

Agriculture Market Evaluation

Agriculture Technical Services

Market Update 2

Final Appendices to the Final Report

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NYSERDA Record of Revision

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July 2024	Original Issue	Original Issue
September 2024	Addition of Market Update 1 and Market Update 2 comparison charts	A-11—A-18
October 2024	Addition of Market Update 1 and Market Update 2 comparison charts	All

Notice

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Contents

NYSERDA Record of Revision	i
Notice	ii
Appendix A: Additional Results.....	A-1
Appendix B: Agriculture Energy Audit Program 2021 Participant Survey.....	B-20
Appendix C: Agriculture Energy Audit Program 2020 Respondent Participant Survey.....	C-55
Appendix D: Agriculture Energy Audit Program 2020 Non-Respondent Participant Survey	D-80
Appendix E: Agriculture Energy Audit Program Survey Instrument Utility Questions Only.....	E-116
Appendix F: Energy Audit Program Contractor and Best Practices Interview Guide.....	F-127
Appendix G: Disposition for Agriculture Energy Audit Program Surveys	G-135

Appendix A: Additional Results

The Market Evaluation Team presented the results to NYSERDA Staff on May 9, July 31, and September 16, 2024. This appendix contains the additional findings from the surveys the Market Evaluation Team completed as part of the market evaluation of NYSERDA’s Agriculture Initiatives: Agriculture Energy Audit Program (AEAP).

Agriculture Energy Audit Additional Results

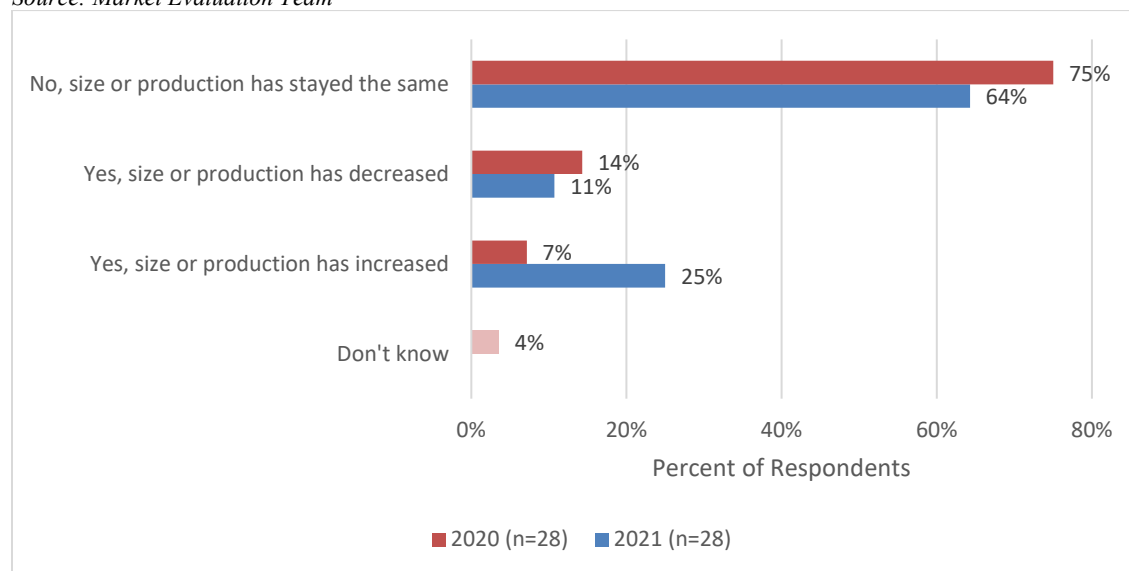
Participant Background

As Figure A-1 , nearly two-thirds or more of respondents reported that their operation size or production has stayed the same since their audit. The 2021 respondents were three times more likely than 2020 respondents to report an increase in operation size since their audit.

Figure A-1. Farm Size or Production Change¹ by Audit Year

Most 2020 and 2021 audit year respondents reported no change in the size of their operation or production.

Source: Market Evaluation Team



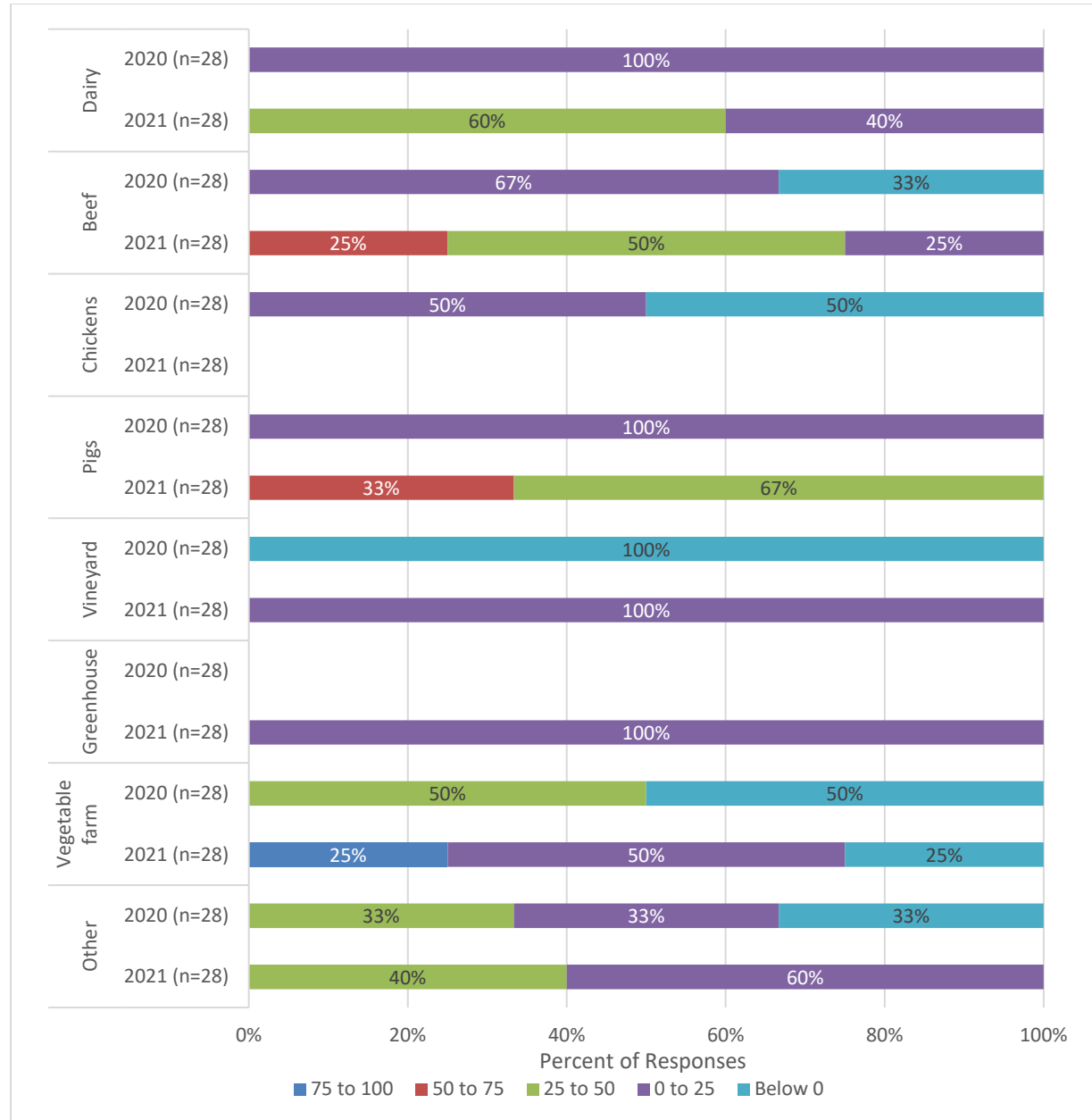
Among survey respondents who experienced changes to their size or production since the audit, 2020 respondents (11%) were more likely to report an increase in size or production since their energy audit, compared to 2021 respondents (25%) who reported experiencing a decrease. As shown in Figure A-2, Pigs (33%), Beef (25%), and Vegetable farms (25%) were the commodities most likely for 2021 respondents to report large increases in operation size (50%-100%).

¹ Q6. Have there been any major changes to the size or production of your operation (increased, decreased, or stayed the same) since the last time you had an audit done?

Figure A-2. Percent Change in Agricultural Operation Since Audit² by Audit Year

2021 respondents reported increases in production size for beef, pigs, and vegetable farm commodities while 2020 respondents reported production declines in beef, chickens, vineyards, and vegetable commodities.

Source: Market Evaluation Team



Audit Recommendations

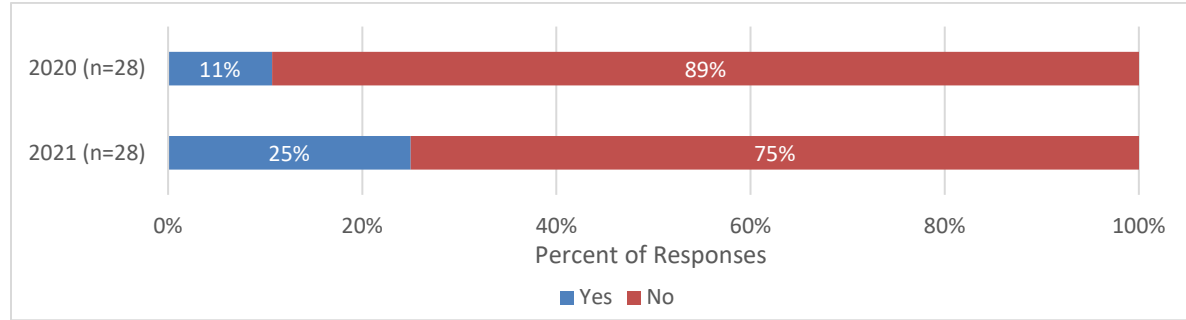
² Q6. Please complete the table with information about how your agricultural operation has changed since your last audit.

Most respondents (89% of 2020 and 75% of 2021) reported that they did not install energy efficient technologies beyond those recommended in the audit report, shown in Figure A-3.

Figure A-3. Installation of Other Energy Efficient Technologies³ by Audit Year

One-quarter of 2021 respondents installed other energy efficient technologies than those recommended, more than double 2020 respondents.

Source: Market Evaluation Team

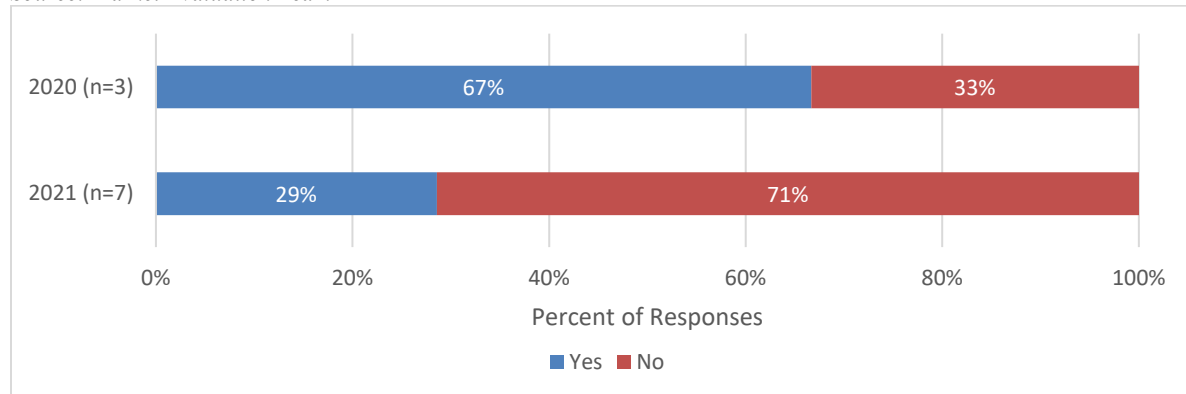


As shown in Figure A-4, 2020 respondents (67%, n=2) were more likely than 2021 respondents (29%, n=2) to report that the AEAP influenced additional energy efficient technology installation. Ten respondents reported installed technologies including burners, solar panels, a barn with LED lights, a well pump, a hot water heater, a block heater timer, and dusk to dawn lighting.

Figure A-4. Influence of the AEAP on Additional Technology Installation⁴ by Audit Year

2020 respondents were twice as likely as 2021 respondents to report that the AEAP influenced additional technology installation.

Source: Market Evaluation Team



Best Practices

³ Q11. Have you installed any other energy efficient technologies at your location that were not suggested in the audit?

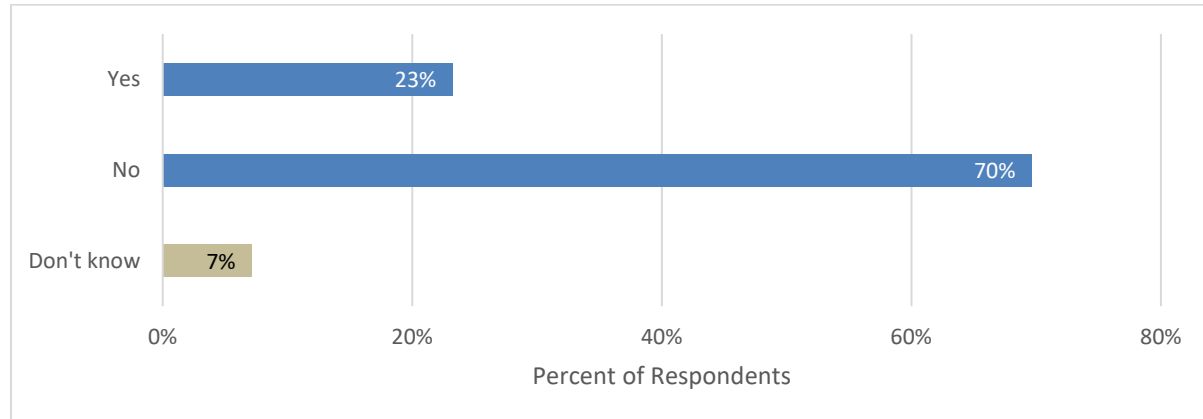
⁴ Q12. Did your participation in NYSERDA's Agriculture Energy Audit Program influence your decision to install the additional technology(ies) that were not suggested in the audit?

As shown in Figure A-5, most respondents (77%) were not aware, or did not know if they were aware, of the NYSERDA Best Practices for Agriculture website.

Figure A-5. Aware of NYSERDA Best Practices for Agriculture⁵ (n=56)

More than three-quarters of respondents were not aware of the NYSERDA Best Practices website.

Source: Market Evaluation Team



As shown in Figure A-6, aware respondents reported learning of Best Practices from an agriculture facility auditor (31%) and NYSERDA program staff (31%). Additionally, respondents were half as likely (15%) to report learning about Best Practices from the NYSERDA website. Three respondents reported other sources of learning about Best Practices including trade shows, their utility provider (National Grid), and a newspaper. When respondents were asked if they had shared Best Practices⁶ three respondents had and all had shared through in-person events like industry or networking events (n=2), conferences (n=2), and informal conversation (n=1).⁷

⁵ Q24. Have you heard of NYSERDA's website Energy Best Practices for Agriculture?

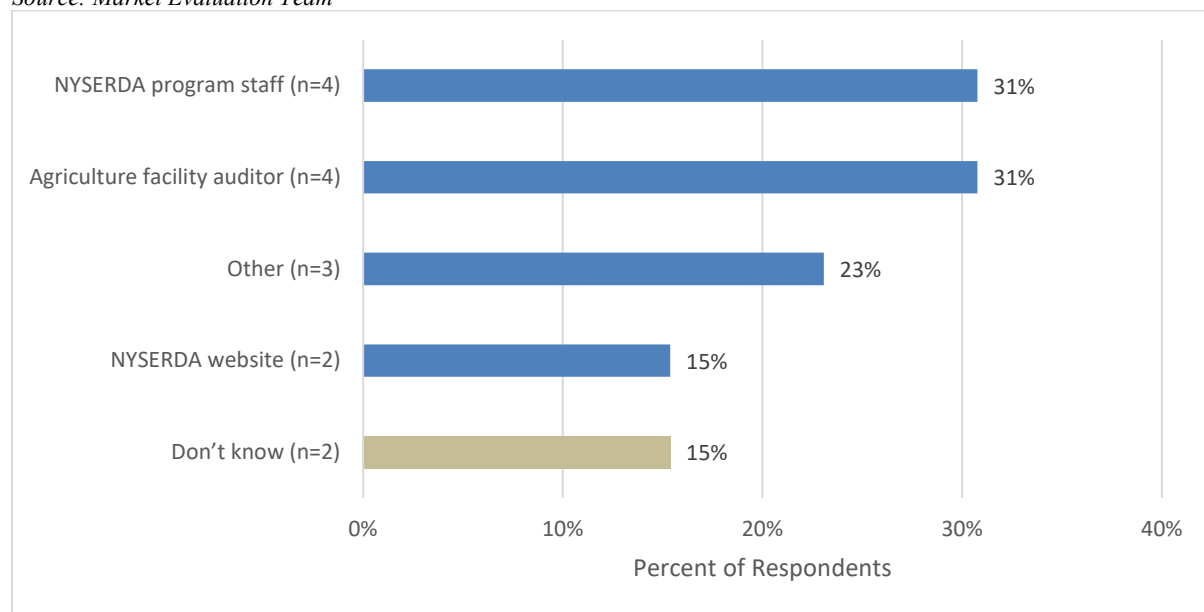
⁶ 3 Q30. Have you shared any information from the Best Practice guides with other farmers and/or agriculture facilities?

⁷ Q30a. Where and/or by what method did you share this information? Select all that apply.

Figure A-6. Communication Methods for NYSERDA Best Practices for Agriculture⁸ (n=13)

Most respondents received information about the Best Practices through one-on-one communications methods.

Source: Market Evaluation Team



As shown in Figure A-7, when Best Practices-aware respondents were asked about their use of Best Practices, nearly half of respondents (46%) reported ‘None’ or ‘Don’t know’, which could indicate that available Best Practices were not applicable to their operations. For respondents that were aware of Best Practices, they reported using fact sheets and guidebooks (15%) were twice as frequently as videos.

Respondents reported implementing suggested Greenhouse Best Practices measures including:

- Drip irrigation/subirrigation system;
- Variable frequency drive (VFD)/Variable speed drive (VSD) motors;
- Infrared film;
- High efficiency space heating;
- Environmental control systems; and
- Energy curtains.

Respondents reported implementing suggested Dairy Best Practices measures including:

- LEDs;
- Milk pre-cooler;
- VFD milk transfer pump;

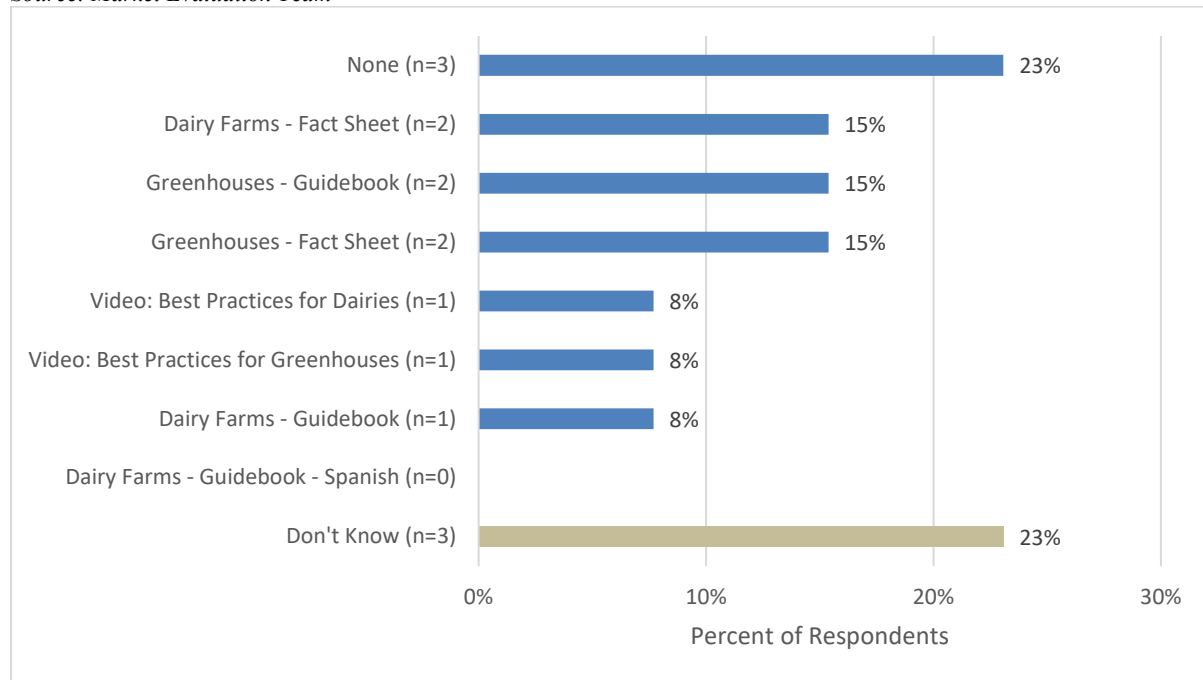
⁸ Q25. How did you hear about NYSERDA’s Energy Best Practices for Agriculture? Select all that apply.

- Scroll compressor;
- High efficiency water heater/fans; and
- Compressor heat recovery.

Figure A-7. Aspects of Energy Best Practices Used⁹ (n=13)

Most respondents either did not know about the Best Practices resources or did not use them.

Source: Market Evaluation Team



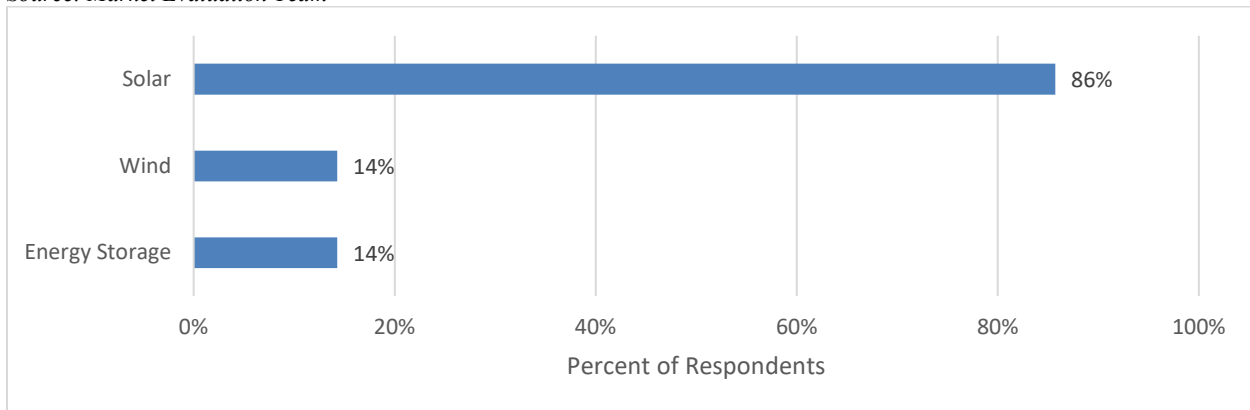
Renewables

Few respondents (13%, n=7 of 56 respondents) reported they had installed renewable energy technologies. Of these seven respondents, six reported installing solar energy (86%) while only one respondent each reported installing wind and energy storage, shown in Figure A-8.

⁹ Q26. Which of the Energy Best Practices for Agriculture have you used? Select all that apply.

Figure A-8. Type of Renewables Installed¹⁰ (n=7)

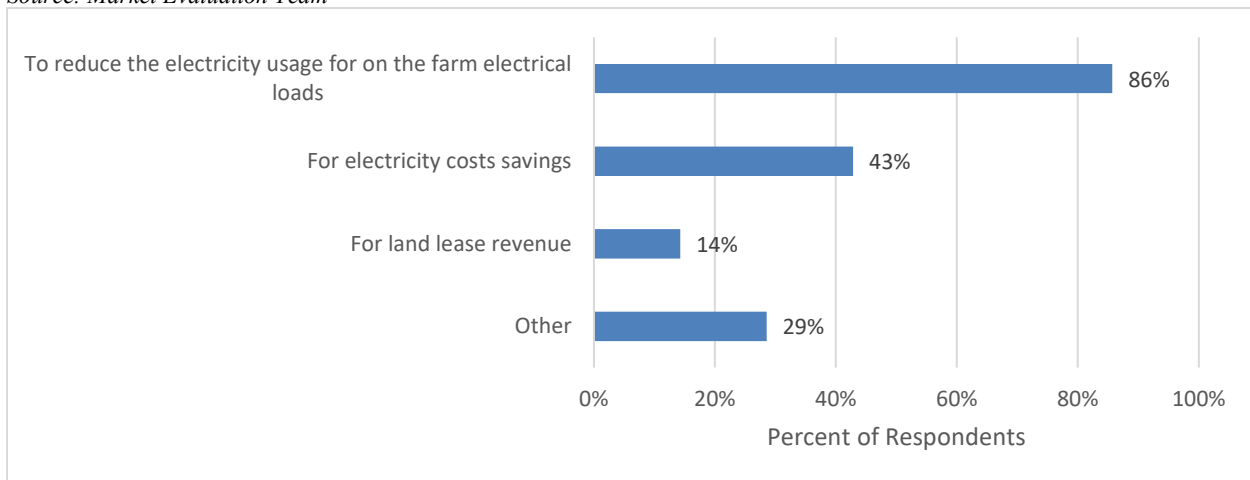
While few respondents installed renewables, solar was most frequently installed compared to wind or energy storage.
Source: Market Evaluation Team



Respondents most frequently reported reducing their farm's electrical load as their motivation for installing renewables (86%), twice the frequency of those reporting that electricity cost savings (43%) was a motivation, shown in Figure A-9. Respondents were least likely to report land lease revenue as a motivation, which could indicate that respondents are less aware of the ability to produce land lease revenue from on-site renewables.

Figure A-9. Motivations for Installing Renewables^{11,12} (n=7)

Respondents who reported renewables installation did so to reduce electricity usage on their farms.
Source: Market Evaluation Team



COVID-19 Impacts

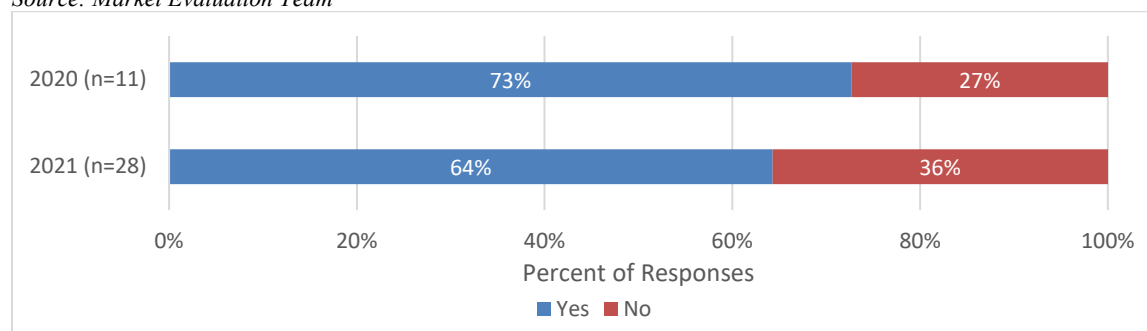
¹⁰ Q32a. Did you add wind, solar, and/or energy storage?

¹¹ Q32c. Why did you choose to install wind, solar, and/or energy storage? Select all that apply.

¹² For the land lease revenue; only if applicable (i.e., renewable project injects into the utility grid and not the on farm electrical loads).

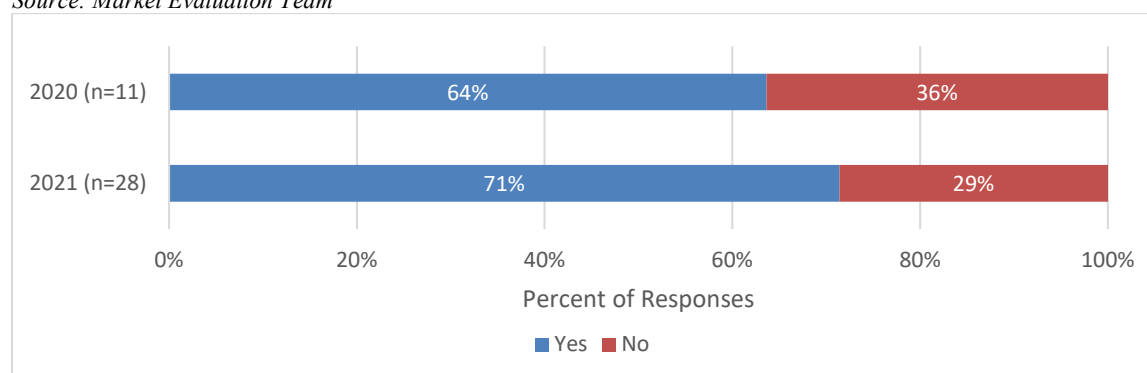
Most participants' agricultural or business operations were affected by COVID-19-related shutdowns and policies. As shown in Figure A-10, 2020 respondents (73%) were 9 points more likely to report applying for COVID-19 relief than 2021 respondents (64%).

Figure A-10. Applied for COVID-19 Relief¹³ by Audit Year
 More than half of respondents reported that they had applied for COVID-19 relief.
Source: Market Evaluation Team



As shown in Figure A-11, 2021 respondents (71%) were 7 points more likely than 2020 respondents (64%) to report impacts due to COVID-related shutdowns and policies.

Figure A-11. COVID-Related Shutdowns and Policies Impact on Business¹⁴ by Audit Year
 More than half of 2020 and 2021 respondents reported being affected by COVID-related shutdowns.
Source: Market Evaluation Team



As shown in Figure A-12, 2021 respondents (90%) were most likely to report negative COVID-19 impacts on the supply of materials to operate—a frequency 32 points higher than 2020 respondents. Respondents also reported product demand (86% of 2020 and 55% of 2021) and financial standing (57% of 2020 and 80% of 2021) as negatively impacted business aspects. While 2020 respondents did not report any positive business impacts, indicative of the decline experienced across industries as the COVID-19 pandemic slowed economies worldwide and created widespread uncertainty, especially for

¹³ Q41. Did you apply for any COVID-19 relief (Municipal, State, or Federal) for your agricultural operation or business?

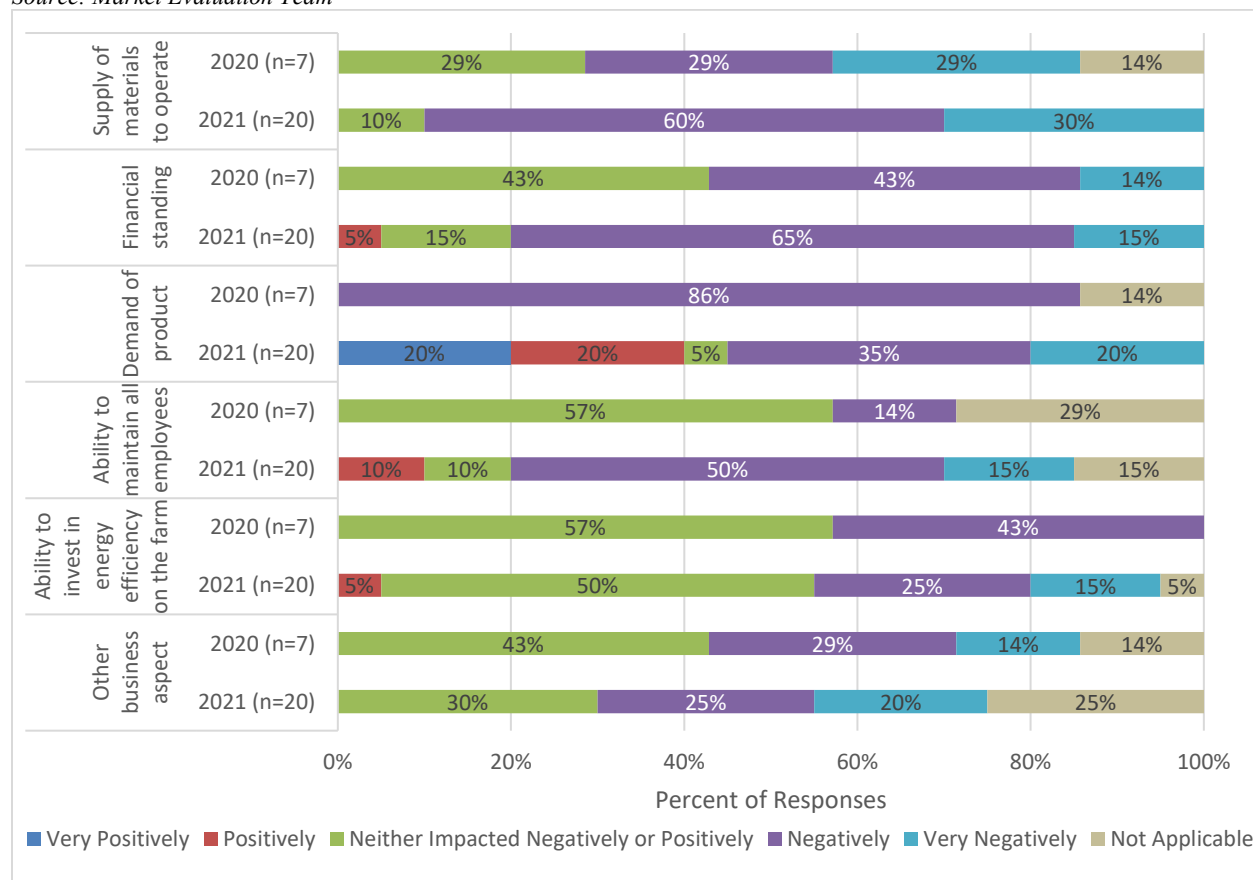
¹⁴ Q39. Did the COVID-19 pandemic-related shutdowns and policies affect your agricultural or business operations in New York State in 2020 or 2021?

small businesses, 2021 respondents were most likely to report a positive impact on product demand (40%). Positive impacts could be attributed to an increase in at-home cooking or to transportation issues, such as truck driver strikes, which affected long-haul transport and may have increased local food demand.¹⁵

Figure A-12. Business Aspects Affected by COVID-19¹⁶ by Audit Year (n=27)

Respondents reported negative COVID-19 impacts on product demand, financial standing, and supply of materials.

Source: Market Evaluation Team



When asked about their application for COVID-19 relief, respondents were most likely to apply for Federal relief with 2021 respondents 19 points more likely than 2020 respondents to report having done so, as shown in Figure A-13. Of three respondents who reported an ‘Other’ type of COVID relief, two were unsure of the relief type received (n=1 of 2020 and n=1 of 2021) and one 2020 respondent reported

¹⁵ Satisfaction by commodity of 2021 respondents showed that the positive ratings for product demand came from dairy (n=2), row crops (n=1), orchards/vineyards (n=1), and Other (n=4) commodities.

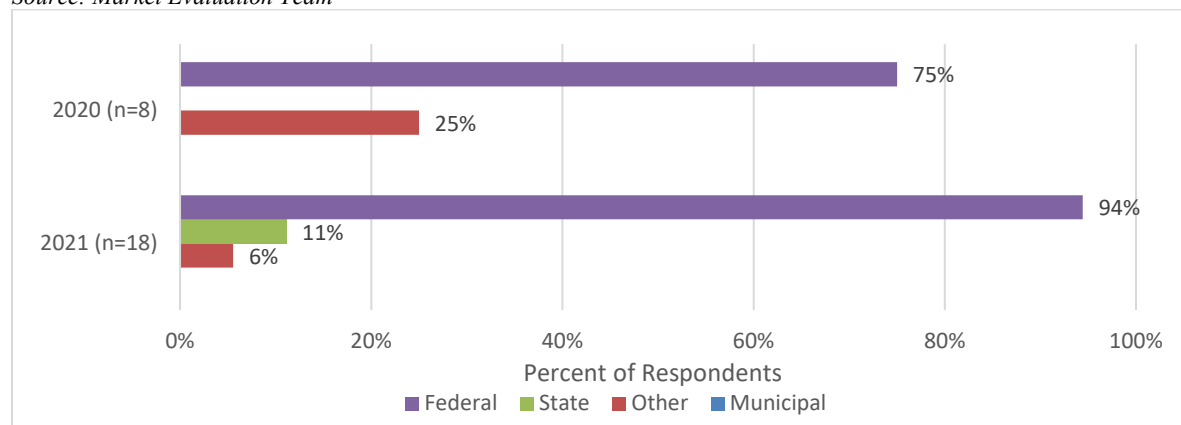
¹⁶ Q40. Please indicate the aspect of your business impacted by the COVID-19 pandemic in 2020 and 2021.

“payroll” relief, which may refer to the federal government’s Internal Revenue Service (IRS) Employee Retention Credit (ERTC) specific for payroll use.

Figure A-13. COVID-19 Relief Applied For¹⁷ by Audit Year

Most respondents who applied for COVID-19 relief applied for federal relief.

Source: Market Evaluation Team

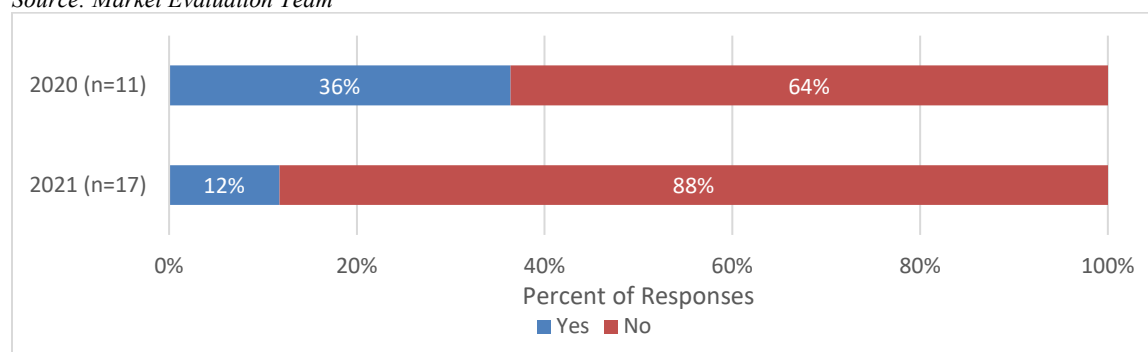


As shown in Figure A-14, most respondents did not use relief funds to upgrade technologies with only one-third of 2020 respondents (36%) and one-eighth of 2021 respondents (12%) reporting so. For 2021 respondents, this could indicate uncertainty of when pandemic-related challenges might end, resulting in funds used to keep farms financially afloat rather than for upgrades whereas, given the audit year surveyed, 2020 respondents may have had leftover funds to spend more recently to upgrade technologies.

Figure A-14. Use of COVID-19 Relief Funds to Upgrade Technologies¹⁸ by Audit Year

One-third of 2020 respondents used COVID-19 relief funds to upgrade technologies, three times higher than 2021 respondents.

Source: Market Evaluation Team



Market Update 1 and Market Update 2 Comparison Charts

¹⁷ Q42. Please indicate the types of COVID-19 relief you applied for. Select all that apply.

¹⁸ Q44. In the previous question, you indicated receiving COVID-19 relief funds. Did you use any of the COVID-19 relief money to update any of the technologies to be more energy efficient at your location in New York State?

Analyzing and illustrating the differences between the Market Update 1 (MU1) and Market Update 2 (MU2) studies contextualize the experiences and desired improvements reported by survey respondents who participated in the AEAP. A note for the following Market Update (MU) comparisons—these evaluations took place in back-to-back years, and each MU staggers the years in which participants completed audits such that MU1 included participants who completed audits in years 2017 through 2020 and MU2 included participants who completed audits in years 2020¹⁹ and 2021. Given the necessary delay between audit and surveying to allow installation of recommended measures, MU2 survey responses may not reflect changes recommended because of MU1—such changes would appear in the 2023 or 2024 audit participant cohort, while programmatic changes because of MU2 recommendations would appear in the 2024 or 2025 audit participant cohort. Identifying and analyzing the impact of these changes to AEAP may bring value at a later stage of the AEAP. Please note that only certain aspects of the surveys could be compared due to differences in questions asked between surveys (e.g., COVID-19, renewables siting, climate resiliency, best practices were included in one or two but not all surveys).

Initiative experiences and process improvement opportunities

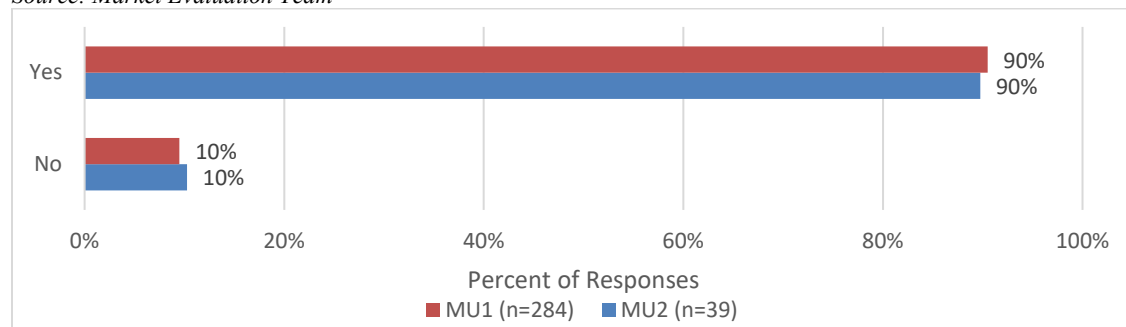
To understand how effective participants considered, the MU surveys captured the likelihood to recommend the program. As shown in Figure A-15, most MU1 and MU2 respondents reported that they would recommend the AEAP which could indicate consistency in the delivery and/or benefits of AEAP participation. Between the two MUs, there were similar reasons as to why participants would not recommend the program: the audit reports lacked follow-up or were delivered late, the auditor recommended equipment failed after installation, and that audit recommendations had high upfront costs.

¹⁹ 2020 audit participants were surveyed again for two reasons—because NYSERDA found that it may take up to three years to complete the process from recommendation to installation, depending on the measures installed and because MU1 survey responses by 2020 audit participants did not meet the required number for statistical significance. Surveyed 2020 audit participants were divided between non-respondents and respondents to the MU1 survey. MU1 respondents who took the MU2 survey were asked a truncated set of questions primarily focused on equipment installation rather than program satisfaction, recommendation, or communications methods.

Figure A-15. Likelihood to Recommend AEAP²⁰ by MU

Both MU1 and MU2 respondents reported their likelihood of recommending the AEAP at a frequency of 90 percent.

Source: Market Evaluation Team



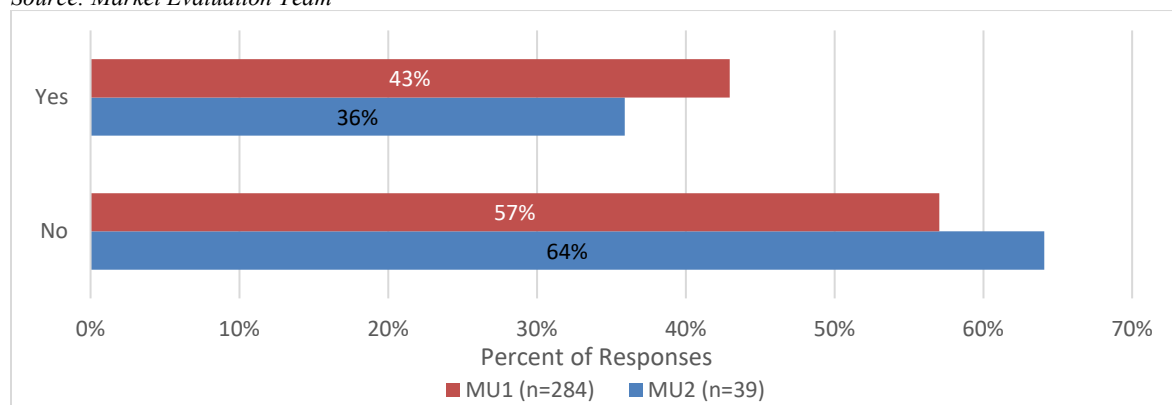
The likelihood to recommend was high for both MU cohorts, respondents were less likely to report that they had recommended the AEAP. The MU1 evaluation survey took place between October 2022 and January 2023 and covered audit participants between the years 2017 and 2020 which allowed survey respondents three to six years, depending on audit year, to recommend the program compared to MU2 survey respondents who had three to four years to recommend the program. This could explain the higher frequency of MU1 respondents reporting that they would recommend the program (43% of 284 respondents) compared to MU2 respondents (36% of 39 respondents), as seen in Figure A-16. The difference in frequency of these survey responses could also indicate that participants are most likely to recommend the AEAP within the first few years after their audit rather than many years after.

²⁰ Q19. Would you recommend the NYSERDA Agriculture Energy Audit Program to an agricultural business owner or farmer?

Figure A-16. Have Recommended Ag Audit Program²¹ by MU

While over one-third of each MU cohort had recommended the AEAP, MU1 respondents were 7 points more likely than MU2 respondents to have recommended it.

Source: Market Evaluation Team



To understand how participants experienced the program, respondents were asked to rate aspects of the AEAP on a scale from 1 to 5, where 1 is ‘very dissatisfied’ and 5 is ‘very satisfied.’ Survey respondents most frequently reported satisfaction (score of 4 or 5) with the quality of the auditor’s performance (80% of MU1 and 70% of MU2) and the adequacy of the communication from NYSERDA’s program staff (64%), as shown in Figure A-17. MU1 respondents (76%) were 19 points more likely than MU2 respondents (57%) to report satisfaction with the ease of the application process. MU1 respondents (71%) were also 17 points more likely than MU2 respondents to report satisfaction with the program overall. The discrepancy between MU1 and MU2 could indicate program execution impacted by the COVID-19 pandemic as most MU1 respondents would not have experienced pandemic impacts during their audit years but all MU2 respondents would have participated during that impacted time, including short-staffing due to illness or cutbacks or by attempts to spend less time in-person at a site or solving an issue. ‘Sufficiency of program issue resolution’, which refers to issues experienced by AEAP participants that they desired or required assistance from NYSERDA or from auditors with, also experienced a discrepancy in reported satisfaction—MU1 respondents (39%) were 29 points more likely to report ‘not applicable’ than MU2 respondents (10%) which could indicate that MU2 respondents had more issues that required, or that they desired, resolution for. Respondents reported the least satisfaction with sufficiency of program issue resolution (36%) consistent with MU1 findings (31% of 297 respondents) and the open-ended responses (n=11) for respondent dissatisfaction echo MU1 findings (n=47). Respondents from the MU2 and MU1 study both reported that the audit did not provide viable measure recommendations as they were too costly to implement or were an insufficient amount (n=7 of 11 MU2

²¹ Q20. Have you recommended the NYSERDA Agriculture Energy Audit Program to an agricultural business owner or farmer?

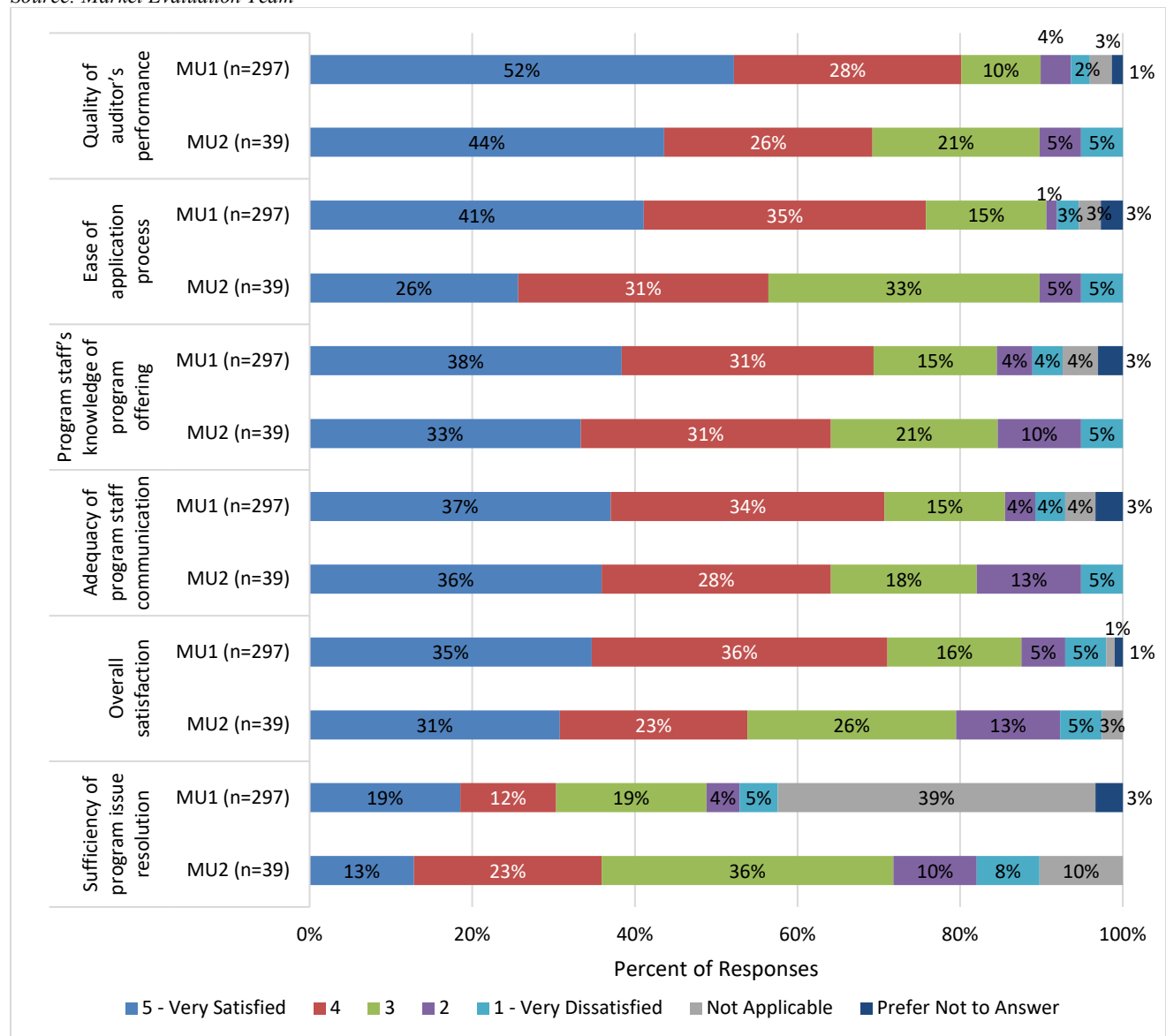
responses; n=9 of 47 MU1 responses). Additional similarities were that there was little follow-up or lack of communication from auditors (n=2 of 11 MU2 responses; n=5 of 47 MU1 responses), and the audit report took too long to receive (n=2 of 11 MU2 responses; n=5 of 47 MU1 responses)²². These responses could indicate that the dissatisfaction with the ‘sufficiency of program issue resolution’ may include the inability to understand and receive guidance on the next steps in the audit process. The difference in overall satisfaction, in satisfaction for almost every aspect of the AEAP between MU1 and MU2 surveys, could indicate other AEAP challenges or barriers or the result of COVID-related challenges; another evaluation may assist in understanding the root cause of these differences.

²² Q18. Please further explain or share your experience that has led to any dissatisfaction (indicated by a ‘1’ or a ‘2’) noted in the previous question.

Figure A-17. Program Satisfaction by MU and Aspect²³

Respondents were most satisfied with the auditor's performance and NYSERDA program staff communication; MU1 respondents were overall more satisfied by program aspect than MU2 respondents.

Source: Market Evaluation Team



When asked how the program could be improved, MU1 respondents were most likely to report better sharing of financing information (23%) and MU2 respondents were most likely to report more follow-up from NYSERDA (21%)—though MU2 respondents also commonly reported better sharing of financing information (18%), as shown in Figure A-18. MU2 respondents (5%) were half as likely as MU1

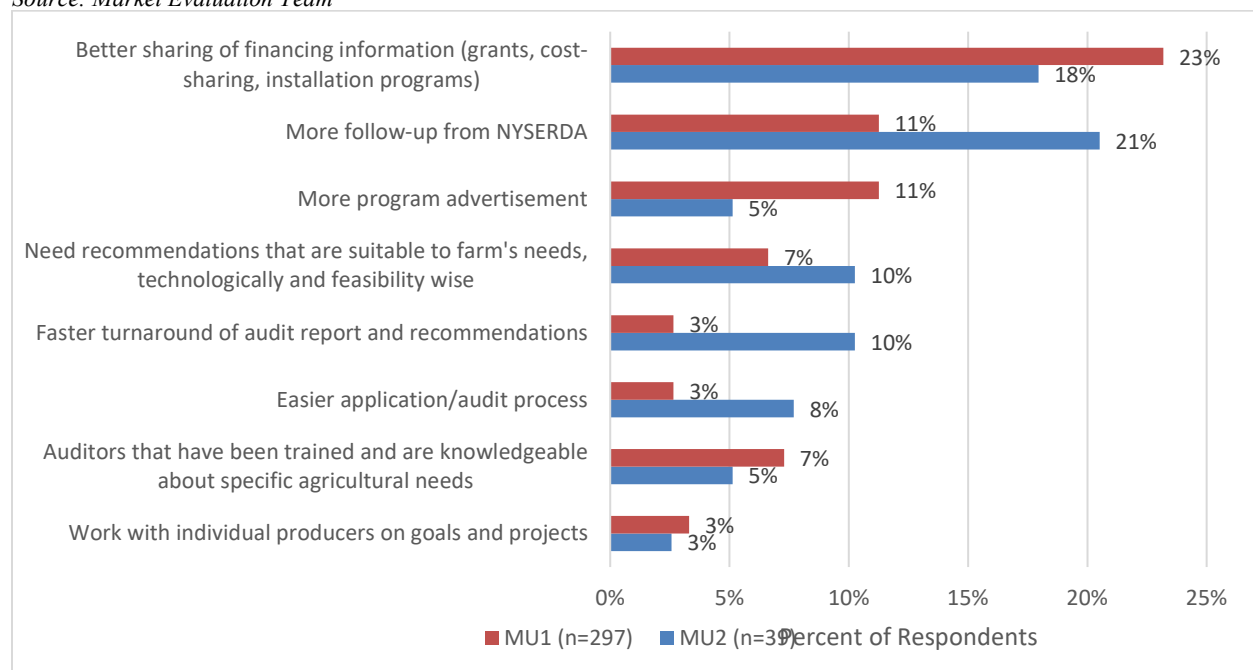
²³ Q17. On a scale from 1 to 5 with '1' being Very Dissatisfied and '5' being Very Satisfied, please indicate your level of satisfaction with the following NYSERDA Agriculture Energy Audit Program elements:

respondents (11%) to report wanting more program advertisement, which could indicate improvement in communication about the AEAP to potential participants. MU2 respondents (10%) were more than three times as likely as MU1 respondents (3%) to report wanting faster turnaround time for audit reports and recommendations. MU2 respondents (8%) were more than twice as likely as MU1 respondents (3%) to desire an easier application audit process. These differences in responses between MUs could indicate the impact of COVID-19 on the program—such as lengthier time to gather information to complete reports due to inability to access farmers/farms or being short-staffed due to illness. These issues could also indicate an internal programmatic challenge or challenge with participant farms that additional evaluation may better parse out to understand if these experiences are a continuing challenge.

Figure A-18. Actions for Improvement²⁴ by MU

Better sharing of financing information and more follow-up from NYSERDA were the most frequently reported actions for improvement amongst MU1 and MU2 respondents; MU2 respondents desire more follow-up at nearly twice the frequency of MU1 respondents.

Source: Market Evaluation Team



²⁴ Q22. Please indicate the top three ways that you think NYSERDA should share and communicate information about the Agricultural Audits program with agricultural producers and farmers.

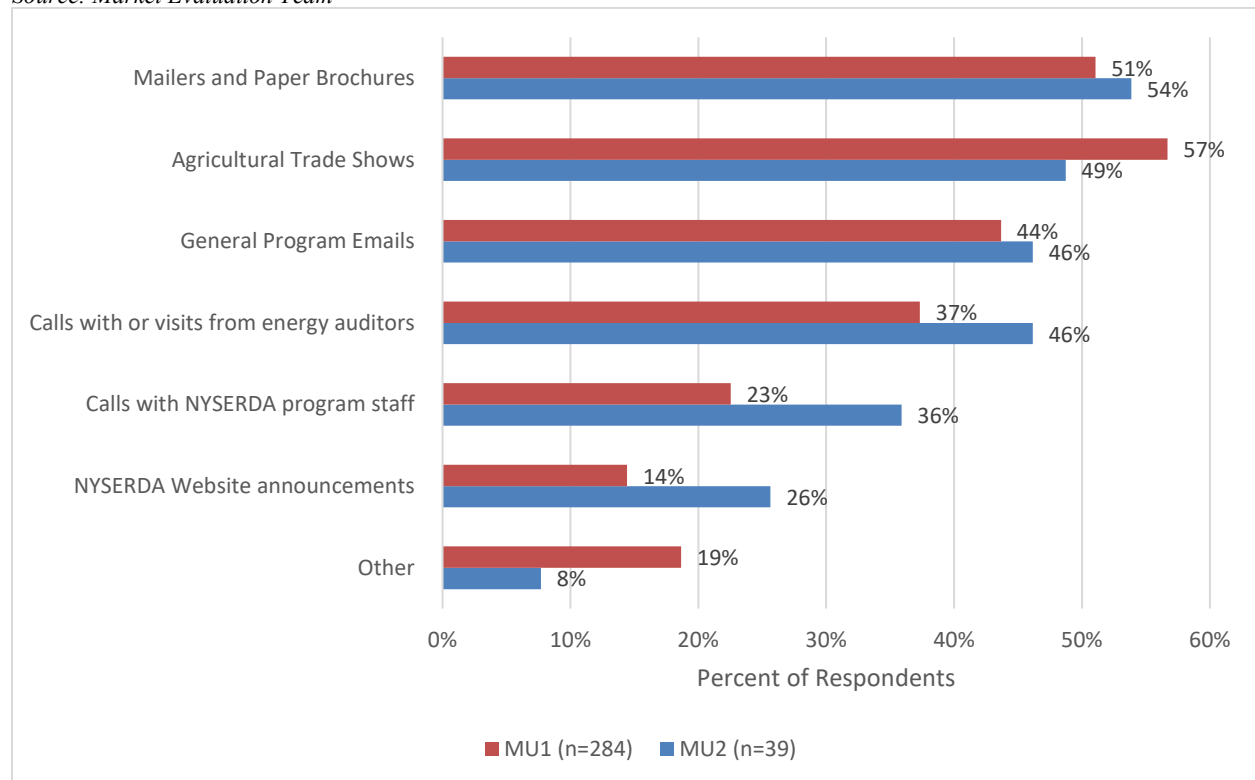
Effective Communications

The respondents were asked to report effective communication methods for learning about the AEAP. Half or more of MU respondents were most likely to report mailers and paper brochures (51% of MU1 and 54% of MU2) and agricultural trade shows (57% of MU1 and 49% of MU2) as the most effective communication methods for sharing information about AEAP to agricultural producers and farmers, as shown in Figure A-19. Both MU respondent cohorts reported ‘Other’ effective communications methods with MU1 respondents reporting these at a frequency more than twice that of MU2 respondents. MU1 respondents reported agricultural publications (19% of 53 responses) and farm bureaus, associations, and adjacent businesses like vendors (19% of 53 responses), echoing similar methods reported by MU2 respondents who included media such as farm magazines, newspapers, social media (n=1), and Agriculture industry vendors (n=1).

Figure A-19. Effective Communication Methods²⁵ by MU

Mailers and paper brochures and agricultural trade shows were reported as the most effective communication methods; NYSERDA website announcements were reported as effective by MU2 respondents at nearly double the frequency of MU1 respondents.

Source: Market Evaluation Team



²⁵ Q22. Please indicate the top three ways that you think NYSERDA should share and communicate information about the Agricultural Audits program with agricultural producers and farmers.

FlexTech Auditor Interviews Additional Results

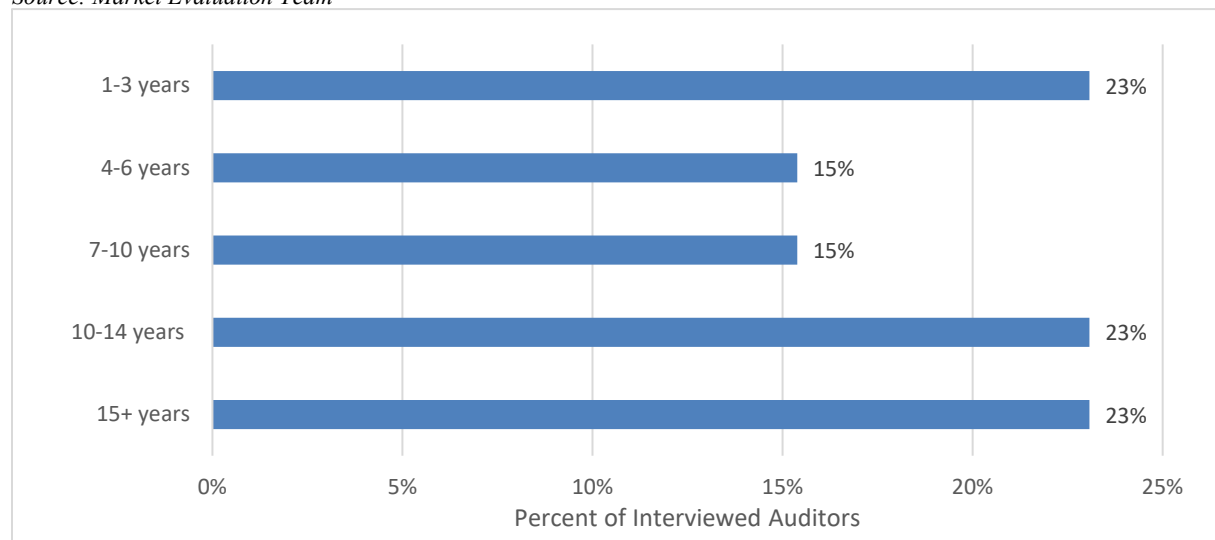
Auditor Experience

Interviewed auditors (n=13) were asked about their length of time and type of experience in the agricultural or farming sector. More than half of auditors (61%) reported at least 7 years of experience, as shown in Figure A-20.

Figure A-20. Length of Time Working in Agriculture and Farming Sector (n=13) ^{26,27}

More than half of auditors reported at least 7 years of experience in the farming or agriculture sector.

Source: Market Evaluation Team



Program Process

To execute audits, auditors reported that they²⁸:

1. Receive an audit application that includes the farm's address, contact information, main farm type, annual production, and audit type sought;
2. Call farmers to schedule a time to go on-site and to learn more about the farmer's audit expectations or goals and to request additional information, such as utility bills;
3. Walk the farm with knowledgeable staff to obtain audit information and take photos of all on-site equipment;
4. Inventory all equipment and create calculations;

²⁶ For how long have you worked in the agriculture and/or farming sector?

²⁷ Thirteen energy auditors were interviewed across 11 interviews and included 10 audit firms. Moving into the rest of the deck, 'auditors' and 'interviewed auditors' will refer to the 11 interviews and not the 13 individual auditors.

²⁸ Please describe the process that you undertake when conducting an audit with a farmer or agriculture facility. [Probe: How do you contact the farmer? What information do you give them on site? What information follows later?]

5. Conduct follow-up calls with farmer to confirm information or ask more questions if need be;
6. Develop recommended measures;
7. Conduct internal quality check;
8. Submit to NYSERDA and EnSave;
9. Communicate with EnSave on report comments and edits; and
10. Once approved by ENSAVE, send the report to the farmer.

Auditors also reported that small farmers are less engaged with the AEAP and may not be able to interact with auditors during the on-site audit process because many small farmers have another job to supplement their farming. Large farms tend to be the farmer's main job, or are commercialized, which allows for more dedicated AEAP engagement.

Appendix B: Agriculture Energy Audit Program 2021 Participant Survey

Agriculture Energy Audit Program Participant Survey Market Update 2

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28 November 2023

Contents

1. Introduction B-22

1.1 Draft of E-mail Language – Online Survey (Initial E-mail).....	B-23
1.2 Draft of E-mail Language – Online Survey (Reminder E-mail).....	B-25
1.3 Draft of E-Mail Language – Online Survey (Final Reminder E-Mail).....	B-26

2. Survey B-29

2.1 Introduction.....	B-30
2.2 Participant Background.....	B-31
2.3 Audit Recommendations.....	B-33
2.4 Program, Process, and Communications.....	B-39
2.5 Best Practices	B-41
2.6 Renewables	B-45
2.7 Climate Resiliency	B-46
2.8 COVID-19 Impacts.....	B-47
2.9 Account Information Check.....	B-50
2.10 Gift Card Check	B-54
2.11 Terminations/Close	B-54

1. Introduction

This document includes Guidehouse’s draft survey instrument for the Agriculture Energy Audit Program Participant Survey.

Guidehouse will utilize Qualtrics to administer the online survey. Recruitment of respondents will occur through three emails and two phone calls. For those that do not take the survey online, Guidehouse plans to call the participants so that they can take the survey over the phone. The survey will be tested in advance of full deployment and may be modified after deployment to enhance the number of completed interviews. Compiled survey results will be presented to NYSERDA and summarized in the final report. Table 1 identifies the survey characteristics.

Table 1: Survey Characteristics

Characteristics	Description
Statement of purpose	To understand participation in the program, to estimate direct and indirect impacts, to learn about the participant journey through the program and how processes can improve, to learn about participant experience with Best Practices, how farmers perceive resiliency impacting their operations, and to gain knowledge about the impacts of COVID-19 on participants.
Qualified respondent	A grower or farmer that has participated in NYSERDA’s Agriculture Energy Audit Program in 2021.
Sample Size	A census of all participants from previous audits conducted in 2021 will be contacted.
Target number of completes	Population size is: 55 audit participants from 2021
Estimated survey length	30 minutes
Survey timeline	Q4 2023-Q1 2024
Question categories	Introduction: Q1-Q2; Participant Background: Q3-Q7; Audit Recommendations: Q8-Q16b; Best Practices: Q24-Q31; Renewables: Q32-Q32c; Climate Resiliency: Q33-Q38; COVID-19 Impacts: Q39-Q45; Account Information Check: Q46-Q50

Table 2. Survey Research Objectives

Evaluation Questions	Survey Questions
Direct Impacts	
What is the measure adoption rate WITH EnSave administrative assistance (i.e., within the first year after the audit) of Agriculture Energy Audit Program?	Q8, Q10
What are the estimated direct impacts of technologies installed WITH EnSave assistance from Agriculture Energy Audit Program?	Q8, Q10
Indirect Impacts	
What is the measure adoption rate WITHOUT EnSave administrative assistance (i.e., after the end of the first year after the audit) of Agriculture Energy Audit Program?	Q11-Q16b
What are the estimated indirect impacts (i.e., WITHOUT EnSave assistance) from Agriculture Energy Audit Program?	Q11-Q16b
Program, Processes, and Improvements	
Are there any process improvements for Agriculture Energy Audit Program?	Q17-Q23a
What was the impact of COVID-19 on participants related to the initiatives?	Q39-Q45
How are Best Practice guides received by participants? Are guides shared peer-to-peer? What improvements can be made?	Q24-Q31
How are participants experiencing extreme climate events? How are these events impacting participants? What are they doing to address this impact on their farming operations?	Q33-Q38

1.1 Draft of E-mail Language – Online Survey (Initial E-mail)

From: Jeremy Simpson <noreply@qemailserver.com>

Sent: Tuesday, February 8, 2022 11:46 AM

To: John Doe <john.doe@gmail.com>

Subject: Earn up to \$50 by completing a short survey about your participation in NYSERDA's Agriculture Energy Audit Program!

Reply to: NYSERDAsurvey@guidhouse.com



Dear [Contact Name],

The New York State Energy Research and Development Authority (NYSERDA) is conducting a survey of the Agriculture Energy Audit Program. Our records indicate you or your organization participated in

this program in the last 5 years. Your feedback is very important to NYSERDA and we are writing to ask you to complete this survey.

This survey is being conducted by Guidehouse, Inc. and Apprise, two independent evaluation firms, and will be used to better understand the types of technologies used by agriculture producers like you, and to improve programs and resources that support the agricultural industry in New York State. The information you provide will be used for research purposes only and kept confidential to the extent permitted by law including but not limited to the Freedom of Information Law (FOIL). The analysis will only use summary-level data and will not identify individual respondents.

This survey is expected to take 30 minutes or less to complete. To express our appreciation, you will receive a \$25 electronic gift card after completing the survey! The gift card is redeemable with businesses such as Amazon, REI, Nike, Starbucks, Home Depot, and Target.

One goal of this study is to estimate energy savings associated with the NYSERDA Agriculture Energy Audit Program. NYSERDA requests permission to access historic utility data for the accounts associated with the address of the participating location, so you may find it helpful to have your farming operation bills handy when you take this survey. As a thank you, you will receive **\$25 added to your gift card – for a total of \$50** – if you are willing to provide utility account information as part of this survey effort.

This survey will close on [date]. The gift card will be delivered within 7 business days of your completion and submission of the survey.

You can complete the survey by link or by phone:

Option 1. Complete the survey online at: **www.tinyurl/farmsurvey**
To begin the survey, enter your Access Code / PIN.
Your Access Code / PIN is: <<CODE>>

Option 2. Call APPRISE toll-free at **1-888-434-8008** to complete the survey by telephone.
You may call APPRISE any time between 8:30 a.m. to 5 p.m. EST Monday-Friday

If you have any questions about the questions in this survey or if you experience any technical difficulties completing it, please contact **NYSERDAsurvey@guidehouse.com**. If you would like to speak to someone at NYSERDA regarding the validity of this survey, please contact me using the information listed in my signature below.

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State.

Sincerely,

Jeremy S. Simpson (he/him)

NYSERDA
15 Columbia Circle | Albany, NY 12203-6399
P: 518-862-1090 x3234 | E: jeremy.simpson@nyserda.ny.gov
nyserda.ny.gov

Follow the link to opt out of future emails:
[Insert Opt out link/ "Click here to unsubscribe"]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

1.2 Draft of E-mail Language – Online Survey (Reminder E-mail)

From: Jeremy Simpson <noreply@qemailserver.com>

Sent: Tuesday, February 8, 2022 11:46 AM

To: John Doe <john.doe@gmail.com>

Subject: Reminder: Earn up to \$50 by completing a short survey about your participation in NYSERDA's Agriculture Energy Audit Program!

Reply to: NYSERDAsurvey@guidehouse.com



Dear [Contact Name],

A few days ago, we reached out to you about how the New York State Energy Research and Development Authority (NYSERDA) has partnered with Guidehouse, Inc. to understand the awareness and use of different energy technologies and resources in New York State's agriculture sector. As part of this research, we are conducting a short survey with farmers and agricultural producers that participated in NYSERDA's Agriculture Energy Audit Program.

According to our records, you or your organization participated in this Audit Program in the last 5 years, and I am writing to ask for your participation in this important survey. This survey will help NYSERDA to better understand the types of technologies used by agriculture producers like you, and to improve its programs and resources that support the agricultural industry in New York State.

To express our appreciation, you will receive a \$25 electronic gift card after completing the survey! The gift card is redeemable with businesses such as Amazon, REI, Nike, Starbucks, Home Depot, and Target.

One goal of this study is to estimate savings associated with the NYSERDA Agriculture Energy Audit Program. Given this goal, NYSERDA requests permission to access **historic utility data** for the accounts associated with the address of the participating location, so you may find it helpful to have your farming operation bills handy when you take this survey. As a thank you, you will receive **an additional \$25 added to your gift card – for a total of \$50** – if you are willing to provide utility account information as part of this survey effort.

This survey will close on [date] and is expected to take 30 minutes or less to complete. The gift card will be delivered within 7 business days of your completion and submission of the survey.

You can complete the survey by link or by phone:

- Option 1. Complete the survey online at: www.tinyurl/farmsurvey
To begin the survey, enter your Access Code / PIN.
Your Access Code / PIN is: <<CODE>>

Option 2. Call APPRISE toll-free at [1-888-434-8008](tel:1-888-434-8008) to complete the survey by telephone.
You may call APPRISE any time between 8:30 a.m. to 5 p.m. EST Monday-Friday.

NYSERDA has partnered with Guidehouse, Inc. and APPRISE to conduct this survey. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Act (FOIA). The analysis will only use summary level data and will not identify individual respondents.

If you have any questions about the questions in this survey or if you experience any technical difficulties completing it, please contact NYSERDAsurvey@guidhouse.com. If you would like to speak to someone at NYSERDA regarding the validity of this survey, please contact me using the information listed in my signature below.

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State.

Sincerely,

Jeremy Simpson
NYSERDA
jeremy.simpson@nyserda.ny.gov
518-862-1090 extension 3234

Follow this link to the Survey
[Survey Link]
Follow the link to opt out of future emails:
[Opt out / click here to unsubscribe]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

1.3 Draft of E-Mail Language – Online Survey (Final Reminder E-Mail)

From: Jeremy Simpson <noreply@qemailserver.com>
Sent: Tuesday, February 8, 2022 11:46 AM
To: John Doe <john.doe@gmail.com>
Subject: Reminder: Earn up to \$50 by completing a short survey about your participation in NYSERDA's Agriculture Energy Audit Program!
Reply to: NYSERDAsurvey@guidhouse.com



Dear [Contact Name],

Several weeks ago, we reached out to you about how the New York State Energy Research and Development Authority's (NYSERDA) has partnered with Guidehouse, Inc. to understand the awareness and use of different energy technologies and resources in New York State's agriculture sector. As part of this research, we are conducting a short survey with farmers and agricultural producers that participated in NYSERDA's Agriculture Energy Audit Program.

According to our records, you or your organization participated in this Audit Program in 2021, and your participation This survey will help NYSERDA to better understand the types of technologies used by agriculture producers like you, and to improve its programs and resources that support the agricultural industry in New York State.

This survey will close on Wednesday, January 31, 2024 at 11:59 PM EST and is expected to take 30 minutes or less to complete. To express our appreciation, you will receive a \$25 electronic gift card after completing the survey! The gift card is redeemable with businesses such as Amazon, REI, Nike, Starbucks, Home Depot, and Target. The gift card will be delivered within 7 business days of your completion and submission of the survey.

According to our records, you or your organization participated in this Audit Program in the last 5 years, and I am writing to ask for your participation in this important survey. This survey will help NYSERDA to better understand the types of technologies used by agriculture producers like you, and to improve its programs and resources that support the agricultural industry in New York State.

To express our appreciation, you will receive a \$25 electronic gift card after completing the survey! The gift card is redeemable with businesses such as Amazon, REI, Nike, Starbucks, Home Depot, and Target.

One goal of this study is to estimate savings associated with the NYSERDA Agriculture Energy Audit Program. Given this goal, NYSERDA requests permission to access historic utility data for the accounts associated with the address of the participating location, so you may find it helpful to have your farming operation bills handy when you take this survey. As a thank you, you will receive an additional \$25 added to your gift card – for a total of \$50 – if you are willing to provide utility account information as part of this survey effort.

This survey will close on 1/31/2024 at 11:59 PM[date] and is expected to take 30 minutes or less to complete. To express our appreciation, you will receive a \$25 electronic gift card after completing the survey! The gift card is redeemable with businesses such as Amazon, REI, Nike, Starbucks, Home Depot, and Target.

The gift card will be delivered within 7 business days of your completion and submission of the survey.

You can complete the survey by link or by phone:

Option 1. Complete the survey online at: www.tinyurl/farmsurvey

To begin the survey, enter your Access Code / PIN.

Your Access Code / PIN is: <<CODE>>

Option 2. Call APPRISE toll-free at [1-888-434-8008](tel:1-888-434-8008) to complete the survey by telephone.

You may call APPRISE any time between 8:30 a.m. to 5 p.m. EST Monday-Friday.

NYSERDA has partnered with Guidehouse, Inc. and APPRISE to conduct this survey. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Act (FOIA). The analysis will only use summary level data and will not identify individual respondents.—

If you have any questions about the questions in this survey or if you experience any technical difficulties completing it, please contact NYSERDAsurvey@guidedhouse.com. If you would like to speak to someone at NYSERDA regarding the validity of this survey, please contact me using the information listed in my signature below

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State.

Sincerely,

—

Jeremy Simpson

NYSERDA

jeremy.simpson@nyserda.ny.gov

518-862-1090 extension 3234

Follow this link to the Survey

[Survey Link]

Follow the link to opt out of future emails:

[Opt out / click here to unsubscribe]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

2. Survey

Thank you for taking time to complete this survey. We appreciate you!

This survey is being conducted on behalf of the New York State Energy Research and Development Authority (NYSERDA). Your input and information will help NYSERDA to better understand the types of energy efficient technologies and resources used in New York State's agricultural sector, and to improve its programs and resources that support the agricultural industry in New York State. As part of this research, NYSERDA is reaching out to past participants of their Agriculture Energy Audit Program. You may also know this NYSERDA program by the names of FlexTech and FlexTech Ag Services.

The survey should take you less than 30 minutes to complete. You can go back to previous responses at any point during the survey by clicking the back arrow on the bottom left of the screen. You can return to the survey at a later time by going back to the survey URL. All responses will be kept confidential to the extent permitted by law and reported in aggregate without individual respondents or firms identifiable. You will also be asked to provide electricity and gas utility information requested by NYSERDA as part of your participation. By agreeing to take this survey, you are also agreeing that these data will be shared with NYSERDA for use.

If you have questions while you are taking the survey, please e-mail NYSERDAsurvey@guidhouse.com.

If you agree to participate, please enter your Access Code / PIN here:

2.1 Introduction

Q1. According to our records, you or your organization participated in the NYSERDA Agriculture Energy Audit Program in **[PIPE IN YEAR FROM DATE FROM IN FEAT]** for your agricultural business located at **[PIPE IN ADDRESS FROM FEAT]**. Is that correct?

- ☐ Yes (1)
- ☐ No (2) **[SKIP TO TERMINATE 1]**

Q2. Are you the person at your organization that was most involved in the NYSERDA Agriculture Energy Audit Program and with the technologies at this location that consume energy (e.g., lights, heating systems, or cooling systems)?

- ☐ Yes (1) **[SKIP TO Q3]**
- ☐ No (2)

Display This Question:

If Q2 = No

Q2a. In the previous question, you indicated that you are not familiar with the technologies at this location that consume energy and/or that you are not the person at your organization that was most involved in this NYSERDA program. Can you provide the contact information for the person at your organization that was most involved in NYSERDA's Agriculture Energy Audit Program and is familiar with the technologies at this location that consume energy?

- ☐ Yes (1)
- ☐ No (2) **[SKIP TO TERMINATE 2]**

Display This Question:

If Q2a = Yes

[OPEN ENDED RESPONSE with three boxes, one for "Name" that only allows text, one for "Phone Number" that only allows numbers and validate using appropriate phone number length, and one for "Email"]

SKIP TO TERMINATE 2 after completion of Q2b

Q2b. Please provide the name, phone number, and e-mail address, if possible, of the contact person that you indicated in the question above.

Name: _____ **[FILL IN, data validation with letters only]**

Phone Number: _____ **[10-digit number FILL IN, data validation with numbers only and a need for 10 numbers]**

Email: _____ **[FILL IN]**

Thank and SKIP TO TERMINATE 2

2.2 Participant Background

The next set of questions is going to ask you for some background on your agricultural business.

Q3. Is the agricultural business located at **[PIPE IN ADDRESS FROM FEAT]** still operational?

Yes (1)

No, it is no longer operational (2)

Display This Question:

If Q3 = 2, else skip to Q9

Q3a. When did your agricultural business cease operation?

Year of installation? <i>[DROP DOWN for individual Year, "2017"- "2023"]</i>	Season of installation? <i>[DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]</i>
[DROP DOWN, YYYY]	[DROP DOWN, SEASON]

[SKIP TO TERMINATE 3]

Q4. Which of the following does your agricultural operation located at **[PIPE IN ADDRESS FROM FEAT]** have? Select all that apply.

- ☐ Dairy cows (1)
- ☐ Beef cattle (2)
- ☐ Chickens (3)
- ☐ Pigs (4)
- ☐ Vineyard (5)
- ☐ Greenhouse (6)
- ☐ Vegetable farm (not a greenhouse) (7)
- ☐ Other, please specify: **[FILL IN] (97)**
- ☐ None **[MUTUALLY EXCLUSIVE; SKIP TO TERMINATE 3] (8)**

Display This Question:

If Q4 = 1-7, 97 [CARRY ANSWERS FORWARD, including the fill box for text]

Q5. In the previous question, you selected what your agriculture operation has. Please, quantify each selection you made with the number of animals (cows, beef, chickens, and/or pigs) or acres of land (vineyard, greenhouse, and/or vegetable farm):

Commodity	Amount
Dairy cows (count)	
Beef cattle (count)	
Chickens (count)	
Pigs (count)	
Vineyard (acres)	
Greenhouse (acres)	
Vegetable farm (<i>not a greenhouse</i>) (acres)	
Other (count/acres) [TEXT FROM OPEN BOX ABOVE]	

Q5a. Does your farming operation grow cannabis?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Don't know (98)

Q6. Have there been any major changes to the size or production of your operation (increased, decreased, or stayed the same) since the last time you had an audit done?

- ☐ Yes, size or production has increased (1)
- ☐ Yes, size or production has decreased (2)
- ☐ No, size or production has stayed the same (3) [SKIP TO Q12]
- ☐ Don't know (98) [SKIP TO Q12]

Display This Question:

If Q6 = 1 or 2, else skip to Q8

SHOW OPTIONS SELECTED in Q10/WITH ANSWERS IN Q12 ONLY

Q7. Please complete the table with information about how your agricultural operation has changed since your last audit.

Agricultural Operation	How much has the amount changed since your last audit (by percentage)? Please use a negative sign for any decreases?	What year did the change occur? [Dropdown: 2021, 2022, 2023]
Dairy cows (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Beef cattle (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	

Chickens (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Pigs (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Vineyard (acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Greenhouse (acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Vegetable farm (<i>not a greenhouse</i>) (acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Other (count/acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	

2.3 Audit Recommendations

The next set of questions is going to ask you about which energy efficient technologies you have implemented since receiving the NYSERDA energy audit.

Q8. Our records indicate that the following technologies were recommended to you as part of NYSERDA’s Agriculture Energy Audit Program. For each technology, please confirm if you have or have not installed that technology at your agricultural operation. If you ultimately uninstalled a technology, please indicate “installed” for the purposes of this question. **[PROGRAMMER: FILL IN TECHNOLOGY LIST BASED ON PIN NUMBER FOR TECHNOLOGIES INSTALLED ACCORDING TO FEAT].**

Technology	Did you Install at your agricultural operation? <i>Installed (1)</i> <i>Did not install (2)</i> <i>I don't know (98)</i>
[Fill in from FEAT]	[Installed/Did Not Install/I don't Know]
[Fill in from FEAT]	[Installed/Did Not Install/I don't Know]
[Fill in from FEAT]	[Installed/Did Not Install/I don't Know]
[Fill in from FEAT]	[Installed/Did Not Install/I don't Know]

Q8a. For each technology that you reported was installed, please provide information about the installation and actions that occurred after the installation. **[PROGRAMMER: FILL IN TECHNOLOGY LIST BASED ON PIN NUMBER FOR TECHNOLOGIES INSTALLED ACCORDING TO FEAT].**

Technology	Year of installation? <i>[DROP DOWN for individual Year, "2021"- "2023"]</i>	Season of installation? <i>[DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]</i>	Received an incentive?	Noticed a change in energy use due to technology?	S t i l l i n s t a l l e d ? Y e s / N o
[Fill in from FEAT]	[DROP DOWN, YYYY]	[DROP DOWN]			
[Fill in from FEAT]	[DROP DOWN, YYYY]	[DROP DOWN]			
[Fill in from FEAT]	[DROP DOWN, YYYY]	[DROP DOWN]			

Display This Question:

If Q8a = Uninstalled for ANY technologies, ask Q8b

Q8b. Previously, you mentioned that you had uninstalled measures. When and why were these measures uninstalled? **[OPEN ENDED RESPONSE]**

Technology	Year of uninstillation? <i>[DROP DOWN for individual Year, "2020"- "2023"]</i>	Season of uninstillation? <i>[DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]</i>	Why were these measures uninstalled? Please describe.
------------	---	---	--

[Fill in from FEAT]

[DROP DOWN]

[DROP DOWN]

[Fill in from FEAT]

[DROP DOWN]

[DROP DOWN]

Display This Question:

If Q8 = 1 for ANY technologies carry forward technologies to Q9 table

If Q8 = 2 or 98 for ALL technologies, SKIP to Q11

Q9. Please identify what type of incentives you received (e.g., federal, state, or utility incentives) to implement measures at this site. Incentives refer to cash rebates, tax credits, or bill credits. For each technology you received an incentive for, select all that apply.

Incentives refer to cash rebates, tax credits, or bill credits.

Measure	Source of Funding		
	Federal Incentive	State Incentive	Utility Incentive
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			

Display This Question:

If Q8 = 1 for ANY technologies, carry forward technologies to Q10 table

If Q8 = 2 or 98 for ALL technologies, SKIP to Q11

Q10. For the following technologies, you indicated you noticed a change in energy use after installation. For each technology, indicate an increase and/or decrease in energy use and whether that energy change is seasonal. Select all that apply. **[CARRY FORWARD ANSWERS FROM Q13]**

Energy use refers to the amount of energy (e.g., kWh or therms) used at the location. Changes in energy use due to technology may be noticed on your utility bill. **[PROGRAMMER: DROPDOWN BOX FOR INSTALLED AT LOCATION OPTIONS]**

Technology	Change in energy use		Is the change seasonal in nature? Yes/No
	Increase	Decrease	
[Fill in from FEAT]			

Technology	Change in energy use		Is the change seasonal in nature? Yes/No
	Increase	Decrease	
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			

Display This Question:

If Q8 = 1 for ANY technologies, else SKIP to Q11

Q10a. On a scale from 1 to 5 with ‘1’ being Very Dissatisfied and ‘5’ being Very Satisfied, please indicate your level of satisfaction with the level of energy savings from installing the recommended measures.

- ☐ 1 – Very Dissatisfied (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 – Very Satisfied (5)

Q11. Have you installed any other energy efficient technologies at your location that were not suggested in the audit?

- ☐ Yes (1)
- ☐ No (2)

Display Questions 11a-13:

If Q11 = Yes (1)

If Q11 = No (2), then skip to Q14

Q11a. Please describe the energy efficient technologies you installed that were not suggested in the audit, including the season of installation. **[OPEN ENDED RESPONSES in tables with and MM/YYYY for each technology]**

Technology	Year of installation <i>[DROP DOWN for individual Year, "2021"-"2023"]</i>	Season of installation <i>[DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]</i>
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN

Q12. Did your participation in NYSERDA's Agriculture Energy Audit Program influence your decision to install the additional technology(ies) that were not suggested in the audit?

- ☐ Yes (1)
- ☐ No (2)

Q13. Have you noticed a change in your energy consumption after installing these technologies?

- ☐ Yes (1)
- ☐ No (2)
- ☐ I don't know (98)

Display Questions Q13a:

If Q13 = Yes (1)

If Q13 = No (2) or I don't know (98), then skip to Q14

Q13a. You indicated you noticed a change in energy consumption after the additional technology installation. Please indicate the type of change that you noticed and if that energy savings change is seasonal.

Technology	Change in energy use		Is the change seasonal in nature? Yes/No
	Increase	Decrease	
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			

Technology	Change in energy use		Is the change seasonal in nature? Yes/No
	Increase	Decrease	
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			

Q14. Has your farm experienced any changes in **operations or production** that increased or decreased your energy use? These changes could be long- or short-term and could include the number of animals, buildings added or expanded, retrofits, equipment decommissioning, etc.

- ☐ Yes (1)
- ☐ No (2)
- ☐ I don't know (98)

Display This Question:

If Q14 = Yes (1)

If Q14 = No (2) or I don't know (98), then skip to Q15

Q14a. Please share more about the **operations or production changes** since the installation of the previous technologies. What has changed? When did these changes occur? **[OPEN ENDED RESPONSE]**

Q15. Have you noticed any **operations or production impacts** since installing these technologies not relating to energy use? These impacts could include more milk per cow, more produce per square foot, reduced maintenance, etc.

- ☐ Yes (1)
- ☐ No (2)
- ☐ I don't know (98)

Display This Question:

If Q15 = Yes (1)

If Q15 = No (2) or I don't know (98), then skip to Q16

Q15a. You indicated noticing **operations or production impacts** outside of energy use. Please share with us what non-energy impacts you have noticed.

[OPEN ENDED RESPONSE]

Q16. Did you share or discuss any of your audit recommendations with other farmers or agricultural producers at other facilities in New York State?

- Yes (1)
- No (2)
- I don't know (98)

If Q16 = Yes (1)

If Q16 = No (2) or I don't know (98), then skip to Q17

Q16a. Where and/or by what method did you share this information? Select all that apply. **[Randomize 1-9]**

- Email (1)
- Phone call (2)
- Informal in-person conversation (3)
- Digital newsletter (4)
- Physical newsletter (5)
- Trade show (6)
- Conference (7)
- Community meeting (8)
- Industry or networking event (9)
- Other, please specify **[OPEN TEXT RESPONSE]** (97)
- I don't know (98)

Display This Question:

If Q16 = Yes (1)

If Q16 = No (2) or I don't know (98), then skip to Q17

Q16b. To your knowledge, were any energy efficient measures installed by another farmer or agricultural producers at other facilities as a result of sharing the information referenced in the previous question? These energy efficiency measures could include retrofits, new heating or cooling measures, etc.

- Yes (1)
- No (2)
- I don't know (98)8

2.4 Program, Process, and Communications

The next set of questions is going to ask you about the program, its process, and communications.

Q17. On a scale from **1 to 5** with **'1' being Very Dissatisfied** and **'5' being Very Satisfied**, please indicate your level of satisfaction with the following NYSERDA Agriculture Energy Audit Program elements:

NYSERDA Program Element	1 Very Dissatisfied	2 Somewhat Dissatisfied	3 Neither Satisfied nor Dissatisfied	4 Somewhat Satisfied	5 Very Satisfied	97 Not Applicable
-------------------------	---------------------------	-------------------------------	---	----------------------------	------------------------	-------------------------

Ease of application process
Quality of auditor's performance
Adequacy of the communication from program staff
Comprehensiveness of program staff's knowledge about the program offering and options
Sufficiency of the resolution of program issues
Overall satisfaction with the program

Display This Question:

If Q17 = 1 OR 2 FOR ANY ITEMS

If Q17 = 3 – 5, or 97 then skip to Q19

Q18. Please further explain or share your experience that has led to any dissatisfaction (indicated by a '1' or a '2') noted in the previous question. **[OPEN ENDED RESPONSE]**

Q19. Would you recommend the NYSERDA Agriculture Energy Audit Program to an agricultural business owner or farmer?

- ☐ Yes (1)
- ☐ No (2)

Q20. Have you recommended the NYSERDA Agriculture Energy Audit Program to an agricultural business owner or farmer?

- ☐ Yes (1)
- ☐ No (2)

Display This Question:

If Q19= 2

Q20a. Why would you not recommend the NYSERDA Agriculture Energy Audit Program to a fellow agricultural business owner or farmer? **[OPEN ENDED RESPONSE]**

Q21. What action(s) could NYSERDA take to improve the program or its processes? **[OPEN ENDED RESPONSE]**

Q22. Please indicate the top three ways that you think NYSERDA should share and communicate information about the Agricultural Audits program with agricultural producers and farmers. **[ALLOW A MAXIMUM SELECTION OF THREE]** **[Randomize 1-6]**

- ☐ General Program Emails (1)
- ☐ Mailers and Paper Brochures (2)
- ☐ NYSERDA Website announcements (3)
- ☐ Agricultural Trade Shows (4)
- ☐ Calls with or visits from energy auditors (5)
- ☐ Calls with NYSERDA program staff (6)
- ☐ Other (97) **[OPEN TEXT RESPONSE]**

Q22a. What can be done to improve the communication methods mentioned above? **[OPEN ENDED RESPONSE]**

Q23. Which of the financial resources below are you aware of for installing energy efficient technologies in the agriculture sector? *Select all that apply.*

- ☐ Federal incentives and assistance programs, such as the USDA Environmental Quality Incentives Program or USDA Rural Energy for America Program (1)
- ☐ State incentives and assistance programs (2)
- ☐ Utility programs, such as energy efficiency programs offered by National Grid, New York State Electric and Gas, Rochester Gas & Electric, Central Hudson Gas & Electric, or Con Edison (3)
- ☐ Other **[FILL IN]** (97)
- ☐ Not aware of any (4)

Q23a. Other than the NYSERDA Agriculture Energy Audit Program, have you ever participated in an energy efficiency program for an agriculture-related project?

- ☐ Yes, please specify **[FILL IN]** (1)
- ☐ No (2)
- ☐ I don't know (98)

2.5 Best Practices

In this section we would like to better understand your awareness of and experience with NYSERDA's Energy Best Practices guides and tools.

Q24. Have you heard of NYSERDA's website Energy Best Practices for Agriculture?

- ☐ Yes (1)
- ☐ No (2) **[IF NO, SKIP TO QUESTION Q32]**
- ☐ Don't know (98) **[IF NO, SKIP TO QUESTION Q32]**

Display This Question:

If Q24 = Yes (1)

Q25. How did you hear about NYSERDA's Energy Best Practices for Agriculture? Select all that apply.

- ☐ Agriculture facility auditor (1)
- ☐ NYSERDA program staff (2)
- ☐ NYSERDA website (3)
- ☐ Contractor (4)
- ☐ Other, please specify: _____ **[OPEN ENDED RESPONSE]** (97)
- ☐ Don't know (98) **[MUTUALLY EXCLUSIVE]**

Q26. Which of the Energy Best Practices for Agriculture have you used? Select all that apply.

- ☐ Greenhouses – Fact Sheet (1)
- ☐ Greenhouses – Guidebook (2)
- ☐ Dairy Farms – Fact Sheet (3)
- ☐ Dairy Farms – Guidebook (4)
- ☐ Dairy Farms – Guidebook – Spanish (5)
- ☐ Video: Best Practices for Greenhouses (6)
- ☐ Video: Best Practices for Dairies (7)
- ☐ Other, please specify _____ **[OPEN ENDED RESPONSE]** (97)
- ☐ Don't know (98) **[MUTUALLY EXCLUSIVE]**

Display This Question:

If Q26 = 1, 2, and/or 6; go to Q26a

If Q26 = 3, 4, 5, or 7; go to Q26b

ELSE SKIP to Q27

Q26a. You reported that you have used a Best Practices guide related to Greenhouses. Have you implemented any of the following changes into your agricultural operation or processes based on Best Practices for Greenhouses? Select all that apply. **[Randomize 1-8]**

- ☐ Energy Curtains (like screens, thermal blankets, and shade curtains)
- ☐ LED Grow Lights
- ☐ Environmental Control Systems
- ☐ High Efficiency Space Heating
- ☐ Infrared Film
- ☐ High Efficiency Fans
- ☐ Drip Irrigation or Subirrigation System
- ☐ Variable frequency drive (VFD) / Variable Speed Drive (VSD) Motors
- ☐ Other, please specify _____ **[OPEN ENDED RESPONSE]**

Q26b. You reported that you have used a Best Practices guide related to Dairy Farms. Have you implemented any of the following changes into your agricultural operation or processes based on Best Practices for Dairy Farms? Select all that apply. **[Randomize 1-8]**

- ☐ LEDs
- ☐ Milk Pre-Cooler
- ☐ VFD Milk Transfer Pump
- ☐ Scroll Compressor
- ☐ High Efficiency Water Heater
- ☐ High Efficiency Fans
- ☐ Compressor Heat Recovery
- ☐ Variable frequency drive (VFD) Vacuum Pump
- ☐ Variable frequency drive (VFD) / Variable Speed Drive (VSD) Motors
- ☐ Refrigeration Heat Recovery
- ☐ Other, please specify _____ **[OPEN ENDED RESPONSE]**

Q27. Which aspects of the Best Practices did you find most helpful? Select all that apply. **[Randomize 1-5]**

- ☐ Recommendations for energy-efficient technologies (1)
- ☐ Alternate modes of operation (2)
- ☐ Conservation practices to optimize energy use (3)
- ☐ Access State, federal, and utility incentive programs (4)
- ☐ Beneficial Electrification Calculator (5)
- ☐ Other, please specify _____ **[OPEN ENDED RESPONSE]** (97)
- ☐ Don't know (98) **[MUTUALLY EXCLUSIVE]**

☐

Display This Question:

If Q27 = 5, else SKIP to Q28

Q27a. You reported that you found the Beneficial Electrification Calculator helpful in the previous question. Which calculators did you use within the tool? Select all that apply.

- ☐ Engine to Electric Motor (1)
- ☐ Electric Tractor (2)
- ☐ Heat Pump Space Heater (3)
- ☐ Water Heater (4)
- ☐ Don't know (98) **[MUTUALLY EXCLUSIVE]**

Display This Question:

If Q27 = 5

Q27b. Which additional technologies would you like to see NYSERDA add to the Beneficial Electrification Calculator to assist your agricultural operation? **[OPEN ENDED RESPONSE]**

Q28. What information could NYSERDA include to improve Energy Best Practices? Please specify any topics that could be included in the videos and factsheets.

- **[OPEN ENDED RESPONSE]** (1)

Q29. Would you recommend the Best Practice guides to peer farmers and/or agriculture facilities?

- Yes (1)
- No (2)
- Don't know (98)

Q30. Have you shared any information from the Best Practice guides with other farmers and/or agriculture facilities?

- Yes (1)
- No (2)
- Don't know (98)

If Q30 = Yes (1)

If Q30 = No (2) or I don't know (98), then skip to Q31

Q30a. Where and/or by what method did you share this information? Select all that apply. **[Randomize 1-9]**

- Email (1)
- Phone call (2)
- Informal in-person conversation (3)
- Digital newsletter (4)
- Physical newsletter (5)
- Trade show (6)
- Conference (7)
- Community meeting (8)
- Industry or networking event (9)
- Other, please specify **[OPEN END RESPONSE]** (97)
- I don't know (98)

Q31. On a scale from **1 to 5** with **'1'** being **Very Dissatisfied** and **'5'** being **Very Satisfied**, please indicate your level of satisfaction with the following NYSERDA Best Practices information:

Best Practices Information Elements	1 Very Dissatisfied	2 Somewhat Dissatisfied	3 Neither Satisfied nor Dissatisfied	4 Somewhat Satisfied	5 Very Satisfied	97 Not Applicable
Ease of use						
Quality of the information						
Beneficial Electrification Calculator						
Videos						
Fact sheets						

2.6 Renewables

NYSERDA would like to learn more about renewable projects at agriculture facilities.

Q32. Did you install any wind, solar, and/or energy storage technology at your location in New York State?

- ☐ Yes (1)
- ☐ No (2) **[IF NO, SKIP TO Q33]**

Display This Question:

If Q32 = Yes

If Q32 = No then skip to Q33

Q32a. Did you add wind, solar, and/or energy storage? Select all that apply.

- ☐ Wind (1)
- ☐ Solar (2)
- ☐ Energy storage (3)

Q32b. How much energy capacity (in kW) did you add?

- ☐ Wind: ____ kW **[DISPLAY ONLY IF Q32a = 1; WHOLE NUMBER NUMERICAL ONLY]**
- ☐ Solar: ____ kW **[DISPLAY ONLY IF Q32a = 2; WHOLE NUMBER NUMERICAL ONLY]**
- ☐ Energy storage ____ kWh **[DISPLAY ONLY IF Q32a = 3; WHOLE NUMBER NUMERICAL ONLY]**
- ☐ Don't know (98)

Q32c. Why did you choose to install wind, solar, and/or energy storage? Select all that apply

[Randomize 1-3]

- ☐ To reduce the electricity usage for on the farm electrical loads (1)
- ☐ For electricity costs savings (2)
- ☐ For land lease revenue, if applicable (i.e., renewable project injects into the utility grid and not the on farm electrical loads) (3)
- ☐ Other, please specify: _____ **[OPEN TEXT RESPONSE]** (97)

2.7 Climate Resiliency

In this section we would like to better understand your experiences with climate change and/or environmental or weather events. The following questions regard climate resilience which is defined as the planning required to recover from impacts of climate change.²⁹

Q33. What types of environmental events have you experienced? Select all that apply. **[Randomize 1-9]**

- ☐ Extreme cold (1)
- ☐ Extreme heat / humidity (2)
- ☐ Drought (3)
- ☐ Flooding (4)
- ☐ Heavy precipitation (5)
- ☐ Hurricanes / extreme storms (6)
- ☐ Vector-borne diseases (e.g., mosquito- or tick-borne illnesses) (7)
- ☐ Wildfires (8)
- ☐ Air quality issues due to wildfires or other events (9)
- ☐ Other, please specify: _____ **[OPEN ENDED RESPONSE]** (97)

Q34. Have you experienced any consequences from the environmental events your site has experienced? Select all that apply. **[Randomize 1-6]**

- ☐ Disruptions to operations (1)
- ☐ Disruptions to supply chains (2)
- ☐ Financial impacts (3)
- ☐ Impacts on labor/ workers (e.g., health, productivity) (4)
- ☐ Loss or damage to crops / animals / equipment (5)
- ☐ Power outages (6)
- ☐ Other, please specify: _____ **[OPEN ENDED RESPONSE]** (97)

Display:

If Q34 = 3, else skip to Q36

Q35. What types of financial impacts did you experience? Select all that apply. **[Randomize 1-3]**

- ☐ Expenses for recovery / remediation (e.g., flood / storm clean-up) (1)

²⁹ Center for Climate Change and Energy Solutions (C2ES). (2019) What is Climate Resilience, and Why Does it Matter?. Retrieved from <https://www.c2es.org/wp-content/uploads/2019/04/what-is-climate-resilience.pdf>

- New capital expenditures (purchase / install new generator; investments to make business infrastructure / operations more physically robust) (2)
- New operating expenditures (e.g., new insurance products; new crop / animal varieties that are more climate resilient) (3)
- Other, please specify: _____ **[OPEN ENDED RESPONSE]** (97)

Q36. Have you installed any systems or measures at your site or change energy usage due to any of these environmental events?

- Yes, please specify **[OPEN ENDED RESPONSE]** (1)
- No (2)
- Don't know (98) **[MUTUALLY EXCLUSIVE]**

Q36a. Do you plan to install any systems or measures at your site or change energy usage due to any of these environmental events?

- Yes, please specify **[OPEN ENDED RESPONSE]** (1)
- No (2)
- Don't know (98) **[MUTUALLY EXCLUSIVE]**

Q37. What critical energy-consuming technologies or processes at your agricultural operation location are sensitive to a power outage? **[OPEN ENDED RESPONSE]**

Q38. Do you have backup power installed to handle these power loads during an outage?

- Yes (1)
- No (2)
- Partially, please explain below _____ **[OPEN ENDED RESPONSE]** (97)

2.8 COVID-19 Impacts

Q39. Did the COVID-19 pandemic-related shutdowns and policies affect your agricultural or business operations in New York State in 2020 or 2021?

- Yes (1)
- No (2)

Display This Question

If Q39 = Yes (1), then display Q40

If Q39 = No (2), then skip to Q41

Q40. Please indicate the aspect of your business impacted by the COVID-19 pandemic in 2020 and 2021.

Business Aspect	1 Very Negatively	2 Negatively	3 Neither Impacted Negatively or Positively	4 Positively	5 Very Positively	Not Applicable
Ability to invest in energy efficiency on the farm						
Financial standing						
Ability to maintain all employees						
Demand of product						
Supply of materials to operate						
Other Business Aspect						

Display This Question:

If Q40 'Other Business Aspect' has a rating of 1-5; SKIP if Not Applicable

Q40a. What other business aspects were impacted by the COVID-19 pandemic in 2020 or 2021?

[OPEN TEXT RESPONSE]

Q41. Did you apply for any COVID-19 relief (Municipal, State, or Federal) for your agricultural operation or business?

- ☐ Yes (1)
- ☐ No (2) **[IF NO, SKIP TO CLOSE]**

Display This Question:

If Q41 = Yes, then display Q42

If Q41 = No, then skip to Q46

Q42. Please indicate the types of COVID-19 relief you applied for. Select all that apply.

- ☐ Federal (1)
- ☐ State (2)
- ☐ Municipal (3)
- ☐ Other, please specify **[FILL IN] (97)**

Display This Question:

If Q42 = 97, then display Q43

If Q42 = 1, 2, 3, then skip to Q46

Q43. Please indicate the types of relief you received. Select all that apply. **[CARRY ANSWERS FORWARD FROM Q42]**

- ☐ Federal (1)
- ☐ State (2)
- ☐ Municipal (3)
- ☐ Other, please specify **[FILL IN] (97)**
- ☐ None (4)

Display This Question

If Q43 = Yes to 1-3, 97, then display Q44, If Q43=4 SKIP to Q46

If Q43 = None (5), then skip to Q46

Q44. In the previous question, you indicated receiving COVID-19 relief funds. Did you use any of the COVID-19 relief money to update any of the technologies to be more energy efficient at your location in New York State?

- Yes (1)
- No (2) **[IF NO, SKIP TO CLOSE]**

Display This Question:

If Q8 = 1 for ANY technologies AND Q44 = Yes (1), then display Q45

[CARRY ANSWERS/TECHNOLOGIES FORWARD FROM Q8]

If Q44 = No (2), SKIP to Q46

Q45. Earlier in the survey, you indicated updating some of your technologies. Please indicate any technology that was replaced or updated a result of receiving COVID-19 relief funds. **[CARRY FORWARD ANSWERS FROM Q8 LIST]**

Technology	Replaced/Upgrade/Not Applicable [DROP DOWN]
[Fill in from FEAT]	
[Fill in from FEAT]	
[Fill in from FEAT]	
[Fill in from FEAT]	
[Fill in from FEAT]	
[Fill in from FEAT]	

2.9 Account Information Check

One of our goals for this program is to estimate savings associated with the NYSERDA Agriculture Energy Audit Program. Given this goal, we would like to request some information regarding your utility accounts.

NYSERDA requests permission to access historic utility data for the accounts associated with the address provided. **As a thank you for sharing your historic utility data, NYSERDA will add \$25 to your gift card in addition to the \$25 for completing the survey for a gift card totaling \$50. If you do not share your historic utility data, then you will still be able to take the remainder of the survey in exchange for the \$25 e-gift card.**

Q46. Are you willing to share your historic energy billing data?

- Yes (1)

- Yes, but I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (2) **[SKIP to Q51]**
- No (3) **[SKIP to Q51]**

Display This Question:

If Q46 = 1, then display Q46a

Q46a. What kind of fuel do you have at your facility? Select all that apply.

- ☐ Electricity (1)
- ☐ Natural gas (2)
- ☐ Other fuel, please specify: **[OPEN TEXT RESPONSE]** (3)

Display This Question:

If Q46a = 1, then display Q47, if else SKIP to Q48

Q47. We need your farming operation's utility's name and account number.

- I would like to enter my account information manually. (1)
- I would like to upload a picture of my bill. (2)
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q47 = 1

Q47a. Please list the name of your farming operation's electric utility along with its account numbers. Your account number information can be found on your energy bill.

Electric Utility

- Electric Utility Company Name: _____ **[FILL IN, data validation with letters only]**
Electric Utility Account Number: _____ **[FILL IN, data validation with numbers only]**
- If NYSEG or RG&E – POD #: _____ **[FILL IN, data validation with numbers only] (1)**

Display This Question:

IF Q47 = 2

Q47b. Upload a picture of your bill that clearly displays your farming operation's electric utility's name and account number

[File upload question type]

Display This Question:

If Q47a is displayed

Q47c. You entered [SHOW Q47a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number and (if applicable) POD# is correct.(1) **[CHECKBOX]**

Display This Question:

If Q46a = 2, if else SKIP to Q49

Q48. We need your farming operation's natural gas utility's name and account number.

- I would like to enter my account information manually. (1)
- I would like to upload a picture of my bill. (2)
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q48 = 1

Q48a. Please list the name of your farming operation's natural gas utility along with its account numbers. Your account number information can be found on your energy bill.

Natural Gas Utility

- Natural Gas Utility Company Name: _____ **[FILL IN, data validation with letters only]**
Natural Gas Utility Account Number: _____ **[FILL IN, data validation with numbers only]**
If NYSEG or RG&E – POD #: _____ **[FILL IN, data validation with numbers only] (1)**

Display This Question:

IF Q48 = 2

Q48b. Upload a picture of your bill that clearly displays your farming operation's natural gas utility's name and account number

[File upload question type]

Display This Question:

If Q48a is displayed

Q48c. You entered [SHOW Q48a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number and (if applicable) POD# is correct.(1) **[CHECKBOX]**

Display This Question:

If Q46a = 3, if Else Skip to Q50

Q49. We need your farming operation's natural gas utility's name and account number.

- I would like to enter my account information manually. (1)
- I would like to upload a picture of my bill. (2)
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q49 = 1

Q49a. Primary Space and Process Fuel Supplier: If you heat at your farming operation by a fuel other than natural gas or electricity, please provide the information requested below. Your account number information can be found on your energy bill.

- Company Name: _____ **[FILL IN, data validation with letters only]**
Account Number: _____ **[FILL IN, data validation with numbers only]** (1)
- Upload a picture of your bill that clearly displays your utility's name and account number (2)
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q49 = 2

Q49b. Upload a picture of your bill that clearly displays your farming operation's natural gas utility's name and account number

[File upload question type]

Display This Question:

If Q49a is displayed

Q49c. You entered [SHOW Q49a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number is correct.(1) **[CHECKBOX]**

By selecting "I consent" below, I authorize the New York State Energy Research and Development Authority (NYSERDA), and its designated representatives, to access energy billing and consumption data for the site identified. As an authorized representative of the site, I authorize NYSEDA, and its designated representatives, to access and use any available energy consumption information and data. I understand this information will be used to evaluate energy use patterns for the purpose of measuring energy performance and determining the potential and actual energy savings resulting from evaluated or implemented energy projects. I understand that NYSEDA is subject to the NYS Freedom of Information Law, Public Officers law, Article 6, and that NYSEDA cannot guarantee confidentiality of any information submitted.

Q50. Do you consent to sharing your historic utility data?

- Yes, I consent (1)
- No, I do not consent (2)

2.10 Gift Card Check

Those are all the questions we have. Thank you for your help!

Q51. You will receive \$25 for completing the survey *and an additional \$25 if* you also provided your utility account information and permission to access historic usage data. Would you like to receive your e-gift card, which can be used as an online debit card or credit to donate to a charitable organization, at [\\${e://Field/Email}](#) or at another email address? You will receive the gift card in your email within a week.

- ☐ Yes, please send the e-gift card to [\\${e://Field/Email}](#) (1)
- ☐ Please send the e-gift card to another email address (please specify): (2)

[open response text option] @ [open text response]

- ☐ No thanks, I do not wish to either receive the gift card to use or to send a charitable donation (3)

Display CLOSE

2.11 Terminations/Close

TERMINATE 1: We appreciate your interest in taking the survey, however we are currently only reaching out to farmers and agricultural producers that have participated in NYSERDA's Agriculture Energy Audit Program. Thank you for your time. If you think you are receiving this message in error, please contact: NYSERDAsurvey@guidehouse.com.

TERMINATE 2: We appreciate your interest in taking the survey. This survey is intended for someone in your organization familiar with the NYSERDA's Agriculture Energy Audit Program and the technologies at your location that consume energy. We request that you please reach out to the inbox at: NYSERDAsurvey@guidehouse.com. If you think you are receiving this in error, please contact: NYSERDAsurvey@guidehouse.com. Thank you.

TERMINATE 3: We appreciate your interest in taking the survey, but we are only reaching out to agricultural facilities in New York State that are currently in operation. If you think you are receiving this message in error, please contact: NYSERDAsurvey@guidehouse.com.

CLOSE: This concludes the survey. Thank you for your participation. If you have any questions about this survey or how your responses to this survey will be used, please contact: NYSERDAsurvey@guidehouse.com.

Appendix C: Agriculture Energy Audit Program 2020 Respondent Participant Survey

Agriculture Energy Audit Program Participant Survey Market Update 2

FINAL

Prepared for:



Submitted by:
Guidehouse, Inc.

1375 Walnut Street

Suite 100

Boulder, CO 80302

303.728.2500

guidehouse.com

11 December 2023

Contents

1. Introduction C-57

1.1 Draft of E-mail Language – Online Survey (Initial E-mail).....	C-58
1.2 Draft of E-mail Language – Online Survey (Reminder E-mail)	C-59

2. Survey C-62

2.1 Introduction	C-63
2.2 Participant Background	C-64
2.3 Audit Recommendations	C-66
2.4 Best Practices	C-69
2.5 Renewables	C-72
2.6 Climate Resiliency	C-73
2.7 Account Information Check	C-74
2.8 Gift Card Check	C-78
2.9 Terminations/Close	C-78

1. Introduction

This document includes Guidehouse’s draft survey instrument for the Agriculture Energy Audit Program Participant Survey – 2020 Participant Respondent.

Guidehouse will utilize Qualtrics to administer the online survey. Recruitment of respondents will occur through three emails and two phone calls. For those that do not take the survey online, Guidehouse plans to call the participants so that they can take the survey over the phone. The survey will be tested in advance of full deployment and may be modified after deployment to enhance the number of completed interviews. Compiled survey results will be presented to NYSERDA and summarized in the final report.

Table identifies the survey characteristics.

Table 3: Survey Characteristics

Characteristics	Description
Statement of purpose	To understand participation in the program, to estimate indirect impacts, to learn about the participant journey through the program and how processes can improve, to learn about participant experience with Best Practices, how farmers perceive resiliency impacting their operations, and to gain knowledge about the impacts of COVID-19 on participants.
Qualified respondent	A grower or farmer that has participated in NYSERDA’s Agriculture Energy Audit Program in 2020 and who completed the 2022 Ag Energy Audit survey.
Sample Size	A census of all participants from previous audits conducted in 2020 who responded to the 2022 Ag Energy Audit Survey will be contacted.
Target number of completes	Population size is: 29 audit participants from 2020 who completed the 2022 survey effort will be contacted.
Estimated survey length	15 minutes
Survey timeline	Q4 2023-Q1 2024
Question categories	Introduction: Q1-Q2; Participant Background: Q3-Q7; Audit Recommendations: Q8-Q13b; Best Practices: Q14-Q21; Renewables: Q22-Q22c; Climate Resiliency: Q23-28; Account Information Check: Q29-Q33

Table 4. Survey Research Objectives

Evaluation Questions	Survey Questions
Indirect Impacts	
What is the measure adoption rate WITHOUT EnSave administrative assistance (i.e., after the end of the first year after the audit) of Agriculture Energy Audit Program?	Q8-13b
What are the estimated indirect impacts (i.e., WITHOUT EnSave assistance) from Agriculture Energy Audit Program?	Q8-13b
Best Practices and Resiliency	
How are Best Practice guides received by participants? Are guides shared peer-to-peer? What improvements can be made?	Q14-21
How are participants experiencing extreme climate events? How are these events impacting participants? What are they doing to address this impact on their farming operations?	Q23-Q28

1.1 Draft of E-mail Language – Online Survey (Initial E-mail)

From: Jeremy Simpson <noreply@qemailserver.com>

Sent: Tuesday, February 8, 2022 11:46 AM

To: John Doe <john.doe@gmail.com>

Subject: Earn up to \$50 by completing a short survey about your participation in NYSERDA's Agriculture Energy Audit Program!

Reply to: NYSERDAsurvey@guidhouse.com



Dear [Contact Name],

The New York State Energy Research and Development Authority (NYSERDA) is conducting a survey of the Agriculture Energy Audit Program, examining participants in the program in the last 5 years. Our records indicate you or your farming operation participated in a survey for this program last year, however NYSERDA would like to follow-up on your farming operations since then. Your feedback is very important to NYSERDA and we are writing to ask you to complete this survey.

This survey is being conducted by Guidehouse, Inc. and Apprise, two independent evaluation firms, and will be used to better understand the types of technologies used by agriculture producers like you, and to improve programs and resources that support the agricultural industry in New York State. The information you provide will be used for research purposes only and kept confidential to the extent permitted by law including but not limited to the Freedom of Information Law (FOIL). The analysis will only use summary-level data and will not identify individual respondents.

This survey is expected to take about 15 minutes to complete. To express our appreciation, you will receive a \$25 electronic gift card after completing the survey! The gift card is redeemable with businesses such as Amazon, REI, Nike, Starbucks, Home Depot, and Target.

One goal of this study is to estimate energy savings associated with the NYSERDA Agriculture Energy Audit Program. NYSERDA requests permission to access historic utility data for the accounts associated with the address of the participating location, so you may find it helpful to have your farming operation bills handy when you take this survey. As a thank you, you will receive **\$25 added to your gift card – for a total of \$50** – if you are willing to provide utility account information as part of this survey effort.

This survey will close on [date]. The gift card will be delivered within 7 business days of your completion and submission of the survey.

You can complete the survey by link or by phone:

Option 1. Complete the survey online at: **www.tinyurl/farmsurvey**
To begin the survey, enter your Access Code / PIN.
Your Access Code / PIN is: <<CODE>>

Option 2. Call APPRISE toll-free at **[1-888-434-8008](tel:1-888-434-8008)** to complete the survey by telephone.
You may call APPRISE any time between 8:30 a.m. to 5 p.m. EST Monday-Friday

If you have any questions about this survey or if you experience any difficulties completing it, please contact **NYSERDAsurvey@guidehouse.com**. If you would like to speak to someone at NYSERDA regarding the validity of this survey, please contact me using the information below.

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State.

Sincerely,

Jeremy Simpson (he/him)

NYSERDA
15 Columbia Circle | Albany, NY 12203-6399
P: 518-862-1090 x3234 | E: jeremy.simpson@nyserda.ny.gov

Follow the link to opt out of future emails:
[Insert Opt out link/ "Click here to unsubscribe"]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

1.2 Draft of E-mail Language – Online Survey (Reminder E-mail)

From: Jeremy Simpson <noreply@qemailserver.com>

Sent: Tuesday, February 8, 2022 11:46 AM

To: John Doe <john.doe@gmail.com>

Subject: Reminder: Earn up to \$50 by completing a short survey about your participation in NYSERDA's Agriculture Energy Audit Program!

Reply to: NYSERDAsurvey@guidehouse.com



Dear [Contact Name],

A few days ago, we reached out to you about how the New York State Energy Research and Development Authority (NYSERDA) has partnered with Guidehouse, Inc. to understand the awareness and use of different energy technologies and resources in New York State's agriculture sector. As part of this research, we are conducting a short survey with farmers and agricultural producers that participated in NYSERDA's Agriculture Energy Audit Program.

According to our records, you or your farming operation participated in this Audit Program last year, and I am writing to ask for your participation in this important survey. This survey will help NYSERDA to better understand the types of technologies used by agriculture producers like you, and to improve its programs and resources that support the agricultural industry in New York State.

To express our appreciation, you will receive a \$25 electronic gift card after completing the survey! The gift card is redeemable with businesses such as Amazon, REI, Nike, Starbucks, Home Depot, and Target.

One goal of this study is to estimate savings associated with the NYSERDA Agriculture Energy Audit Program. Given this goal, NYSERDA requests permission to access **historic utility data** for the accounts associated with the address of the participating location, so you may find it helpful to have your farming operation bills handy when you take this survey. As a thank you, you will receive **an additional \$25 added to your gift card – for a total of \$50** – if you are willing to provide utility account information as part of this survey effort.

This survey will close on [date] and is expected to take about 15 minutes to complete. The gift card will be delivered within 7 business days of your completion and submission of the survey.

You can complete the survey by link or by phone:

Option 1. Complete the survey online at: **www.tinyurl/farmsurvey**
To begin the survey, enter your Access Code / PIN.
Your Access Code / PIN is: <<CODE>>

Option 2. Call APPRISE toll-free at **[1-888-434-8008](tel:1-888-434-8008)** to complete the survey by telephone.
You may call APPRISE any time between 8:30 a.m. to 5 p.m. EST Monday-Friday.

NYSERDA has partnered with Guidehouse, Inc. and APPRISE to conduct this survey. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Act (FOIA). The analysis will only use summary level data and will not identify individual respondents.

If you have any questions about this survey or if you experience any difficulties completing it, please contact **NYSERDAsurvey@guidehouse.com**. If you would like to speak to someone at NYSERDA regarding the validity of this survey, please contact me using the information below.

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State.

Sincerely,

Jeremy Simpson (he/him)
NYSERDA
15 Columbia Circle | Albany, NY 12203-6399

P: 518-862-1090 x3234 | E: jeremy.simpson@nyserda.ny.gov

nyserda.ny.gov

Follow this link to the Survey

[Survey Link]

Follow the link to opt out of future emails:

[Opt out / [click here to unsubscribe](#)]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

2. Survey

Thank you for taking time to complete this survey. We appreciate you!

This survey is being conducted on behalf of the New York State Energy Research and Development Authority (NYSERDA). Your input and information will help NYSERDA to better understand the types of energy efficient technologies and resources used in New York State's agricultural sector, and to improve its programs and resources that support the agricultural industry in New York State. As part of this research, NYSERDA is reaching out to past participants of their Agriculture Energy Audit Program. You may also know this NYSERDA program by the names of FlexTech and FlexTech Ag Services.

The survey should take you about 15 minutes to complete. You can go back to previous responses at any point during the survey by clicking the back arrow on the bottom left of the screen. You can return to the survey at a later time by going back to the survey URL. All responses will be kept confidential to the extent permitted by law and reported in aggregate without individual respondents or firms identifiable. You will also be asked to provide electricity and gas utility information requested by NYSERDA as part of your participation. By agreeing to take this survey, you are also agreeing that these data will be shared with NYSERDA for use.

If you have questions while you are taking the survey, please e-mail NYSERDAsurvey@guidhouse.com.

If you agree to participate, please enter your Access Code / PIN:.

2.1 Introduction

Q1. According to our records, you or your organization participated in the NYSERDA Agriculture Energy Audit Program in 2020 for your agricultural business located at **[PIPE IN ADDRESS FROM FEAT]**. Is that correct?

- ☐ Yes (1)
- ☐ No (2) **[SKIP TO TERMINATE 1]**

Q2. Are you the person at your organization that was most involved in the NYSERDA Agriculture Energy Audit Program and with the technologies at this location that consume energy (e.g., lights, heating systems, or cooling systems)?

- ☐ Yes (1) **[SKIP TO Q3]**
- ☐ No (2)

Display This Question:

If Q2 = No

Q2a. In the previous question, you indicated that you are not familiar with the technologies at this location that consume energy and/or that you are not the person at your organization that was most involved in this NYSERDA program. Can you provide the contact information for the person at your organization that was most involved in NYSERDA's Agriculture Energy Audit Program and is familiar with the technologies at this location that consume energy?

- ☐ Yes (1)
- ☐ No (2) **[SKIP TO TERMINATE 2]**

Display This Question:

If Q2a = Yes

[OPEN ENDED RESPONSE with three boxes, one for "Name" that only allows text, one for "Phone Number" that only allows numbers and validate using appropriate phone number length, and one for "Email"]

SKIP TO TERMINATE 2 after completion of Q2b

Q2b. Please provide the name, phone number, and e-mail address, if possible, of the contact person that you indicated in the question above.

Name: _____ **[FILL IN, data validation with letters only]**

Phone Number: _____ **[10-digit number FILL IN, data validation with numbers only and a need for 10 numbers]**

Email: _____ **[FILL IN]**

Thank and SKIP TO TERMINATE 2

2.2 Participant Background

The next set of questions is going to ask you for some background on your agricultural business.

Q3. Is the agricultural business located at **[PIPE IN ADDRESS FROM FEAT]** still operational?

Yes (1)

No, it is no longer operational (2)

Display This Question:

If Q3 = 2, else skip to Q4

Q3a. When did your agricultural business cease operation?

Year of installation? <i>[DROP DOWN for individual Year, "2020"- "2023"]</i>	Season of installation? <i>[DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]</i>
[DROP DOWN, YYYY]	[DROP DOWN, SEASON]

[SKIP TO TERMINATE 3]

Q4. Which of the following does your agricultural operation located at **[PIPE IN ADDRESS FROM FEAT]** have? (Select all that apply.)

- ☐ Dairy cows (1)
- ☐ Beef cattle (2)
- ☐ Chickens (3)
- ☐ Pigs (4)
- ☐ Vineyard (5)
- ☐ Greenhouse (6)
- ☐ Vegetable farm (not a greenhouse) (7)
- ☐ Other, please specify: **[FILL IN] (97)**
- ☐ None **[MUTUALLY EXCLUSIVE; SKIP TO TERMINATE 3] (8)**

Display This Question:

If Q4 = 1-7, 97 [CARRY ANSWERS FORWARD, include fill box for text]

Q5. In the previous question, you selected what your agriculture operation has. Please, quantify each selection you made with the number of animals (cows, beef, chickens, and/or pigs) or acres of land (vineyard, greenhouse, and/or vegetable farm):

Agricultural Operation	Amount
Dairy cows (count)	
Beef cattle (count)	
Chickens (count)	
Pigs (count)	
Vineyard (acres)	
Greenhouse (acres)	
Vegetable farm (<i>not a greenhouse</i>) (acres)	
Other (count/acres) [TEXT FROM OPEN BOX ABOVE]	

Q5a. Does your farming operation grow cannabis?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Don't know (98)

Q6. Have there been any major changes to the size or production of your operation (increased, decreased, or stayed the same) since the last time you had an audit done?

- ☐ Yes, size or production has increased (1)
- ☐ Yes, size or production has decreased (2)
- ☐ No, size or production has stayed the same (3) [SKIP TO Q12]
- ☐ Don't know (98) [SKIP TO Q12]

Display This Question:

If Q6 = 1 or 2, else skip to Q8

SHOW OPTIONS SELECTED/WITH ANSWERS IN Q12 ONLY

Q7. Please complete the table with information about how your agricultural operation has changed since your last audit.

Agricultural Operation	How much has the amount changed since your last audit (by percentage)? Please use a negative sign for any decreases?	What year did the change occur? [Allow for 4-digit answers]
Dairy cows (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	

Beef cattle (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Chickens (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Pigs (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Vineyard (acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Greenhouse (acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Vegetable farm (<i>not a greenhouse</i>) (acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Other (count/acres) [FILL IN]	[WHOLE NUMBER NUMERICAL ANSWER] %	

2.3 Audit Recommendations

The next set of questions is going to ask you about which energy efficient technologies you have implemented since receiving the NYSERDA energy audit.

Q8. Have you installed any other energy efficient technologies at your location that were not suggested in the audit since the end of 2021?

Yes (1)

No (2)

Display Questions 8a-10:

If Q8 = Yes (1)

If Q8 = No (2), then skip to Q11

Q8a. Please describe the energy efficient technologies you installed that were not suggested in the audit since the end of 2022, including the season of installation. **[OPEN ENDED RESPONSES in tables with and MM/YYYY for each technology]**

Technology	Year of installation <i>[DROP DOWN for individual Year, "2021"-"2023"]</i>	Season of installation <i>[DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]</i>
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN

Technology	Year of installation <i>[DROP DOWN for individual Year, "2021"-"2023"]</i>	Season of installation <i>[DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]</i>
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN

Q9. Did your participation in NYSERDA's Agriculture Energy Audit Program influence your decision to install the additional technology(ies) that were not suggested in the audit?

- ☐ Yes (1)
- ☐ No (2)

Q10. Have you noticed a change in your energy consumption after installing these technologies?

- ☐ Yes (1)
- ☐ No (2)
- ☐ I don't know (98)

Display Questions Q10a::

If Q10 = Yes (1)

If Q10 = No (2) or I don't know (98), then skip to Q11

Q10a. You indicated you noticed a change in energy consumption after the additional technology installation. Please indicate the type of change that you noticed and if that energy savings change is seasonal.

Change in energy use			Is the change seasonal in nature? Yes/No
Technology	Increase	Decrease	
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			

Q11. Has your farm experienced any changes in **operations or production** that increased or decreased your energy use since taking the survey last time (late 2022 or early 2023)? These changes could be long- or short-term and could include the number of animals, buildings added or expanded, retrofits, equipment decommissioning, etc.

- Yes (1)
No (2)
I don't know (98)

Display This Question:

If Q11 = Yes (1)

If Q11 = No (2) or I don't know (98), then skip to Q12

Q11a. Please share more about the **operations or production changes** since the installation of the previous technologies. What has changed? When did these changes occur? **[OPEN ENDED RESPONSE]**

Q12. Have you noticed any **operations or production impacts** since installing these technologies not relating to energy use? These impacts could include more milk per cow, more produce per square foot, reduced maintenance, etc.

- Yes (1)
No (2)
I don't know (98)

Display This Question:

If Q12 = Yes (1)

If Q12 = No (2) or I don't know (98), then skip to Q13

Q12a. You indicated noticing **operations or production impacts** outside of energy use. Please share with us what non-energy impacts have you noticed.

[OPEN ENDED RESPONSE]

Q13. Did you share or discuss any of your audit recommendations with other farmers or agricultural producers at other facilities in New York State?

- Yes (1)
No (2)
I don't know (98)

If Q13 = Yes (1)

If Q13 = No (2) or I don't know (98), then skip to Q14

Q13a. Where and/or by what method did you share this information? Select all that apply.

- ☐ Email (1)
- ☐ Phone call (2)
- ☐ Informal in-person conversation (3)
- ☐ Digital newsletter (4)
- ☐ Physical newsletter (5)
- ☐ Trade show (6)
- ☐ Conference (7)
- ☐ Community meeting (8)
- ☐ Industry or networking event (9)
- ☐ Other, please specify **[OPEN TEXT RESPONSE]** (97)

- I don't know (98)

Display This Question:

If Q13 = Yes (1)

If Q13 = No (2) or I don't know (98), then skip to Q14

Q13b. To your knowledge, were any energy efficient measures installed by another farmer or agricultural producers at other facilities as a result of sharing the information referenced in the previous question? These energy efficiency measures could include retrofits, new heating or cooling measures, etc.

- Yes (1)
- No (2)
- I don't know (98)

2.4 Best Practices

In this section we would like to better understand your awareness of and experience with NYSERDA's Energy Best Practices guides and tools.

Q14. Have you heard of NYSERDA's website Energy Best Practices for Agriculture?

- Yes (1)
- No (2) **[IF NO, SKIP TO QUESTION Q22]**
- Don't know (98) **[IF NO, SKIP TO QUESTION Q22]**

Display This Question:

If Q14 = Yes (1)

Q15. How did you hear about NYSERDA's Energy Best Practices for Agriculture? Select all that apply.

- ☐ Agriculture facility auditor (1)
- ☐ NYSERDA program staff (2)
- ☐ NYSERDA website (3)
- ☐ Contractor (4)
- ☐ Other, please specify: _____ **[OPEN ENDED RESPONSE]** (97)
- ☐ Don't know (98) **[MUTUALLY EXCLUSIVE]**

Q16. Which of the Energy Best Practices for Agriculture have you used? Select all that apply.

- ☐ Greenhouses – Fact Sheet (1)
- ☐ Greenhouses – Guidebook (2)
- ☐ Dairy Farms – Fact Sheet (3)
- ☐ Dairy Farms – Guidebook (4)
- ☐ Dairy Farms – Guidebook – Spanish (5)
- ☐ Video: Best Practices for Greenhouses (6)

- ☐ Video: Best Practices for Dairies (7)
- ☐ Other, please specify _____ [OPEN ENDED RESPONSE] (97)
- ☐ Don't know (98) [MUTUALLY EXCLUSIVE]

Display This Question:

If Q16 = 1,2, and/or 6; go to Q16a

If Q16 = 3, 4, 5, or 7; go to Q16b

ELSE SKIP to Q17

Q16a. You reported that you have used a Best Practices guide related to Greenhouses. Have you implemented any of the following changes into your agricultural operation or processes based on Best Practices for Greenhouses? Select all that apply. [Randomize 1-8]

- ☐ Energy Curtains (like screens, thermal blankets, and shade curtains)
- ☐ LED Grow Lights
- ☐ Environmental Control Systems
- ☐ High Efficiency Space Heating
- ☐ Infrared Film
- ☐ High Efficiency Fans
- ☐ Drip Irrigation or Subirrigation System
- ☐ Variable frequency drive (VFD) / Variable Speed Drive (VSD) Motors
- ☐ Other, please specify _____ [OPEN ENDED RESPONSE]

Q16b. You reported that you have used a Best Practices guide related to Dairy Farms. Have you implemented any of the following changes into your agricultural operation or processes based on Best Practices for Dairy Farms? Select all that apply. [Randomize 1-8]

- ☐ LEDs
- ☐ Milk Pre-Cooler
- ☐ VFD Milk Transfer Pump
- ☐ Scroll Compressor
- ☐ High Efficiency Water Heater
- ☐ High Efficiency Fans
- ☐ Compressor Heat Recovery
- ☐ Variable frequency drive (VFD) Vacuum Pump
- ☐ Variable frequency drive (VFD) / Variable Speed Drive (VSD) Motors
- ☐ Refrigeration Heat Recovery
- ☐ Other, please specify _____ [OPEN ENDED RESPONSE]

Q17. Which aspects of the Best Practices did you find most helpful? Select all that apply. [Randomize 1-5]

- ☐ Recommendations for energy-efficient technologies (1)
- ☐ Alternate modes of operation (2)
- ☐ Conservation practices to optimize energy use (3)
- ☐ Access State, federal, and utility incentive programs (4)

- ☐ Beneficial Electrification Calculator (5)
- ☐ Other, please specify _____ [OPEN ENDED RESPONSE] (97)
- ☐ Don't know (98) [MUTUALLY EXCLUSIVE]

Display This Question:

If Q17 = 5, else SKIP to Q18

Q17a. You reported that you found the Beneficial Electrification Calculator helpful in a previous question. Which calculators did you use within the tool? Select all that apply.

- ☐ Engine to Electric Motor
- ☐ Electric Tractor
- ☐ Heat Pump Space Heater
- ☐ Water Heater
- ☐ Don't know (98) [MUTUALLY EXCLUSIVE]

Q17b. Which additional technologies would you like to see NYSERDA add to the Beneficial Electrification Calculator to assist your agricultural operation? [OPEN ENDED RESPONSE]

Q18. What information could NYSERDA include to improve Energy Best Practices? Please specify any topics that could be included in the videos and factsheets.

- [OPEN ENDED RESPONSE] (1)

Q19. Would you recommend the Best Practice guides to peer farmers and/or agriculture facilities?

- Yes (1)
- No (2)
- Don't know (98)

Q20. Have you shared any information from the Best Practice guides with other farmers and/or agriculture facilities?

- Yes (1)
- No (2)
- Don't know (98)

If Q20 = Yes (1)

If Q20 = No (2) or I don't know (98), then skip to Q21

Q20a. Where and/or by what method did you share this information? Select all that apply.

- Email (1)
- Phone call (2)
- Informal in-person conversation (3)
- Digital newsletter (4)
- Physical newsletter (5)
- Trade show (6)
- Conference (7)
- Community meeting (8)

- Industry or networking event (9)
- Other, please specify **[OPEN END RESPONSE]** (10)
- I don't know (98)

Q21. On a scale from **1 to 5** with '**1**' being **Very Dissatisfied** and '**5**' being **Very Satisfied**, please indicate your level of satisfaction with the following NYSERDA Best Practices information:

Best Practices Information Elements	1 Very Dissatisfied	2 Somewhat Dissatisfied	3 Neither Satisfied nor Dissatisfied	4 Somewhat Satisfied	5 Very Satisfied	97 Not Applicable
Ease of use						
Quality of the information						
Beneficial Electrification Calculator						
Videos						
Fact sheets						
Best Practices Guides Overall						

2.5 Renewables

NYSERDA would like to learn more about renewable projects at agriculture facilities.

Q22. Did you install any wind, solar, and/or energy storage technology at your location in New York State?

- Yes (1)
- No (2) **[IF NO, SKIP TO Q23]**

Display This Question:

If Q22 = Yes

If Q22 = No, then skip to Q23

Q22a. Did you add wind, solar, and/or energy storage? Select all that apply.

- ☐ Wind (1)
- ☐ Solar (2)
- ☐ Energy storage (3)

Q22b. How much energy capacity (in kW) did you add?

- Wind: ____ kW **[DISPLAY ONLY IF Q27a = 1; WHOLE NUMBER NUMERICAL ONLY]**

- Solar: _____ kW [DISPLAY ONLY IF Q27a = 2; WHOLE NUMBER NUMERICAL ONLY]
- Energy Storage _____ kWh [DISPLAY ONLY IF Q27a = 3; WHOLE NUMBER NUMERICAL ONLY]
- Don't know (98)

Q22c Why did you choose to install wind, solar, and/or energy storage? Select all that apply

[Randomize 1-3]

- To reduce the electricity usage for on the farm electrical loads (1)
- For electricity costs savings (2)
- For land lease revenue, if applicable (i.e., renewable project injects into the utility grid and not the on farm electrical loads) (3)
- Other, please specify: _____ [OPEN TEXT RESPONSE] (97)

2.6 Climate Resiliency

In this section we would like to better understand your experiences with climate change and/or environmental or weather events. The following questions regard climate resilience which is defined as the planning required to recover from impacts of climate change.³⁰

Q23. What types of environmental events have you experienced? Select all that apply. [Randomize 1-9]

- Extreme cold (1)
- Extreme heat / humidity (2)
- Drought (3)
- Flooding (4)
- Heavy precipitation (5)
- Hurricanes / extreme storms (6)
- Vector-borne diseases (e.g., mosquito- or tick-borne illnesses) (7)
- Wildfires (8)
- Air quality issues due to wildfires or other events (9)
- Other, please specify: _____ [OPEN ENDED RESPONSE] (97)

Q24. Have you experienced any consequences from the environmental events your site has experienced? Select all that apply. [Randomize 1-6]

- Disruptions to operations (1)
- Disruptions to supply chains (2)
- Financial impacts (3)

³⁰ 1] Center for Climate Change and Energy Solutions (C2ES). (2019) What is Climate Resilience, and Why Does it Matter?. Retrieved from <https://www.c2es.org/wp-content/uploads/2019/04/what-is-climate-resilience.pdf>

- Impacts on labor/ workers (e.g., health, productivity) (4)
- Loss or damage to crops / animals / equipment (5)
- Power outages (6)
- Other, please specify: _____ [OPEN ENDED RESPONSE] (97)

If Q24 = 3

Else, skip to Q26

Q25. What types of financial impacts did you experience? Select all that apply. [Randomize 1-3]

- Expenses for recovery / remediation (e.g., flood / storm clean-up) (1)
- New capital expenditures (purchase / install new generator; investments to make business infrastructure / operations more physically robust) (2)
- New operating expenditures (e.g., new insurance products; new crop / animal varieties that are more climate resilient) (3)
- Other, please specify: _____ [OPEN ENDED RESPONSE] (97)

Q26. Have you installed any systems or measures at your site or change energy usage due to any of these environmental events?

- Yes, please specify [OPEN ENDED RESPONSE] [(1)
- No (2)
- Don't know (98) [MUTUALLY EXCLUSIVE]

Q26a. Do you plan to install any systems or measures at your site or change energy usage due to any of these environmental events?

- Yes, please specify [OPEN ENDED RESPONSE] [(1)
- No (2)
- Don't know (98) [MUTUALLY EXCLUSIVE]

Q27. What critical energy-consuming technologies or processes at your agricultural operation location are sensitive to a power outage? [OPEN ENDED RESPONSE]

Q28. Do you have backup power installed to handle these power loads during an outage?'

- Yes (1)
- No (2)
- Partially, please explain: _____ [OPEN ENDED RESPONSE] (97)

2.7 Account Information Check

One of our goals for this program is to estimate savings associated with the NYSEDA Agriculture Energy Audit Program. Given this goal, we would like to request some information regarding your utility accounts.

NYSERDA requests permission to access historic utility data for the accounts associated with the address provided. **As a thank you for sharing your historic utility data, NYSERDA will add \$25 to your gift card in addition to the \$25 for completing the survey for a gift card totaling \$50. If you do not share your historic utility data, then you will still be able to take the remainder of the survey in exchange for the \$25 e-gift card.**

Q29. Are you willing to share your historic energy billing data?

- Yes (1)
- Yes, but I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (2) **[SKIP to Q34]**
- No (3) **[SKIP to Q34]**

Display This Question:

If Q29 = 1, then display Q29a

Q29a. What kind of fuel do you have at your facility? Select all that apply.

- ☐ Electricity (1)
- ☐ Natural gas (2)
- ☐ Other fuel, please specify: **[OPEN TEXT RESPONSE]** (3)

Display This Question:

If Q29a = 1, then display Q30, if else SKIP to Q31

Q30. We need your farming operation's utility's name and account number.

- I would like to enter my account information manually. (1)
- I would like to upload a picture of my bill. (2)
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q30 = 1

Q30a. Please list the name of your farming operation's electric utility along with its account numbers. Your account number information can be found on your energy bill.

Electric Utility

- Electric Utility Company Name: _____ **[FILL IN, data validation with letters only]**
Electric Utility Account Number: _____ **[FILL IN, data validation with numbers only]**
If NYSEG or RG&E – POD #: _____ **[FILL IN, data validation with numbers only] (1)**

Display This Question:

IF Q30 = 2

Q30b. Upload a picture of your bill that clearly displays your farming operation's electric utility's name and account number

[File upload question type]

Display This Question:

If Q30a is displayed

Q30c. You entered [SHOW Q47a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number and (if applicable) POD# is correct.(1) [CHECKBOX]

Display This Question:

If Q29a = 2, if else SKIP to Q32

Q31. We need your farming operation's natural gas utility's name and account number.

- I would like to enter my account information manually. (1)
- I would like to upload a picture of my bill. (2)
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q31 = 1

Q31a. Please list the name of your farming operation's natural gas utility along with its account numbers. Your account number information can be found on your energy bill.

Natural Gas Utility

- Natural Gas Utility Company Name: _____ [FILL IN, data validation with letters only]
Natural Gas Utility Account Number: _____ [FILL IN, data validation with numbers only]
If NYSEG or RG&E – POD #: _____ [FILL IN, data validation with numbers only] (1)

Display This Question:

IF Q31 = 2

Q31b. Upload a picture of your bill that clearly displays your farming operation's natural gas utility's name and account number

[File upload question type]

Display This Question:

If Q31a is displayed

Q31c. You entered [SHOW Q48a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number and (if applicable) POD# is correct.(1) **[CHECKBOX]**

Display This Question:

If Q29a = 3, if Else Skip to Q33

Q32. We need your farming operation's natural gas utility's name and account number.

- I would like to enter my account information manually. (1)
- I would like to upload a picture of my bill. (2)
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q32 = 1

Q32a. Primary Space and Process Fuel Supplier: If you heat at your farming operation by a fuel other than natural gas or electricity, please provide the information requested below. Your account number information can be found on your energy bill.

- Company Name: _____ **[FILL IN, data validation with letters only]**
Account Number: _____ **[FILL IN, data validation with numbers only] (1)**
- Upload a picture of your bill that clearly displays your utility's name and account number (2)
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q32 = 2

Q32b. Upload a picture of your bill that clearly displays your farming operation's natural gas utility's name and account number

[File upload question type]

Display This Question:

If Q32a is displayed

Q32c. You entered [SHOW Q49a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number is correct.(1) **[CHECKBOX]**

By selecting "I consent" below, I authorize the New York State Energy Research and Development Authority (NYSERDA), and its designated representatives, to access energy billing and consumption data for the site identified. As an authorized representative of the site, I authorize NYSERDA, and its designated representatives, to access and use any available energy consumption information and data. I understand this information will be used to evaluate energy use patterns for the purpose of measuring energy performance and determining the potential and actual energy savings resulting from evaluated or

implemented energy projects. I understand that NYSERDA is subject to the NYS Freedom of Information Law, Public Officers law, Article 6, and that NYSERDA cannot guarantee confidentiality of any information submitted.

Q33. Do you consent to sharing your historic utility data?

- Yes, I consent (1)
- No, I do not consent (2)

2.8 Gift Card Check

Those are all the questions we have. Thank you for your help!

Q34. You will receive \$25 for completing the survey *and an additional \$25 if* you also provided your utility account information and permission to access historic usage data. Would you like to receive your e-gift card, which can be used as an online debit card or credit to donate to a charitable organization, at [\\${e://Field/Email}](#) or at another email address? You will receive the gift card in your email within a week.

- Yes, please send the e-gift card to [\\${e://Field/Email}](#) (1)
- Please send the e-gift card to another email address (please specify): (2)

[open response text option] @ [open text response]

No thanks, I do not wish to either receive the gift card to use or to send a charitable donation (3)

Display CLOSE

2.9 Terminations/Close

TERMINATE 1: We appreciate your interest in taking the survey, however we are currently only reaching out to farmers and agricultural producers that have participated in NYSERDA's Agriculture Energy Audit Program. Thank you for your time. If you think you are receiving this message in error, please contact: NYSERDAsurvey@guidehouse.com.

TERMINATE 2: We appreciate your interest in taking the survey. This survey is intended for someone in your organization familiar with the NYSERDA's Agriculture Energy Audit Program and the technologies at your location that consume energy. We request that you please reach out to the inbox at: NYSERDAsurvey@guidehouse.com. If you think you are receiving this in error, please contact: NYSERDAsurvey@guidehouse.com. Thank you.

TERMINATE 3: We appreciate your interest in taking the survey, but we are only reaching out to agricultural facilities in New York State that are currently in operation. If you think you are receiving this message in error, please contact: NYSERDAsurvey@guidehouse.com.

CLOSE: This concludes the survey. Thank you for your participation. If you have any questions about this survey or how your responses to this survey will be used, please contact:
NYSERDAsurvey@guidhouse.com.

Appendix D: Agriculture Energy Audit Program 2020 Non-Respondent Participant Survey

Agriculture Energy Audit Program Participant Survey Market Update 2

FINAL

Prepared for:



Submitted by:
Guidehouse, Inc.

1375 Walnut Street

Suite 100

Boulder, CO 80302

303.728.2500

guidehouse.com

7 December 2023

Contents

1. Introduction D-82

1.1 Draft of E-mail Language – Online Survey (Initial E-mail).....	D-83
1.2 Draft of E-mail Language – Online Survey (Reminder E-mail)	D-85
2. Survey D-87	
2.1 Introduction.....	D-88
2.2 Participant Background.....	D-88
2.3 Audit Recommendations.....	D-91
2.4 Program, Process, and Communications.....	D-97
2.5 Best Practices	D-99
2.6 Renewables	D-102
2.7 Climate Resiliency	D-103
2.8 COVID-19 Impacts	D-104
2.9 Account Information Check	D-107
2.10 Gift Card Check	D-110
2.11 Terminations/Close	D-111

1. Introduction

This document includes Guidehouse’s draft survey instrument for the Agriculture Energy Audit Program Participant Survey.

Guidehouse will utilize Qualtrics to administer the online survey. Recruitment of respondents will occur through three emails and two phone calls. For those that do not take the survey online, Guidehouse plans to call the participants so that they can take the survey over the phone. The survey will be tested in advance of full deployment and may be modified after deployment to enhance the number of completed interviews. Compiled survey results will be presented to NYSERDA and summarized in the final report. Table 1 identifies the survey characteristics.

Table 5: Survey Characteristics

Characteristics	Description
Statement of purpose	To understand participation in the program, to estimate direct and indirect impacts, to learn about the participant journey through the program and how processes can improve, to learn about participant experience with Best Practices, how farmers perceive resiliency impacting their operations, and to gain knowledge about the impacts of COVID-19 on participants.
Qualified respondent	A grower or farmer that has participated in NYSERDA’s Agriculture Energy Audit Program in 2020 who did not respond to the 2022 survey effort.
Sample Size	A census of all participants from previous audits conducted in 2020 who did not respond to the 2022 survey effort will be contacted.
Target number of completes	Population size is: 56 audit participants from 2020 who did not respond to the 2022 survey effort will be contacted.
Estimated survey length	30 minutes
Survey timeline	Q4 2023-Q1 2024
Question categories	Introduction: Q1-Q2; Participant Background: Q3-Q7; Audit Recommendations: Q8-Q16b; Best Practices: Q24-Q31; Renewables: Q32-Q32c; Climate Resiliency: Q33-Q38; COVID-19 Impacts: Q39-Q45; Account Information Check: Q46-Q50

Table 6. Survey Research Objectives

Evaluation Questions	Survey Questions
Direct Impacts	
What is the measure adoption rate WITH EnSave administrative assistance (i.e., within the first year after the audit) of Agriculture Energy Audit Program?	Q8, Q10
What are the estimated direct impacts of technologies installed WITH EnSave assistance from Agriculture Energy Audit Program?	Q8, Q10
Indirect Impacts	
What is the measure adoption rate WITHOUT EnSave administrative assistance (i.e., after the end of the first year after the audit) of Agriculture Energy Audit Program?	Q11-Q16b
What are the estimated indirect impacts (i.e., WITHOUT EnSave assistance) from Agriculture Energy Audit Program?	Q11-Q16b
Program, Processes, and Improvements	
Are there any process improvements for Agriculture Energy Audit Program?	Q17-Q23a
What was the impact of COVID-19 on participants related to the initiatives?	Q39-Q45
How are Best Practice guides received by participants? Are guides shared peer-to-peer? What improvements can be made?	Q24-Q31
How are participants experiencing extreme climate events? How are these events impacting participants? What are they doing to address this impact on their farming operations?	Q33-Q38

1.1 Draft of E-mail Language – Online Survey (Initial E-mail)

From: Jeremy Simpson <noreply@qemailserver.com>

Sent: Tuesday, February 8, 2022 11:46 AM

To: John Doe <john.doe@gmail.com>

Subject: Earn up to \$50 by completing a short survey about your participation in NYSERDA's Agriculture Energy Audit Program!

Reply to: NYSERDAsurvey@guidhouse.com



Dear [Contact Name],

The New York State Energy Research and Development Authority (NYSERDA) is conducting a survey of the Agriculture Energy Audit Program. Our records indicate you or your organization participated in this program in the last 5 years. Your feedback is very important to NYSERDA and we are writing to ask you to complete this survey.

This survey is being conducted by Guidehouse, Inc. and Apprise, two independent evaluation firms, and will be used to better understand the types of technologies used by agriculture producers like you, and to improve programs and resources that support the agricultural industry in New York State. The information you provide will be used for research purposes only and kept confidential to the extent permitted by law including but not limited to the Freedom of Information Law (FOIL). The analysis will only use summary-level data and will not identify individual respondents.

This survey is expected to take 30 minutes or less to complete. To express our appreciation, you will receive a \$25 electronic gift card after completing the survey! The gift card is redeemable with businesses such as Amazon, REI, Nike, Starbucks, Home Depot, and Target.

One goal of this study is to estimate energy savings associated with the NYSERDA Agriculture Energy Audit Program. NYSERDA requests permission to access historic utility data for the accounts associated with the address of the participating location, so you may find it helpful to have your farming operation bills handy when you take this survey. As a thank you, you will receive **\$25 added to your gift card – for a total of \$50** – if you are willing to provide utility account information as part of this survey effort.

This survey will close on [date]. The gift card will be delivered within 7 business days of your completion and submission of the survey.

You can complete the survey by link or by phone:

Option 1. Complete the survey online at: www.tinyurl/farmsurvey
To begin the survey, enter your Access Code / PIN.
Your Access Code / PIN is: <<CODE>>

Option 2. Call APPRISE toll-free at [1-888-434-8008](tel:1-888-434-8008) to complete the survey by telephone.
You may call APPRISE any time between 8:30 a.m. to 5 p.m. EST Monday-Friday

If you have any questions about the questions in this survey or if you experience any technical difficulties completing it, please contact NYSERDAsurvey@guidhouse.com. If you would like to speak to someone at NYSERDA regarding the validity of this survey, please contact me using the information listed in my signature below.

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State.

Sincerely,

[Jeremy S. Simpson \(he/him\)](#)
[NYSERDA](#)
[15 Columbia Circle | Albany, NY 12203-6399](#)
[P: 518-862-1090 x3234](tel:518-862-1090) | [E: jeremy.simpson@nyserda.ny.gov](mailto:jeremy.simpson@nyserda.ny.gov)
nyserda.ny.gov

Follow the link to opt out of future emails:
[Insert Opt out link/ "Click here to unsubscribe"]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

1.2 Draft of E-mail Language – Online Survey (Reminder E-mail)

From: Jeremy Simpson <noreply@qemailserver.com>

Sent: Tuesday, February 8, 2022 11:46 AM

To: John Doe <john.doe@gmail.com>

Subject: Reminder: Earn up to \$50 by completing a short survey about your participation in NYSERDA's Agriculture Energy Audit Program!

Reply to: NYSERDAsurvey@guidedhouse.com



Dear [Contact Name],

A few days ago, we reached out to you about how the New York State Energy Research and Development Authority (NYSERDA) has partnered with Guidehouse, Inc. to understand the awareness and use of different energy technologies and resources in New York State's agriculture sector. As part of this research, we are conducting a short survey with farmers and agricultural producers that participated in NYSERDA's Agriculture Energy Audit Program.

According to our records, you or your organization participated in this Audit Program in the last 5 years, and I am writing to ask for your participation in this important survey. This survey will help NYSERDA to better understand the types of technologies used by agriculture producers like you, and to improve its programs and resources that support the agricultural industry in New York State.

To express our appreciation, you will receive a \$25 electronic gift card after completing the survey! The gift card is redeemable with businesses such as Amazon, REI, Nike, Starbucks, Home Depot, and Target.

One goal of this study is to estimate savings associated with the NYSERDA Agriculture Energy Audit Program. Given this goal, NYSERDA requests permission to access **historic utility data** for the accounts associated with the address of the participating location, so you may find it helpful to have your farming operation bills handy when you take this survey. As a thank you, you will receive **an additional \$25 added to your gift card – for a total of \$50** – if you are willing to provide utility account information as part of this survey effort.

This survey will close on [date] and is expected to take 30 minutes or less to complete. The gift card will be delivered within 7 business days of your completion and submission of the survey.

You can complete the survey by link or by phone:

Option 1. Complete the survey online at: www.tinyurl/farmsurvey
To begin the survey, enter your Access Code / PIN.
Your Access Code / PIN is: <<CODE>>

Option 2. Call APPRISE toll-free at [1-888-434-8008](tel:1-888-434-8008) to complete the survey by telephone.
You may call APPRISE any time between 8:30 a.m. to 5 p.m. EST Monday-Friday.

NYSERDA has partnered with Guidehouse, Inc. and APPRISE to conduct this survey. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Act (FOIA). The analysis will only use summary level data and will not identify individual respondents.

If you have any questions about the questions in this survey or if you experience any technical difficulties completing it, please contact NYSERDAsurvey@guidehouse.com. If you would like to speak to someone at NYSERDA regarding the validity of this survey, please contact me using the information listed in my signature below.

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State.

Sincerely,

Jeremy Simpson
NYSERDA
jeremy.simpson@nyserda.ny.gov
518-862-1090 extension 3234

Follow this link to the Survey

[Survey Link]

Follow the link to opt out of future emails:

[Opt out / click here to unsubscribe]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

2. Survey

Thank you for taking time to complete this survey. We appreciate you!

This survey is being conducted on behalf of the New York State Energy Research and Development Authority (NYSERDA). Your input and information will help NYSERDA to better understand the types of energy efficient technologies and resources used in New York State's agricultural sector, and to improve its programs and resources that support the agricultural industry in New York State. As part of this research, NYSERDA is reaching out to past participants of their Agriculture Energy Audit Program. You may also know this NYSERDA program by the names of FlexTech and FlexTech Ag Services.

The survey should take you less than 30 minutes to complete. You can go back to previous responses at any point during the survey by clicking the back arrow on the bottom left of the screen. You can return to the survey at a later time by going back to the survey URL. All responses will be kept confidential to the extent permitted by law and reported in aggregate without individual respondents or firms identifiable. You will also be asked to provide electricity and gas utility information requested by NYSERDA as part of your participation. By agreeing to take this survey, you are also agreeing that these data will be shared with NYSERDA for use.

If you have questions while you are taking the survey, please e-mail NYSERDAsurvey@guidhouse.com.

If you agree to participate, please enter your Access Code / PIN:

2.1 Introduction

Q1. According to our records, you or your organization participated in the NYSERDA Agriculture Energy Audit Program in **[PIPE IN YEAR FROM DATE FROM IN FEAT]** for your agricultural business located at **[PIPE IN ADDRESS FROM FEAT]**. Is that correct?

- ☐ Yes (1)
- ☐ No (2) **[SKIP TO TERMINATE 1]**

Q2. Are you the person at your organization that was most involved in the NYSERDA Agriculture Energy Audit Program and with the technologies at this location that consume energy (e.g., lights, heating systems, or cooling systems)?

- ☐ Yes (1) **[SKIP TO Q3]**
- ☐ No (2)

Display This Question:

If Q2 = No

Q2a. In the previous question, you indicated that you are not familiar with the technologies at this location that consume energy and/or that you are not the person at your organization that was most involved in this NYSERDA program. Can you provide the contact information for the person at your organization that was most involved in NYSERDA's Agriculture Energy Audit Program and is familiar with the technologies at this location that consume energy?

- ☐ Yes (1)
- ☐ No (2) **[SKIP TO TERMINATE 2]**

Display This Question:

If Q2a = Yes

[OPEN ENDED RESPONSE with three boxes, one for "Name" that only allows text, one for "Phone Number" that only allows numbers and validate using appropriate phone number length, and one for "Email"]

SKIP TO TERMINATE 2 after completion of Q2b

Q2b. Please provide the name, phone number, and e-mail address, if possible, of the contact person that you indicated in the question above.

Name: _____ **[FILL IN, data validation with letters only]**

Phone Number: _____ **[10-digit number FILL IN, data validation with numbers only and a need for 10 numbers]**

Email: _____ **[FILL IN]**

Thank and SKIP TO TERMINATE 2

2.2 Participant Background

The next set of questions is going to ask you for some background on your agricultural business.

Q3. Is the agricultural business located at **[PIPE IN ADDRESS FROM FEAT]** still operational?

Yes (1)

No, it is no longer operational (2)

Display This Question:

If Q3 = 2, else skip to Q9

Q3a. When did your agricultural business cease operation?

Year of installation? <i>[DROP DOWN for individual Year, "2020"-“2023”]</i>	Season of installation? <i>[DROP DOWN FOR Season, “Winter”, “Spring”, “Summer”, or “Autumn”]</i>
[DROP DOWN, YYYY]	[DROP DOWN, SEASON]

[SKIP TO TERMINATE 3]

Q4. Which of the following does your agricultural operation located at **[PIPE IN ADDRESS FROM FEAT]** have? Select all that apply.

- ☐ Dairy cows (1)
- ☐ Beef cattle (2)
- ☐ Chickens (3)
- ☐ Pigs (4)
- ☐ Vineyard (5)
- ☐ Greenhouse (6)
- ☐ Vegetable farm (not a greenhouse) (7)
- ☐ Other, please specify: **[FILL IN] (97)**
- ☐ None **[MUTUALLY EXCLUSIVE; SKIP TO TERMINATE 3] (8)**

Display This Question:

If Q4 = 1-7, 97 [CARRY ANSWERS FORWARD, include fill box for text]

Q5. In the previous question, you selected what your agriculture operation has. Please, quantify each selection you made with the number of animals (cows, beef, chickens, and/or pigs) or acres of land (vineyard, greenhouse, and/or vegetable farm):

Agricultural Operation	Amount
Dairy cows (count)	
Beef cattle (count)	

Chickens (count)	
Pigs (count)	
Vineyard (acres)	
Greenhouse (acres)	
Vegetable farm (<i>not a greenhouse</i>) (acres)	
Other (count/acres) [TEXT FROM OPEN BOX ABOVE]	

Q5a. Does your farming operation grow cannabis?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Don't know (98)

Q6. Have there been any major changes to the size or production of your operation (increased, decreased, or stayed the same) since the last time you had an audit done?

- ☐ Yes, size or production has increased (1)
- ☐ Yes, size or production has decreased (2)
- ☐ No, size or production has stayed the same (3) [SKIP TO Q12]
- ☐ Don't know (98) [SKIP TO Q12]

Display This Question:

If Q6 = 1 or 2, else skip to Q8

SHOW OPTIONS SELECTED in Q10/WITH ANSWERS IN Q12 ONLY

Q7. Please complete the table with information about how your agricultural operation has changed since your last audit.

Agricultural Operation	How much has the amount changed since your last audit (by percentage)? Please use a negative sign for any decreases?	What year did the change occur? [Allow for 4-digit answers]
Dairy cows (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Beef cattle (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Chickens (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Pigs (count)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Vineyard (acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	

Greenhouse (acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Vegetable farm (<i>not a greenhouse</i>) (acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	
Other (count/acres)	[WHOLE NUMBER NUMERICAL ANSWER] %	

2.3 Audit Recommendations

The next set of questions is going to ask you about which energy efficient technologies you have implemented since receiving the NYSERDA energy audit.

Q8. Our records indicate that the following technologies were recommended to you as part of NYSERDA's Agriculture Energy Audit Program. For each technology, please confirm if you have or have not installed that technology at your agricultural operation. If you ultimately uninstalled a technology, please indicate "installed" for the purposes of this question. **[PROGRAMMER: FILL IN TECHNOLOGY LIST BASED ON PIN NUMBER FOR TECHNOLOGIES INSTALLED ACCORDING TO FEAT].**

Technology	Did you Install in agricultural operation? <i>Installed (1)</i> <i>Did not install (2)</i> <i>I don't know (98)</i>
[Fill in from FEAT]	[Installed/Did Not Install/I don't Know]
[Fill in from FEAT]	[Installed/Did Not Install/I don't Know]
[Fill in from FEAT]	[Installed/Did Not Install/I don't Know]
[Fill in from FEAT]	[Installed/Did Not Install/I don't Know]

Q8a. You previously confirmed installation of the below technologies. For each technology that you reported was installed, please provide information about the installation and actions that occurred after the installation. **[PROGRAMMER: FILL IN TECHNOLOGY LIST BASED ON PIN NUMBER FOR TECHNOLOGIES INSTALLED ACCORDING TO FEAT].**

Technology	Year of installation? [DROP DOWN for individual Year, "2020"- "2023"]	Season of installation? [DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]	Received an incentive?	Noticed a change in energy use due to technology?	Still installed? Yes/No
[Fill in from FEAT]	[DROP DOWN, YYYY]	[DROP DOWN]			
[Fill in from FEAT]	[DROP DOWN, YYYY]	[DROP DOWN]			
[Fill in from FEAT]	[DROP DOWN, YYYY]	[DROP DOWN]			

Display This Question:

If Q8a = Uninstalled for ANY technologies, ask Q8b

Q8b. Previously, you mentioned that you had uninstalled measures. When and why were these measures uninstalled?

Technology	Year of uninstallation? [DROP DOWN for individual Year, "2020"- "2023"]	Season of uninstallation? [DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]	Why were these measures uninstalled? Please describe.
[Fill in from FEAT]	[DROP DOWN]	[DROP DOWN]	
[Fill in from FEAT]	[DROP DOWN]	[DROP DOWN]	

Display This Question:

If Q8 = 1 for ANY technologies carry forward technologies to Q9 table

If Q8 = 2 or 98 for ALL technologies, SKIP to Q11

Q9. Please identify what type of incentives you received (e.g., federal, state, or utility incentives) to implement measures at this site. Incentives refer to cash rebates, tax credits, or bill credits. For each technology you received an incentive for, select all that apply.
Incentives refer to cash rebates, tax credits, or bill credits.

Measure	Source of Funding		
	Federal Incentive	State Incentive	Utility Incentive
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			

Display This Question:

If Q8 = 1 for ANY technologies, carry forward technologies to Q10 table

If Q8 = 2 or 98 for ALL technologies, SKIP to Q11

Q10. For the following technologies, you indicated you noticed a change in energy use after installation. For each technology, indicate an increase and/or decrease in energy use and whether that energy change is seasonal. Select all that apply. **[CARRY FORWARD ANSWERS FROM Q13]**

Energy use refers to the amount of energy (e.g., kWh or therms) used at the location. Changes in energy use due to technology may be noticed on your utility bill. **[PROGRAMMER: DROPDOWN BOX FOR INSTALLED AT LOCATION OPTIONS]**

Technology	Change in energy use		Is the change seasonal in nature? Yes/No
	Increase	Decrease	
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			

Technology	Change in energy use		Is the change seasonal in nature? Yes/No
	Increase	Decrease	
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			

Display This Question:

If Q8 = 1 for ANY technologies, else SKIP to Q11

Q10a. On a scale from 1 to 5 with ‘1’ being Very Dissatisfied and ‘5’ being Very Satisfied, please indicate your level of satisfaction with the level of energy savings from installing the recommended measures.

- ☐ 1 – Very Dissatisfied (1)
- ☐ 2 (2)
- ☐ 3 (3)
- ☐ 4 (4)
- ☐ 5 – Very Satisfied (5)

Q11. Have you installed any other energy efficient technologies in your location that were not suggested in the audit?

Yes (1)

No (2)

Display Questions 11a-13:

If Q11 = Yes (1)

If Q11 = No (2), then skip to Q14

Q11a. Please describe the energy efficient technologies you installed that were not suggested in the audit, including the month and season of installation. **[OPEN ENDED RESPONSES in tables with and MM/YYYY for each technology)]**

Technology	Year of installation [DROP DOWN for individual Year, "2020"- "2023"]	Season of installation [DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN

Technology	Year of installation <i>[DROP DOWN for individual Year, "2020"- "2023 "]</i>	Season of installation <i>[DROP DOWN FOR Season, "Winter", "Spring", "Summer", or "Autumn"]</i>
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN
[Open Ended Response]	DROP DOWN [YYYY]	DROP DOWN

Q12. Did your participation in NYSERDA’s Agriculture Energy Audit Program influence your decision to install the additional technology(ies) that were not suggested in the audit?

- ☐ Yes (1)
- ☐ No (2)

Q13. Have you noticed a change in your energy consumption after installing these technologies?

- ☐ Yes (1)
- ☐ No (2)
- ☐ I don’t know (98)

Display Questions Q13a:

If Q13 = Yes (1)

If Q13 = No (2) or I don’t know (98), then skip to Q14

Q13a. You indicated you noticed a change in energy consumption after the additional technology installation. Please indicate the type of change that you noticed and if that energy savings change is seasonal.

Technology	Change in energy use		Is the change seasonal in nature? Yes/No
	Increase	Decrease	
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			
[Fill in from FEAT]			

Technology	Change in energy use		Is the change seasonal in nature? Yes/No
	Increase	Decrease	
[Fill in from FEAT]			
[Fill in from FEAT]			

Q14. Has your farm experienced any changes in **operations or production** that increased or decreased your energy use? These changes could be long- or short-term and could include the number of animals, buildings added or expanded, retrofits, equipment decommissioning, etc.

- ☐ Yes (1)
- ☐ No (2)
- ☐ I don't know (98)

Display This Question:

If Q14 = Yes (1)

If Q14 = No (2) or I don't know (98), then skip to Q15

Q14a. Please share more about the **operations or production changes** since the installation of the previous technologies. What has changed? When did these changes occur? **[OPEN ENDED RESPONSE]**

Q15. Have you noticed any **operations or production impacts** since installing these technologies not relating to energy use? These impacts could include more milk per cow, more produce per square foot, reduced maintenance, etc.

- ☐ Yes (1)
- ☐ No (2)
- ☐ I don't know (98)

Display This Question:

If Q15 = Yes (1)

If Q15 = No (2) or I don't know (98), then skip to Q16

Q15a. You indicated noticing **operations or production impacts** outside of energy use. Please share with us what non-energy impacts have you noticed.

[OPEN ENDED RESPONSE]

Q16. Did you share or discuss any of your audit recommendations with other farmers or agricultural producers at other facilities in New York State?

- ☐ Yes (1)
- ☐ No (2)
- ☐ I don't know (98)

If Q16 = Yes (1)

If Q16 = No (2) or I don't know (98), then skip to Q17

Q16a. Where and/or by what method did you share this information? Select all that apply.

- Email (1)
- Phone call (2)
- Informal in-person conversation (3)
- Digital newsletter (4)
- Physical newsletter (5)
- Trade show (6)
- Conference (7)
- Community meeting (8)
- Industry or networking event (9)
- Other, please specify **[OPEN TEXT RESPONSE]** (97)
- I don't know (98)

Display This Question:

If Q16 = Yes (1)

If Q16 = No (2) or I don't know (98), then skip to Q17

Q16b. To your knowledge, were any energy efficient measures installed by another farmer or agricultural producers at other facilities as a result of sharing the information referenced in the previous question? These energy efficiency measures could include retrofits, new heating or cooling measures, etc.

- Yes (1)
- No (2)
- I don't know (98)

2.4 Program, Process, and Communications

The next set of questions is going to ask you about the program, its process, and communications.

Q17. On a scale from **1 to 5** with **'1' being Very Dissatisfied** and **'5' being Very Satisfied**, please indicate your level of satisfaction with the following NYSERDA Agriculture Energy Audit Program elements:

NYSERDA Program Element	1 Very Dissatisfied	2 Somewhat Dissatisfied	3 Neither Satisfied nor Dissatisfied	4 Somewhat Satisfied	5 Very Satisfied	97 Not Applicable
Ease of application process						
Quality of auditor's performance						
Adequacy of the communication from program staff						
Comprehensiveness of program staff's knowledge about the program offering and options						

Sufficiency of the
resolution of program
issues

Overall satisfaction with
the program

Display This Question:

If Q17 = 1 OR 2 FOR ANY ITEMS

If Q17 = 3 – 5, or 97 then skip to Q19

Q18. Please further explain or share your experience that has led to any dissatisfaction (indicated by a ‘1’ or a ‘2’) noted in the previous question. **[OPEN ENDED RESPONSE]**

Q19. Would you recommend the NYSERDA Agriculture Energy Audit Program to an agricultural business owner or farmer?

- ☐ Yes (1)
- ☐ No (2)

Q20. Have you recommended the NYSERDA Agriculture Energy Audit Program to an agricultural business owner or farmer?

- ☐ Yes (1)
- ☐ No (2)

Display This Question:

If Q19= 2

Q20a. Why would you not recommend the NYSERDA Agriculture Energy Audit Program to a fellow agricultural business owner or farmer? **[OPEN ENDED RESPONSE]**

Q21. What action(s) could NYSERDA take to improve the program or its processes? **[OPEN ENDED RESPONSE]**

Q22. Please indicate the top three ways that you think NYSERDA should share and communicate information about the Agricultural Audits program with agricultural producers and farmers. **[ALLOW A MAXIMUM SELECTION OF THREE]** **[Randomize 1-6]**

- ☐ General Program Emails (1)
- ☐ Mailers and Paper Brochures (2)
- ☐ NYSERDA Website announcements (3)
- ☐ Agricultural Trade Shows (4)
- ☐ Calls with or visits from energy auditors (5)
- ☐ Calls with NYSERDA program staff (6)
- ☐ Other (97) **[OPEN TEXT RESPONSE]**

Q22a. What can be done to improve the communication methods mentioned above? **[OPEN ENDED RESPONSE]**

Q23. Which of the financial resources below are you aware of for installing energy efficient technologies in the agriculture sector? *Select all that apply.*

- ☐ Federal incentives and assistance programs, such as the USDA Environmental Quality Incentives Program or USDA Rural Energy for America Program (1)
- ☐ State incentives and assistance programs (2)
- ☐ Utility programs, such as energy efficiency programs offered by National Grid, New York State Electric and Gas, Rochester Gas & Electric, Central Hudson Gas & Electric, or Con Edison (3)
- ☐ Other **[FILL IN]** (97)
- ☐ Not aware of any (4)

Q23a. Other than the NYSERDA Agriculture Energy Audit Program, have you ever participated in an energy efficiency program for an agriculture-related project?

- ☐ Yes, please specify **[FILL IN]** (1)
- ☐ No (2)
- ☐ I don't know (98)

2.5 Best Practices

In this section we would like to better understand your awareness of and experience with NYSERDA's Energy Best Practices guides and tools.

Q24. Have you heard of NYSERDA's website Energy Best Practices for Agriculture?

- ☐ Yes (1)
- ☐ No (2) **[IF NO, SKIP TO QUESTION Q32]**
- ☐ Don't know (98) **[IF NO, SKIP TO QUESTION Q32]**

Display This Question:

If Q24 = Yes (1)

Q25. How did you hear about NYSERDA's Energy Best Practices for Agriculture? Select all that apply.

- ☐ Agriculture facility auditor (1)
- ☐ NYSERDA program staff (2)
- ☐ NYSERDA website (3)
- ☐ Contractor (4)
- ☐ Other, please specify: _____ **[OPEN ENDED RESPONSE]** (97)
- ☐ Don't know (98) **[MUTUALLY EXCLUSIVE]**

Q26. Which of the Energy Best Practices for Agriculture have you used? Select all that apply.

- ☐ Greenhouses – Fact Sheet (1)
- ☐ Greenhouses – Guidebook (2)

- ☐ Dairy Farms – Fact Sheet (3)
- ☐ Dairy Farms – Guidebook (4)
- ☐ Dairy Farms – Guidebook – Spanish (5)
- ☐ Video: Best Practices for Greenhouses (6)
- ☐ Video: Best Practices for Dairies (7)
- ☐ Other, please specify _____ [OPEN ENDED RESPONSE] (97)
- ☐ Don't know (98) [MUTUALLY EXCLUSIVE]

Display This Question:

If Q26 = 1, 2, and/or 6; go to Q26a

If Q26 = 3, 4, 5, or 7; go to Q26b

ELSE SKIP to Q27

Q26a. You reported that you have used a Best Practices guide related to Greenhouses. Have you implemented any of the following changes into your agricultural operation or processes based on Best Practices for Greenhouses? Select all that apply. [Randomize 1-8]

- ☐ Energy Curtains (like screens, thermal blankets, and shade curtains)
- ☐ LED Grow Lights
- ☐ Environmental Control Systems
- ☐ High Efficiency Space Heating
- ☐ Infrared Film
- ☐ High Efficiency Fans
- ☐ Drip Irrigation or Subirrigation System
- ☐ Variable frequency drive (VFD) / Variable Speed Drive (VSD) Motors
- ☐ Other, please specify _____ [OPEN ENDED RESPONSE]

Q26b. You reported that you have used a Best Practices guide related to Dairy Farms. Have you implemented any of the following changes into your agricultural operation or processes based on Best Practices for Dairy Farms? Select all that apply. [Randomize 1-8]

- ☐ LEDs
- ☐ Milk Pre-Cooler
- ☐ VFD Milk Transfer Pump
- ☐ Scroll Compressor
- ☐ High Efficiency Water Heater
- ☐ High Efficiency Fans
- ☐ Compressor Heat Recovery
- ☐ Variable frequency drive (VFD) Vacuum Pump
- ☐ Variable frequency drive (VFD) / Variable Speed Drive (VSD) Motors
- ☐ Refrigeration Heat Recovery
- ☐ Other, please specify _____ [OPEN ENDED RESPONSE]

Q27. Which aspects of the Best Practices did you find most helpful? Select all that apply. [Randomize 1-5]

- ☐ Recommendations for energy-efficient technologies (1)

- ☐ Alternate modes of operation (2)
- ☐ Conservation practices to optimize energy use (3)
- ☐ Access State, federal, and utility incentive programs (4)
- ☐ Beneficial Electrification Calculator (5)
- ☐ Other, please specify _____ [OPEN ENDED RESPONSE] (97)
- ☐ Don't know (98) [MUTUALLY EXCLUSIVE]
- ☐

Display This Question:

If Q27 = 5, else SKIP to Q28

Q27a. You reported that you found the Beneficial Electrification Calculator helpful in the previous question. Which calculators did you use within the tool? Select all that apply.

- ☐ Engine to Electric Motor (1)
- ☐ Electric Tractor (2)
- ☐ Heat Pump Space Heater (3)
- ☐ Water Heater (4)
- ☐ Don't know (98) [MUTUALLY EXCLUSIVE]

Display This Question:

If Q27 = 5

Q27b. Which additional technologies would you like to see NYSERDA add to the Beneficial Electrification Calculator to assist your agricultural operation? [OPEN ENDED RESPONSE]

Q28. What information could NYSERDA include to improve Energy Best Practices? Please specify any topics that could be included in the videos and factsheets.

- [OPEN ENDED RESPONSE] (1)

Q29. Would you recommend the Best Practice guides to peer farmers and/or agriculture facilities?

- Yes (1)
- No (2)
- Don't know (98)

Q30. Have you shared any information from the Best Practice guides with other farmers and/or agriculture facilities?

- Yes (1)
- No (2)
- Don't know (98)

If Q30 = Yes (1)

If Q30 = No (2) or I don't know (98), then skip to Q31

Q30a. Where and/or by what method did you share this information? Select all that apply. [Randomize 1-9]

- Email (1)
- Phone call (2)

- Informal in-person conversation (3)
- Digital newsletter (4)
- Physical newsletter (5)
- Trade show (6)
- Conference (7)
- Community meeting (8)
- Industry or networking event (9)
- Other, please specify **[OPEN END RESPONSE]** (97)
- I don't know (98)

Q31. On a scale from **1 to 5** with **'1' being Very Dissatisfied** and **'5' being Very Satisfied**, please indicate your level of satisfaction with the following NYSERDA Best Practices information:

Best Practices Information Elements	1 Very Dissatisfied	2 Somewhat Dissatisfied	3 Neither Satisfied nor Dissatisfied	4 Somewhat Satisfied	5 Very Satisfied	97 Not Applicable
Ease of use						
Quality of the information						
Beneficial Electrification Calculator						
Videos						
Fact sheets						
Best Practices Guides Overall						

2.6 Renewables

NYSERDA would like to learn more about renewable projects at agriculture facilities.

Q32. Did you install any wind, solar, and/or energy storage technology at your location in New York State?

- Yes (1)
- No (2) **[IF NO, SKIP TO Q33]**

Display This Question:

If Q32 = Yes

If Q32 = No then skip to Q33

Q32a. Did you add wind, solar, and/or energy storage? Select all that apply.

- ☐ Wind (1)

- ☐ Solar (2)
- ☐ Energy storage (3)

Q32b. How much energy capacity (in kW) did you add?

- Wind: ____ kW [DISPLAY ONLY IF Q32a = 1; WHOLE NUMBER NUMERICAL ONLY]
- Solar: ____ kW [DISPLAY ONLY IF Q32a = 2; WHOLE NUMBER NUMERICAL ONLY]
- Energy storage ____ kWh [DISPLAY ONLY IF Q32a = 3; WHOLE NUMBER NUMERICAL ONLY]
- Don't know (98)

Q32c. Why did you choose to install wind, solar, and/or energy storage? Select all that apply

[Randomize 1-3]

- To reduce the electricity usage for on the farm electrical loads (1)
- For electricity costs savings (2)
- For land lease revenue, if applicable (i.e., renewable project injects into the utility grid and not the on farm electrical loads) (3)
- Other, please specify: _____ [OPEN TEXT RESPONSE] (97)

2.7 Climate Resiliency

In this section we would like to better understand your experiences with climate change and/or environmental or weather events. The following questions regard climate resilience which is defined as the planning required to recover from impacts of climate change.³¹

Q33. What types of environmental events have you experienced? Select all that apply. [Randomize 1-9]

- Extreme cold (1)
- Extreme heat / humidity (2)
- Drought (3)
- Flooding (4)
- Heavy precipitation (5)
- Hurricanes / extreme storms (6)
- Vector-borne diseases (e.g., mosquito- or tick-borne illnesses) (7)
- Wildfires (8)
- Air quality issues due to wildfires or other events (9)
- Other, please specify: _____ [OPEN ENDED RESPONSE] (97)

Q34. Have you experienced any consequences from the environmental events your site has experienced?

Select all that apply. [Randomize 1-6]

- Disruptions to operations (1)

³¹ Center for Climate Change and Energy Solutions (C2ES). (2019) What is Climate Resilience, and Why Does it Matter?. Retrieved from <https://www.c2es.org/wp-content/uploads/2019/04/what-is-climate-resilience.pdf>

- Disruptions to supply chains (2)
- Financial impacts (3)
- Impacts on labor/ workers (e.g., health, productivity) (4)
- Loss or damage to crops / animals / equipment (5)
- Power outages (6)
- Other, please specify: _____ [OPEN ENDED RESPONSE] (97)

Display:

If Q34 = 3, else skip to Q36

Q35. What types of financial impacts did you experience? Select all that apply. [Randomize 1-3]

- Expenses for recovery / remediation (e.g., flood / storm clean-up) (1)
- New capital expenditures (purchase / install new generator; investments to make business infrastructure / operations more physically robust) (2)
- New operating expenditures (e.g., new insurance products; new crop / animal varieties that are more climate resilient) (3)
- Other, please specify: _____ [OPEN ENDED RESPONSE] (97)

Q36. Have you installed any systems or measures at your site or change energy usage due to any of these environmental events?

- Yes, please specify [OPEN ENDED RESPONSE] (1)
- No (2)
- Don't know (98) [MUTUALLY EXCLUSIVE]

Q36a. Do you plan to install any systems or measures at your site or change energy usage due to any of these environmental events?

- Yes, please specify [OPEN ENDED RESPONSE] (1)
- No (2)
- Don't know (98) [MUTUALLY EXCLUSIVE]

Q37. What critical energy-consuming technologies or processes at your agricultural operation location are sensitive to a power outage? [OPEN ENDED RESPONSE]

Q38. Do you have backup power installed to handle these power loads during an outage?

- Yes (1)
- No (2)
- Partially, please explain below _____ [OPEN ENDED RESPONSE] (97)

2.8 COVID-19 Impacts

Q39. Did the COVID-19 pandemic-related shutdowns and policies affect your agricultural or business operations in New York State in 2020 or 2021?

Yes (1)

No (2)

Display This Question

If Q39 = Yes (1), then display Q40

If Q39 = No (2), then skip to Q41

Q40. Please indicate the aspect of your business impacted by the COVID-19 pandemic in 2020 and 2021.

Business Aspect	1 Very Negatively	2 Negatively	3 Neither Impacted Negatively or Positively	4 Positively	5 Very Positively	Not Applicable
Ability to invest in energy efficiency on the farm						
Financial standing						
Ability to maintain all employees						
Demand of product						
Supply of materials to operate						
Other Business Aspect						

Display This Question:

If Q40 'Other Business Aspect' has a rating of 1-5; SKIP if Not Applicable

Q40a. What other business aspects were impacted by the COVID-19 pandemic in 2020 or 2021? **[OPEN TEXT RESPONSE]**

Q41. Did you apply for any COVID-19 relief (Municipal, State, or Federal) for your agricultural operation or business?

- ☐ Yes (1)
- ☐ No (2) **[IF NO, SKIP TO CLOSE]**

Display This Question:

If Q41 = Yes, then display Q42

If Q41 = No, then skip to Q46

Q42. Please indicate the types of COVID-19 relief you applied for. Select all that apply.

- ☐ Federal (1)
- ☐ State (2)
- ☐ Municipal (3)
- ☐ Other, please specify **[FILL IN] (97)**

Display This Question:

If Q42 = 97, then display Q43

If Q42 = 1, 2, 3, then skip to Q46

Q43. Please indicate the types of relief you received. Select all that apply. **[CARRY ANSWERS FORWARD FROM Q42]**

- ☐ Federal (1)
- ☐ State (2)
- ☐ Municipal (3)
- ☐ Other, please specify **[FILL IN] (97)**
- ☐ None (4)

Display This Question

If Q43 = Yes to 1-3, 97, then display Q44, If Q43=4 SKIP to Q46

If Q43 = None (5), then skip to Q46

Q44. In the previous question, you indicated receiving COVID-19 relief funds. Did you use any of the COVID-19 relief money to update any of the technologies to be more energy efficient at your location in New York State?

- Yes (1)
- No (2) **[IF NO, SKIP TO CLOSE]**

Display This Question:

If Q8 = 1 for ANY technologies AND Q44 = Yes (1), then display Q45

[CARRY ANSWERS/TECHNOLOGIES FORWARD FROM Q8]

If Q44 = No (2), SKIP to Q46

Q45. Earlier in the survey, you indicated updating some of your technologies. Please indicate any technology that was replaced or updated a result of receiving COVID-19 relief funds. **[CARRY FORWARD ANSWERS FROM Q8 LIST]**

Technology	Replaced/Upgrade/Not Applicable [DROP DOWN]
[Fill in from FEAT]	
[Fill in from FEAT]	
[Fill in from FEAT]	
[Fill in from FEAT]	
[Fill in from FEAT]	
[Fill in from FEAT]	
[Fill in from FEAT]	

2.9 Account Information Check

One of our goals for this program is to estimate savings associated with the NYSERDA Agriculture Energy Audit Program. Given this goal, we would like to request some information regarding your utility accounts.

NYSERDA requests permission to access historic utility data for the accounts associated with the address provided. **As a thank you for sharing your historic utility data, NYSERDA will add \$25 to your gift card in addition to the \$25 for completing the survey for a gift card totaling \$50. If you do not share your historic utility data, then you will still be able to take the remainder of the survey in exchange for the \$25 e-gift card.**

Q46. Are you willing to share your historic energy billing data?

- Yes (1)
 - Yes, but I don't have this information on hand right now. Please email me so I can send it to you:
 _____@_____ (2) **[SKIP to Q51]**

- No (3) **[SKIP to Q51]**

Display This Question:

If Q46 = 1, then display Q46a

Q46a. What kind of fuel do you have at your facility? Select all that apply.

- ☐ Electricity (1)
- ☐ Natural gas (2)
- ☐ Other fuel, please specify: **[OPEN TEXT RESPONSE]** (3)

Display This Question:

If Q46a = 1, then display Q47, if else SKIP to Q48

Q47. We need your farming operation's utility's name and account number.

- ☐ I would like to enter my account information manually. (1)
- ☐ I would like to upload a picture of my bill. (2)
- ☐ I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q47 = 1

Q47a. Please list the name of your farming operation's electric utility along with its account numbers. Your account number information can be found on your energy bill.

Electric Utility

- ☐ Electric Utility Company Name: _____ **[FILL IN, data validation with letters only]**
Electric Utility Account Number: _____ **[FILL IN, data validation with numbers only]**
If NYSEG or RG&E – POD #: _____ **[FILL IN, data validation with numbers only] (1)**

Display This Question:

IF Q47 = 2

Q47b. Upload a picture of your bill that clearly displays your farming operation's electric utility's name and account number

[File upload question type]

Display This Question:

If Q47a is displayed

Q47c. You entered [SHOW Q47a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number and (if applicable) POD# is correct.(1) **[CHECKBOX]**

Display This Question:

If Q46a = 2, if else SKIP to Q49

Q48. We need your farming operation's natural gas utility's name and account number.

- ☐ I would like to enter my account information manually. (1)
- ☐ I would like to upload a picture of my bill. (2)
- ☐ I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q48 = 1

Q48a. Please list the name of your farming operation's natural gas utility along with its account numbers. Your account number information can be found on your energy bill.

Natural Gas Utility

- ☐ Natural Gas Utility Company Name: _____ **[FILL IN, data validation with letters only]**
Natural Gas Utility Account Number: _____ **[FILL IN, data validation with numbers only]**
If NYSEG or RG&E – POD #: _____ **[FILL IN, data validation with numbers only] (1)**

Display This Question:

IF Q48 = 2

Q48b. Upload a picture of your bill that clearly displays your farming operation's natural gas utility's name and account number

[File upload question type]

Display This Question:

If Q48a is displayed

Q48c. You entered [SHOW Q48a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- ☐ Yes, my account number and (if applicable) POD# is correct.(1) **[CHECKBOX]**

Display This Question:

If Q46a = 3, if Else Skip to Q50

Q49. We need your farming operation's natural gas utility's name and account number.

- ☐ I would like to enter my account information manually. (1)
- ☐ I would like to upload a picture of my bill. (2)
- ☐ I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q49 = 1

Q49a. Primary Space and Process Fuel Supplier: If you heat at your farming operation by a fuel other than natural gas or electricity, please provide the information requested below. Your account number information can be found on your energy bill.

- Company Name: _____ **[FILL IN, data validation with letters only]**
Account Number: _____ **[FILL IN, data validation with numbers only] (1)**
- Upload a picture of your bill that clearly displays your utility's name and account number (2)
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (3)

Display This Question:

IF Q49 = 2

Q49b. Upload a picture of your bill that clearly displays your farming operation's natural gas utility's name and account number

[File upload question type]

Display This Question:

If Q49a is displayed

Q49c. You entered [SHOW Q49a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number is correct.(1) **[CHECKBOX]**

By selecting "I consent" below, I authorize the New York State Energy Research and Development Authority (NYSERDA), and its designated representatives, to access energy billing and consumption data for the site identified. As an authorized representative of the site, I authorize NYSERDA, and its designated representatives, to access and use any available energy consumption information and data. I understand this information will be used to evaluate energy use patterns for the purpose of measuring energy performance and determining the potential and actual energy savings resulting from evaluated or implemented energy projects. I understand that NYSERDA is subject to the NYS Freedom of Information Law, Public Officers law, Article 6, and that NYSERDA cannot guarantee confidentiality of any information submitted.

Q50. Do you consent to sharing your historic utility data?

- Yes, I consent (1)
- No, I do not consent (2)

2.10 Gift Card Check

Those are all the questions we have. Thank you for your help!

Q51. You will receive \$25 for completing the survey *and an additional \$25 if* you also provided your utility account information and permission to access historic usage data. Would you like to receive your e-gift card, which can be used as an online debit card or credit to donate to a charitable organization, at [\\${e://Field/Email}](#) or at another email address? You will receive the gift card in your email within a week.

- ☐ Yes, please send the e-gift card to [\\${e://Field/Email}](#) (1)
- ☐ Please send the e-gift card to another email address (please specify): (2)
- ☐ [\[open response text option\]](#) @ [\[open text response\]](#)
☐ No thanks, I do not wish to either receive the gift card to use or to send a charitable donation (3)

Display CLOSE

2.11 Terminations/Close

TERMINATE 1: We appreciate your interest in taking the survey, however we are currently only reaching out to farmers and agricultural producers that have participated in NYSERDA's Agriculture Energy Audit Program. Thank you for your time. If you think you are receiving this message in error, please contact: NYSERDAsurvey@guidehouse.com.

TERMINATE 2: We appreciate your interest in taking the survey. This survey is intended for someone in your organization familiar with the NYSERDA's Agriculture Energy Audit Program and the technologies at your location that consume energy. We request that you please reach out to the inbox at: NYSERDAsurvey@guidehouse.com. If you think you are receiving this in error, please contact: NYSERDAsurvey@guidehouse.com. Thank you.

TERMINATE 3: We appreciate your interest in taking the survey, but we are only reaching out to agricultural facilities in New York State that are currently in operation. If you think you are receiving this message in error, please contact: NYSERDAsurvey@guidehouse.com.

CLOSE: This concludes the survey. Thank you for your participation. If you have any questions about this survey or how your responses to this survey will be used, please contact: NYSERDAsurvey@guidehouse.com.

Appendix E: Agriculture Energy Audit Program Survey Instrument Utility Questions Only

Agriculture Energy Audit Program – Utility Account Information Survey Market Update 2

FINAL

Prepared for:



Submitted by:

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21 September 2023

Contents

1. Introduction F-125

- 1.1 Draft of E-mail Language – Online Survey (Initial E-mail)..... F-125
- 1.2 Draft of E-mail Language – Online Survey (Reminder E-mail)EF-126

2. Survey F-128

- 2.1 Introduction.....EF-128
- 2.2 Close.....EF-13026

1. Introduction

This document includes Guidehouse’s draft survey instrument for the Historic Utility Account Information Follow-up Survey to the Agriculture Energy Audit Program Participant Survey.

Guidehouse will utilize Qualtrics to administer the online survey. Recruitment of respondents will occur through three emails and two phone calls. For those that do not take the survey online, Guidehouse plans to call the participants so that they can take the survey over the phone. The survey will be tested in advance of full deployment and may be modified after deployment to enhance the number of completed interviews. Compiled survey results will be presented to NYSERDA and summarized in the final report.

Table 1 identifies the survey characteristics.

Table 7: Survey Characteristics

Characteristics	Description
Statement of purpose	To understand program participants’ utility usage and changes since their NYSERDA Agriculture Audit program participation.
Qualified respondent	A respondent to the NYSERDA Agriculture Audit Program Market Update 2 survey but opted to share their historic utility account information at a later date.
Sample Size	A census of all participants from previous audits conducted in 2020 and 2021 will be contacted.
Target number of completes	Population size is: 85 audit participants from 2020 55 audit participants from 2021
Estimated survey length	5 minutes
Survey timeline	Q4 2023-Q1 2024
Question categories	Account Information Check: Q1-Q4

Table 8. Survey Research Objectives

Question Goal	Survey Questions
Utility Account Information	
Historical utility account information	Q1-Q4

1.2 Draft of E-mail Language – Online Survey (Initial E-mail)

From: Jeremy Simpson <noreply@qemailserver.com>

Sent: Tuesday, February 8, 2022 11:46 AM

To: John Doe <john.doe@gmail.com>

Subject: Utility Follow-up: NYSERDA Agriculture Audit Program Survey

Reply to: NYSERDAsurvey@guidehouse.com



Dear [Contact Name]

Thank you for taking the NYSERDA Agriculture Energy Audit Program survey! When you completed the survey, you indicated that you wanted to send your utility account information at a later date. This email is our ask for you to complete this step in the survey process using the link below.

NYSERDA has partnered with Guidehouse, Inc. and APPRISE to conduct this survey. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Act (FOIA). The analysis will only use summary level data and will not identify individual respondents.

You can complete the survey by following these instructions:

Option 1. Complete the survey online at: **www.tinyurl/farmsurvey**
To begin the survey, enter your Access Code / PIN.
Your Access Code / PIN is: <<CODE>>

Please provide your utility account information via this secure Qualtrics survey link by 1/31/2024 in order to receive your full \$50 gift card (\$25 as a thank you for taking the survey + \$25 for providing utility account information) via email. If we do not hear from you by that date, then we will release your \$25 gift card.

If you have any questions about this survey or if you experience any difficulties completing it, please contact NYSERDAsurvey@guidehouse.com. If you would like to speak to someone at NYSERDA regarding the validity of this survey, please contact me using the information below.

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State.

Sincerely,

Jeremy S. Simpson
NYSERDA
15 Columbia Circle | Albany, NY 12203-6399
P: 518-862-1090 x3234 | E: jeremy.simpson@nyserda.ny.gov
nyserda.ny.gov

Follow this link to the Survey

[Survey Link]

Follow the link to opt out of future emails:

[Opt out / click here to unsubscribe]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

1.3 Draft of E-mail Language – Online Survey (Reminder E-mail)

From: Jeremy Simpson <noreply@qemailserver.com>

Sent: Tuesday, February 8, 2022 11:46 AM

To: John Doe <john.doe@gmail.com>

Subject: Reminder: Utility Follow-up: NYSERDA Agriculture Audit Program Survey

Reply to: NYSERDAsurvey@guidehouse.com



Dear [Contact Name]

Thank you for taking the NYSERDA Agriculture Energy Audit Program survey! When you completed the survey, you indicated that you wanted to send your utility account information at a later date. This email is our ask for you to complete this step in the survey process using the link below.

NYSERDA has partnered with Guidehouse, Inc. and APPRISE to conduct this survey. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Act (FOIA). The analysis will only use summary level data and will not identify individual respondents.

You can complete the survey by following these instructions:

Option 1. Complete the survey online at: **www.tinyurl/farmsurvey**

To begin the survey, enter your Access Code / PIN.

Your Access Code / PIN is: <<CODE>>

Please provide your utility account information via this secure Qualtrics survey link by 1/31/2024 in order to receive your full \$50 gift card (\$25 as a thank you for taking the survey + \$25 for providing utility account information) via email. If we do not hear from you by that date, then we will release your \$25 gift card.

If you have any questions about this survey or if you experience any difficulties completing it, please contact NYSERDAsurvey@guidehouse.com. If you would like to speak to someone at NYSERDA regarding the validity of this survey, please contact me using the information below.

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State.
Sincerely,

Jeremy S. Simpson

NYSERDA

15 Columbia Circle | Albany, NY 12203-6399

P: 518-862-1090 x3234 | E: jeremy.simpson@nyserda.ny.gov
nyserda.ny.gov

Follow this link to the Survey

[Survey Link]

Follow the link to opt out of future emails:

[Opt out / click here to unsubscribe]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

2 Survey

Thank you for taking time to complete this survey. We appreciate you!

This survey is being conducted on behalf of the New York State Energy Research and Development Authority (NYSERDA). Your input and information will help NYSERDA to better understand the types of energy efficient technologies and resources used in New York State's agricultural sector, and to improve its programs and resources that support the agricultural industry in New York State.

As part of this research, NYSERDA is asking that you submit your historic utility account information, by sharing your utility name and account information. When you took the NYSERDA Agriculture Energy Audit Program survey, you indicated that you wanted to send your utility account information at a later date. This email is our ask for you to complete this step in the survey process using the link below.

The survey should take you less than 5 minutes to complete. You can go back to previous responses at any point during the survey by clicking the back arrow on the bottom left of the screen. You can return to the survey at a later time by going back to the survey URL. All responses will be kept confidential to the extent permitted by law and reported in aggregate without individual respondents or firms identifiable. By agreeing to take this survey, you are also agreeing that these data will be shared with NYSERDA for use.

If you have questions while you are taking the survey, please e-mail NYSERDAsurvey@guidhouse.com.

If you agree to participate, please enter your Access Code / PIN:.

2.1 Introduction

One of our goals for this program is to estimate savings associated with the NYSERDA Agriculture Energy Audit Program. Given this goal, we would like to request some information regarding your utility accounts.

NYSERDA requests permission to access historic utility data for the accounts associated with the address provided. By selecting "I consent" below, I authorize the New York State Energy Research and Development Authority (NYSERDA), and its designated representatives, to access energy billing and consumption data for the site identified. As an authorized representative of the site, I authorize NYSERDA, and its designated representatives, to access and use any available energy consumption information and data. I understand this information will be used to evaluate energy use patterns for the purpose of measuring energy performance and determining the potential and actual energy savings resulting from evaluated or implemented energy projects. I understand that NYSERDA is subject to the NYS Freedom of Information Law, Public Officers law, Article 6, and that NYSERDA cannot guarantee confidentiality of any information submitted.

As a thank you for sharing your historic utility data, NYSERDA will add \$25 to your gift card in addition to the \$25 for completing the survey for a gift card totaling \$50.

Q1. Do you consent to sharing your historic utility data?

- Yes, I consent (1)
- No, I do not consent (2)

Display This Question:

If Q1 = 1, then display Q1a, else SKIP to Terminate 1

Q1a. Are you willing to share your historic energy billing data?

- Yes, I consent (1)
- No, I do not consent (2) **[SKIP TO TERMINATE 1]**

Q2. What kind of fuel do you have at your facility? Select all that apply.

- ☐ Electricity (1)
- ☐ Natural gas (2)
- ☐ Other fuel, please specify: **[OPEN TEXT RESPONSE]** (3)

Display This Question:

If Q2 = 1, then display Q3, if else SKIP to Q4

Q3. We need your farming operation's utility's name and account number.

- I would like to enter my account information manually. (1)
- I would like to upload a picture of my bill. (2)

Display This Question:

IF Q3 = 1

Q3a. Please list the name of your farming operation's electric utility along with its account numbers.

Electric Utility

- Electric Utility Company Name: _____ **[FILL IN, data validation with letters only]**
- Electric Utility Account Number: _____ **[FILL IN, data validation with numbers only]**
- If NYSEG or RG&E – POD #: _____ **[FILL IN, data validation with numbers only] (1)**

Display This Question:

IF Q3 = 2

Q3b. Upload a picture of your bill that clearly displays your farming operation's electric utility's name and account number

[File upload question type]

Display This Question:

If Q3a is displayed

Q3c. You entered [SHOW Q3a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number is correct.(1) **[CHECKBOX]**

Display This Question:

If Q2 = 2, if else SKIP to Q7

Q4. We need your farming operation's natural gas utility's name and account number.

- I would like to enter my account information manually. (1)
- I would like to upload a picture of my bill. (2)

Display This Question:

IF Q4 = 1

Q4a. Please list the name of your farming operation's natural gas utility along with its account numbers.

Natural Gas Utility

- Natural Gas Utility Company Name: _____ **[FILL IN, data validation with letters only]**
- Natural Gas Utility Account Number: _____ **[FILL IN, data validation with numbers only]**
- If NYSEG or RG&E – POD #: _____ **[FILL IN, data validation with numbers only] (1)**

Display This Question:

IF Q4 = 2

Q4b. Upload a picture of your bill that clearly displays your farming operation's natural gas utility's name and account number

[File upload question type]

Display This Question:

If Q4a is displayed

Q4c. You entered [SHOW Q4a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number is correct.(1) **[CHECKBOX]**

Display This Question:

If Q2 = 3, if Else Skip to CLOSE

Q5. We need your farming operation's natural gas utility's name and account number.

- I would like to enter my account information manually. (1)
- I would like to upload a picture of my bill. (2)

Display This Question:

IF Q5 = 1

Q5a. Primary Space and Process Fuel Supplier: If you heat at your farming operation by a fuel other than natural gas or electricity, provide the following:

- Company Name: _____ **[FILL IN, data validation with letters only]**
Account Number: _____ **[FILL IN, data validation with numbers only] (1)**
- I don't have this information on hand right now. Please email me so I can send it to you:
_____@_____ (2)

Display This Question:

IF Q5 = 2

Q5b. Upload a picture of your bill that clearly displays your farming operation's natural gas utility's name and account number

[File upload question type]

Display This Question:

If Q5a is displayed

Q5c. You entered [SHOW Q5a typed information]. Please confirm this is correct or return to the previous page using the back button below to make changes.

- Yes, my account number is correct.(1) **[CHECKBOX]**

2.2 Close

Those are all the questions we have. Thank you for your help! You can expect to receive your gift card(s) via email within 7 business days of your completion and submission of the survey.

TERMINATE 1: We appreciate your interest in taking the survey, however we do need consent to be able to accept the sharing of your utility account information for this study with NYSERDA's Agriculture Energy Audit Program. If you would like to take this survey or believe that this message is a mistake, please contact: NYSERDAsurvey@guidedhouse.com.

Appendix F: Energy Audit Program Contractor and Best Practices Interview Guide

Agriculture Energy Audit Program Contractor and Best Practices Interview Guide Market Update 2

Final

Prepared for:



Submitted by:
Guidehouse, Inc.
1375 Walnut Street
Suite 100
Boulder, CO 80302

303.728.2500
guidehouse.com

20 December 2023

Contents

1. Introduction F-125

- 1.1 Draft of E-mail Language – Interview Request (Initial E-mail)..... F-125
- 1.2 Draft of E-mail Language – Interview Request (Reminder E-mail) F-126

2. Interview F-128

- 2.1 Contractor Background F-128
- 2.2 Program, Process, and Communications F-130
- 2.3 Best Practices F-132
- 2.4 Climate Resiliency F-133

1. Introduction

This document includes Guidehouse’s interview guide for Agriculture Energy Audit Program Contractors.

Guidehouse will utilize MS Forms to administer the interview. Recruitment of respondents will occur through three emails, sent by the NYSERDA program’s manager, inclusive of a link to MS Bookings and, if necessary, two phone calls. Compiled survey results will be presented to NYSERDA and summarized in the Market Update 2 final report. Table 1 identifies the survey characteristics.

Table 9: Interview Characteristics

Characteristics	Description
Statement of purpose	To understand contractor experience in the program, how processes can improve, and how Best Practices guides are utilized.
Qualified respondent	A contractor that has participated in NYSERDA’s Agriculture Energy Audit Program.
Sample Size	12 contractors
Target number of completes	10-12 contractors
Estimated survey length	30 minutes
Survey timeline	Q1 2024
Question categories	Contractor Background: Q1-Q5; Program, Process, and Communication: Q6-12a; Best Practices: Q13-Q20; Climate Resiliency: Q21-Q23

1.1 Draft of E-mail Language – Interview Request (Initial E-mail)

From: Jessica Zweig <noreply@qemailserver.com>

Sent: Tuesday, February 8, 2022 11:46 AM

To: John Doe <john.doe@gmail.com>

Subject: Complete a short interview about your experience working with NYSERDA’s Agriculture Energy Audit Program

Reply to: NYSERDAsurvey@guidehouse.com



Dear [Contact Name],

On behalf of the New York State Energy Research and Development Authority (NYSERDA), Guidehouse is conducting short interviews with contractors who have worked with NYSERDA's Agriculture Energy Audit Program.

According to NYSERDA records, you have participated as a FlexTech auditor in this Audit Program, and I am writing to ask for your participation in this important interview. This interview will help NYSERDA better understand the contractor's experience in the program and the use of Best Practices guides as well as improvements in its programs and resources that support the agricultural industry in New York State.

NYSERDA has partnered with Guidehouse, Inc. to conduct this interview. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Act (FOIA). The analysis will only use summary level data and will not identify individual respondents.

You can book an interview with Guidehouse through the link below:

BOOKINGS LINK

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State. If you would like to speak to someone at NYSERDA regarding the purpose of this interview, please contact Jess Zweig using the information listed below.

Jessica Zweig
Senior Project Manager
NYSERDA
17 Columbia Circle | Albany, NY 12203-6399
P: 518-862-1090 x3346 | F: 518-862-1091 | E: jessica.zweig@nyserda.ny.gov
nyserda.ny.gov

Sincerely,

Annelise Huber

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

1.2 Draft of E-mail Language – Interview Request (Reminder E-mail)

From: Jessica Zweig <noreply@qemailserver.com>
Sent: Tuesday, February 8, 2022 11:46 AM
To: John Doe <john.doe@gmail.com>
Subject: Reminder: Complete a short interview about your experience working with NYSERDA's Agriculture Energy Audit Program
Reply to: NYSERDAsurvey@guidehouse.com



Dear [Contact Name],

A few days ago, we contacted you about the New York State Energy Research and Development Authority's (NYSERDA) partnership with Guidehouse, Inc. to understand the awareness and use of different energy technologies and resources in New York State's agriculture sector. As part of this research, we are conducting a short interview with contractors that participated in NYSERDA's Agriculture Energy Audit Program.

According to our records, you have participated in this Audit Program as a FlexTech auditor in the last 5 years, and I am writing to ask for your participation in this important interview. This interview will help NYSERDA better understand the auditor's experience in the program and the use of Best Practices guides as well as improvements in its programs and resources that support the agricultural industry in New York State.

NYSERDA has partnered with Guidehouse, Inc. to conduct this interview. The information you provide will be kept confidential to the extent permitted by law including but not limited to the Freedom of Information Act (FOIA). The analysis will only use summary level data and will not identify individual respondents.

You can book an interview with our Guidehouse partners through the link below:

BOOKINGS LINK

Thank you for your time and participation in this important research effort. Your input helps strengthen NYSERDA's programs to better serve New Yorkers and meet the clean energy goals of the State. If you would like to speak to someone at NYSERDA regarding the purpose of this interview, please contact me using the information listed in my signature below.

Sincerely,

Jessica Zweig
Senior Project Manager

NYSERDA
17 Columbia Circle | Albany, NY 12203-6399
P: 518-862-1090 x3346 | F: 518-862-1091 | E: jessica.zweig@nyserda.ny.gov
nyserda.ny.gov

Follow the link to opt out of future emails:
[Opt out / click here to unsubscribe]

This electronic message may contain privileged or confidential information. If you are not the intended recipient of this e-mail, please delete it from your system and advise the sender.

2. Interview

Thank you for taking time to complete this interview. Guidehouse conducts these interviews on behalf of the New York State Energy Research and Development Authority (NYSERDA). Your input and information will help NYSERDA to better understand the types of energy efficient technologies and resources used in New York State's agricultural sector, and to improve its programs and resources that support the agricultural industry in New York State. As part of this research, NYSERDA has reached out to contractors participating in the Agriculture Energy Audit Program. You may also know this NYSERDA program by the names of FlexTech and FlexTech Ag Services.

The interview should take less than 30 minutes to complete. All responses will be kept confidential to the extent permitted by law and reported in aggregate without individual respondents or firms identifiable. By agreeing to this interview, you agree that these data will be shared with NYSERDA for research and programmatic purposes.

2.1 Contractor Background

The next set of questions will ask you about your professional expertise and background.

Q1. For how long have you worked in the agriculture and/or farming sector?

- ☐ Less than 1 year (1)
- ☐ 1-3 years (2)
- ☐ 4-6 years (3)
- ☐ 7-10 years (4)
- ☐ 10-14 years (5)
- ☐ 15+ years (6)
- ☐ Other, please specify _____ (97) **[OPEN ENDED RESPONSE]**

Q2. With which type(s) of agriculture and/or farming do you have experience working with?
Select all that apply.

- ☐ Dairy cows (1)
- ☐ Livestock (2)
- ☐ Chickens (3)
- ☐ Pigs (4)
- ☐ Vineyard (5)
- ☐ Greenhouse (6)
- ☐ Vegetable farm (not a greenhouse) (7)
- ☐ Maple syrup (8)

- ☐ Cannabis (9)
- ☐ Small Farms (10)
- ☐ Other, please specify **[FILL IN] (97)**
- ☐ None **[MUTUALLY EXCLUSIVE]** (11)

Q3. Out of the agriculture and/or farming sectors you have experience with, what types do you feel especially suited to conduct energy audits for?

- ☐ Dairy cows (1)
- ☐ Livestock (2)
- ☐ Chickens (3)
- ☐ Pigs (4)
- ☐ Vineyard (5)
- ☐ Greenhouse (6)
- ☐ Vegetable farm (not a greenhouse) (7)
- ☐ Maple syrup (8)
- ☐ Cannabis (9)
- ☐ Small Farms (10)
- ☐ Other, please specify **[FILL IN] (97)**
- ☐ None **[MUTUALLY EXCLUSIVE]** (11)

Q4. [Internal – check question above} Was cannabis selected?

- ☐ Yes (1)
- ☐ No (2)

Display This Question:

If Q4 = 1

Q5. Since cannabis was made (medically and recreationally) legal in New York, have you seen, or do you see, anything changing about how you conduct audits? **[Probe: Are there any specific issues related to cannabis and/or energy use pertaining to cannabis production that you have seen?]** If yes, please specify.

[OPEN ENDED RESPONSE]

Q6. Are you aware of any of the following rebates and incentives?

- ☐ Utility-offered energy rebates and incentives (1)
- ☐ State-offered energy rebates and incentives (2)
- ☐ Federal energy rebates and incentives (3)
- ☐ Other, please specify _____ (97) **[OPEN ENDED RESPONSE]**

Q6a. Are you aware that incentives are listed on NYSERDA's website?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Don't know (98)

2.2 Program, Process, and Communications

The next set of questions is going to ask you about the program, its process, and communications.

Q7. Has the information and feedback provided to you by NYSERDA and FlexTech been helpful in your ability to deliver energy audits to agriculture sites?

- ☐ Yes (1)
- ☐ No (2)

Display This Question:

If Q7 = 1

Q7a. If Above is Yes, Please specify; **[OPEN ENDED RESPONSE]**

Q8. What information do you receive about an agricultural production facility or farm before entering the field to conduct an energy audit with agriculture facility or farm?

Q8a. How could NYSERDA improve this information? **[OPEN ENDED RESPONSE]**

Q9. Please describe the process that you undertake when conducting an audit with a farmer or agriculture facility. **[Probe: How do you contact the farmer? What information do you give them on site? What information follows later?]**

Q10. Which program aspects work well logistically? Which do not logistically work well?
[OPEN ENDED RESPONSE]

Q11. On a scale from **1 to 5 with '1' being Very Dissatisfied and '5' being Very Satisfied**, please indicate your level of satisfaction with the following NYSERDA Agriculture Energy Audit Program elements:

NYSERDA Program Element	1 Very Dissatisfied	2 Somewhat Dissatisfied	3 Neither Satisfied nor Dissatisfied	4 Somewhat Satisfied	5 Very Satisfied	97 Not Applicable
Adequacy of program staff communication						

Comprehensiveness of program staff's knowledge about program offering and options
Sufficiency of program issue resolution
Overall program satisfaction

Display This Question:

If Q11 = 1 OR 2 FOR ANY ITEMS

If Q11 = 3 – 5, 97, OR 99 then skip to Q12

Q11a. [Internal - check question above] Was '1' or '2' selected for any statements?

- ☐ Yes (1)
- ☐ No (2)

Display This Question:

If Q11a = 1

Q11b. Please further explain or share your experience that has led to any dissatisfaction (indicated by a '1' or a '2') noted in the previous question. **[OPEN ENDED RESPONSE]**

Q12. What action(s) could NYSERDA take to improve the audit program or its processes, including audit reports given to participants? **[OPEN ENDED RESPONSE]**

Q13. Please indicate the top three ways that you think NYSERDA should share and communicate information about the Agricultural Audits program with agricultural producers and farmers. **[MAXIMUM SELECTION OF THREE]**

- ☐ General Program Emails (1)
- ☐ Mailers and Paper Brochures (2)
- ☐ NYSERDA Website announcements (3)
- ☐ Agricultural Trade Shows (4)
- ☐ Calls with or visits from energy auditors (5)
- ☐ Calls with NYSERDA program staff (6)
- ☐ Other (97) **[OPEN TEXT RESPONSE]**

Q13a. What can be done to improve NYSERDA's communications methods mentioned above? **[OPEN ENDED RESPONSE]**

2.3 Best Practices

In this section we would like to better understand your awareness of and experience with NYSERDA's Energy Best Practices guides and tools.

Q14. Have you heard of NYSERDA's website Energy Best Practices for Agriculture?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Don't know (98)

Display This Question:

If Q14 = Yes (1); ELSE SKIP to Q22

Q15. Did you share NYSERDA's website Energy Best Practices for Agriculture with Audit Program participants?

- ☐ Yes (1)
- ☐ No (2)

Display This Question:

If Q15 = Yes (1)

Q16. With how many Audit program participants have you shared Best Practices information?

[OPEN ENDED RESPONSE]

Q17. Have you shared Best Practices with anyone outside of the Audit program?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Don't know (98)

Display This Question:

If Q17 = Yes (1)

Q17a. If yes, who? How many? **[OPEN ENDED RESPONSE]**

Q18. Which of the Energy Best Practices for Agriculture have you informed farmers or agricultural producers about? Select all that apply.

- ☐ Greenhouses – Fact Sheet (1)
- ☐ Greenhouses – Guidebook (2)
- ☐ Dairy Farms – Fact Sheet (3)
- ☐ Dairy Farms – Guidebook (4)
- ☐ Dairy Farms – Guidebook – Spanish (5)
- ☐ Video: Best Practices for Greenhouses (6)
- ☐ Video: Best Practices for Dairies (7)
- ☐ Other, please specify _____ **[OPEN ENDED RESPONSE]** (97)
- ☐ Don't know (98) **[MUTUALLY EXCLUSIVE]**

Q19. Which aspects of the Best Practices did you find most helpful to share? Select all that apply.

- ☐ Recommendations for energy-efficient technologies (1)
- ☐ Alternate modes of operation (2)
- ☐ Conservation practices to optimize energy use (3)
- ☐ Access State, federal, and utility incentive programs (4)
- ☐ Beneficial Electrification Calculator (5)
- ☐ Other, please specify _____ **[OPEN ENDED RESPONSE]** (97)
- ☐ Don't know (98) **[MUTUALLY EXCLUSIVE]**

Display This Question:

If Q19 = 5; ELSE SKIP to Q20

Q19a. [Internal] Was the Beneficial Electrification Calculator selected?

- ☐ Yes (1)
- ☐ No (2)

Q19b. You reported that you found the Beneficial Electrification Calculator helpful in the previous question. Which calculators did you use within the tool? Select all that apply.

- ☐ Engine to Electric Motor (1)
- ☐ Electric Tractor (2)
- ☐ Heat Pump Space Heater (3)
- ☐ Water Heater (4)
- ☐ Don't know (98) **[MUTUALLY EXCLUSIVE]**

Q19c. Which additional technologies would you like NYSERDA to add to the Beneficial Electrification Calculator to assist farmers and agricultural facilities that you work with?
[OPEN ENDED RESPONSE]

Q20. Do the NYSERDA Energy Best Practices assist in staying on top of current practices and technologies?

- ☐ Yes (1)
- ☐ No (2)
- ☐ Don't know (98)

Q21. Are there educational or informational opportunities that NYSERDA could include to improve Energy Best Practices to enhance that knowledge? Please specify topics for inclusion into Best Practices videos and factsheets. **[OPEN ENDED RESPONSE]**

2.4 Climate Resiliency

In this section we would like to better understand your agricultural producers' and/or farmers' experiences with climate change and/or environmental or weather events. The following

questions regard climate resiliency, relating to a site's ability to withstand and recover from the environmental impacts of climate change.³²

Q22. Have you provided information or recommendations to agricultural sites to help them prepare to be more resilient to environmental events, such as measures that improve a site's ability to endure extreme heat or cold events or flooding?

- Yes (1)
- No (2)
- Don't know (98)

Display This Question:

If Q21 = 1; ELSE SKIP to Q22

Q23. Which measures have you recommended or informed farmers and/or agricultural producers about that improve a site's ability to endure environmental disasters and/or extreme weather events? **[OPEN ENDED RESPONSE]**

Q24. What types of resources can NYSERDA provide to better inform farmers/agricultural producers about site resiliency to extreme weather or environmental events? **[OPEN ENDED RESPONSE]**

CLOSE: This concludes the interview. Thank you for your participation. If you have any questions about this interview or how your responses to this interview will be used, please contact: NYSERDAsurvey@guidhouse.com.

³² Center for Climate Change and Energy Solutions (C2ES). (2019) What is Climate Resilience, and Why Does it Matter? Retrieved from <https://www.c2es.org/wp-content/uploads/2019/04/what-is-climate-resilience.pdf>

Appendix G: Disposition for Agriculture Energy Audit Program Surveys

Agriculture Energy Audit Program

The Market Evaluation Team completed 56 surveys with participants in the Agriculture Energy Audit Program. Table H-1 details the survey characteristics, including the purpose of the survey, definition of a qualified respondent, targeted number of completes, achieved number of completes, median time in survey, and survey timeline. The survey disposition is in Table H-2-Table H-4 and includes the full picture of the survey efforts, including those surveys completed but not ultimately included in the analysis such as those screened out due to unfamiliarity with the program, no longer operational, non-participants, and not agricultural operations ('not ag').

Table G-1. Survey Characteristics

The Market Evaluation Team contacted all 140 Audit participants from 2020 and 2021, aiming for a census of the groups.

Characteristic	Description
Statement of purpose	To understand participation in the program, to estimate direct and indirect impacts, to learn about the participant journey through the program and how processes can improve, to learn about participant experience with Best Practices, how farmers perceive resiliency impacting their operations, and to gain knowledge about the impacts of COVID-19 on participants.
Qualified respondent	A grower or farmer that has participated in NYSERDA's Agriculture Energy Audit Program: <ul style="list-style-type: none"> • 2020 Non-Respondents (did not respond to the 2022 survey effort); • 2020 Respondent (completed the 2022 survey effort); and • 2021.
Sample Size	Ideally, a census of all participants from audits conducted in the years 2020 and 2021
Target number of completes	Population size is: <ul style="list-style-type: none"> • 56 audit participants from 2020 Non-Respondent; • 29 audit participants from 2020 Respondent; and • 55 audit participants from 2021.
Estimated survey length	30 minutes for 2020 Non-Respondent and 2021 15 minutes for 2020 Respondent
Survey timeline	Q4 2023-Q1 2024
Question categories	<p><u>2020 Non-Respondent & 2021</u> Introduction: Q1-Q2; Participant Background: Q3-Q7; Audit Recommendations: Q8-Q16b; Best Practices: Q24-Q31; Renewables: Q32-Q32c; Climate Resiliency: Q33-Q38; COVID-19 Impacts: Q39-Q45; Account Information Check: Q46-Q50</p> <p><u>2020 Respondent</u> Introduction: Q1-Q2; Participant Background: Q3-Q7; Audit Recommendations: Q8-Q13b; Best Practices: Q14-Q21; Renewables: Q22-Q22c; Climate Resiliency: Q23-28; Account Information Check: Q29-Q33</p>

Table G-2. Final Disposition Report – Total Survey Responses

The 2020 surveys received 28 responses, a 34% completion rate; the 2021 survey received 28 responses, a 51% completion rate.

Response Rate for 2020 ¹	29	34%
Total Survey Responses for 2020 ²	29	100%
Completed; all questions answered; Would like to receive gift cards	28	97%

Completed; all questions answered; does not want a gift card	0	0%
Completed; no longer operational; does not receive gift card	0	0%
Completed; non-participation; does not receive gift card	0	0%
Completed; not familiar; does not receive gift card	0	0%
Completed; not ag; does not receive gift card	0	0%
Screened out; gave no contact	1	3%
Screened out but gave another contact	0	0%
Response Rate for 2021¹	28	51%
Total Survey Responses for 2021²	28	100%
Completed; all questions answered; Would like to receive gift cards	28	100%
Completed; all questions answered; does not want a gift card	0	0%
Completed; no longer operational; does not receive gift card	0	0%
Completed; non-participation; does not receive gift card	0	0%
Completed; not familiar; does not receive gift card	0	0%
Completed; not ag; does not receive gift card	0	0%
Screened out; gave no contact	0	0%
Screened out but gave another contact	0	0%

¹ Response rate is calculated based on total responses out of total audits by audit year (N=85 for 2020; N=55 for 2021).

² The response from 2020 contains the total number of survey responses achieved - including those screened out, no longer operational, non-participant, and not ag – to reflect the efforts of the Market Evaluation Team.

Table G-3. Final Disposition Report – Utility Data Collected

Less than one-fourth of respondents were willing to share utility data while taking the survey; one-third did not wish to share utility data; and half of respondents were willing to share utility data via follow-up contact.

Utility Data for 2020¹	12	43%
Shared utility data at time of survey ²	4	14%
Willing to share utility data with follow-up email ³	14	50%
<i>Shared via follow-up utility survey or email</i>	8	29%
Unwilling to share utility data	10	36%
Utility data provided⁴	21	100%
Electric	10	48%
Natural Gas	4	19%
Other fuel source (total respondents) ⁵	7	33%
<i>Propane²</i>	3	43%
<i>Diesel²</i>	1	14%
<i>Heating oil²</i>	1	14%
<i>Fuel Oil²</i>	1	14%
<i>Wood²</i>	1	14%
<i>Gasoline²</i>	0	0%
<i>Corn²</i>	0	0%
<i>Coal²</i>	0	0%
Utility Data for 2021¹	13	46%
Shared utility data at time of survey ²	7	25%
Willing to share utility data with follow-up email ³	11	39%
<i>Shared via follow-up utility survey or email</i>	6	21%
Unwilling to share utility data	10	36%
Utility data provided⁴	24	100%
Electric	13	54%
Natural Gas	3	13%
Other fuel source (total respondents) ⁵	8	33%
<i>Propane²</i>	4	50%
<i>Fuel Oil²</i>	2	0%
<i>LPG²</i>	1	13%
<i>Kerosene²</i>	1	0%
<i>Diesel²</i>	0	25%
<i>Heating oil²</i>	0	13%
<i>Wood²</i>	0	0%
<i>Gasoline²</i>	0	0%
<i>Corn²</i>	0	0%
<i>Coal²</i>	0	0%

¹ This table contains information only for the 56 completed surveys that contained answers to all questions, were not screened out (not familiar), and did not cite their farms as non-participants, no longer operational, or not ag; calculations are based off 28 respondents for each survey.

² Shared at least some utility data at the time of the survey; this number may also count survey respondents who wished to supply gas or alternative fuel source information at another time. Total utility account information supplied will not equal the sum of the electric, natural gas, and fuel by alternative providers listed as most respondents reported multiple fuel sources and account numbers.

³ Includes respondents who wish to share utility information at another time, even if they shared some utility information at the time of the survey.

⁴ Utility data provided Total will note the sum of each utility account provided; most respondents have more than one source of fuel, with more than half citing an alternative fuel source in addition to having electricity and/or natural gas accounts.

⁵ 'Other fuel source' contains all sources cited by respondents, including those who use fuel unassociated with an alternative fuel provider (such as propane) and those who use alternative fuel providers. Therefore, the percent for each 'Other fuel source' is based off the total respondents reporting another fuel source.

Table G-4. Final Disposition Report – Completed Survey Responses by Farm Type

For both 2020 and 2021 survey results, Dairy and 'Other' represented as the majority survey responses.

Respondents by Farm Type for 2020¹	28	100%
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Dairy	14	50%
Orchards and Vineyards	1	4%
Greenhouses	0	0%
Row Crops	2	7%
Other (specific other items listed below) ²	11	39%
<i>Fruit</i>	3	27%
<i>Hay</i>	2	18%
<i>Grain</i>	2	18%
<i>Equine</i>	1	9%
<i>Crop Farming</i>	1	9%
<i>Maple Syrup</i>	1	9%
Respondents by Farm Type for 2021¹	28	100%
Dairy	7	25%
Orchards and Vineyards	2	7%
Greenhouses	1	4%
Row Crops	1	4%
Other (specific other items listed below) ²	17	61%
<i>Maple Syrup</i>	3	18%
<i>Grain</i>	2	12%
<i>Crop Farming</i>	2	12%
<i>Equine</i>	2	12%
<i>Meat Processing</i>	2	12%
<i>Fruit</i>	1	6%
<i>Dry Beans</i>	1	6%
<i>Hay</i>	1	6%
<i>Corn</i>	1	6%

¹Includes all survey respondents, even if they were ultimately screened out of the survey.

²This total will exceed the number of 'Other' responses because some respondents produce multiple commodities to their farms (i.e., many crops, types of animals, etc.) in addition to more common commodities such as dairy cows, beef cattle, chickens, pigs, vineyards, greenhouses, and vegetable farms. The percentages are calculated on the response count from survey open-ended results, not the determined commodity (n=11 in 2020 and n=17 in 2021) and may not equal 100% due to this.

Table G-5. Survey Responses by Contact Effort

Phone calls garnered 96% of 2020 and 83% of 2021 surveys completed; emails contributed the remainder of completed surveys.

Outreach for 2020 Survey	Count	Percentage
Survey Responses by Contact Effort¹	29	100%
Phone calls (Market Evaluation Team Survey Contractors)	24	83%
Email	5	17%
QR Code	0	0%
'Anonymous' but unassociated with Market Evaluation Team Survey Contractors IP Address	0	0%
Survey Responses to Total Population Size	0	0%
Total Population Size (Audits)	0	0%
Outreach for 2021 Survey	Count	Percentage
Survey Responses by Contact Effort¹	28	100%
Phone calls (Market Evaluation Team Survey Contractors)	27	96%
Email	1	4%
QR Code	0	0%
'Anonymous' but unassociated with Market Evaluation Team Survey Contractors IP Address	0	0%
Survey Responses to Total Population Size	0	0%
Total Population Size (Audits)	0	0%

¹ Total includes respondents screened out of the survey.

Table G-6. Participant Population Totals by Farm Type and by Audit Numbers¹

The full sample of unique Audit participants totals 103; half of 2020 audits occurred with Dairy farmers while more than half of 2021 audits occurred with farmers of 'Other' commodities.

	2020 Number of Unique Farms²	2021 Number of Unique Farms²
Dairy	31	15
Greenhouses	1	0
Orchards & Vineyards	2	2
Row Crops	4	2
Other	18	28
Total	56	47

¹ During survey outreach it was discovered that some sites were no longer operational and were removed from additional outreach and from tracking in the disposition reports therefore the total number of audits included may not match the total participants who were contacted.

² Number of unique farms may not add up to the total number of audits conducted because some audits occurred with the same farms across multiple years or with the same farms for different aspects of those farms which produced multiple audits per farm in some cases.

Table G-7. Utility Information and Survey Completes by Stratum: Audit Year

One-third of 2020 and half of 2021 audit year participants responded to the survey.

Audit Year	Responses	Total Audits	Actual %	Responses w/Utility info ¹	% Responses w/Utility info	% Responses w/Utility Info Compared to Total Audits
2020	28	85	33%	12	43%	14%
2021	28	55	51%	13	46%	24%
TOTAL	56	140	40%	25	45%	18%

¹ This is the count of individuals who provided utility information at the time of the first survey.

Table G-8. Utility Information and Survey Completes by Stratum: Commodity^{1,2}

Dairy and 'Other' respondents made up the largest proportion of all responses.

2020 Commodities	Responses	Total Audits ³	Actual %	Responses w/Utility info ⁴	% Responses w/Utility info	% Responses w/Utility Info Compared to Total Audits
Dairy	14	31	45%	5	36%	16%
Orchards & Vineyards	1	1	100%	1	100%	100%
Greenhouses	0	2	0%	0	0%	0%
Row Crops	2	4	50%	1	50%	25%
Other	11	18	61%	5	45%	28%
Total	28	56	50%	12	43%	21%
2021 Commodities	Responses	Total Audits ³	Actual %	Responses w/Utility info ⁴	% Responses w/Utility info	% Responses w/Utility Info Compared to Total Audits
Dairy	7	15	47%	3	43%	20%
Greenhouses	2	2	100%	1	50%	50%
Orchards & Vineyards	1	0	0%	0	0%	0%
Row Crops	1	2	50%	0	0%	0%
Other	17	28	61%	9	53%	32%
Total	28	47	60%	13	46%	28%

¹ Totals include ALL survey responses tied to years and/or commodities – even if the responses resulted in a screen-out for any reason.

² During the process of survey outreach, the Market Evaluation Team had restructured the commodities assigned to farms based on the respondents' responses to what commodities the farmers had at their site; some commodities were changed from ENSAVE's data extract.

³ During survey outreach it was discovered that some sites were no longer operational and were removed from additional outreach and from tracking in the disposition reports therefore the total number of audits included may not match the total participants who were contacted.

⁴ This is the count of individuals who provided utility information at the time of the first survey.