need schools?</p> <hr/> <p>What unique barriers to participating in benchmarking, energy projects, or procuring funding do schools located in DACs experience?</p> <p>High-need compared to non-high-</p>	<p>N/A</p>	<p>From embedded program data & cross-tabbed with survey questions</p>

TOPIC	RESEARCH QUESTION	OUTPUTS	SURVEY QUESTIONS
	need schools?		
	<hr/> Has the program been able to address any of these barriers? How?		
	<hr/> How, if at all, has COVID-19 affected time and budget priorities for schools?		
COVID	<hr/> How, if at all, has COVID-19 affected staffing and availability of maintenance and facilities staff?	N/A	Section F
	<hr/> How, if at all, has COVID-19 affected the ability to prioritize clean energy related activities?		

Sample Design

The sampling frame includes participating schools and will be stratified based on school grade level, urban vs rural, and whether the school falls within a disadvantaged community or not. The Market Evaluation Team will aim for a total of 200 completes with a minimum of 140 completed surveys. The Market Evaluation Team will offer respondents a \$50 gift card as an incentive. To improve response rates, the Market Evaluation Team will offer the option for respondents to take the survey either over the web or on the phone.

NYSERDA will assist in pulling the nonparticipant sample from Data Axle and the market evaluation team will invite schools to participate in the survey via email. Once the Market Evaluation Team has data, the Market Evaluation Team will stratify the sample in a way that is agreed upon by both the market evaluation team and NYSERDA.

Survey Delivery and Timeline

The Market Evaluation Team will field the survey as an online survey using Qualtrics. Respondents will receive an email invitation and can complete the survey on a phone, tablet, or computer. The email invitation will include a phone number to call if they wish to take the survey over the phone.

The team anticipates fielding will begin in early April 2023.

Recruitment

Initial Email Invitations

Subject: Provide feedback to shape NYSERDA's energy programs for schools

Sender: ILLUME Advising

Dear [CUSTOMER_NAME],

NYSERDA is conducting a study to gather feedback from customers like you in order to improve their offerings to best fit the needs of schools. We invite you to share your experiences in this 10-15 minute survey. If you complete the survey by <DATE>, you will receive a \$50 Amazon gift card.

If you cannot complete the survey all at one time or you accidentally exit the survey, you can pick-up where you left off by clicking on the link from this email or hitting the back button in your browser. Results will not be recorded until the final submit button is clicked.

Click here to take the survey:

[SURVEY LINK]

If you would prefer, we can also ask you survey questions over the phone. To do this, please click this **link** to reserve a time for us to call you.

Sincerely,

[NAME]

ILLUME Advising, LLC

[OPT-OUT LINK]

Reminder Email

Subject: Provide feedback to shape NYSERDA's energy programs for schools

Sender: ILLUME Advising

Dear [CUSTOMER_NAME],

We recently reached out to you about gathering feedback to improve NYSERDA's program offerings. We invite you to share your experiences and feedback in a 10-15 minute survey. If you complete the survey by <DATE>, you will receive a \$50 Amazon gift card.

If you cannot complete the survey all at one time or you accidentally exit the survey, you can pick-up where you left off by clicking on the link from this email or hitting the back button in your browser. Results will not be recorded until the final submit button is clicked.

Click here to take the survey:

[SURVEY LINK]

If you would prefer, we can also ask you survey questions over the phone. To do this, please click this **link** to reserve a time for us to call you.

Sincerely,

[NAME]

ILLUME Advising, LLC

[OPT-OUT LINK]

Survey Guide

NOTE TO PROGRAMMER: PLEASE DO NOT MAKE THIS VISIBLE FOR ONLINE VIEWING

A. INTRODUCTION

WEB:

Thank you for taking the time to complete this survey! Your feedback is very important to us. We will use the results of this survey to better understand how NYSERDA can better support clean energy (including energy efficiency, energy conservation and renewable energy) efforts in schools like yours.

This survey should take about 15 minutes. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Law (FOIL). All results will be anonymized.

If you wish to verify the legitimacy of this study, please contact Tricia Gonzales at Patricia.Gonzales@nyserda.ny.gov or 518-862-1090 x3338.

If you have a technical issue while completing this survey, please contact Andie Gemme at andie@illumeadvising.com, or at 360-389-3871.

B. SCREENER

[ASK ALL]

B.1 Based on our records, you work for <DISTRICT>. Is this correct?

1. Yes
2. No [TERMINATE]

B.2 What is your role at <DISTRICT>? [OPEN END]

B.3 In your current role, are you involved in decisions related to energy use, energy projects, or building updates?

1. Yes
2. No

[IF 0 = 2]

B.4 Can you please share the email address of the person at <DISTRICT> who would be more appropriate for us to survey? [OPEN END WITH EMAIL VALIDATION] [TERMINATE]

[IF 0 = 1]

B.5 For this survey, we want to talk to school districts that have *not* participated in the NYSERDA P-12 Schools Initiative, which includes Benchmarking, Green & Clean Energy Solutions, or the Clean Green Schools Initiative. Have you participated, or are you currently participating, in any of those programs?

1. Yes [TERMINATE]
2. No
98. I'm not sure [TERMINATE]

C. MARKET CHANGE

In this survey, we are asking you to reflect on **clean energy and energy efficiency projects or resources**. For simplicity, we will use the term “energy resources” in this survey.

[ASK ALL]

C.1 Have you heard of the NYSERDA P-12 Schools Initiative? This includes the Benchmarking Program, Green & Clean Energy Solutions, or Clean Green Schools Initiative.

1. Yes
2. No
98. I'm not sure

[IF 0 = 1]

C.2 How did you first hear about the P12 Schools Initiative?

1. From another school or school district
2. From our contracted firm
3. From a NYSERDA communication (email, mail, etc.)
4. From a conference
5. From a P-12 Association webinar
6. Other, please specify: [\[OPEN END\]](#)
98. I'm not sure

[IF 0 = 1]

C.3 Did you consider participating?

1. Yes
2. No

[IF 0 = 2]

MULTIPLE RESPONSE

C.4 Why not? Please select all that apply.

1. Did not have the time to fill out the application
2. Did not understand the program requirements
3. Did not meet the program requirements
4. Staff bandwidth constraints
5. School/district funding constraints
6. We were not interested in the program offerings
7. Other, please specify: [\[OPEN END\]](#)
98. I'm not sure **[EXCLUSIVE]**

[IF 0 = 6]

C.5 What program offerings would you be interested in? [\[OPEN END\]](#)

C.6 Have you participated in any other NYSERDA programs (e.g. NY-Sun) outside of the P12 Schools Initiative?

1. Yes
2. No
98. I'm not sure

[IF 0 = 1]

MULTIPLE RESPONSE

C.7 What programs have you participated in? Please select all that apply

1. NY-Sun
2. NY Truck Voucher
3. Charge NY
4. Heat Pump Program
5. New Construction Program
6. Real Time Energy Management
7. Other, please specify: [OPEN END]

C.8 Are you aware of any other programs, besides NYSERDA, that provide funding for clean energy, energy efficiency, or decarbonization projects?

1. Yes
2. No
98. I'm not sure

[IF 0 = 1]

C.9 Which programs have you heard of? [OPEN END]

C.10 Have you received any recognition for energy-related activities? This could be through the Green Ribbon Schools program or other organizations or municipalities.

1. Yes
2. No
98. I'm not sure

[IF 0 = 1]

C.11 Was that recognition motivating for completing further energy-related activities?

1. Yes
2. Somewhat
3. No
98. I'm not sure

[IF 0 = 1 OR 2]

C.12 Why was this recognition motivating for completing additional energy projects? [OPEN END]

C.13 Please characterize how important the following outcomes of energy projects are to your district from "not at all important" to "very important". [1-5 SCALE, 1=NOT AT ALL IMPORTANT, 5=VERY IMPORTANT, 98 = I'M NOT SURE].

1. Cost savings
2. Energy savings
3. Health improvements (ex. indoor air quality)
4. Improved student, teacher, and staff comfort

5. Carbon emissions reductions
6. Recognition (awards, ribbons, etc.)

MULTIPLE RESPONSE

C.14 What barriers, if any, do you see with adopting energy efficient or clean energy technologies within your school district? Select all that apply.

1. Receiving the proper funding
2. Upfront costs
3. Getting district approval
4. Competing priorities – these kinds of projects are not a priority for my district
5. Time or resources (including staffing) needed to implement
6. Lack of awareness of available programs to support these technologies
7. Other, please specify: [OPEN END]
8. No barriers [EXCLUSIVE]

D. INDIRECT IMPACTS

MULTIPLE RESPONSE

D.1 Has your school district conducted or implemented any of the following energy projects? Select all that apply.

1. None – our school district has not implemented any energy projects [EXCLUSIVE, SKIP TO 0]
2. Conducted benchmarking
3. Initiated an energy study or capital facilities plan which included energy efficiency projects
4. Coordinated a comprehensive energy efficiency project, such as LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.
5. Engaged in an energy performance contract
6. Electrified an HVAC system, such as installing a heat pump (either ground source or air source) or installing a variable refrigerant flow (VRF)
7. Electrified building systems like kitchen equipment or hot water heaters
8. Coordinated a comprehensive energy efficiency project, such as a LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.
9. Some other type of clean energy installation, please specify: [OPEN END]
10. Another type of feasibility study or design work, please specify: [OPEN END]
98. I'm not sure [EXCLUSIVE, SKIP TO 0]

[FOR EACH SELECTED IN D1]

D.2 In what year did you <PIPE IN CHOICE FROM D.1>? [OPEN END]

[ASK 0 FOR EACH CHOICE FROM 0]

MULTIPLE CHOICE

D.3 Which, if any, of the following factors contributed to your school district's decision to <PIPE IN CHOICE FROM 0>? Please select all that apply.

1. Information from NYSERDA or NYSERDA supported consultant, outreach partner, resource, or event (e.g. email blast, case study, presentation at conference, website, etc.), please specify: [OPEN END]
2. Information from a peer school/school district (specify school/district): [OPEN END]
3. Information from an industry association (specify association): [OPEN END]
4. Information from a consultant or provider (specify consultant): [OPEN END]
5. Information from a utility or other entity (specify entity): [OPEN END]
6. Training, workshop, webinar, or other event (specify event): [OPEN END]
7. Read a case study or report (specify): [OPEN END]
8. Another source, please specify: [OPEN END]
9. None of the above [EXCLUSIVE]

D.4 How important was <PIPE IN CHOICE FROM 0> to your school's decision to <PIPE IN CHOICE FROM 0>?

1. Not at all important
2. Not too important
3. Somewhat important
4. Very important

[IF 0 = 3 OR 10]

D.5 Was the energy study, energy master plan or other feasibility done in-house, or did you hire an architect, engineer, or energy service company (ESCO) to assist?

1. We completed these studies in-house
2. We hired an architect
3. We hired an engineer
4. We hired an energy service company (ESCO)
98. I'm not sure

[IF 0 = 3 OR 10]

D.6 Did the energy study, energy master plan, or other feasibility study lead to any energy-related project implementation?

1. Yes

2. No
98. I'm not sure

[IF 0 = 1]

D.7 What energy-related projects did you implement as a result of the energy study, energy master plan, or feasibility study? [OPEN END]

[ASK ALL]

D.8 Has your school district engaged in any peer networking (e.g., conferences, events, meetings) on benchmarking or clean energy?

1. Yes, benchmarking
2. Yes, clean energy
3. Yes, both
4. No
98. I'm not sure

[IF 0 = 1, 2 OR 3]

D.9 What was the name of the peer networking conference, event, or meeting that you attended? [OPEN END]

[IF 0 = 1, 2 OR 3]

D.10 As a result of peer networking, did you implement any clean energy or energy efficiency projects?

1. Yes
2. No
98. I'm not sure

[IF 0 = 1]

D.11 Was your project done in-house, or did you hire an architect, engineer or energy service company (ESCO) to assist?

1. We completed these projects in house
2. We hired an architect
3. We hired an engineer
98. I'm not sure

[IF 0 = 1]

D.12 Did NYSERDA play any role in the peer networking event you participated in?

1. Yes – they spoke at the event
2. Yes – they tabled at the event and provided resources (e.g., materials, contact information)
3. Yes – they sponsored the event
4. Yes – they had another role at the event, please specify: [OPEN END]
5. No

98. I'm not sure

E. FUNDING

E.1 Has your school received funding for any energy projects? This could be for energy-related studies, installations, etc.

1. Yes
2. No
98. I'm not sure

[IF 0 = 1]

MULTIPLE RESPONSE

E.2 What funding has your school district received for energy resources? Please select all that apply and include the dollar amount of the funding.

1. NYSERDA funding (outside of the P12 Schools Initiative) of (please specify dollar amount): [OPEN END]
2. Other utility program funding of (please specify dollar amount): [OPEN END]
3. State program funding of (please specify dollar amount): [OPEN END]
4. Federal funding of (please specify dollar amount): [OPEN END]
5. Other, please specify (please specify dollar amount): [OPEN END]

[REPEAT E3-E5 FOR EACH FUNDING SOURCE IN E2]

[IF 0 = 1]

E.3 Has your school district decided on what the funding will be used for?

1. Yes
2. No

[IF 0 = 1]

E.4 What was/will the funding used/be used for? [OPEN END]

[IF 0 = 1]

E.5 How well did the funding work within your procurement and financial planning policies?

1. 1 – Not well at all
2. 2
3. 3
4. 4
5. 5 – Extremely well
98. I'm not sure

[IF 0 = 1]

E.6 What changes, if any, can you suggest to improve the process of integrating funding within these policies? [OPEN END]

F. COVID-19

F.1 How much has the COVID-19 pandemic affected the following in your school district: [1-5, 1 - NOT AT ALL, 3 - SOMEWHAT, 5 - VERY MUCH, 98 - I'M NOT SURE]

1. Time and budget priorities for your school district
2. Availability of maintenance and facilities staff
3. Ability to prioritize clean energy related activities
4. Ability to get approval for clean energy related activities
5. Other, please specify (leave blank if nothing else): [OPEN END]

[IF ANY RESPONSE OPTION FROM 0 >1, ASK FOR EACH RESPONSE OPTION]

F.2 In what ways has COVID affected <SELECTED CHOICE FROM 0>? [OPEN END]

MULTIPLE RESPONSE

F.3 In what ways have operations changed since the start of the COVID-19 pandemic? Please select all that apply.

1. Increased ventilation
2. Increased/improved cleaning procedures
3. Added infrastructure to prevent the spread of germs (e.g. bottle fillers, automatic doors, touchless sinks)
4. Improved HVAC filtration
5. Added air cleaning technology to HVAC systems
6. Added operable windows to increase ventilation
7. Other, please specify: [OPEN END]

F.4 Have school district operations returned to pre-COVID levels?

1. Yes, we have no remaining COVID protocols
2. Somewhat
3. No, our operations are still affected by COVID protocols

G. TERMINATION

[DISPLAY IF QUOTA REACHED]

G.1 Thank you for your interest in the survey. We have reached our quota for respondents. NYSERDA offers a variety of energy efficiency and clean energy programs that could help schools manage their energy use. For more information on ways to save, please visit: <https://www.nyserda.ny.gov/All-Programs/P-12-Initiative>

[DISPLAY IF 0 = 2 OR 0 = 2 OR 0 = 1 OR 3]

G.2 Thank you for your interest in the survey. Unfortunately, you do not qualify for the survey at this time.

H. THANK YOU & CLOSING

H.1 Thank you so much for your time today. NYSERDA really appreciates your feedback. As mentioned, we will send you a \$50 Amazon gift card as a thank you for your time. What is the best email to send you the gift card to?

[OPEN END – CUSTOM EMAIL VALIDATION]

[DISPLAY IF 0 = VALID COMPLETE]

You will receive an email from Tango Gift Cards with your electronic gift card and instructions on how to use it within the next two weeks. If needed, you can search for an email “From: ILLUME Advising <noreply@tangocard.com>.”

If you do not receive this email within two weeks, please contact us at: andie@illumeadvising.com.

[PROGRAM EMAIL LINK TO HAVE A SUBJECT LINE = NYSERDA P12 Schools Survey]

Appendix D. Nonparticipant Interview Guide

NYSERDA P12 Schools Initiative: Nonparticipant In-depth Interview Guide

This document is a discussion guide for researchers to use when conducting in-depth interviews for the NYSERDA P12 Schools Initiative Market Evaluation.

Overview

The market evaluation team will conduct in-depth interviews with nonparticipants located in disadvantaged communities (DAC) as identified by the New York State Climate Justice Working Group directed by the Climate Leadership and Community Protection Act.

Research Approach

As noted in the following Research Questions section, the goal of this evaluation is to inform NYSERDA's enhanced assessment so they may capture all the relevant benefits associated with these new and broadened market developments.

The market evaluation team will use a sample of nonparticipating schools to recruit interview respondents to participate in in-depth interviews. These interviews will enable the team to further explore topics included in the nonparticipant survey as well as topics more difficult to address through surveys. One key objective of these interviews will be to understand, in greater detail, the experiences of schools located in Disadvantaged Communities (DACs) with the program and clean energy in general.¹ The team believes that a total of 10 qualitative interviews will be sufficient to achieve stated research objectives and will target up to 10 interviews with schools located in DACs. The team will provide \$100 incentives to interviewees as a thank you for their time. The interviews will be 30-45 minutes in length and will be conducted remotely via phone or web meeting.

¹ The Climate Justice Working Group finalized the disadvantaged communities' criteria on March 27, 2023. <https://www.nyserdanyny.gov/ny/Disadvantaged-Communities>

Research Questions

The interviews will be semi-structured conversations intended to guide the conversation around the topics that will be covered during the interviews. The research team will ask these questions as they are relevant to the conversation, but the team may not phrase the questions the same way during each stage of the conversation. A-3 shows which sections of the guide address the primary and secondary research questions.

TABLE 3: NONPARTICIPANT INTERVIEW: RESEARCH QUESTIONS, OUTPUTS AND INTERVIEW QUESTIONS

TOPIC	RESEARCH QUESTION	OUTPUTS	INTERVIEW QUESTIONS
	What is awareness and use of utility programs among P-12 schools?	N/A	4-7
Market Change	Either through NYSERDA or otherwise, have P-12 schools utilized benchmarking data and energy master plans to make informed decisions towards future clean energy projects? If they have, how have they made use of the benchmarking results?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	13
	Are schools receiving recognition for clean energy activities through the Green Ribbon Schools program or other organizations or municipalities? Is this recognition motivating for completing more energy activities?	Number of schools receiving recognition for clean energy activities	8
	Either through NYSERDA or otherwise, have P-12 schools implemented any clean energy projects after using benchmarking data or energy master plans?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	13
Indirect Impacts/Benefits	Have nonparticipating schools undertaken benchmarking? What influence did the program have on	Number of schools utilizing benchmarking data and energy master plans to make	13, 14, 16

TOPIC	RESEARCH QUESTION	OUTPUTS	INTERVIEW QUESTIONS	
	that decision?	informed decisions towards future clean energy projects		
	Do nonparticipating schools participate in clean energy planning and analysis? Is this in-house or do you hire an architect, or engineer to assist?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	13, 15	
	Have schools engaged in any peer networking on the topic of benchmarking or clean energy?	Number of schools utilizing benchmarking data and energy master plans to make informed decisions towards future clean energy projects	17	
	Have nonparticipating schools conducted an energy study, energy master plan or other feasibility study? Did it result in implementation?	Number of schools utilizing NYSERDA funding for student and faculty engagement (i.e. workforce development efforts)	13, 15	
EE and electrification funding from Utilities, NYSERDA, or other funding.	What funding (dollar amount and type) has the school received for energy resources?	Number of schools that receive clean energy funding from utilities	18	
	From what providers have P-12 schools received funds?			
	What will the funding be used for? What are the expected benefits or impacts of the funding?	Number of schools utilizing NYSERDA funding for student and faculty engagement (i.e. workforce development efforts)		
	How well did the funding work with schools' procurement and planning policies?	N/A		19
	How does the experience with benchmarking, clean energy			18-19

TOPIC	RESEARCH QUESTION	OUTPUTS	INTERVIEW QUESTIONS
	<p>projects, and funding of schools within DACs compare to schools outside of DACs?</p> <p>High-need compared to non-high-need schools?</p>		
	<p>How does the experience with benchmarking, clean energy projects, and funding of schools within DACs compared to schools outside of DACs?</p> <p>High-need compared to non-high-need schools?</p>		
Impact on DACs	<p>What unique barriers to participating in benchmarking, energy projects, or procuring funding do schools located in DACs experience?</p> <p>High-need compared to non-high-need schools?</p>	N/A	1-21
	<p>Has the program been able to address any of these barriers? How?</p>		
COVID-19	<p>How, if at all, has COVID-19 affected time and budget priorities for schools?</p> <p>How, if at all, has COVID-19 affected staffing and availability of maintenance and facilities staff?</p> <p>How, if at all, has COVID-19 affected the ability to prioritize clean energy related activities?</p>	N/A	20-21

Note on Harassment and Demeaning Conduct

ILLUME prioritizes the safety of our research team. We do not condone harassment or conduct that is demeaning or disparaging to our team.² Should the researcher feel unsafe or uncomfortable, or that they have been treated in a disrespectful manner, the researcher may choose to end the interview at their discretion. Should this occur, the team member can use the following script to end the conversation:

“Thanks for taking the time to speak with us today. That’s all the questions we have for you.”

Sample Plan and Recruitment

The Market Evaluation Team will do a wave of recruitment to 50 schools that are a) located in a DAC, b) have not participated in the NYSERDA P12 Schools Program, and c) did not respond to our survey earlier this year. The Market Evaluation Team will recruit for these interviews until October 30th and will aim to complete up to 10 interviews.

Interview Recruitment Email/Phone Script

Initial Email Invitation

Subject: Provide feedback to shape NYSERDA’s energy programs for schools

Sender: ILLUME Advising

Dear **[CUSTOMER_NAME]**,

NYSERDA is conducting a study to gather feedback from school staff like you to better serve schools in New York State. We invite you to share your experiences and perspectives with us in a 30-45-minute phone interview. We will discuss how your school/district makes decisions around energy efficiency and clean energy projects, including past funding and program opportunities you have used. We will send you a \$100 Amazon e-gift card as a thank you for your time.

If you would like to participate, please respond to this email with a few days and times that work for you and we will schedule an interview.

² ILLUME’s harassment policy includes the following: *ILLUME’s non-harassment policy aims to protect every person in our company from harassment and discrimination, including:*

- *Physical harassment: unwelcome physical contact such as touching, impeding, or blocking movement, or any physical interference with work.*
- *Verbal harassment: disparaging or disrespectful comments, jokes, slurs, innuendoes, teasing, and other sexual talk such as jokes, personal inquiries, persistent and unwanted courting, and derogatory insults.*
- *Nonverbal harassment: suggestive or insulting sounds, obscene gestures, leering, or whistling.*
- *Visual harassment: displays of explicit or offensive calendars, circulation of derogatory content, posters, pictures, drawings, or cartoons that reflect disparagingly upon a class of persons or a particular person.*
- *Sexual harassment: unwelcome sexual advances, requests for sexual favors, and other verbal or physical harassment of a sexual nature*

Sincerely,

[NAME]

ILLUME Advising, LLC

[OPT-OUT LINK]

Reminder Email

Subject: Provide feedback to shape NYSERDA's energy programs for schools

Sender: ILLUME Advising

Dear [CUSTOMER_NAME],

We recently reached out to you about gathering feedback to improve NYSERDA's program offerings. We invite you to share your experiences and feedback in a brief interview.

We hope to get your input during a phone interview in the next 3-4 weeks. The interview will take no more than 45 minutes and we will send you a \$100 Amazon e-gift card in appreciation for your time and insights.

If you would like to participate, please respond to this email with a few days and times that work for you and we will schedule an interview.

Thank you for your time,

Sincerely,

[NAME]

ILLUME Advising, LLC

[OPT-OUT LINK]

Key and Note on This Guide

The following guide provides an outline of the conversation that the researcher will have with the program participant. This guide is not a script for the conversation, rather, it highlights the lines of questioning we anticipate exploring with participants and the topics we will delve into. When conducting in-depth interviews, ILLUME researchers reflect the language of participants and explore the areas of interest and concern to participants. In some cases, this may mean that the interview topics below are covered by the researcher in a different order than listed here. Similarly, the interviewer will use their own words in asking these questions so that they are integrated into the flow of a conversation, and where relevant, will reflect the terminology used by the participant. In the following guide,

- Plain text such as this indicates questions for the researcher to ask

- **[TEXT LIKE THIS]** indicates areas to probe on or to be updated depending on the interview
- Notes to the researcher/reader appear in this text

Introduction

[Purpose of section: The initial section includes a guide for the beginning of the conversation and a few initial questions to establish rapport with the participant.]

Thanks so much for taking the time to speak with us today. As a reminder, we have about 30 minutes' worth of topics we'd like to discuss with you, including how your school approaches clean energy and energy efficiency projects. The information you provide to us will be used to help NYSERDA better serve schools and school districts like yours.

Also, for note taking purposes, I would like to record this interview. All recordings and notes will be kept confidential, and we will not reveal your identity in our final report or any final deliverables. Also, should you change your mind, you can ask me to stop recording at any time. Can I record this interview?

[Wait until they consent to press record.]

[IF NO, do not record but take notes.]

Do you have any questions before we begin?

To start off, we have a few questions about your role and the school/school district you work for.

1. Based on our records, you work for <SCHOOL/DISTRICT>. Is this correct?
2. What is your role at <SCHOOL/DISTRICT>?
 - a. Are you involved in decisions related to energy use, energy projects, or building updates?
3. Just to confirm, to your knowledge, <SCHOOL/DISTRICT> has not participated in any of the NYSERDA P12 Schools Initiative programs, correct? This includes Benchmarking, Green & Clean Energy Solutions, or the Clean Green Schools Initiative.

Awareness and Market Change

[Purpose of section: Gain an understanding of nonparticipating schools' program awareness and participation.]

4. Have you heard of the NYSERDA P12 Schools Initiative?
 - a. **[IF YES]** How did you first hear about the P12 Schools Initiative? Did you consider participating?
 - b. Why or why not?

5. What sort of energy-related program offerings would you be interested in from NYSERDA?
6. Have you ever participated in any other NYSERDA programs?
 - a. **[IF YES]** Which ones? **[PROBE:** NY-Sun, NY Truck Voucher, Charge NY, Heat Pump Program, New Construction Program, Real Time Energy Management.]
 - b. **[IF NO]** Why not? Were you aware that programs that provide funding for clean energy exist?
7. Are you aware of any other programs, besides NYSERDA, that provide funding for clean energy, energy efficiency, or decarbonization projects?
 - a. If yes, what programs have you heard of?
 - b. Have you applied to any other programs? Why or why not?
8. Has the school/district received any recognition for energy-related activities? This could be through the Green Ribbon Schools program or other organizations or municipalities.
 - a. If yes, was that recognition motivating for completing further energy-related activities?
 - b. Why or why not?

Energy Projects & Barriers

[Purpose of section: Understand barriers and opportunities with energy projects]

9. What kinds of outcomes or benefits does <SCHOOL/DISTRICT> hope to gain from participating in energy projects?
 - a. **[PROBE:** this could include... cost savings, energy savings, health improvements (indoor air quality), improved student, teacher, and staff comfort, carbon emissions reductions, recognition for the district/school like awards or ribbons]
 - b. What is the most important/valued outcome?
10. What barriers, if any, do you see with adopting energy efficient or clean energy technologies within your school district?
 - a. **[PROBE:** receiving the proper funding/upfront costs, getting district approval, competing priorities, time, or resources (including staffing) needed to implement, lack of awareness of available programs to support these technologies.]
 - b. What do you think would help address those barriers?
 - c. What do you think NYSERDA could do to help address these barriers?
11. Who are the decision makers when it comes to energy projects?
 - a. What needs to happen to get those decision makers on board with an energy project?
12. What sorts of energy projects, including energy efficiency or clean energy projects, would the school/district be most interested in?

- a. Why?

Indirect Impacts

[Purpose of section: to gain a sense of how many energy projects schools are completing, if anything influenced them to complete any energy projects, and if they have participated in any peer networking.]

- 13. In the past four years, has your school/district conducted or implemented any energy projects?
 - a. **[As needed, provide detail]** This could include:
 - i. Conducted benchmarking
 - ii. Initiated an energy study or capital facilities plan which included energy efficiency projects
 - iii. Coordinated a comprehensive energy efficiency project, such as a LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.
 - iv. Engaged in an energy performance contract
 - v. Electrified an HVAC system, such as installing a heat pump (either ground source or air source) or installing a variable refrigerant flow (VRF)
 - vi. Electrified building systems like kitchen equipment or hot water heaters
 - vii. Coordinated a comprehensive energy efficiency project, such as a LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.
 - viii. Some other type of clean energy installation
 - ix. Another type of feasibility study or design work
- 14. **[IF BENCHMARKING]** Did the benchmarking lead to implementation of any energy projects? Why or why not?
- 15. **[IF ENERGY STUDY CONDUCTED]** Was the energy study done in house or did you hire an architect or engineer to assist?
 - a. Did the energy study lead to any implementation of energy projects? Why or why not?
- 16. **[IF YES]** Do you remember any sources of information that contributed to **<SCHOOL/DISTRICT'S>** decision to complete that project?
 - a. **PROBE IF NEEDED:**
 - i. Information from NYSERDA or NYSERDA supported consultant
 - ii. Information from a peer school/school district (specify school/district):
 - iii. Information from an industry association (specify association):
 - iv. Information from a consultant or provider (specify consultant):
 - v. Information from a utility or other entity (specify entity):
 - vi. Training, workshop, webinar, or other event (specify event):
 - vii. Read a case study or report (specify):

17. Has your school district engaged in any peer networking (e.g., conferences, events, meetings) on energy efficiency or clean energy?
 - a. **[IF YES]** What was the name of the conference or event?
 - b. **[IF YES]** Did the peer networking lead to any clean energy or energy efficiency projects?
 - i. If yes, was that project done in house or did you hire an architect, engineer or energy service company (ESCO) to assist?
 - c. **[IF YES]** Did NYSERDA play any role in the peer networking event you participated in?

Funding

[Purpose of section: Discover what funding opportunities schools/districts have used and what they used the funding for.]

18. Outside of capital funding, has your school received funding for any energy projects? This could include grants or funding from utilities for energy-related studies, installations, etc.
 - a. **[IF YES]** What funding did you receive? From where?
 - b. **[IF YES]** Do you remember the dollar amount of the funding?
 - c. **[IF YES]** What was the funding used for?
 - d. **[IF YES]** Was the funding used for any student or staff engagement?
19. How well did the funding work within your procurement and financial planning policies?
 - a. Can you suggest any changes to improve this?

COVID-19

[Purpose of section: Understand impacts of the COVID-19 pandemic.]

Lastly, we have a few questions about the impacts of the COVID-19 pandemic on your school/district.

20. How has COVID affected:
 - a. Budget priorities for your school/district?
 - b. Availability of maintenance and facilities staff?
 - c. Ability to prioritize and get approval for clean energy related activities?
21. In what ways have school/district operations changed since the start of the COVID-19 pandemic?
[PROBE: increased ventilation, increased/improved cleaning procedures, added infrastructure to prevent spread of germs, improved HVAC filtration, added air cleaning technology to HVAC systems, added operable windows to increase ventilation]
 - a. Have district operations returned to pre-COVID levels?

Closing

That's all the questions I have for you. Do you have anything else you'd like to add?

Thank you so much for speaking with us today. We really appreciate you taking the time to share your valuable insights in this industry.

As I stated before we would like to give you a \$100 gift card as a thank you for your time. Would you like to receive that gift card by mail or email? **[Interviewer record and confirm contact information for sending the incentive.]**

Thank you again for your time.

Appendix E. NYSERDA Affiliated Consultants Used in Indirect Benefits Estimation

Consultant Firm Name	Type of Consultant
ABM Industries Inc. 1 Liberty Plaza, 7th Floor New York, NY 10006	FlexTech Consultant
Adam C. Boese d/b/a The Daylight Savings Company 48 North Church Street Goshen, NY 10924	FlexTech Consultant
AECOM USA, Inc. 125 Broad Street, 15th Floor New York, NY 10004	FlexTech Consultant
AKF Engineers, LLP 165 Broadway, 22nd Floor New York, NY 10006	FlexTech Consultant
Albireo Energy, LLC 6 East 46th Street, Suite 300 New York, NY 10017	FlexTech Consultant
Altanova, LLC 1105 44th Drive Long Island City, NY 11001	FlexTech Consultant
Anser Advisory 31 West 34th Street, 7th Floor New York, NY 10001	FlexTech Consultant
Antares Group, Inc. 7000 E. Genesee Street, Bldg D Fayetteville, NY 13066	FlexTech Consultant
Aramark Management Services 2400 Market Street Philadelphia, PA 19103	FlexTech Consultant

Consultant Firm Name	Type of Consultant
Arcadis of New York, Inc. 855 Route 146, Suite 210 Clifton Park, NY 12065	FlexTech Consultant
Association for Energy Affordability 105 Bruckner Blvd. Bronx, NY 10454	FlexTech Consultant
Atelier Ten USA LLC 104 West 29th Street, 8th Floor New York, NY 10001	FlexTech Consultant
Baker Engineering 2774 Cobb Pkwy., Suite 109-371 Kennesaw, GA 30152	FlexTech Consultant
Barton & Loguidice, D.P.C. 443 Electronics Parkway Liverpool, NY 13088	FlexTech Consultant
Bergmann Associates 100 Madison Street, Suite 100 Syracuse, NY 13202	FlexTech Consultant
Bright Power, Inc. 11 Hanover Square, 21st Floor New York, NY 10005	FlexTech Consultant
Buro Happold Consulting Engineers, P.C. 100 Broadway New York, NY 10005	FlexTech Consultant
C&S Engineers, Inc. 41 State Street, STE 405 Albany, NY 12207	FlexTech Consultant
C.J. Brown Energy & Engineering, P.C. 4245 Union Road, Suite 204 Buffalo, NY 14225	FlexTech Consultant
Cameron Engineering & Associates, LLP 177 Crossways Park Drive Woodbury, NY 11797	FlexTech Consultant

Consultant Firm Name	Type of Consultant
CannonDesign 50 Fountain Plaza, Suite 200 Buffalo, NY 14202	FlexTech Consultant
Canyon Engineering Solutions LLC 7 Canyon Crossing Rd. Greenfield Center, NY 12833	FlexTech Consultant
Cascade Energy, Inc. 100 Main St., Suite 11 Burlington, VT 05404	FlexTech Consultant
Center for Sustainable Energy 3980 Sherman Street, Suite 170 San Diego, CA 92110	FlexTech Consultant
CHA Consulting, Inc. 3 Winners Circle, PO Box 5269 Albany, NY 12205	FlexTech Consultant
CodeGreen Solutions, Inc. 1155 Avenue of Americas, Suite 1900 New York, NY 10036	FlexTech Consultant
Cohen Ventures Inc. DBA Energy Solutions 449 15th Street, Suite 400 Oakland, CA 94612	FlexTech Consultant
Collado Engineering, DPC 445 Hamilton Ave, Suite 608 White Plains, NY 10601	FlexTech Consultant
Daniel Rice Engineering, d/b/a Legacy Engineers 1001 Avenue of the Americas, 20th Floor New York, NY 10018	FlexTech Consultant
DLB Associates Consulting Engineers, P.C. 265 Industrial Way Eatontown, NJ 08723	FlexTech Consultant
DNV Energy Insights (Formerly: Energy & Resource Solutions, Inc)	FlexTech Consultant

Consultant Firm Name	Type of Consultant
120 Water Street, Suite 350 North Andover, MA 01845	
DSM Engineering Associates, P.C. 225 Wireless Blvd. Suite 102 Hauppauge, NY 11788	FlexTech Consultant
E2S Energy Efficiency Services, LLC 30 Meetinghouse Road Windham, NH 03087	FlexTech Consultant
Ecosave LLC 4000 S. 26th Street, Suite 1100 Philadelphia, PA 19112	FlexTech Consultant
Edison Energy, LLC 39 Broadway, Suite 1520 New York NY 10006	FlexTech Consultant
Egg Geo, LLC 2860 Scherer Drive St. Petersburg, FL 33716	FlexTech Consultant
EMCOR Services Betlem 704 Clinton Avenue South Rochester, NY 14620	FlexTech Consultant
EMCOR Services New York/New Jersey, Inc. 5 Dakota Drive, Suite 111 Lake Success, NY 11042	FlexTech Consultant
EME Consulting Engineering Group, LLC 129 West 27th Street New York, NY 10001	FlexTech Consultant
Energy Resources Integration, LLC 560 Pine Street, Floor 3 San Francisco, CA 94108	FlexTech Consultant
Energy Spectrum, Inc. 1114 Avenue J. 3rd Floor Brooklyn, NY 11230	FlexTech Consultant

Consultant Firm Name	Type of Consultant
Enica Engineering, PLLC 39 West 37th Street, 16th Floor New York, NY 10016	FlexTech Consultant
EN-POWER GROUP 50 Main Street, Suite 1000 White Plains, NY 10606	FlexTech Consultant
EnviroBusiness Inc., d/b/a EBI Consulting 21 B Street Burlington, MA 01803	FlexTech Consultant
Erdman Anthony & Associates, Inc. 145 Culver Road, Suite 200 Rochester, NY 14620	FlexTech Consultant
Fischer Energy Partners LLC 47 Colonial Parkway Manhasset, NY 11030	FlexTech Consultant
Frontier Energy, Inc. 2695 Bingley Road Cazenovia, NY 13035	FlexTech Consultant
G/BA Commissioning Services, Inc. 36-42 Newark St., Unit 402 Hoboken, NJ 07030	FlexTech Consultant
Geatrain Engineering, PLLC 112 West 34th Street, 18th Floor New York, NY 10120	FlexTech Consultant
Goldman & Copeland Associates, P.C. 229 West 36th Street New York, NY 10018	FlexTech Consultant
Guth DeConzo Consulting Engineers, P.C. 520 8th Avenue, Suite 2201 New York, NY 10018	FlexTech Consultant
Harris Energy Solutions LLC 310 West Main Street, Suite 103 Round Rock, TX 78664	FlexTech Consultant

Consultant Firm Name	Type of Consultant
Horizon Engineering Associates, LLP 30 Broad Suite, Suite 1500 New York, NY 10004	FlexTech Consultant
HPDC Energy LLC 253 West 35th Street, 3rd Floor New York, NY 10001	FlexTech Consultant
IBC Engineering, P.C. 3445 Winton Place, Suite 219 Rochester, NY 14623	FlexTech Consultant
INF Associates, LLC 1116 Main Street Fishkill, NY 12524	FlexTech Consultant
Integral Group d/b/a Elementa Engineering 54 West 40th Street, Suite 200 New York, NY 10018	FlexTech Consultant
J.B.A. Consulting Engineers, Inc. dba NV5 Consultants 32 Old Slip, Suite 401 New York, NY 10005	FlexTech Consultant
Jaros, Baum & Bolles Consulting Engineers, LLP (JB&B) 80 Pine Street, 12th Floor New York, NY 10005	FlexTech Consultant
Johnson Controls, Inc. 1399 Crescent Visher Ferry Rd. Clifton Park, NY 12065	FlexTech Consultant
Karpman Consulting, LLC 78 Eastern Blvd Glastonbury, CT 06033	FlexTech Consultant
L&S Energy Services 58 Clifton Country Road Clifton Park, NY 12065	FlexTech Consultant

Consultant Firm Name	Type of Consultant
LaBella Associates, D.P.C. 300 State Street, Suite 201 Rochester, NY 14614	FlexTech Consultant
Level Agency for Infrastructure, LLC 45 Main Street, Suite 721 Brooklyn, NY 11201	FlexTech Consultant
Livolt Consulting LLC 1732 1st Avenue #23890 New York, NY 10128	FlexTech Consultant
Lizardos Engineering Associates 200 Old Country Rd, Suite 670 Mineola, NY 11501	FlexTech Consultant
Loring Consulting Engineers, Inc. 21 Pennsylvania Plaza - 14th Floor New York NY 10001	FlexTech Consultant
M/E Engineering, P.C. 60 Lakefront Boulevard, Suite 320 Buffalo, NY 14202	FlexTech Consultant
Mark MaGrann Associates (formerly The Levy Partnership) 1776 Broadway, Suite 1250 New York, NY 10019	FlexTech Consultant
MEP Geothermal 37A 9th Street, Unit 3 Brooklyn, NY 11215	FlexTech Consultant
Netgains Engineering, P.C. 20 Fairway Drive Old Bethpage, NY 11804	FlexTech Consultant
New Buildings Institute 151 SW 1st Ave, Suite 300 Portland, OR 97204	FlexTech Consultant
New York Engineers P.C. 1460 Broadway New York, NY 10036	FlexTech Consultant

Consultant Firm Name	Type of Consultant
Noresco, LLC 200 Vesey Street, 24th Floor New York, NY 10281	FlexTech Consultant
NY Building Systems Consultant Inc. 147-28 Hollside Avenue, Suite 2F Jamaica, NY 11435	FlexTech Consultant
O'Brien & Gere Engineers, Inc. (Ramboll) 333 W. Washington Street Syracuse, NY 13221	FlexTech Consultant
OLA Consulting Engineers, P.C. 50 Broadway Hawthorne, NY 10532	FlexTech Consultant
Partner Energy 1085 Raymond Blvd. 19th Floor Newark, NJ 07102	FlexTech Consultant
Partridge Venture Engineering, P.C. (PVE) 25 West 39th Street, 12th Floor New York, NY 10018	FlexTech Consultant
Pathfinder Engineers & Architects, LLP 134 South Fitzhugh Street Rochester, NY 14608	FlexTech Consultant
Popli Design Group 555 Penbrooke Drive Penfield, NY 14526	FlexTech Consultant
Pterra, LLC 4 Automation Ln. Suite 150 Albany, NY 12205	FlexTech Consultant
Pyramid Energy Engineering Services, PLLC (Pyramid EES) 30 Karner Road Albany, NY 12212	FlexTech Consultant
Quest Energy Group 1620 west Fountainhead Pkwy Tempe, AZ 85282	FlexTech Consultant

Consultant Firm Name	Type of Consultant
RLM Engineering PLLC 241 Rushmore Ave Carle Place, NY 11514	FlexTech Consultant
Robert Derector Associates 19 West 44th Street, 12th Floor New York, NY 10036	FlexTech Consultant
Slipstream Group, Inc. 431 Charmany Drive Madison WI 53719	FlexTech Consultant
Smith Engineering, PLLC 347 West 36th Street, Suite 203 New York, NY 10018	FlexTech Consultant
SourceOne, Inc. d/b/a Veolia 7 Pennsylvania Plaza, Suite 401 New York, NY 11377	FlexTech Consultant
Steven A. Cohen d/b/a SC Associates, PC 34-18 Northern Blvd., 5th Floor Long Island City, NY 11101	FlexTech Consultant
Steven Winter Associates, Inc. 307 7th Avenue, Suite 1701 New York, NY 10001	FlexTech Consultant
Sustainable Investment Group 6300 Powers Ferry Road Atlanta, GA 30339	FlexTech Consultant
Syska Hennessy Group, Inc 1185 Avenue of the Americas New York, NY 10036	FlexTech Consultant
Taitem Engineering, P.C. 110 South Albany Street Ithaca, NY 14850	FlexTech Consultant
Tetra Tech Engineers, d/b/a Cosentini Associates 498 7th Ave, 15th Floor New York, NY 10018	FlexTech Consultant

Consultant Firm Name	Type of Consultant
Tetra Tech, Inc. 10 Brown Road Ithaca, NY 14580	FlexTech Consultant
The Cadmus Group, LLC 100 5th Avenue, Suite 100 Waltham, MA 02451	FlexTech Consultant
The Fulcrum Group 80 Broad Street New York, NY 10004	FlexTech Consultant
Trane US, Inc. 45 Earhart Drive, Suite 103 Williamsville, NY 14221	FlexTech Consultant
TRC Engineers, Inc. 1430 Broadway, 10th Floor New York, NY 10018	FlexTech Consultant
Vermont Energy Investment Corp. (VEIC) 128 Lakeside Avenue, Suite 401 Burlington, VT 05401	FlexTech Consultant
Ventrop Engineering Consulting Group 369 West 34th Street, 2nd Floor New York, NY 10001	FlexTech Consultant
Vidaris, Inc. 360 Park Avenue South, 15th Floor New York, NY 10010	FlexTech Consultant
Walden Environmental Engineering, PLLC 16 Spring Street Oyster Bay, NY 11771	FlexTech Consultant
WB Engineers+Consultants 33 Whitehall Street New York, NY 10004	FlexTech Consultant
Wendel Energy Services, LLC 375 Essjay Road, Suite 200 Williamsville, NY 14221	FlexTech Consultant

Consultant Firm Name	Type of Consultant
Willdan Energy Solutions 88 Pine Street, 18th Floor New York, NY 10005	FlexTech Consultant
World Energy Innovations LLC 504 Liberty Street Fremont, OH 43420	FlexTech Consultant
Worley Group, Inc. d/b/a Advisian 2675 Morgantown Road Reading, PA 19607	FlexTech Consultant
WSP USA Corp. One Penn Plaza, 250 West 34th Street, 2nd Floor New York, NY 10119	FlexTech Consultant
Day Automation	P-12 Consultant Participating in Program
CP Energy Solutions LLC	P-12 Consultant Participating in Program
Talva Energy	P-12 Consultant Participating in Program
KG+D	P-12 Consultant Participating in Program
Gerard Associates	P-12 Consultant Participating in Program
Capital Projects Group	P-12 Consultant Participating in Program
Energia	P-12 Consultant Participating in Program
IBI Group	P-12 Consultant Participating in Program
SWBR	P-12 Consultant Participating in Program
CPL	P-12 Consultant Participating in Program
Ashley McGraw Architects, D.P.C.	Building Condition Survey A&E Firm
BBS Architects, Landscape Architects & Engineers, P.C.	Building Condition Survey A&E Firm
BCA Architect & Engineers	Building Condition Survey A&E Firm
Beardsley Design Associates, Architects, Engineering, Landscape Architecture, D.P.C.	Building Condition Survey A&E Firm

Consultant Firm Name	Type of Consultant
Bivens Architects	Building Condition Survey A&E Firm
CSArch	Building Condition Survey A&E Firm
Delta Engineers, Architects, and Surveyors	Building Condition Survey A&E Firm
ECG Engineering, PC	Building Condition Survey A&E Firm
Fuller and D'Angelo PC Architects	Building Condition Survey A&E Firm
Geddis Architects	Building Condition Survey A&E Firm
Gordon W. Jones Associates, Architects, P.C.	Building Condition Survey A&E Firm
H2M architects & engineers	Building Condition Survey A&E Firm
Highland Associates	Building Condition Survey A&E Firm
Hunt Engineers, Architects, and Land Surveyors	Building Condition Survey A&E Firm
John A. Grillo, Architect, PC	Building Condition Survey A&E Firm
KG+D Architects, PC	Building Condition Survey A&E Firm
King & King Architects	Building Condition Survey A&E Firm
KSQ Design	Building Condition Survey A&E Firm
LaBella Associates D.P.C	Building Condition Survey A&E Firm
Mark Design Studios Architecture, PC	Building Condition Survey A&E Firm
MEMASI	Building Condition Survey A&E Firm
Mosaic Associates Architects, DPC	Building Condition Survey A&E Firm
Popli Design Group	Building Condition Survey A&E Firm
Rhinebeck Architecture	Building Condition Survey A&E Firm
Robertson Strong Apgar Architect	Building Condition Survey A&E Firm
SEI Design Group	Building Condition Survey A&E Firm
Trautman Associates	Building Condition Survey A&E Firm
Young + Wright Architectural	Building Condition Survey A&E Firm

Consultant Firm Name	Type of Consultant
Aztech Geothermal	CGSI Program Interviews
Buffalo Geothermal	CGSI Program Interviews
CMTA	CGSI Program Interviews
Energy Systems Group	CGSI Program Interviews
GE Renewable Energy	CGSI Program Interviews
Harris Beach Law Firm	CGSI Program Interviews
Siemens	CGSI Program Interviews
Danforth	CGSI Program Interviews

Outreach Contractor Name
Association of School Business Officials NYS
NYS School Facilities Association
Cadmus

Event Title - Clean Green Schools Initiative Marketing
FlexTech Webinar (s)
NY-Geo Conference (s)
CGSI Program Webinar (s)
NYS School Facilities Association Presentation
Northeast Energy Efficiency Partnerships Conference
NYS Association of Small City School Districts Conference (s)
Young + Wright Architectural Presentation (s)
American Institute of Architects NYS Webinar
Rural Schools Association Conference

Event Title - Clean Green Schools Initiative Marketing
Clean Heating and Cooling Communities campaign in Westchester County Webinar
NYS Council of School Superintendents Conference
DOH NYS School Environmental Health Conference
NYS Council of School Superintendents + Association of School Business Officials Webinar
NYS School Boards Conference
Association of School Business Officials Conference (s)
New Yorkers for Clean Power Webinar
School Business Officials - Central NY Chapter - In Person Meeting
Clean Energy Communities - Webinar

What	Resource Type	Website Link
Ballston Spa On-Site Energy Manager Case Study	Case Study	https://www.nyscrda.ny.gov/-/media/Project/Nyscrda/Files/Publications/Case-Studies/Commercial/COM-OEM-ballstonspaschool-cs.pdf
Virtual Audit and Assessment Process Manual	Case Study	https://www.nyscrda.ny.gov/-/media/Project/Nyscrda/Files/Programs/FlexTech/Virtual-Audit-and-Assessment-Process-Manual.pdf
Energy Efficient Indoor Air Quality Studies - Horace Mann School	Case Study - Click on PreK-12 Schools Sector	https://www.nyscrda.ny.gov/All-Programs/FlexTech-Program/Indoor-Air-Quality/Final-Reports
Energy Efficient Indoor Air Quality Studies - North Colonie CSD	Case Study - Click on PreK-12 Schools Sector	https://www.nyscrda.ny.gov/All-Programs/FlexTech-Program/Indoor-Air-Quality/Final-Reports
Energy Efficient Indoor Air Quality Studies - North Tonawanda CSD	Case Study - Click on PreK-12 Schools Sector	https://www.nyscrda.ny.gov/All-Programs/FlexTech-Program/Indoor-Air-Quality/Final-Reports

What	Resource Type	Website Link
Energy Efficient Indoor Air Quality Studies - Genesee Community Charter School	Case Study - Click on PreK-12 Schools Sector	https://www.nyseda.ny.gov/All-Programs/FlexTech-Program/Indoor-Air-Quality/Final-Reports
Energy Efficient Indoor Air Quality Studies - School District in Western NY	Case Study - Click on PreK-12 Schools Sector	https://www.nyseda.ny.gov/All-Programs/FlexTech-Program/Indoor-Air-Quality/Final-Reports
Energy Efficient Indoor Air Quality Studies - The Harley School	Case Study - Click on PreK-12 Schools Sector	https://www.nyseda.ny.gov/All-Programs/FlexTech-Program/Indoor-Air-Quality/Final-Reports
Energy Efficient Indoor Air Quality Studies - Webster CSD	Case Study - Click on PreK-12 Schools Sector	https://www.nyseda.ny.gov/All-Programs/FlexTech-Program/Indoor-Air-Quality/Final-Reports
Energy Efficient Indoor Air Quality Studies - Williamsville CSD	Case Study - Click on PreK-12 Schools Sector	https://www.nyseda.ny.gov/All-Programs/FlexTech-Program/Indoor-Air-Quality/Final-Reports
NYSERDA P-12 Schools Initiative Website	P-12 Website	https://www.nyseda.ny.gov/All-Programs/P-12-Initiative
HVAC Choices for Student Health & Learning	Guidance Doc - RMI Article	https://www.undauntedk12.org/hvac-rmi

NYS Agency/Non-Profit/Utility Name
Alliance for Clean Energy NYS
BOCES
Conference of Big Five School Districts
Healthy Schools Network
LIPA

National Grid
NYPA
New Buildings Institute
NEEP
One World
Rocky Mountain Institute
Undaunted K12
US Green Buildings Council - Center for Green Schools
NYS School Environmental Health Program
NYS Education Department - Facilities Planning Office
Align NY
Sustainable Westchester

Appendix F. Measure Savings Values Used in Indirect Benefits Estimation

This Appendix contains the values associated with each measure/activity included in the indirect benefits calculation, including the rationale for the value. These numbers and rationale were determined by NYSERDA program staff.

1. Conducted benchmarking
 - a. **Estimated Savings =**
 - i. Per District (5 buildings): 98.6 MWh
 - ii. *The impact evaluation results had a 68% realization rate for electric and it said to only report electric savings because the fuel savings were negative (e.g. from the report – “The negative gas and fuel savings are correlated with the actual electric savings; therefore, it is not recommended that the realization rate be applied to positive gas and fuel savings”). We currently report the following on a building level: 29 MWh, 129.2 MMBtu (gas) and 32.3 MMBtu (oil). Using the methodology above, I only reported 68% of the electric savings (and multiple by 5 = average buildings per project).*
2. Initiated an energy study or capital facilities plan which included energy efficiency projects
 - a. **Estimated Savings =**
 - i. Average study cost (5 buildings) = \$67,507
 1. $MWh = \$67,507 / 143.11 = \underline{471.71 MWh}$
 2. $MMBtu = \$67,507 / 10.15 = \underline{6,650.93 MMBtu}$
 - a. *These ratios are the \$/mWh and MMBtu committed ratios.*
3. Coordinated a comprehensive energy efficiency project, such as a LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.
 - a. **Estimated Savings = 471.71 MWh and 6,650.93 MMBtu**
 - i. *Using the same values as “initiated an energy study or capital facilities plan which included energy efficiency projects”*
4. Engaged in an energy performance contract
 - a. **Estimated Savings = 471.71 MWh and 6,650.93 MMBtu**
 - i. *Using the same values as “initiated an energy study or capital facilities plan which included energy efficiency projects”*
5. Electrified an HVAC system, such as installing a heat pump (either ground source or air source) or installing a variable refrigerant flow (VRF)

- a. **Estimated Savings** = Average savings for a high school CHC project: 6,505 MMBtu
 - i. *Values derived from an existing CHC study – BEEM analysis for Green and Clean Energy Solutions.*
- 6. Electrified building systems like kitchen equipment or hot water heaters
 - a. **Estimated Savings** = Average savings for a kitchen electrification project at one building = 1,574 MMBtu
 - i. *Values derived from a Tack II awarded project.*
- 7. Coordinated a comprehensive energy efficiency project, such as a LED lighting, building envelope, efficient HVAC, controls and/or air sealing project.
 - a. **Estimated Savings** = 471.71 MWh and 6,650.93 MMBtu
- 8. Some other type of clean energy installation, please specify: [OPEN END]
 - a. **Estimated Savings** = 471.71 MWh and 6,650.93 MMBtu
 - i. *Using the same values as “initiated an energy study or capital facilities plan which included energy efficiency projects”*
- 9. Another type of feasibility study or design work, please specify: [OPEN END]
 - a. **Estimated Savings** = 471.71 MWh and 6,650.93 MMBtu
 - i. *Using the same values as “initiated an energy study or capital facilities plan which included energy efficiency projects”*